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Anesthesia Committee Meeting

TABLE OF CONTENTS

Agenda.....01

ADA Guidelines Teaching Pain, Anxiety Control & Sedation.....02

State Laws Regarding Sedation.....03

State of Colorado.....04

Idaho State Board of Dentistry.....05

Louisiana Revised Statute.....06

Massachusetts Board of Dentistry (Facility Permit D-H).....07

Dental Anesthesiology Guide (From Dr. Miller).....08

Proposed Revisions To Anesthesia Regulations (First Draft-**Redlined)** 09

Proposed Revisions to Anesthesia Regulations (First Draft).....10

Mr. Lee Drizin's Proposed Language – Outline of Regulations Pertaining To Administration of General Anesthesia, Conscious Sedation or Deep Sedation.....11

Overview of Re-Inspection/Re-Evaluation Process (NAC 631.2235).....12

Board Minutes (10/1/2010).....13

"Airway, Airway, Airway".....14

"Guideline for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures".....15

"Knowing Your Patient".....16

"Basic Management of Medical Emergencies: Recognizing a Patient's Distress".....17

"Preparing for Medical Emergencies: The Essential Drugs and Equipment For the Dental Office".....18

"Preparing Dental Office Staff Members for Emergencies: Developing a Basic Action Plan".....19

Oral Conscious Sedation For Minor Patients Permits.....20

ADA GUIDELINES TEACHING PAIN AND ANXIETY CONTROL AND SEDATION ADMINISTRATION

AMERICAN DENTAL ASSOCIATION POLICY STATEMENT:
THE USE OF SEDATION AND GENERAL ANESTHESIA BY DENTISTS
As adopted by the October 2007 ADA House of Delegates

Introduction

The administration of sedation and general anesthesia has been an integral part of dental practice since the 1840s. Dentists have a legacy and a continuing interest and expertise in providing anesthetic and sedative care to their patients. It was the introduction of nitrous oxide by Horace Wells, a Hartford, Connecticut dentist, and the demonstration of anesthetic properties of ether by William Morton, Wells' student, that gave the gift of anesthesia to medicine and dentistry. Dentistry has continued to build upon this foundation and has been instrumental in developing safe and effective sedative and anesthetic techniques that have enabled millions of people to access dental care. Without these modalities, many patient populations such as young children, physically and mentally challenged individuals and many other dental patients could not access the comprehensive care that relieves pain and restores form and function. The use of sedation and anesthesia by appropriately trained dentists in the dental office continues to have a remarkable record of safety. It is very important to understand that anxiety, cooperation and pain can be addressed by both psychological and pharmacological techniques and local anesthetics, which are the foundation of pain control in dentistry. Sedation may diminish fear and anxiety, but do not obliterate the pain response and therefore, expertise and in-depth knowledge of local anesthetic techniques and pharmacology is necessary. General anesthesia, by definition, produces an unconscious state totally obtunding the pain response.

Anxiety and pain can be modified by both psychological and pharmacological techniques. In some instances, psychological approaches are sufficient. However, in many instances, pharmacological approaches are required.

Local anesthetics are used to control regional pain. Sedative drugs and techniques may control fear and anxiety, but do not by themselves fully control pain and, thus, are commonly used in conjunction with local anesthetics. General anesthesia provides complete relief from both anxiety and pain.

This policy statement addresses the use of minimal, moderate and deep sedation and general anesthesia, as defined in the Association's *Guidelines for the Use of Sedation and General Anesthesia by Dentists*. These terms refer to the effects upon the central nervous system and are not dependent upon the route of administration.

The use of sedation and general anesthesia in dentistry is safe and effective when properly administered by trained individuals. The American Dental Association strongly supports the right of appropriately trained dentists to use these modalities in the treatment of dental patients and is committed to their safe and effective use.

Education

Training to competency in minimal and moderate sedation techniques may be acquired at the predoctoral, postgraduate, graduate, or continuing education level. Dentists who wish to utilize minimal or moderate sedation are expected to successfully complete formal training which is structured in accordance with the Association's *Guidelines for Teaching Pain Control and Sedation for to Dentists and Dental Students*. The knowledge and skills required for the administration of deep sedation and general anesthesia are beyond the scope of predoctoral and continuing education. Only dentists who have completed an advanced education program accredited by the Commission on Dental Accreditation (CODA) that provides training in deep sedation and general anesthesia are considered educationally qualified to use these modalities in practice.[1] The dental profession's continued ability to control anxiety and pain effectively is dependent on a strong educational foundation in the discipline. The Association supports efforts to expand the availability of courses and programs at the predoctoral, advanced and continuing educational levels that are structured in accordance with its *Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students*. The ADA urges dental practitioners to regularly participate in continuing education in the areas of sedation and anesthesia.

Safe Practice

Dentists administering sedation and anesthesia should be familiar with the ADA *Guidelines for the Use of Sedation and General Anesthesia by Dentists*. Dentists who are qualified to utilize sedation and general anesthesia have a responsibility to minimize risk to patients undergoing dental treatment by:

- Using only those drugs and techniques in which they have been appropriately trained;
- Limiting use of these modalities to patients who require them;
- Conducting a preoperative evaluation of each patient consisting of at least a thorough review of medical and dental history, a focused clinical examination and consultation, when indicated, with appropriate medical and dental personnel;
- Conducting physiologic and visual monitoring of the patient;
- Having available appropriate emergency drugs, equipment and facilities and maintaining competency in their use;
- Maintaining fully documented records of drugs used, dosage, vital signs monitored, adverse reactions, recovery from the anesthetic, and, if applicable, emergency procedures employed;
- Utilizing sufficient support personnel who are properly trained for the functions they are assigned to perform;
- Treating high-risk patients in a setting equipped to provide for their care.

The Association expects that patient safety will be the foremost consideration of dentists who use sedation and general anesthesia.

State Regulation

Appropriate permitting of dentists utilizing moderate sedation, deep sedation and general anesthesia is highly recommended. State dental boards have the responsibility to ensure that only qualified dentists use sedation and general anesthesia. State boards set acceptable standards for safe and appropriate delivery of sedation and anesthesia care, as outlined in this policy and in the ADA *Guidelines for the Use of Sedation and General Anesthesia by Dentists*.

The Association recognizes that office-based, ambulatory sedation and anesthesia play an integral role in the management of anxiety and pain control for dental patients. It is in the best interest of the public and the profession that access to these cost-effective services be widely available.

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[1] Until the CODA accreditation cycles for those advanced education programs in deep sedation and general anesthesia are completed, the 2005 ADA *Guidelines for Teaching* remain in effect.

Research

The use of minimal, moderate and deep sedation and general anesthesia in dentistry will be significantly affected by research findings and advances in these areas. The Association strongly supports the expansion of both basic and clinical research in anxiety and pain control. It urges institutions and agencies that fund and sponsor research to place a high priority on this type of research, which should include: 1) epidemiological studies that provide data on the number of these procedures performed and on morbidity and mortality rates, 2) clinical studies of drug safety and efficacy, 3) basic research on the development of safer and more effective drugs and techniques, 4) studies on improving patient monitoring, and 5) research on behavioral and other non-pharmacological approaches to anxiety and pain control.

AMERICAN DENTAL ASSOCIATION

GUIDELINES FOR TEACHING PAIN CONTROL AND SEDATION TO DENTISTS AND DENTAL STUDENTS

As adopted by the October 2007 ADA House of Delegates

I. Introduction

The administration of local anesthesia, sedation and general anesthesia is an integral part of the practice of dentistry. The American Dental Association is committed to the safe and effective use of these modalities by appropriately educated and trained dentists.

Anxiety and pain control can be defined as the application of various physical, chemical and psychological modalities to the prevention and treatment of preoperative, operative and postoperative patient anxiety and pain to allow dental treatment to occur in a safe and effective manner. It involves all disciplines of dentistry and, as such, is one of the most important aspects of dental education. The intent of these *Guidelines* is to provide direction for the teaching of pain control and sedation to dentists and can be applied at all levels of dental education from predoctoral through continuing education. They are designed to teach initial competency in pain control and minimal and moderate sedation techniques.

These *Guidelines* recognize that many dentists have acquired a high degree of competency in the use of anxiety and pain control techniques through a combination of instruction and experience. It is assumed that this has enabled these teachers and practitioners to meet the educational criteria described in this document.

It is not the intent of the *Guidelines* to fit every program into the same rigid educational mold. This is neither possible nor desirable. There must always be room for innovation and improvement. They do, however, provide a reasonable measure of program acceptability, applicable to all institutions and agencies engaged in predoctoral and continuing education.

The curriculum in anxiety and pain control is a continuum of educational experiences that will extend over several years of the predoctoral program. It should provide the dental student with the knowledge and skills necessary to provide minimal sedation to alleviate anxiety and control pain without inducing detrimental physiological or psychological side effects. Dental schools whose goal is to have predoctoral students achieve competency in techniques such as local anesthesia and nitrous oxide inhalation and minimal sedation must meet all of the goals, prerequisites, didactic content, clinical experiences, faculty and facilities, as described in these *Guidelines*.

Techniques for the control of anxiety and pain in dentistry should include both psychological and pharmacological modalities. Psychological strategies should include simple relaxation techniques for the anxious patient and more comprehensive behavioral techniques to control pain. Pharmacological strategies should include not only local anesthetics but also sedatives, analgesics and other useful agents. Dentists should learn indications and techniques for administering these drugs enterally, parenterally and by inhalation as supplements to local anesthesia.

The predoctoral curriculum should provide instruction, exposure and/or experience in anxiety and pain control, including minimal and moderate sedation. The predoctoral program must also provide the knowledge and skill to enable students to recognize and manage any emergencies that might arise as a consequence of treatment. Predoctoral dental students must complete a course in Basic Life Support for the Healthcare Provider. Though Basic Life Support courses are available online, any course taken online

should be followed up with a hands-on component and be approved by the American Heart Association or the American Red Cross.

Local anesthesia is the foundation of pain control in dentistry. Although the use of local anesthetics in dentistry has a long record of safety, dentists must be aware of the maximum safe dosage limit for each patient, since large doses of local anesthetics may increase the level of central nervous system depression with sedation. The use of minimal and moderate sedation requires an understanding of local anesthesia and the physiologic and pharmacologic implications of the local anesthetic agents when combined with the sedative agents

The knowledge, skill and clinical experience required for the safe administration of deep sedation and/or general anesthesia are beyond the scope of predoctoral and continuing education programs. Advanced education programs that teach deep sedation and/or general anesthesia to competency have specific teaching requirements described in the Commission on Dental Accreditation requirements for those advanced programs and represent the educational and clinical requirements for teaching deep sedation and/or general anesthesia in dentistry.

The objective of educating dentists to utilize pain control, sedation and general anesthesia is to enhance their ability to provide oral health care. The American Dental Association urges dentists to participate regularly in continuing education update courses in these modalities in order to remain current.

All areas in which local anesthesia and sedation are being used must be properly equipped with suction, physiologic monitoring equipment, a positive pressure oxygen delivery system suitable for the patient being treated and emergency drugs. Protocols for the management of emergencies must be developed and training programs held at frequent intervals.

II. Definitions

Methods of Anxiety and Pain Control

analgesia - the diminution or elimination of pain.

local anesthesia - the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug.

Note: Although the use of local anesthetics is the foundation of pain control in dentistry and has a long record of safety, dentists must always be aware of the maximum, safe dosage limits for each patient. Large doses of local anesthetics in themselves may result in central nervous system depression especially in combination with sedative agents.

minimal sedation - a minimally depressed level of consciousness, produced by a pharmacological method, that retains the patient's ability to independently and continuously maintain an airway and respond *normally* to tactile stimulation and verbal command. Although cognitive function and coordination may be modestly impaired, ventilatory and cardiovascular functions are unaffected.[1]

[1] Portions excerpted from *Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia*, 2004, of the American Society of Anesthesiologists (ASA). A copy of the full text can be obtained from ASA, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

Note: In accord with this particular definition, the drug(s) and/or techniques used should carry a margin of safety wide enough never to render unintended loss of consciousness. Further, patients whose only response is reflex withdrawal from repeated painful stimuli would not be considered to be in a state of minimal sedation.

When the intent is minimal sedation for adults, the appropriate initial dosing of a single enteral drug is no more than the maximum recommended dose (MRD) of a drug that can be prescribed for unmonitored home use.

Nitrous oxide/oxygen may be used in combination with a single enteral drug in minimal sedation.

Nitrous oxide/oxygen when used in combination with sedative agent(s) may produce minimal, moderate, deep sedation or general anesthesia.

The following definitions apply to administration of minimal sedation:

maximum recommended dose (MRD) - maximum FDA-recommended dose of a drug as printed in FDA-approved labeling for unmonitored home use.

incremental dosing - administration of multiple doses of a drug until a desired effect is reached, but not to exceed the maximum recommended dose (MRD).

supplemental dosing - during minimal sedation, supplemental dosing is a single additional dose of the initial dose of the initial drug that may be necessary for prolonged procedures. The supplemental dose should not exceed one-half of the initial total dose and should not be administered until the dentist has determined the clinical half-life of the initial dosing has passed. The total aggregate dose must not exceed 1.5x the MRD on the day of treatment.

moderate sedation - a drug-induced depression of consciousness during which patients respond *purposefully* to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.[2]

Note: In accord with this particular definition, the drugs and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely. Repeated dosing of an agent before the effects of previous dosing can be fully appreciated may result in a greater alteration of the state of consciousness than is the intent of the dentist. Further, a patient whose only response is reflex withdrawal from a painful stimulus is not considered to be in a state of moderate sedation.

The following definition applies to administration of moderate and deeper levels of sedation:

titration - administration of incremental doses of a drug until a desired effect is reached. Knowledge of each drug's time of onset, peak response and duration of action is essential to avoid over sedation. Although the concept of titration of a drug to effect is critical for patient safety, when the intent is moderate sedation one must know whether the previous dose has taken full effect before administering an additional drug increment.

[2] Excerpted from *Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia*, 2004, of the American Society of Anesthesiologists (ASA). A copy of the full text can be obtained from ASA, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

deep sedation - a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.[2]

general anesthesia – a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

Because sedation and general anesthesia are a continuum, it is not always possible to predict how an individual patient will respond. Hence, practitioners intending to produce a given level of sedation should be able to diagnose and manage the physiologic consequences (rescue) for patients whose level of sedation becomes deeper than initially intended.[2]

For all levels of sedation, the practitioner must have the training, skills, drugs and equipment to identify and manage such an occurrence until either assistance arrives (emergency medical service) or the patient returns to the intended level of sedation without airway or cardiovascular complications.

Routes of Administration

enteral - any technique of administration in which the agent is absorbed through the gastrointestinal (GI) tract or oral mucosa [i.e., oral, rectal, sublingual].

parenteral - a technique of administration in which the drug bypasses the gastrointestinal (GI) tract [i.e., intramuscular (IM), intravenous (IV), intranasal (IN), submucosal (SM), subcutaneous (SC), intraosseous(IO)].

transdermal - a technique of administration in which the drug is administered by patch or iontophoresis through skin.

transmucosal – a technique of administration in which the drug is administered across mucosa such as intranasal, sublingual, or rectal.

inhalation - a technique of administration in which a gaseous or volatile agent is introduced into the lungs and whose primary effect is due to absorption through the gas/blood interface.

Terms

qualified dentist – meets the educational requirements for the appropriate level of sedation in accordance with Section III of these *Guidelines*, or a dentist providing sedation and anesthesia in compliance with their state rules and/or regulations prior to adoption of this document.

must/shall - indicates an imperative need and/or duty; an essential or indispensable item; mandatory.

should -indicates the recommended manner to obtain the standard; highly desirable.

may - indicates freedom or liberty to follow a reasonable alternative.

continual - repeated regularly and frequently in a steady succession.

continuous - prolonged without any interruption at any time.

time-oriented anesthesia record - documentation at appropriate time intervals of drugs, doses and physiologic data obtained during patient monitoring.

immediately available – on site in the facility and available for immediate use.

Levels of Knowledge

familiarity - a simplified knowledge for the purpose of orientation and recognition of general principles.

in-depth - a thorough knowledge of concepts and theories for the purpose of critical analysis and the synthesis of more complete understanding (highest level of knowledge).

Levels of Skill

exposed - the level of skill attained by observation of or participation in a particular activity.

competent - displaying special skill or knowledge derived from training and experience.

proficient - the level of skill attained when a particular activity is accomplished with repeated quality and a more efficient utilization of time (highest level of skill).

American Society of Anesthesiologists (ASA) Patient Physical Status Classification [3]

ASA I - A normal healthy patient.

ASA II - A patient with mild systemic disease.

ASA III - A patient with severe systemic disease.

ASA IV - A patient with severe systemic disease that is a constant threat to life.

***ASA* V** - A moribund patient who is not expected to survive without the operation.

ASA VI - A declared brain-dead patient whose organs are being removed for donor purposes.

E - Emergency operation of any variety (used to modify one of the above classifications, i.e., ASA III-E).

[3] ASA Physical Status Classification System is reprinted with permission of the American Society of Anesthesiologists, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

Education Courses

Education may be offered at different levels (competency, update, survey courses and advanced education programs). A description of these different levels follows:

1. **Competency Courses** are designed to meet the needs of dentists who wish to become knowledgeable and proficient in the safe and effective administration of local anesthesia, minimal and moderate sedation. They consist of lectures, demonstrations and sufficient clinical participation to assure the faculty that the dentist understands the procedures taught and can safely and effectively apply them so that mastery of the subject is achieved. Faculty must assess and document the dentist's competency upon successful completion of such training. To maintain competency, periodic update courses must be completed.

2. **Update Courses** are designed for persons with previous training. They are intended to provide a review of the subject and an introduction to recent advances in the field. They should be designed didactically and clinically to meet the specific needs of the participants. Participants must have completed previous competency training (equivalent, at a minimum, to the competency course described in this document) and have current experience to be eligible for enrollment in an update course.

3. **Survey Courses** are designed to provide general information about subjects related to pain control and sedation. Such courses should be didactic and not clinical in nature, since they are not intended to develop clinical competency.

4. **Advanced Education Courses** are a component of an advanced dental education program, accredited by the ADA Commission on Dental Accreditation in accord with the *Accreditation Standards* for advanced dental education programs. These courses are designed to prepare the graduate dentist or postdoctoral student in the most comprehensive manner to be knowledgeable and proficient in the safe and effective administration of minimal, moderate and deep sedation and general anesthesia.

III. Teaching Pain Control

These *Guidelines* present a basic overview of the recommendations for teaching pain control.

A. General Objectives: Upon completion of a predoctoral curriculum in pain control the dentist must:

1. have an in-depth knowledge of those aspects of anatomy, physiology, pharmacology and psychology involved in the use of various anxiety and pain control methods;
2. be competent in evaluating the psychological and physical status of the patient, as well as the magnitude of the operative procedure, in order to select the proper regimen;
3. be competent in monitoring vital functions;
4. be competent in prevention, recognition and management of related complications;
5. be familiar with the appropriateness of and the indications for medical consultation or referral;
6. be competent in the maintenance of proper records with accurate chart entries recording medical history, physical examination, vital signs, drugs administered and patient response.

B. Pain Control Curriculum Content:

1. Philosophy of anxiety and pain control and patient management, including the nature and purpose of pain
2. Review of physiologic and psychologic aspects of anxiety and pain
3. Review of airway anatomy and physiology
4. Physiologic monitoring
   - a. Observation
     - (1) Central nervous system
     - (2) Respiratory system
       - a. Oxygenation
       - b. Ventilation
     - (3) Cardiovascular system
   - b. Monitoring equipment
5. Pharmacologic aspects of anxiety and pain control
   - a. Routes of drug administration
   - b. Sedatives and anxiolytics
   - c. Local anesthetics
   - d. Analgesics and antagonists
   - e. Adverse side effects
   - f Drug interactions
   - g. Drug abuse
6. Control of preoperative and operative anxiety and pain
   - a. Patient evaluation
     - (1) Psychological status
     - (2) ASA physical status
     - (3) Type and extent of operative procedure
   - b. Nonpharmacologic methods
     - (1) Psychological and behavioral methods
       - (a) Anxiety management
       - (b) Relaxation techniques
       - (c) Systematic desensitization
     - (2) Interpersonal strategies of patient management
     - (3) Hypnosis
     - (4) Electronic dental anesthesia
     - (5) Acupuncture/Acupressure
     - (6) Other
   - c. Local anesthesia
     - (1) Review of related anatomy, and physiology
     - (2) Pharmacology
       - (i) Dosing
       - (ii) Toxicity
       - (iii) Selection of agents
     - (3) Techniques of administration
       - (i) Topical
       - (ii) Infiltration (supraperiosteal)
       - (iii) Nerve block – maxilla-to include:
         - (aa) Posterior superior alveolar

         - (bb) Infraorbital
         - (cc) Nasopalatine
         - (dd) Greater palatine
         - (ee) Maxillary (2nd division)
         - (ff) Other blocks
       - (iv) Nerve block – mandible-to include:
         - (aa) Inferior alveolar-lingual
         - (bb) Mental-incisive
         - (cc) Buccal
         - (dd) Gow-Gates
         - (ee) Closed mouth
       - (v) Alternative injections-to include:
         - (aa) Periodontal ligament
         - (bb) Intraosseous
   - d. Prevention, recognition and management of complications and emergencies

C. Sequence of Pain Control Didactic and Clinical Instruction: Beyond the basic didactic instruction in local anesthesia, additional time should be provided for demonstrations and clinical practice of the injection techniques. The teaching of other methods of anxiety and pain control, such as the use of analgesics and enteral, inhalation and parenteral sedation, should be coordinated with a course in pharmacology. By this time the student also will have developed a better understanding of patient evaluation and the problems related to prior patient care. As part of this instruction, the student should be taught the techniques of venipuncture and physiologic monitoring. Time should be included for demonstration of minimal and moderate sedation techniques.

Following didactic instruction in minimal and moderate sedation, the student must receive sufficient clinical experience to demonstrate competency in those techniques in which the student is to be certified. It is understood that not all institutions may be able to provide instruction to the level of clinical competence in pharmacologic sedation modalities to all students. The amount of clinical experience required to achieve competency will vary according to student ability, teaching methods and the anxiety and pain control modality taught.

Clinical experience in minimal and moderate sedation techniques should be related to various disciplines of dentistry and not solely limited to surgical cases. Typically, such experience will be provided in managing healthy adult patients. The sedative care of pediatric and special needs patients requires advanced didactic and clinical training.

Throughout both didactic and clinical instruction in anxiety and pain control, psychological management of the patient should also be stressed. Instruction should emphasize that the need for sedative techniques is directly related to the patient's level of anxiety, cooperation, medical condition and the planned procedures.

D. Faculty: Instruction must be provided by qualified faculty for whom anxiety and pain control are areas of major proficiency, interest and concern.

E. Facilities: Competency courses must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

IV. Teaching Administration of Minimal Sedation

The faculty responsible for curriculum in minimal sedation techniques must be familiar with the ADA Policy Statement: *Guidelines for the Use of Sedation and General Anesthesia by Dentists*, and the Commission on Dental Accreditation's *Accreditation Standards* for dental education programs.

These *Guidelines* present a basic overview of the recommendations for teaching minimal sedation. These include courses in nitrous oxide/oxygen sedation, enteral sedation, and combined inhalation/enteral techniques.

General Objectives: Upon completion of a competency course in minimal sedation, the dentist must be able to:

1. Describe the adult and pediatric anatomy and physiology of the respiratory, cardiovascular and central nervous systems, as they relate to the above techniques.
2. Describe the pharmacological effects of drugs.
3. Describe the methods of obtaining a medical history and conduct an appropriate physical examination.
4. Apply these methods clinically in order to obtain an accurate evaluation.
5. Use this information clinically for ASA classification and risk assessment.
6. Choose the most appropriate technique for the individual patient.
7. Use appropriate physiologic monitoring equipment.
8. Describe the physiologic responses that are consistent with minimal sedation.
9. Understand the sedation/general anesthesia continuum.

Inhalation Sedation (Nitrous Oxide/Oxygen)

A. **Inhalation Sedation Course Objectives:** Upon completion of a competency course in inhalation sedation techniques, the dentist must be able to:

1. Describe the basic components of inhalation sedation equipment.
2. Discuss the function of each of these components.
3. List and discuss the advantages and disadvantages of inhalation sedation.
4. List and discuss the indications and contraindications of inhalation sedation.
5. List the complications associated with inhalation sedation.
6. Discuss the prevention, recognition and management of these complications.
7. Administer inhalation sedation to patients in a clinical setting in a safe and effective manner.
8. Discuss the abuse potential, occupational hazards and other untoward effects of inhalation agents.

B. **Inhalation Sedation Course Content:**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological considerations.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the stages of drug-induced central nervous system depression through all levels of consciousness and unconsciousness, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.

6. Pharmacology of agents used in inhalation sedation, including drug interactions and incompatibilities.
7. Indications and contraindications for use of inhalation sedation.
8. Review of dental procedures possible under inhalation sedation.
9. Patient monitoring using observation and monitoring equipment, with particular attention to vital signs and reflexes related to pharmacology of nitrous oxide.
10. Importance of maintaining proper records with accurate chart entries recording medical history, physical examination, vital signs, drugs and doses administered and patient response.
11. Prevention, recognition and management of complications and life-threatening situations.
12. Administration of local anesthesia in conjunction with inhalation sedation techniques.
13. Description and use of inhalation sedation equipment.
14. Introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure.
15. Discussion of abuse potential.

C. **Inhalation Sedation Course Duration:** While length of a course is only one of the many factors to be considered in determining the quality of an educational program, the course should be a minimum of *14 hours*, including a clinical component during which competency in inhalation sedation technique is achieved. The inhalation sedation course most often is completed as a part of the predoctoral dental education program. However, the course may be completed in a postdoctoral continuing education competency course.

D. **Participant Evaluation and Documentation of Inhalation Sedation Instruction:** Competency courses in inhalation sedation techniques must afford participants with sufficient clinical experience to enable them to achieve competency. This experience must be provided under the supervision of qualified faculty and must be evaluated. The course director must certify the competency of participants upon satisfactory completion of training. Records of the didactic instruction and clinical experience, including the number of patients treated by each participant must be maintained and available.

E. **Faculty:** The course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including the individual's formal postdoctoral training in anxiety and pain control. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, and cardiologists and psychologists, should be encouraged.

A participant-faculty ratio of not more than ten-to-one when inhalation sedation is being used allows for adequate supervision during the clinical phase of instruction; a one-to-one ratio is recommended during the early state of participation.

The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who present the course material.

F. **Facilities:** Competency courses must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

Enteral and/or Combination Inhalation-Enteral Minimal Sedation

A. **Enteral and/or Combination Inhalation-Enteral Minimal Sedation Course Objectives:** Upon completion of a competency course in enteral and/or combination inhalation-enteral minimal sedation techniques, the dentist must be able to:

1. Describe the basic components of inhalation sedation equipment.
2. Discuss the function of each of these components.
3. List and discuss the advantages and disadvantages of enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
4. List and discuss the indications and contraindications for the use of enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
5. List the complications associated with enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
6. Discuss the prevention, recognition and management of these complications.
7. Administer enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation) to patients in a clinical setting in a safe and effective manner.
8. Discuss the abuse potential, occupational hazards and other effects of enteral and inhalation agents.
9. Discuss the pharmacology of the enteral and inhalation drugs selected for administration.
10. Discuss the precautions, contraindications and adverse reactions associated with the enteral and inhalation drugs selected.
11. Describe a protocol for management of emergencies in the dental office and list and discuss the emergency drugs and equipment required for management of life-threatening situations.
12. Demonstrate the ability to manage life-threatening emergency situations, including current certification in Basic Life Support for Healthcare Providers.
13. Discuss the pharmacological effects of combined drug therapy, their implications and their management. Nitrous oxide/oxygen when used in combination with sedative agent(s) may produce minimal, moderate, deep sedation or general anesthesia.

B. **Enteral and/or Combination Inhalation-Enteral Minimal Sedation Course Content:**

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological profiling.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the stages of drug-induced central nervous system depression through all levels of consciousness and unconsciousness, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.
6. Pharmacology of agents used in enteral and/or combination inhalation-enteral minimal sedation, including drug interactions and incompatibilities.
7. Indications and contraindications for use of enteral and/or combination inhalation-enteral minimal sedation (combined minimal sedation).
8. Review of dental procedures possible under enteral and/or combination inhalation-enteral minimal sedation).
9. Patient monitoring using observation, monitoring equipment, with particular attention to vital signs and reflexes related to consciousness.
10. Maintaining proper records with accurate chart entries recording medical history, physical examination, informed consent, time-oriented anesthesia record, including the names of all drugs administered including local anesthetics, doses, and monitored physiological parameters.
11. Prevention, recognition and management of complications and life-threatening situations.
12. Administration of local anesthesia in conjunction with enteral and/or combination inhalation-enteral minimal sedation techniques.
13. Description and use of inhalation sedation equipment.

14. Introduction to potential health hazards of trace anesthetics and proposed techniques for limiting occupational exposure.
15. Discussion of abuse potential.

C. **Enteral and/or Combination Inhalation-Enteral Minimal Sedation Course Duration:** Participants must be able to document current certification in Basic Life Support for Healthcare Providers and have completed a nitrous oxide competency course to be eligible for enrollment in this course. While length of a course is only one of the many factors to be considered in determining the quality of an educational program, the course should include a minimum of *16 hours*, plus clinically-oriented experiences during which competency in enteral and/or combined inhalation-enteral minimal sedation techniques is demonstrated. Clinically-oriented experiences may include group observations on patients undergoing enteral and/or combination inhalation-enteral minimal sedation. Clinical experience in managing a compromised airway is critical to the prevention of life-threatening emergencies. The faculty should schedule participants to return for additional clinical experience if competency has not been achieved in the time allotted. The educational course may be completed in a predoctoral dental education curriculum or a postdoctoral continuing education competency course.

These *Guidelines* are not intended for the management of enteral and/or combination inhalation-enteral minimal sedation in children, which requires additional course content and clinical learning experience.

D. **Participant Evaluation and Documentation of Instruction:** Competency courses in combination inhalation-enteral minimal sedation techniques must afford participants with sufficient clinical understanding to enable them to achieve competency. The course director must certify the competency of participants upon satisfactory completion of the course. Records of the course instruction must be maintained and available.

E. **Faculty:** The course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including the individual's formal postdoctoral training in anxiety and pain control. Dental faculty with broad clinical experience in the particular aspect of the subject under consideration should participate. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, and cardiologists and psychologists, should be encouraged. The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who present the course material.

F. **Facilities:** Competency courses must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies.

V. Teaching Administration of Moderate Sedation

These *Guidelines* present a basic overview of the requirements for a competency course in moderate sedation. These include courses in enteral moderate sedation and parenteral moderate sedation. The teaching guidelines contained in this section on moderate sedation differ slightly from documents in medicine to reflect the differences in delivery methodologies and practice environment in dentistry. For this reason, separate teaching guidelines have been developed for moderate enteral and moderate parenteral sedation.

A. **Course Objectives:** Upon completion of a course in moderate sedation, the dentist must be able to:

1. List and discuss the advantages and disadvantages of moderate sedation.
2. Discuss the prevention, recognition and management of complications associated with moderate sedation.
3. Administer moderate sedation to patients in a clinical setting in a safe and effective manner.
4. Discuss the abuse potential, occupational hazards and other untoward effects of the agents utilized to achieve moderate sedation.
5. Describe and demonstrate the technique of intravenous access, intramuscular injection and other parenteral techniques.
6. Discuss the pharmacology of the drug(s) selected for administration.
7. Discuss the precautions, indications, contraindications and adverse reactions associated with the drug(s) selected.
8. Administer the selected drug(s) to dental patients in a clinical setting in a safe and effective manner.
9. List the complications associated with techniques of moderate sedation.
10. Describe a protocol for management of emergencies in the dental office and list and discuss the emergency drugs and equipment required for the prevention and management of emergency situations.
11. Discuss principles of advanced cardiac life support or an appropriate dental sedation/anesthesia emergency course equivalent.
12. Demonstrate the ability to manage emergency situations.

B. Moderate Sedation Course Content:

1. Historical, philosophical and psychological aspects of anxiety and pain control.
2. Patient evaluation and selection through review of medical history taking, physical diagnosis and psychological considerations.
3. Definitions and descriptions of physiological and psychological aspects of anxiety and pain.
4. Description of the sedation anesthesia continuum, with special emphasis on the distinction between the conscious and the unconscious state.
5. Review of pediatric and adult respiratory and circulatory physiology and related anatomy.
6. Pharmacology of local anesthetics and agents used in moderate sedation, including drug interactions and contraindications.
7. Indications and contraindications for use of moderate sedation.
8. Review of dental procedures possible under moderate sedation.
9. Patient monitoring using observation and monitoring equipment, with particular attention to vital signs and reflexes related to consciousness.
10. Maintaining proper records with accurate chart entries recording medical history, physical examination, informed consent, time-oriented anesthesia record, including the names of all drugs administered including local anesthetics, doses, and monitored physiological parameters.
11. Prevention, recognition and management of complications and emergencies.
12. Description and use of moderate sedation monitors and equipment.
13. Discussion of abuse potential.
14. Intravenous access: anatomy, equipment and technique.
15. Prevention, recognition and management of complications of venipuncture and other parenteral techniques.
16. Description and rationale for the technique to be employed.
17. Prevention, recognition and management of systemic complications of moderate sedation, with particular attention to airway maintenance and support of the respiratory and cardiovascular systems.

C. Moderate Enteral Sedation Course Duration: A minimum of *24 hours* of instruction, plus management of *at least 10 adult case experiences* by the enteral and/or enteral-nitrous oxide/oxygen route are required to achieve competency. These ten cases must include at least three live clinical dental experiences managed by participants in groups no larger than five. The remaining cases may include simulations and/or video presentations, but must include one experience in returning (rescuing) a patient from deep to moderate sedation.

Participants should be provided supervised opportunities for clinical experience to demonstrate competence in airway management. Clinical experience will be provided in managing healthy adult patients; this course in moderate enteral sedation is not designed for the management of children (aged 12 and under). Additional supervised clinical experience is necessary to prepare participants to manage medically compromised adults and special needs patients. This course in moderate enteral sedation does not result in competency in moderate parenteral sedation. The faculty should schedule participants to return for additional didactic or clinical exposure if competency has not been achieved in the time allotted.

Moderate Parenteral Sedation Course Duration: A minimum of *60 hours* of instruction, plus management of *at least 20 patients* by the intravenous route per participant, is required to achieve competency in moderate sedation techniques. Clinical experience in managing a compromised airway is critical to the prevention of emergencies. Participants should be provided supervised opportunities for clinical experience to demonstrate competence in management of the airway. Typically, clinical experience will be provided in managing healthy adult patients. Additional supervised clinical experience is necessary to prepare participants to manage children (aged 12 and under) and medically compromised adults. Successful completion of this course does result in clinical competency in moderate parenteral sedation. The faculty should schedule participants to return for additional clinical experience if competency has not been achieved in the time allotted.

D. Participant Evaluation and Documentation of Instruction: Competency courses in moderate sedation techniques must afford participants with sufficient clinical experience to enable them to achieve competency. This experience must be provided under the supervision of qualified faculty and must be evaluated. The course director must certify the competency of participants upon satisfactory completion of training in each moderate sedation technique, including instruction, clinical experience and airway management. Records of the didactic instruction and clinical experience, including the number of patients managed by each participant in each anxiety and pain control modality must be maintained and available for review.

E. Faculty: The course should be directed by a dentist or physician qualified by experience and training. This individual should have had at least three years of experience, including formal postdoctoral training in anxiety and pain control. Dental faculty with broad clinical experience in the particular aspect of the subject under consideration should participate. In addition, the participation of highly qualified individuals in related fields, such as anesthesiologists, pharmacologists, internists, cardiologists and psychologists, should be encouraged.

A participant-faculty ratio of not more than five-to-one when moderate enteral sedation is being taught allows for adequate supervision during the clinical phase of instruction. A participant-faculty ratio of not more than three-to-one when moderate parenteral sedation is being taught allows for adequate supervision during the clinical phase of instruction; a one-to-one ratio is recommended during the early stage of participation.

The faculty should provide a mechanism whereby the participant can evaluate the performance of those individuals who present the course material.

F. Facilities: Competency courses in moderate sedation must be presented where adequate facilities are available for proper patient care, including drugs and equipment for the management of emergencies. These facilities may include dental and medical schools/offices, hospitals and surgical centers.

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Additional Sources of Information

American Academy of Pediatric Dentists (AAPD). *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures: An Update.* Developed through a collaborative effort between the American Academy of Pediatrics and the AAPD. Available at http://www.aapd.org/media/policies.asp

American Academy of Periodontology (AAP). *Guidelines: In-Office Use of Conscious Sedation in Periodontics.* Available at http://www.perio.org/resources-products/posppr3-1.html

American Dental Association Council on Scientific Affairs. Acceptance Program Guidelines: *Nitrous Oxide-Oxygen Conscious Sedation Systems, 2000.* Available at http://www.ada.org/prof/resources/positions/standards/denmat.asp#ada

American Association of Oral and Maxillofacial Surgeons (AAOMS). *Parameters and Pathways: Clinical Practice Guidelines for Oral and Maxillofacial Surgery (AAOMS ParPath o1) Anesthesia in Outpatient Facilities.* Contact AAOMS at 1-847-678-6200 or visit http://www.aaoms.org/index.php

American Association of Oral and Maxillofacial Surgeons (AAOMS). *Office Anesthesia Evaluation Manual 7th Edition.* Contact AAOMS at 1-847-678-6200 or visit http://www.aaoms.org/index.php

American Society of Anesthesiologist (ASA). *Practice Guidelines for Preoperative Fasting and the Use of Pharmacological Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures.* Available at http://www2.asahq.org/publications/p-178-practice-guidelines-for-preoperative-fasting.aspx

American Society of Anesthesiologists (ASA). *Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists.* Available at http://www.asahq.org/publicationsAndServices/practiceparam.htm#sedation. The ASA has other anesthesia resources that might be of interest to dentists. For more information, go to http://www.asahq.org/publicationsAndServices/sgstoc.htm.

Commission on Dental Accreditation (CODA). *Accreditation Standards* for Predoctoral and Advanced Dental Education Programs. Available at http://www.ada.org/prof/ed/accred/standards/index.asp.

National Institute for Occupational Safety and Health (NIOSH). *Controlling Exposures to Nitrous Oxide During Anesthetic Administration* (NIOSH Alert: 1994 Publication No. 94-100). Available at http://www.cdc.gov/niosh/noxidalr.html

Dionne, Raymond A.; Yagiela, John A., et al. Balancing efficacy and safety in the use of oral sedation in dental outpatients. JADA 2006;137(4):502-13. ADA members can access this article online at http://jada.ada.org/cgi/content/full/137/4/502.

AMERICAN DENTAL ASSOCIATION

GUIDELINES FOR THE USE OF SEDATION AND GENERAL ANESTHESIA BY DENTISTS

As adopted by the October 2007 ADA House of Delegates

I. Introduction

The administration of local anesthesia, sedation and general anesthesia is an integral part of dental practice. The American Dental Association is committed to the safe and effective use of these modalities by appropriately educated and trained dentists. The purpose of these guidelines is to assist dentists in the delivery of safe and effective sedation and anesthesia.

Dentists providing sedation and anesthesia in compliance with their state rules and/or regulations prior to adoption of this document are not subject to *Section III. Educational Requirements.*

II. Definitions

Methods of Anxiety and Pain Control

analgesia - the diminution or elimination of pain.

local anesthesia - the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug.

Note: Although the use of local anesthetics is the foundation of pain control in dentistry and has a long record of safety, dentists must be aware of the maximum, safe dosage limits for each patient. Large doses of local anesthetics in themselves may result in central nervous system depression, especially in combination with sedative agents.

minimal sedation - a minimally depressed level of consciousness, produced by a pharmacological method, that retains the patient's ability to independently and continuously maintain an airway and respond *normally* to tactile stimulation and verbal command. Although cognitive function and coordination may be modestly impaired, ventilatory and cardiovascular functions are unaffected.[1]

Note: In accord with this particular definition, the drug(s) and/or techniques used should carry a margin of safety wide enough never to render unintended loss of consciousness. Further, patients whose only response is reflex withdrawal from repeated painful stimuli would not be considered to be in a state of minimal sedation.

When the intent is minimal sedation for adults, the appropriate initial dosing of a single enteral drug is no more than the maximum recommended dose (MRD) of a drug that can be prescribed for unmonitored home use.

[1] Portions excerpted from *Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia,* 2004, of the American Society of Anesthesiologists (ASA). A copy of the full text can be obtained from ASA, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

The use of preoperative sedatives for children (aged 12 and under) except in extraordinary situations must be avoided due to the risk of unobserved respiratory obstruction during transport by untrained individuals.

Children (aged 12 and under) can become moderately sedated despite the intended level of minimal sedation; should this occur, the guidelines for moderate sedation apply.

For children 12 years of age and under, the American Dental Association supports the use of the American Academy of Pediatrics/American Academy of Pediatric Dentists *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures.*

Nitrous oxide/oxygen may be used in combination with a single enteral drug in minimal sedation.

Nitrous oxide/oxygen when used in combination with sedative agent(s) may produce minimal, moderate, deep sedation or general anesthesia.

The following definitions apply to administration of minimal sedation:

maximum recommended (MRD) - maximum FDA-recommended dose of a drug, as printed in FDA-approved labeling for unmonitored home use.

incremental dosing - administration of multiple doses of a drug until a desired effect is reached, but not to exceed the maximum recommended dose (MRD).

supplemental dosing - during minimal sedation, supplemental dosing is a single additional dose of the initial dose of the initial drug that may be necessary for prolonged procedures. The supplemental dose should not exceed one-half of the initial dose and should not be administered until the dentist has determined the clinical half-life of the initial dosing has passed. The total aggregate dose must not exceed 1.5x the MRD on the day of treatment.

moderate sedation - a drug-induced depression of consciousness during which patients respond *purposefully* to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.[2]

Note: In accord with this particular definition, the drugs and/or techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely. Repeated dosing of an agent before the effects of previous dosing can be fully appreciated may result in a greater alteration of the state of consciousness than is the intent of the dentist. Further, a patient whose only response is reflex withdrawal from a painful stimulus is not considered to be in a state of moderate sedation.

The following definition applies to the administration of moderate or greater sedation:

titration-administration of incremental doses of a drug until a desired effect is reached. Knowledge of each drug's time of onset, peak response and duration of action is essential to avoid over sedation. Although the concept of titration of a drug to effect is critical for patient

[2] Excerpted from *Continuum of Depth of Sedation: Definition of General Anesthesia and Levels of Sedation/Analgesia,* 2004, of the American Society of Anesthesiologists (ASA). A copy of the full text can be obtained from ASA, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

safety, when the intent is moderate sedation one must know whether the previous dose has taken full effect before administering an additional drug increment.

deep sedation - a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.[2]

general anesthesia - a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

Because sedation and general anesthesia are a continuum, it is not always possible to predict how an individual patient will respond. Hence, practitioners intending to produce a given level of sedation should be able to diagnose and manage the physiologic consequences (rescue) for patients whose level of sedation becomes deeper than initially intended.[2]

For all levels of sedation, the practitioner must have the training, skills, drugs and equipment to identify and manage such an occurrence until either assistance arrives (emergency medical service) or the patient returns to the intended level of sedation without airway or cardiovascular complications.

Routes of Administration

enteral - any technique of administration in which the agent is absorbed through the gastrointestinal (GI) tract or oral mucosa [i.e., oral, rectal, sublingual].

parenteral - a technique of administration in which the drug bypasses the gastrointestinal (GI) tract [i.e., intramuscular (IM), intravenous (IV), intranasal (IN), submucosal (SM), subcutaneous (SC), intraosseous (IO)].

transdermal - a technique of administration in which the drug is administered by patch or iontophoresis through skin.

transmucosal - a technique of administration in which the drug is administered across mucosa such as intranasal, sublingual, or rectal.

inhalation - a technique of administration in which a gaseous or volatile agent is introduced into the lungs and whose primary effect is due to absorption through the gas/blood interface.

Terms

qualified dentist - meets the educational requirements for the appropriate level of sedation in accordance with Section III of these *Guidelines*, or a dentist providing sedation and anesthesia in compliance with their state rules and/or regulations prior to adoption of this document.

must/shall - indicates an imperative need and/or duty; an essential or indispensable item; mandatory.

should - indicates the recommended manner to obtain the standard; highly desirable.

may - indicates freedom or liberty to follow a reasonable alternative.

continual - repeated regularly and frequently in a steady succession.

continuous - prolonged without any interruption at any time.

time-oriented anesthesia record - documentation at appropriate time intervals of drugs, doses and physiologic data obtained during patient monitoring.

immediately available – on site in the facility and available for immediate use.

American Society of Anesthesiologists (ASA) Patient Physical Status Classification [3]

ASA I - A normal healthy patient.

ASA II - A patient with mild systemic disease.

ASA III - A patient with severe systemic disease.

ASA IV - A patient with severe systemic disease that is a constant threat to life.

ASA V - A moribund patient who is not expected to survive without the operation.

ASA VI - A declared brain-dead patient whose organs are being removed for donor purposes.

E - Emergency operation of any variety (used to modify one of the above classifications, i.e., ASA III-E).

III. Educational Requirements

A. Minimal Sedation

1. To administer minimal sedation the dentist must have successfully completed:

   a. training to the level of competency in minimal sedation consistent with that prescribed in the ADA *Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students*, or a comprehensive training program in moderate sedation that satisfies the requirements described in the Moderate Sedation section of the *ADA Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students* at the time training was commenced,

   or

   b. an advanced education program accredited by the ADA Commission on Dental Accreditation that affords comprehensive and appropriate training necessary to administer and manage minimal sedation commensurate with these guidelines;

   and

   c. a current certification in Basic Life Support for Healthcare Providers.

2. Administration of minimal sedation by another qualified dentist or independently practicing qualified anesthesia healthcare provider requires the operating dentist and his/her clinical staff to maintain current certification in Basic Life Support for Healthcare Providers.

[3] ASA Physical Status Classification System is reprinted with permission of the American Society of Anesthesiologists, 520 N. Northwest Highway, Park Ridge, IL 60068-2573.

B. Moderate Sedation

1. To administer moderate sedation, the dentist must have successfully completed:

   a. a comprehensive training program in moderate sedation that satisfies the requirements described in the Moderate Sedation section of the ADA *Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students* at the time training was commenced,

   or

   b. an advanced education program accredited by the ADA Commission on Dental Accreditation that affords comprehensive and appropriate training necessary to administer and manage moderate sedation commensurate with these guidelines;

   and

   c. a current certification in 1) Basic Life Support for Healthcare Providers and 2) Advanced Cardiac Life Support (ACLS) or an appropriate dental sedation/anesthesia emergency management course.

2. Administration of moderate sedation by another qualified dentist or independently practicing qualified anesthesia healthcare provider requires the operating dentist and his/her clinical staff to maintain current certification in Basic Life Support for Healthcare Providers.

C. Deep Sedation or General Anesthesia

1. To administer deep sedation or general anesthesia, the dentist must have completed:
   a. an advanced education program accredited by the ADA Commission on Dental Accreditation that affords comprehensive and appropriate training necessary to administer and manage deep sedation or general anesthesia, commensurate with Part IV.C of these guidelines;

   and

   b. a current certification in 1) Basic Life Support for Healthcare Providers and 2) Advanced Cardiac Life Support (ACLS) or an appropriate dental sedation/anesthesia emergency management course.

2. Administration of deep sedation or general anesthesia by another qualified dentist or independently practicing qualified anesthesia healthcare provider requires the operating dentist and his/her clinical staff to maintain current certification in Basic Life Support (BLS) Course for the Healthcare Provider.

For all levels of sedation and anesthesia, dentists, who are currently providing sedation and anesthesia in compliance with their state rules and/or regulations prior to adoption of this document, are not subject to these educational requirements.

IV. Clinical Guidelines

A. Minimal sedation

1. Patient Evaluation

   Patients considered for minimal sedation must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II) this may consist of a review of their current medical history and medication use. However, patients with significant medical considerations (ASA III, IV) may require consultation with their primary care physician or consulting medical specialist.

2. Pre-Operative Preparation

   - The patient, parent, guardian or care giver must be advised regarding the procedure associated with the delivery of any sedative agents and informed consent for the proposed sedation must be obtained.
   - Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed.
   - Baseline vital signs must be obtained unless the patient's behavior prohibits such determination.
   - A focused physical evaluation must be performed as deemed appropriate.
   - Preoperative dietary restrictions must be considered based on the sedative technique prescribed.
   - Pre-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.

3. Personnel and Equipment Requirements

   Personnel:

   - At least one additional person trained in Basic Life Support for Healthcare Providers must be present in addition to the dentist.

   Equipment:

   - A positive-pressure oxygen delivery system suitable for the patient being treated must be immediately available.
   - When inhalation equipment is used, it must have a fail-safe system that is appropriately checked and calibrated. The equipment must also have either (1) a functioning device that prohibits the delivery of less than 30% oxygen or (2) an appropriately calibrated and functioning in-line oxygen analyzer with audible alarm.
   - An appropriate scavenging system must be available if gases other than oxygen or air are used.

4. Monitoring and Documentation

   Monitoring: A dentist, or at the dentist's direction, an appropriately trained individual, must remain in the operatory during active dental treatment to monitor the patient continuously until the patient meets the criteria for discharge to the recovery area. The appropriately trained individual must be familiar with monitoring techniques and equipment. Monitoring must include

   - Oxygenation:
     - Color of mucosa, skin or blood must be evaluated continually
     - Oxygen saturation by pulse oximetry may be clinically useful and should be considered.

- Ventilation:
  - The dentist and/or appropriately trained individual must observe chest excursions continually.
  - The dentist and/or appropriately trained individual must verify respirations continually.
- Circulation:
  - Blood pressure and heart rate should be evaluated pre-operatively, post-operatively and intra-operatively as necessary (unless the patient is unable to tolerate such monitoring).

Documentation: An appropriate sedative record must be maintained, including the names of all drugs administered, including local anesthetics, dosages, and monitored physiological parameters.

5. Recovery and Discharge

- Oxygen and suction equipment must be immediately available if a separate recovery area is utilized.
- The qualified dentist or appropriately trained clinical staff must monitor the patient during recovery until the patient is ready for discharge by the dentist.
- The qualified dentist must determine and document that level of consciousness, oxygenation, ventilation and circulation are satisfactory prior to discharge.
- Post-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.

6. Emergency Management

If a patient enters a deeper level of sedation than the dentist is qualified to provide, the dentist must stop the dental procedure until the patient returns to the intended level of sedation.

The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of minimal sedation and providing the equipment and protocols for patient rescue.

7. Management of Children

For children 12 years of age and under, the American Dental Association supports the use of the American Academy of Pediatrics/American Academy of Pediatric Dentists *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures.*

B. Moderate Sedation

1. Patient Evaluation

Patients considered for moderate sedation must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II) this should consist of at least a review of their current medical history and medication use. However, patients with

significant medical considerations (e.g., ASA III, IV) may require consultation with their primary care physician or consulting medical specialist.

2. Pre-operative Preparation

- The patient, parent, guardian or care giver must be advised regarding the procedure associated with the delivery of any sedative agents and informed consent for the proposed sedation must be obtained.
- Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed.
- Baseline vital signs must be obtained unless the patient's behavior prohibits such determination.
- A focused physical evaluation must be performed as deemed appropriate.
- Preoperative dietary restrictions must be considered based on the sedative technique prescribed.
- Pre-operative verbal or written instructions must be given to the patient, parent, escort, guardian or care giver.

3. Personnel and Equipment Requirements

Personnel:

- At least one additional person trained in Basic Life Support for Healthcare Providers must be present in addition to the dentist.

Equipment:

- A positive-pressure oxygen delivery system suitable for the patient being treated must be immediately available.
- When inhalation equipment is used, it must have a fail-safe system that is appropriately checked and calibrated. The equipment must also have either (1) a functioning device that prohibits the delivery of less than 30% oxygen or (2) an appropriately calibrated and functioning in-line oxygen analyzer with audible alarm.
- An appropriate scavenging system must be available if gases other than oxygen or air are used.
- The equipment necessary to establish intravenous access must be available.

4. Monitoring and Documentation

Monitoring: A qualified dentist administering moderate sedation must remain in the operatory room to monitor the patient continuously until the patient meets the criteria for recovery. When active treatment concludes and the patient recovers to a minimally sedated level a qualified auxiliary may be directed by the dentist to remain with the patient and continue to monitor them as explained in the guidelines until they are discharged from the facility. The dentist must not leave the facility until the patient meets the criteria for discharge and is discharged from the facility. Monitoring must include:

- Consciousness:
  - Level of consciousness (e.g., responsiveness to verbal command) must be continually assessed.
- Oxygenation:
  - Color of mucosa, skin or blood must be evaluated continually.
  - Oxygen saturation must be evaluated by pulse oximetry continuously.
- Ventilation:
  - The dentist must observe chest excursions continually.
  - The dentist must monitor ventilation. This can be accomplished by auscultation of breath sounds, monitoring end-tidal CO_2 or by verbal communication with the patient.
- Circulation:
  - The dentist must continually evaluate blood pressure and heart rate (unless the patient is unable to tolerate and this is noted in the time-oriented anesthesia record).
  - Continuous ECG monitoring of patients with significant cardiovascular disease should be considered.

Documentation:

- Appropriate time-oriented anesthetic record must be maintained, including the names of all drugs administered, including local anesthetics, dosages and monitored physiological parameters.
- Pulse oximetry, heart rate, respiratory rate and blood pressure must be recorded continually.

5. Recovery and Discharge

- Oxygen and suction equipment must be immediately available if a separate recovery area is utilized.
- The qualified dentist or appropriately trained clinical staff must continually monitor the patient's blood pressure, heart rate, oxygenation and level of consciousness.
- The qualified dentist must determine and document that level of consciousness; oxygenation, ventilation and circulation are satisfactory for discharge.
- Post-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.
- If a reversal agent is administered before discharge criteria have been met, the patient must be monitored until recovery is assured.

6. Emergency Management

If a patient enters a deeper level of sedation than the dentist is qualified to provide, the dentist must stop the dental procedure until the patient returns to the intended level of sedation.

The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of moderate sedation and providing the equipment, drugs and protocol for patient rescue.

7. Management of Children

For children 12 years of age and under, the American Dental Association supports the use of the American Academy of Pediatrics/American Academy of Pediatric Dentists *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures.*

C. Deep Sedation or General Anesthesia

1. Patient Evaluation

Patients considered for deep sedation or general anesthesia must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II) this must consist of at least a review of their current medical history and medication use and NPO status. However, patients with significant medical considerations (e.g., ASA III, IV) may require consultation with their primary care physician or consulting medical specialist.

2. Pre-operative Preparation

- The patient, parent, guardian or care giver must be advised regarding the procedure associated with the delivery of any sedative or anesthetic agents and informed consent for the proposed sedation/anesthesia must be obtained.
- Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed.
- Baseline vital signs must be obtained unless the patient's behavior prohibits such determination.
- A focused physical evaluation must be performed as deemed appropriate.
- Preoperative dietary restrictions must be considered based on the sedative/anesthetic technique prescribed.
- Pre-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.
- An intravenous line, which is secured throughout the procedure, must be established except as provided in part IV. C.6. Pediatric and Special Needs Patients.

3. Personnel and Equipment Requirements

Personnel: A minimum of three (3) individuals must be present.

- A dentist qualified in accordance with part III. C. of these Guidelines to administer the deep sedation or general anesthesia.
- Two additional individuals who have current certification of successfully completing a Basic Life Support (BLS) Course for the Healthcare Provider.
- When the same individual administering the deep sedation or general anesthesia is performing the dental procedure, one of the additional appropriately trained team members must be designated for patient monitoring.

Equipment:

- A positive-pressure oxygen delivery system suitable for the patient being treated must be immediately available.
- When inhalation equipment is used, it must have a fail-safe system that is appropriately checked and calibrated. The equipment must also have either (1) a functioning device that prohibits the delivery of less than 30% oxygen or (2) an appropriately calibrated and functioning in-line oxygen analyzer with audible alarm.
- An appropriate scavenging system must be available if gases other than oxygen or air are used.
- The equipment necessary to establish intravenous access must be available.
- Equipment and drugs necessary to provide advanced airway management, and advanced cardiac life support must be immediately available.
- If volatile anesthetic agents are utilized, an inspired agent analysis monitor and capnograph should be considered.
- Resuscitation medications and an appropriate defibrillator must be immediately available.

4. Monitoring and Documentation

Monitoring: A qualified dentist administering deep sedation or general anesthesia must remain in the operatory room to monitor the patient continuously until the patient meets the criteria for recovery. The dentist must not leave the facility until the patient meets the criteria for discharge and is discharged from the facility. Monitoring must include:

- Oxygenation:
  - Color of mucosa, skin or blood must be continually evaluated.
  - Oxygenation saturation must be evaluated continuously by pulse oximetry.
- Ventilation:
  - Intubated patient: End-tidal CO_2 must be continuously monitored and evaluated.

  - Non-intubated patient: Breath sounds via auscultation and/or end-tidal CO_2 must be continually monitored and evaluated.
  - Respiration rate must be continually monitored and evaluated.
- Circulation:
  - The dentist must continuously evaluate heart rate and rhythm via ECG throughout the procedure, as well as pulse rate via pulse oximetry.
  - The dentist must continually evaluate blood pressure.
- Temperature:
  - A device capable of measuring body temperature must be readily available during the administration of deep sedation or general anesthesia.
  - The equipment to continuously monitor body temperature should be available and must be performed whenever triggering agents associated with malignant hyperthermia are administered.

Documentation:

- Appropriate time-oriented anesthetic record must be maintained, including the names of all drugs administered, including local anesthetics, doses and monitored physiological parameters.
- Pulse oximetry and end-tidal CO_2 measurements (if taken), heart rate, respiratory rate and blood pressure must be recorded at appropriate intervals.

5. Recovery and Discharge

- Oxygen and suction equipment must be immediately available if a separate recovery area is utilized.
- The dentist or clinical staff must continually monitor the patient's blood pressure, heart rate, oxygenation and level of consciousness.
- The dentist must determine and document that level of consciousness; oxygenation, ventilation and circulation are satisfactory for discharge.
- Post-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.

6. Pediatric and Special Needs Patients

Because many dental patients undergoing deep sedation or general anesthesia are mentally and/or physically challenged, it is not always possible to have a comprehensive physical examination or appropriate laboratory tests prior to administering care. When these situations occur, the dentist responsible for administering the deep sedation or general anesthesia should document the reasons preventing the recommended preoperative management.

In selected circumstances, deep sedation or general anesthesia may be utilized without establishing an indwelling intravenous line. These selected circumstances may include very brief procedures or

periods of time, which, for example, may occur in some pediatric patients; or the establishment of intravenous access after deep sedation or general anesthesia has been induced because of poor patient cooperation.

7. Emergency Management

The qualified dentist is responsible for sedative/anesthetic management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of deep sedation or general anesthesia and providing the equipment, drugs and protocols for patient rescue.

*****

V. Additional Sources of Information

American Academy of Pediatric Dentists (AAPD). *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures: An Update.* Developed through a collaborative effort between the American Academy of Pediatrics and the AAPD. Available at http://www.aapd.org/media/policies.asp

American Academy of Periodontology (AAP). *Guidelines: In-Office Use of Conscious Sedation in Periodontics.* Available at http://www.perio.org/resources-products/posppr3-1.html

American Dental Association Council on Scientific Affairs. Acceptance Program Guidelines: *Nitrous Oxide-Oxygen Conscious Sedation Systems, 2000.* Available at http://www.ada.org/prof/resources/positions/standards/denmat.asp#ada

American Association of Oral and Maxillofacial Surgeons (AAOMS). *Parameters and Pathways: Clinical Practice Guidelines for Oral and Maxillofacial Surgery (AAOMS ParPath o1) Anesthesia in Outpatient Facilities.* Contact AAOMS at 1-847-678-6200 or visit http://www.aaoms.org/index.php

American Association of Oral and Maxillofacial Surgeons (AAOMS). *Office Anesthesia Evaluation Manual 7th Edition.* Contact AAOMS at 1-847-678-6200 or visit http://www.aaoms.org/index.php

American Society of Anesthesiologist (ASA). *Practice Guidelines for Preoperative Fasting and the Use of Pharmacological Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures.* Available at http://www2.asahq.org/publications/p-178-practice-guidelines-for-preoperative-fasting.aspx

American Society of Anesthesiologists (ASA). *Practice Guidelines for Sedation and Analgesia by Non-Anesthesiologists.* Available at http://www.asahq.org/publicationsAndServices/practiceparam.htm#sedation. The ASA has other anesthesia resources that might be of interest to dentists. For more information, go to http://www.asahq.org/publicationsAndServices/sgstoc.htm.

Commission on Dental Accreditation (CODA). *Accreditation Standards* for Predoctoral and Advanced Dental Education Programs. Available at http://www.ada.org/prof/ed/accred/standards/index.asp.

National Institute for Occupational Safety and Health (NIOSH). *Controlling Exposures to Nitrous Oxide During Anesthetic Administration* (NIOSH Alert: 1994 Publication No. 94-100). Available at http://www.cdc.gov/niosh/noxidalr.html

Dionne, Raymond A.; Yagiela, John A., et al. Balancing efficacy and safety in the use of oral sedation in dental outpatients. JADA 2006;137(4):502-13. ADA members can access this article online at http://jada.ada.org/cgi/content/full/137/4/502.

STATE LAWS REGARDING SEDATION

MN

Anesthesia

Re: Oral Conscious Sedation Permits

From: Marshall Shrago 12/28/05
To: Pam Paschal 04:26:20 PM
Attachments: None 1P10Z75MD

Minnesota's current C/S Rules are reprinted below. Newly proposed rule language is under discussion that will affect the C/S regulations, primarily addressing office inspections, requirement to be ACLS certified, continuous monitoring of a C/S patient, emergency equipment that must be in place, and discharge criteria...
(see http://www.dentalboard.state.mn.us/Default.aspx?tabId=137 for full language of proposed rules).

—Marshall

3100.3600 TRAINING AND EDUCATIONAL REQUIREMENTS TO ADMINISTER ANESTHESIA AND SEDATION.

... Subp. 3. Conscious sedation. A dentist may administer a pharmacological agent for the purpose of conscious sedation only pursuant to items A to C.

A. Beginning January 1, 1993, a dentist may administer a pharmacological agent for the purpose of conscious sedation of a patient only after satisfactorily completing:

(1) a course of education resulting in the dentist becoming clinically competent for administration of conscious sedation, with a minimum of 60 hours of didactic education, 24 hours of clinical experience, and at least ten individual cases of administration of conscious sedation; and

(2) an advanced cardiac life support course and, at least every two years, complete an advanced or basic cardiac life support course recognized by the American Heart Association, the American Red Cross, or other agencies whose courses are equivalent to the American Heart Association or American Red Cross courses.

B. A dentist shall be prepared and competent to diagnose, resolve, and reasonably prevent any untoward reaction or medical emergencies that may develop any time after rendering a patient in the state of conscious sedation. A dentist shall apply the current standard of care to monitor and evaluate a patient's blood pressure, pulse, respiratory function, and cardiac activity. The current standard of care to assess respiratory function shall require the monitoring of tissue oxygenation or the use of a superior method of monitoring respiratory function.

C. A dentist shall administer a pharmacological agent for the purpose of conscious sedation only by application of the appropriate systems and drugs for the delivery of conscious sedation. Prior to discharging the patient, the dentist shall ensure that the effects of the medication have sufficiently dissipated to a level where in-office monitoring is no longer required.

MS

Anesthesia

Re: Oral Conscious Sedation Permits

From: Diane Howell 12/28/05
To: Pam Paschal 04:25:26 PM
Attachments: None 1P10Z78MV

Hi Pam!!!!

The Mississippi Board recently amended our Regulation 29 which deals with administration of anesthesia. We specifically amended the requirements for an Enteral Conscious Sedation Permit. I don't have the newly amended regulation on our website, inasmuch as it is in the administrative rules filing process--we made our initial filing last week before Christmas, and, normally, no amendments become final until 60 days after the initial filing, if there are no comments. We are anticipating numerous comments to be heard at our 02/24/2006 Board meeting; therefore, none of the following information should be considered final at this point. I'm going to provide you with the language solely regarding Enteral Conscious Sedation Permits and two new definitions we added. If you want a copy of the entire amended regulation, just e-mail me, and I'll be happy to fax it to you, as other parts of the regulation encompass more definitions, requirements for other types of anesthesia permits, use of CRNAs, site visits, renewal, etc. I hope the following helps!!!

Diane

New Definitions:

a. Clinically Oriented Experiences - clinical patient cases which are presented outside a clinical environment and in an instructional setting, e.g., video presentations.
b. Clinical Patient Cases - procedures involving live patients either performed or observed in a clinical environment and in an instructional setting.
c. Special Health Care Needs Patients - persons having a physical, developmental, mental, sensory, behavioral, cognitive, or emotional impairment or limiting condition that requires medical management, health care intervention, and/or use of specialized services or programs; the condition may be developmental or acquired and may cause limitations in performing daily self-maintenance activities or substantial limitations in a major life activity; and health care for special needs patients is beyond that considered routine and requires specialized knowledge, increased awareness and attention, and accommodation.

Amended Language Regarding Enteral Conscious Sedation Permits:

a. Enteral Conscious Sedation. A permit is required prior to administration of enteral conscious sedation, and in order to receive such permit, the dentist must do the following:
(1) Apply on a prescribed application form to the Board;
(2) Submit the specified application fee as stipulated in Section 10 of this regulation;
(3) Produce evidence of a current Advanced Cardiac Life Support (hereinafter referred to as ACLS) certificate, or a certificate from a Board-approved course; and
(4) Provide evidence of one or more of the following:
(a) Completion of formal training, sponsored by or affiliated with a university, teaching hospital, or other program approved by the Board or part of the undergraduate curriculum of an accredited dental school, in the use of enteral conscious sedation, and certification by the institution wherein the training was received to be competent in the administration of enteral conscious sedation. Such certification shall specify the type, number of hours, and length of training. For dentists who administer enteral conscious sedation to patients who are eighteen (18) years of age or under, or who are nineteen (19) years of age or over and who are deemed to be patients with special health care needs as previously defined, the minimum number of didactic hours shall be fifty (50), and the minimum number of clinical patient cases shall be ten (10). For those dentists who administer enteral conscious sedation to patients who are nineteen (19) years of age or older and who are not deemed to be patients with special health care needs, the minimum number of didactic hours shall be twenty-two (22) and the minimum number of clinically oriented experiences shall be fifteen (15). The training program must include physical evaluation, enteral conscious sedation, airway management monitoring, and emergency management. The preceding is necessary for recognition of the formal training program. For the purpose of this subsection, training programs in enteral conscious sedation that satisfy the requirements described in Parts I and III of the ADA's "Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry" at the time training was commenced, shall be deemed by the Board as approved training programs, wherein the hours of didactic training and the number of clinical patient cases shall be credited to

the minimum amounts noted above.
(b) Completion of an ADA-accredited post-doctoral training program, which affords the comprehensive and appropriate training necessary to administer and manage enteral conscious sedation, commensurate with these guidelines.
(c) Until June 30, 2005, fulfillment of all requirements for grandfathering concerning administration of enteral conscious sedation by successfully completing an appropriate examination which includes:
(i) Demonstration of five (5) or more years of routinely administering enteral conscious sedation immediately prior to making application for an enteral conscious sedation permit;
(ii) Discussion and review of three (3) cases including anesthetic technique;
(iii) Review of records; and
(iv) Demonstration of managing emergencies.

Our Board is considering revamping (already) the Oral Conscious Sedation Permit process.

If they exist, could you direct us to your laws/rules relating to this matter?

Thanx!

Pam

3. Such applicant's practice in this state is limited to that required by the entities specified in parts A. 1 and 2 above and shall not exceed 120 consecutive days in a twelve month period, renewable once in a one year period for a maximum of 240 consecutive days in a one year period.

B. A temporary license issued pursuant to section 12-35-107(e) shall remain in effect only as long as the licensee provides dental/dental hygiene services for the entities cited in Part A.1. In no event, however, shall such a license remain in effect after the period certified by the entities and shall not exceed 120 consecutive days in a twelve month period, renewable once in a one year period for a maximum of 240 consecutive days in a one year period.

C. A temporary licensee shall provide dental/dental hygiene services only to persons identified through an entity cited in part A.1 above and will not accept any compensation above what he/she has agreed to be paid by the entities.

D. A temporary licensee may be subject to discipline by the Board as defined in 12-35-129 et. seq. and shall be subject to the Financial Liability Requirements pursuant to the Health Care Availability Act as defined in section 13-64-301.

CO

Rule XIV. Utilization of Anesthesia/Sedation
(Amended February 1, 1998, August 1, 2000; August 11, 2004; October 27, 2004)

This rule specifically applies to each dentist (supervising dentist) utilizing general anesthesia, deep sedation, and conscious sedation under the statutory authority of the Dental Practice Law (C.R.S. 12-35-101 et seq).

A. "Induction and Administration" as those terms are used in Rule XIV, shall include any procedure or medication administered prior to attaining the proper level of anesthesia/sedation as determined by the supervising dentist. All induction and administration procedures shall be the responsibility of the supervising dentist and shall not be delegated except to another dentist whose qualifications meet the education and training requirements of Rule XIV for the anesthesia to be administered, a qualified physician anesthetist, or a certified nurse anesthetist. Induction and administration of anesthesia shall include, but not be limited to the following procedures:

1. Determination of the drugs, mode of administration, and dosage of the anesthesia/sedation appropriate for the patient;

2. Observation of the patient until the appropriate and safe level of anesthesia/sedation is attained.

B. "Monitoring"

1. "Monitoring" as used in Rule XIV refers to the continual observation of the patient to ensure stable physical condition of the patient and maintenance of a proper level of anesthesia or sedation as determined by the supervising dentist during induction, maintenance, and recovery from the anesthesia/sedation procedure.

2. Monitoring of the patient during an anesthesia/sedation procedure may be delegated under direct supervision to a dental hygienist or dental assistant;

however, the supervising dentist retains full accountability for the monitoring and dismissal of the patient following completion of the anesthesia/sedation procedure. Patient dismissal must be specifically authorized by the supervising dentist.

C. Any dentist administering parenteral or enteral conscious sedation pursuant to Rule XIV shall have proof of current basic life support (BLS) knowledge and skills, including cardiopulmonary resuscitation (CPR). Any dentist administering general anesthesia and/or deep sedation shall have proof of current BLS and Advanced Cardiac Life Support certification.

D. All personnel, including, but not limited to, dental hygienists and dental assistants, who render patient care services in a dental setting where anesthesia/sedation is administered shall have proof of current basic life support (BLS) knowledge and skills.

E. All equipment, as provided for in this Rule XIV, subsections H.9 shall be functional and operative at all times.

F. Morbidity and Mortality Report - A completed written report shall be submitted to the Board by the supervising dentist and any other person administering the anesthesia/sedation within fifteen (15) days of any anesthesia/sedation related incident resulting in patient morbidity or mortality which occurred while the patient was under the care of the dentist, and/or required or should have required hospitalization, emergency facility care, or emergency service response.

1. Such report shall include all of the following items:

a. Description of dental procedure;
b. Description of preoperative physical condition of the patient;
c. List of the drugs and dosages administered with the time and route of each administration;
d. Detailed description of techniques utilized in administering the drugs;
e. Description of adverse occurrence to include:

1) Detailed description of symptoms of any complications including, but not limited to, onset and type of symptoms in patient;
2) Treatment instituted on patient;
3) Response of the patient to treatment;

f. Description of the patient's condition on termination of any procedure undertaken.

2. All written records related to this incident shall be submitted to the Board with the report.

3. Pursuant to 12-35-107(1)(d), the Board may request an on-site evaluation of the dental facility related to this report.

G. Prior to the induction and administration of anesthesia/sedation as provided for in this Rule XIV, a dentist licensed pursuant to the Colorado Dental Practice Law shall certify to the Board, on a form approved by the Board, compliance with all applicable

requirements as specified in Rule XIV. Required courses may be completed in an accredited dental school or in an advanced training program as approved by the Board.

H. General anesthesia and/or deep sedation

1. "General Anesthesia" is an induced state of unconsciousness accompanied by a partial or complete loss of protective reflexes, including the ability to maintain an airway independently and respond purposefully to physical stimulation or verbal command and is produced by a pharmacologic or non-pharmacologic method or combination thereof.

2. Deep sedation is an induced state of depressed consciousness accompanied by a partial loss of protective reflexes, including the occasional inability to independently maintain a patent airway and/or respond purposefully to verbal command, and is produced by a pharmacologic or non-pharmacologic method or combination thereof.

3. Education/Training Requirements: Prior to induction and administration of general anesthesia and/or deep sedation, a Colorado licensed dentist shall meet one of the following education/training requirements:

a. Proof of successful completion of a residency program in general anesthesia of not less than two calendar years that is approved by the Board of Directors of the American Dental Society of Anesthesiology for eligibility for the Fellowship in General Anesthesia; OR

b. Proof of successful completion of an accepted post-doctoral training program (e.g., oral and maxillofacial surgery) which affords comprehensive and appropriate training necessary to administer and manage general anesthesia and deep sedation commensurate with the American Dental Association Guidelines for teaching the comprehensive control of anxiety and pain in dentistry.

4. The Board shall approve the authority to administer general anesthesia and/or deep sedation upon the Board's finding that the applicant meets the requirements set forth in H.3. The permit shall be valid for a period of five years after which it may be renewed subsequent to reapplication and completion of an office inspection as provided in Rule XV..

5. Examination: Prior to administration of general anesthesia and/or deep sedation, a supervising dentist shall record the following information in the patient's chart:

a. The patient's vital signs; and,

b. The patient's pertinent medical history, pertinent physical findings and weight.

6. Documentation: The supervising dentist shall ensure that the dental treatment, the anesthesia treatment, and the patient's response to such treatment shall be recorded in the patient's record. The record shall include:

a. A written and current medical history which is signed by the supervising dentist, and patient or guardian;

b. A written examination chart that includes preoperative physical assessment performed by the practitioner administering the anesthesia with the proposed dental and anesthesia procedures clearly indicated and potential complications written on the records;

c. A consent form signed by the patient or the patient's guardian for any anesthesia and for treatment;

d. A fully documented record of each administered anesthesia, including a time-lined record of vital signs, drugs and dosages, routes of administration, response to anesthesia and any complication or adverse reaction.

e. Discharge criteria, condition on discharge, vital signs, and time of discharge.

f. All prescriptions ordered.

7. Monitoring. The patient must be continually monitored through the procedure and recovery to the full extent as defined in Section B. above.

8. Emergency Care: Prior to the administration of general anesthesia and/or deep sedation, the supervising dentist and treatment team (dental hygienists and/or assistants) shall have appropriate knowledge and training to recognize the symptoms and reasonably treat the complications and emergencies incident thereto.

9. Office Facilities and Equipment: The supervising dentist shall submit an office inspection report in compliance with Rule XV which must be approved by the Board prior to administering general anesthesia and/or deep sedation to a patient and provide the following office facilities and equipment:

a. An operating room;

b. An operating chair or table;

c. Back-up suction equipment with fail-safe mechanism in the event of power loss.

d. A back-up lighting system, which provides light intensity adequate to permit completion of any dental procedure in progress;

e. Oxygen and gas-delivery systems, which shall include:

1) A capability to deliver oxygen to a patient under positive pressure, including a back-up oxygen system;
2) Gas outlets which meet related state or federal standards that prevent accidental administration of inappropriate gases or gas mixture; and,

3) Fail-safe mechanisms for inhalation nitrous oxide analgesia.

4) The equipment must have an appropriate scavenging system.

f. A sterilization area;

g. A recovery area, which shall include installed oxygen and suction systems or the capability to operate portable oxygen and suction systems;

h. Gas storage facilities, which meet related state or federal standards;

i. Emergency airway equipment and facilities, which shall include:

1) A full-face mask and an ambu bag or equivalent with an oxygen hook-up;

2) Oral and nasopharyngeal airways;

3) Endotracheal tubes suitable for children and adults;

4) A laryngoscope with reserve batteries and bulbs;

5) Endotracheal tube forceps;

6) Emergency drugs and or medications;

7) An IV catheter with continuous drip;

8) External defibrillator for general anesthesia

j. Equipment to monitor vital signs and assure an adequate airway, which shall include, but not be limited to:

1) A pulse oximeter;

2) A blood pressure cuff of appropriate size and stethoscope; or equivalent blood pressure monitoring devices;

3. Electrocardiograph for general anesthesia.

10. Personnel

a. A minimum of 3 individuals must be present during the administration of general anesthesia and/or deep sedation.

b. Those three individuals shall include the supervising dentist qualified to administer anesthesia and two individuals, at least one of whom is trained in patient monitoring.

11. Discharge

a. The professional administering the anesthesia/ or sedation must determine that the patient has met discharge criteria prior to the patient leaving the office.

I. Parenteral Conscious Sedation

1. Conscious sedation is a minimally depressed level of consciousness that retains the patient's ability to maintain a patent airway independently and continuously and respond appropriately to physical stimulation or verbal command and that is produced by a pharmacologic or non-pharmacologic method or a combination thereof.

2. Education/Training Requirements: Prior to induction and administration of parenteral conscious sedation, a Colorado licensed dentist shall meet one of the following education/training requirements:

a. Completion of the education/training requirements specified under "General Anesthesia", subsection H.3.a. or H.3.b.; OR

b. Proof of successful completion of a specialty residency or general practice residency recognized by the Commission on Dental Accreditation that includes comprehensive and appropriate training to administer and manage parenteral conscious sedation; OR

c. Proof of successful completion of a minimum of 60 course hours within the past five (5) years that provide training in the administration and induction of parenteral conscious sedation techniques and the potential problems and emergencies associated with such administration, as well as documentation of 20 treatment cases, which shall be submitted to the Board for approval.

1) The applicant must first provide an application with documentation of the training course(s) to include, but not limited to, a syllabus or course outline of the program and a certificate or other documentation from course sponsors or instructors indicating the number of course hours, content of such courses and date of successful completion.

A) The course must consist of 30 hours of classroom instruction as well as 30 hours of supervised clinical training in parenteral conscious sedation.

B) Course content leading to Basic Life Support and/or Advanced Cardiac Life Support cannot be considered as part of the classroom and clinical instruction.

C) All of the training course(s) must have been completed in the past five (5) years.

2) Upon Board approval of the training program, the applicant shall then submit documentation of 20 treatment cases for Board approval.

A) Cases completed in the training program by the applicant as the provider of conscious sedation may be submitted to the Board to meet the requirement for part or all of 20 treatment cases.

B) At least 10 of the treatment cases must be under the on-site instruction and supervision of a person qualified to administer parenteral conscious sedation.

C) The applicant must be the provider of parenteral conscious sedation in at least ten of the cases.

D) Cases must meet generally accepted standards for the provision of parenteral conscious sedation and documentation.

E) Cases must be completed by the licensee either within the course cited in Rule XIV, subsection I.2.c.1. or during the 1 year period immediately after completion of the course.

F) If any of the required treatment cases are conducted in a Colorado dental office, the applicant must meet the following provisions:

1. Prior to any parenteral conscious sedation services being provided in a Colorado office or facility, the office or facility must first be inspected and the inspection approved by the Board as provided in Rule XV.

2. The first 5 cases (or up to 10 cases if fewer than 10 cases were done in the training program) must be provided under the on-site instruction and supervision of a person qualified to administer parenteral conscious sedation. The applicant shall submit the cases to the Board. After approval of these cases, the Board will issue a temporary authority to administer parenteral conscious sedation that will expire 12 months after its issuance. The temporary authority must be issued prior to any subsequent cases.

d. The Board shall certify the authority to administer parenteral conscious sedation upon its determination that the applicant has met the requirements found in I. 2.a., b., or c. above, and Rule XV. The permit shall be valid for a period of five years after which it may be renewed subsequent to reapplication and completion of an office inspection as provided in Rule XV.

3. Examination: Prior to the administration of parenteral conscious sedation anesthesia, the dentist shall record all information in the patient's chart as specified under "General Anesthesia", subsection H.5.a. and H.5.b.

4. Documentation: The dentist shall record in the patient's chart the treatment given and the patient's response to the treatment. The record shall include all information as provided for under "General Anesthesia or Deep Sedation," subsection H.6.

5. Emergency Care: Prior to the administration of conscious sedation anesthesia, the supervising dentist, dental hygienist, and assistants shall have appropriate training to recognize the symptoms and reasonably treat the complications and emergencies incident thereto.

6. Office Facilities and Equipment: Prior to administering conscious sedation anesthesia to a patient, the supervising dentist shall provide all office facilities and equipment as specified under "General Anesthesia or Deep Sedation", subsection H.9., excepting the external defibrillator.

7. Personnel: During administration of parenteral conscious sedation, the dentist and at least one other individual must be present.

8. Nitrous oxide analgesia may be used in conjunction with Parenteral conscious sedation provided that:

   a. The dentist has been certified for nitrous oxide administration under Rule XVII; and

   b. All requirements of Rule XVII have been met; and

   c. The level of sedation does not exceed conscious sedation.

J. Enteral conscious sedation

1. Enteral conscious sedation is a controlled state of depressed consciousness that retains the patient's ability to maintain a patent airway independently and continuously and to respond appropriately to physical stimulation and verbal command and is produced by a pharmacologic or non-pharmacologic method or a combination thereof which is administered by way of the gastro-intestinal tract (i.e. oral, rectal and/or sublingual routes). Oral premedication prescribed/administered for the relief of anxiety and apprehension does not fall within these provisions. However, if the agents/medications are given in dosages such that the patient is placed in a state of conscious sedation then the dentist must have met the requirements and be approved pursuant to this Rule XIV.

2. Educational/Professional Requirements. Prior to the use of enteral conscious sedation, a Colorado licensed dentist shall meet one of the following education/training requirements:

   a. Completion of the education/training requirements specified under "General Anesthesia", subsection H.3.a. or H.3.b.; OR

   b. Completion of the education/training requirements specified under "Parenteral Conscious Sedation" subsection I.2.a., I.2.b., or I.2.c; OR.

   c. Proof of successful completion of an ADA accredited post-doctoral training program which affords comprehensive and appropriate training necessary to administer and manage enteral conscious sedation as determined by the Board, with documented administration of enteral conscious sedation in a minimum of

five such cases. The cases shall be completed as a component of the course or completed after the course, and are subject to Board approval; OR

   d. Proof of successful completion of a course consistent with those described in Parts II and III of the American Dental Association (ADA) Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry, within the past five (5) years, that provides training in the use of enteral conscious sedation techniques and the potential problems and emergencies associated with such administration with documented administration of enteral conscious sedation in a minimum of five such cases. The cases shall be completed as a component of the course or completed after the course, which are subject to Board approval. The applicant shall submit documentation of the five cases completed as a component of the training course for approval by the Board. Cases must meet generally accepted standards for the provision of parenteral conscious sedation and documentation.

3. Examination: Prior to the administration of enteral conscious sedation, the dentist shall record all information in the patient's chart as provided for under "General Anesthesia," subsection H.6.a. and H.6.b.

4. Documentation: The dentist shall record, in the patient's chart, the treatment given and the patient's response to the treatment. The record shall include all information as provided for under "General Anesthesia and/or Deep Sedation," subsection H.6.

5. Emergency Care: Prior to the administration of enteral conscious sedation anesthesia, the supervising dentist, dental hygienists, and assistants shall have appropriate training to recognize the symptoms and reasonably treat any complications and emergencies incident thereto.

6. Office Facilities and Equipment: Prior to administering enteral conscious sedation anesthesia to a patient, the supervising dentist shall provide all office facilities and equipment as specified under "General Anesthesia and/or Deep Sedation", subsection H.9., excepting the external defibrillator. An IV catheter with continuous drip is not required but must be available for use in case emergency care is required.

7. Personnel: During administration of enteral conscious sedation, the supervising dentist and at least one other individual must be present.

8. Prior to any enteral conscious sedation services being provided in a Colorado office or facility, the office or facility must first be inspected and the inspection approved by the Board as set forth in Rule XV.

9. The Board shall certify the authority to administer enteral conscious sedation upon its determination that the applicant has met the requirements found in J.2. and Rule XV. The permit shall be valid for a period of five years after which it may be renewed subsequent to reapplication and completion of an office inspection as set forth in Rule XV.

10. Nitrous oxide analgesia may be used in conjunction with enteral conscious sedation provided that

   a. The dentist has been certified for nitrous oxide administration under Rule XVII; and

   b. All requirements of Rule XVII have been met; and

   c. The level of sedation does not exceed conscious sedation.

K. Upon reasonable cause, including an incident of patient morbidity or mortality, and/or for any violation or non-compliance with this rule, the Board may temporarily suspend or revoke the permit granted by the Board to administer anesthesia. Upon a specific finding of violation of this rule, as set forth in 12-35-129 (1), C.R.S., the Board may order that this suspension or revocation of permit be permanent.

L. Current Experience. It is required that the supervising dentist maintain competency and recent experience. If a supervising dentist has not regularly provided general anesthesia or conscious sedation services within the three years prior to certificate renewal, the dentist must provide evidence to the Board of competency in these procedures. The Board may in turn require additional training or supervision and/or deny issuance of a permit until competency is demonstrated.

Rule XV. Anesthesia Office Inspection
(In Compliance With HB 95-1060)
(Amended February 1, 1998, May 15, 1998; August 11, 2004)

This rule does not apply if the dentist is not the person administering conscious/deep sedation.

A. All dentists approved to administer conscious/deep sedation and/or general anesthesia must undergo an office inspection and receive a permit from the Board within 6 (six) months of obtaining approval to administer anesthesia under Rule XIV. The program administrator may grant one three (3) month extension for good cause.

B. The permit shall be effective for five years from date of issuance.

C. Dentists who receive a permit pursuant to this Rule XV and travel to other office locations to administer anesthesia shall ensure that the office location has the equipment required by Rule XIV and that the staff is properly trained to handle anesthesia related emergencies.

D. The dentist requiring the office inspection is responsible for all fees associated with the inspection:

E. The fee for the administrative work to issue the permit is $21.00.

F. The fee for the office inspection shall not exceed $400.00. In addition to the $400.00, the inspector may charge and be reimbursed for reasonable out-of-pocket expenses for travel, meals, and lodging.

G. The office inspection shall consist of four (4) parts:

Part I - Review of the office equipment, records, and emergency medications required by Rule XIV.

Part II - Simulated emergencies -The dentist and his/her team must perform an actual demonstration of their method for managing the following emergencies:

Laryngospasm
Bronchospasm
Emesis & Aspiration of Vomitus
Foreign Bodies in the Airway
Angina Pectoris
Myocardial Infarction
Cardiopulmonary Resuscitation
Hypotension
Hypertensive Crisis
Allergic Reaction
Seizure
Hypoglycemia
Asthma
Respiratory Depression
Local Anesthesia Allergy or Overdose.
Hyperventilation Syndrome
Convulsion of Unknown Etiology

The simulated emergency procedures are to be demonstrated in the surgery area with full participation of the office staff. An exact simulation of the emergency situation should be demonstrated. The type of emergencies selected by examiners should be based on the emergencies likely to be seen in the type of practice in which the dentist is engaged. The "patient" should be positioned and draped, and all equipment that may be used should be demonstrated. A simulated intravenous line should be taped into position and all emergency equipment should be present, including syringes, medications, etc.

The inspector shall review with the dentist and his/her office staff a minimum of 8 of the previous listed simulated emergencies. Cardiopulmonary Resuscitation must be one of the 8 simulated emergencies and must be passed. The dentist and his/her office staff must be proficient in at least 75% of the simulated emergencies. Should the dentist fail to be proficient in at least 75% of the first 8 emergencies, the inspector may proceed through the list of emergencies until the dentist is proficient in at least 75% of the simulated emergencies.

If the dentist is not proficient in a least 75% of the simulated emergencies this shall be reported to the Board for immediate action, including but not limited to loss of privilege to administer anesthesia or sedation.

Part III - Discussion Period - This part of the evaluation should be conducted in private away from the staff and patients. The inspector may note deficiencies and make positive suggestions to the dentist for improving the office facility and patient management. It is appropriate to discuss management of risk patients if this has not been covered during the earlier phase.

Part IV - Surgical/Anesthetic Techniques - The inspector shall observe at least one case while the dentist administers conscious/deep sedation. The inspector is authorized to observe additional cases at his/her discretion.

H. The dentist requiring the inspection shall obtain his/her own inspector. The inspector must be an Oral Surgeon, Certified Nurse Anesthetist, Anesthesiologist, a Dental Anesthesiologist, or a Board Certified Pediatric Dentist with current Pediatric Anesthesia Life Support certification. The inspector must have a current, unrestricted Colorado dental, medical or nursing license. The inspector meeting the above requirements is deemed to be a consultant to the Board.

I. There shall not be reciprocal agreements between the inspector and the dentist.

J. The inspector shall not have had a previous, current, or intended working relationship with the dentist he/she is inspecting.

K. The Board shall accept the office inspections conducted by the Dentist's Professional Liability Trust and the Association of Oral and Maxillofacial Surgeons as meeting the requirements of the Board. Inspections conducted by one of the above entities will be effective for five years from the date of issuance by the entity.

L. Inspectors shall be covered under good faith immunity in acting as agents for the Board. **(expired 5/15/98)**

M. Effective April 1, 1996. All dentists currently approved under Rule XIV shall have six months from this date to undergo an office inspection and receive a permit from the Board. Failure to comply within six months of this rule may result in the revocation of the privilege to administer anesthesia and/or additional action by the Board.

N. The documentation of the office inspection must be competed on forms approved by the Board.

Rule XVI. Oral Premedication Administered for the Relief of Anxiety

Oral premedication prescribed/administered for the relief of anxiety and apprehension does not fall within Rule XIV. However, if the agents/medications are given in dosages such that the patient is placed in a state of conscious sedation then the dentist must have met the requirements and be approved pursuant to Rule XIV.

Rule XVII. Administration of Nitrous Oxide/Oxygen Inhalation
(Amended February 1, 1998; August 11, 2004)

A. When conscious sedation is accomplished solely by means of nitrous oxide/oxygen inhalation techniques, then this Rule shall apply.

B. The administration of nitrous oxide may be delegated to another dentist whose qualifications meet the education and training requirements of Rule XIV, a qualified physician anesthetist, or a certified nurse anesthetist.

C. Education/Training Requirements:

1. As of February 1, 1998, in order to administer and induce conscious analgesia solely by means of nitrous oxide/oxygen inhalation techniques, a dentist shall complete a course(s) conducted at an institution accredited by the American Dental Association Commission on Dental Accreditation or certified by the Colorado Department of Higher Education Division of Private Occupational Schools. The course(s) must have a minimum of 16 hours, including 4 patient contact hours. As of January 1, 1994, the Board required all dentists who did not meet the requirements of subsection 2 below to submit an application and documentation of training in nitrous oxide/oxygen administration.

2. A Colorado licensed dentist who has safely administered conscious analgesia solely by means of nitrous oxide/oxygen inhalation techniques within the State of Colorado for the three years prior to October 30, 1987, should be deemed to have satisfied, the education/training specified under this Rule in making a determination on safe administration and inducement of conscious analgesia accomplished solely by means of nitrous oxide/oxygen inhalation techniques, the Board shall consider any and all anesthesia/analgesia related incidents, accidents or complaints filed against the licensee.

3. The dentist and all personnel, including but not limited to, dental hygienists and dental auxiliaries, who render patient care services in a dental setting where nitrous oxide/oxygen is administered shall have proof of current basic life support (BLS) knowledge and skills

D. Examination: Upon the effective date of this rule, prior to administration of nitrous oxide/oxygen, the dentist, dental hygienist, or assistant shall record, in the patient's chart, the patient's medical history and pertinent physical findings.

E. Documentation: Upon the effective date of this rule, when administering nitrous oxide/oxygen, the dentist, dental hygienist, or assistant shall record, in the patient's chart, the treatment given, the dosage administered and the patient's response to treatment.

F. Emergency Care: Prior to the administration of nitrous oxide/oxygen, the supervising dentist, dental hygienist, and auxiliaries shall have appropriate training to recognize the symptoms and reasonably treat the complications and emergencies incident thereto.

G. Office Facilities and Equipment: If conscious analgesia is accomplished solely by means of nitrous oxide/oxygen inhalation techniques, then the supervising dentist shall provide and ensure the following:

1. Fail safe mechanisms in the delivery system and an appropriate scavenging system;

2. The inhalation equipment must be evaluated for proper operation and delivery of inhalation agents prior to use on each patient;

3. Determination of adequate oxygen supply must be completed prior to use with each patient;

4. Baseline vital signs may be obtained at the discretion of the operator depending on the medical status of the patient and the nature of the procedure to be performed; AND

5. Appropriate equipment to monitor vital signs and maintain an adequate airway including but not limited to a blood pressure cuff, stethoscope and a method for administering positive pressure oxygen.

H. Delegating under direct supervision the monitoring and administration of nitrous oxide/oxygen to appropriately trained personnel pursuant to 12-35-110 (n):

1. The supervising dentist is responsible for determining the maximum dosage of nitrous oxide/oxygen analgesia and must record the dosage in the patient's dental chart prior to delegation.

2. The supervising dentist delegating must be approved by the Board under this rule to administer nitrous oxide/oxygen.

3. The dental hygienist or dental assistant accepting the delegation of the administration and monitoring of nitrous oxide/oxygen under direct supervision shall ensure that the dentist is approved by the Board to administer nitrous oxide/oxygen.

4. Education/Training Requirements for dental hygienists and auxiliaries administering and monitoring nitrous oxide/oxygen under direct supervision:

a. As of February 1, 1998, in order to administer and induce conscious analgesia solely by means of nitrous oxide/oxygen inhalation techniques, a dental hygienist or a dental assistant shall complete a course(s) conducted at an institution accredited by the American Dental Association Commission on Dental Accreditation or certified by the Colorado Department of Higher Education Division of Private Occupational Schools. The course(s) must have a minimum of 16 hours, including 4 patient contact hours. The dental hygienist and dental assistant shall certify to the Board, on a form approved by the Board, compliance with the educational requirement.

I. "Monitoring" as that term is used in Rule XVII means:

1. The continual observation of the patient to ensure the stable physical condition of the patient and maintenance of a proper level of nitrous oxide/oxygen inhalation as determined by the supervising dentist; OR

2. The continual observation of the patient to ensure stable physical condition of the patient during recovery from the nitrous oxide/oxygen inhalation.

3. Unless a dental hygienist or dental assistant has received the training to administer nitrous oxide/oxygen inhalation, they may only monitor (observe) a patient during the use of nitrous oxide/oxygen inhalation. Monitoring may only be delegated under the direct supervision of a dentist approved/authorized to administer nitrous oxide/oxygen inhalation.

J. All equipment, as provided for in this Rule XVII shall be functional as operative at all times.

K. Morbidity and Mortality Report - A complete written report shall be submitted to the Board by the supervising dentist and any other person administering the nitrous oxide/oxygen inhalation within fifteen (15) days of any nitrous oxide/oxygen inhalation related incident resulting in patient morbidity or mortality which occurred while the patient was under the care of the dentist, and required hospitalization, emergency facility care, or emergency service response.

1. Such report shall include all of the following items:

a. Description of dental procedure;

b. Description of preoperative physical condition of the patient;

c. List of the drugs and dosages administered;

d. Detailed description of techniques utilized in administering the nitrous oxide;

e. Description of adverse occurrence to include:

1) Detailed description of symptoms of any complications including, but not limited to, onset and type of symptoms in-patient;

2) Treatment instituted on patient;

3) Response of the patient to treatment.

f. Description of the patient's condition on termination of any procedure undertaken.

2. The Board may request inspection of any written records related to this report.

3. Pursuant to 12-35-107(1)(d), the Board may request an on-site evaluation of the dental facility related to this report.

Rule XVIII. Administration of Local Anesthesia
(Amended August 11, 2004)

A. "Local Anesthesia" means the elimination of sensations especially pain, in one part of the body by topical application or regional injection of drugs without causing the loss of consciousness.

B. The dentist and all personnel, including but not limited to, dental hygienists and dental auxiliaries, who render patient care services in a dental setting where local anesthesia is administered shall have proof of current basic life support (BLS) knowledge and skills.

C. All Colorado licensed dentists shall be authorized to administer local anesthesia. A dentist may delegate the physical administration of local anesthesia to trained and qualified dental hygienists pursuant to this Rule.

D. Local Anesthesia Administration by Regional Injection by a Dental Hygienist.

1. A Colorado licensed dental hygienist shall administer local anesthesia agents by regional injection of drugs only under the direct supervision of a Colorado licensed dentist.

2. A dental hygienist shall be qualified to administer local anesthetic agents upon successful completion of courses conducted by a school accredited by the American Dental Association Commission on Dental Accreditation which meets the following requirements:

a. Twelve (12) hours of didactic training including but not limited to:

1) Anatomy; and

2) Pharmacology; and

3) Techniques; and

4) Physiology; and

5) Medical Emergencies AND

b. Twelve (12) hours of clinical training which shall include the administration of at least six (6) infiltration and six (6) block injections.

3. As of October 30, 1987, prior to the administration and inducement of local anesthesia by regional injection as provided for in this rule a dental hygienist licensed pursuant to the Colorado Dental Practice Law shall certify to the Board, on

a form approved by the Board, compliance with all applicable requirements specified in Rule XVIII.

Rule XIX. Practice Monitor Consultant Guidelines
(Amended February 1, 1998, May 15, 1998,
December 2, 2002; August 11, 2004)

A. Licensees requiring monitoring must pay the monitor for service. Remuneration for such service will be a reasonable fee negotiated by the parties.

B. Monitors must be approved by the Board and shall submit their application for practice monitor on form(s) supplied by the Board.

C. Monitors are responsible for periodic assessment of a licensee's practice as directed by the Board or its agent(s).

D. Monitors shall have access to all patient records, files, and materials to effectively monitor a licensee's practice.

E. The monitor may elect to observe the licensee in the execution of certain procedures.

F. Monitors shall be required to submit practice monitor reports on form(s) supplied by the Board and on a schedule to be determined by the Board.

G. Monitors approved by the Board shall be deemed to be consultants of the Board.

Rule XX – Denture Construction by Assistants
(Effective February 1, 1999)
(Amended October 1, 1999, December 2, 2002; August 11, 2004)

This rule relates to tasks authorized to be performed by dental assistants as defined in section 12-35-128(3)(d) and tasks authorized to be performed by unlicensed persons as defined in 12-35-133.

A. Dentures are defined as removable, full, or partial appliances designed to replace teeth.

B. Dental assistants or any other unlicensed personnel who renders direct patient treatment as defined in section 12-35- 128(3)(d) C.R.S., necessary for the construction of dentures, shall be employed by the dentist.

C. Unlicensed persons who are not employees of the dentist shall only perform the services defined in 12-35-133 and shall not render direct patient treatment as defined in 12-35-128(3)(d).

D. A dental assistant or unlicensed person shall not practice dentistry as defined in 12-35-113.

Pediatric Anesthesia

This policy is a revision of the policy posted on June 1, 1992.
This policy is a revision of the policy posted on October 1, 2002.
CLINICAL REPORT
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CLINICAL REPORT

Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures: An Update

American Academy of Pediatrics, American Academy of Pediatric Dentistry, Charles J. Coté, MD, Stephen Wilson, DMD, MA, PhD the Work Group on Sedation

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ABSTRACT

The safe sedation of children for procedures requires a systematic approach that includes the following: no administration of sedating medication without the safety net of medical supervision; careful presedation evaluation for underlying medical or surgical conditions that would place the child at increased risk from sedating medications; appropriate fasting for elective procedures and a balance between depth of sedation and risk for those who are unable to fast because of the urgent nature of the procedure; a focused airway examination for large tonsils or anatomic airway abnormalities that might increase the potential for airway obstruction; a clear understanding of the pharmacokinetic and pharmacodynamic effects of the medications used for sedation, as well as an appreciation for drug interactions; appropriate training and skills in airway management to allow rescue of the patient; age- and size-appropriate equipment for airway management and venous access; appropriate medications and reversal agents; sufficient numbers of people to carry out the procedure and monitor the patient; appropriate physiologic monitoring during and after the procedure; a properly equipped and staffed recovery area; recovery to presedation level of consciousness before discharge from medical supervision; and appropriate discharge instruction was developed through a collaborative effort of the American Academy of Pediatrics and the American Academy of Pediatric Dentistry to offer p providers updated information and guidance in delivering safe sedation to children.

TOP
ABSTRACT
INTRODUCTION
DEFINITION OF TERMS USED
GOALS OF SEDATION
GENERAL GUIDELINES
CONTINUOUS QUALITY IMPR
PREPARATION AND SETUP I
SPECIFIC GUIDELINES FOR I
SPECIAL CONSIDERATIONS
WORK GROUP ON SEDATIO
STAFF
REFERENCES

Key Words: sedation • guidelines • procedures • adverse events • outcomes • accidents • prevention • monitoring • drug interactions • pediatric

Abbreviations: AAP—American Academy of Pediatrics • AAPD—American Academy of Pediatric Dentistry • ASA—American Society of Anest EMS—emergency medical services • ECG—electrocardiography • LMA—laryngeal mask airway

INTRODUCTION

Invasive diagnostic and minor surgical procedures on pediatric patients outside the traditional operating room setting have increased in the last decade. As a consequence of this change and the increased awareness of the importance of providing analgesia and anxiolysis, the need for sedation for procedures in physician offices, dental offices, subspecialty procedure suites, imaging facilities, emergency departments, and ambulatory surgery centers has also markedly increased.[1–37] In recognition of this need for both elective and emergency use of sedation in nontraditional settings, the American Academy of Pediatrics (AAP) and American Academy of Pediatric Dentistry (AAPD) have published a series of guidelines for the monitoring and management of pediatric patients during and after sedation for a procedure.[38–42] The purpose of this updated statement is to unify the guidelines for sedation used by medical and dental practitioners, add clarifications regarding monitoring modalities, provide new information from medical and dental literature, and suggest methods for further improvement in safety and outcomes. With the revision of this document, the Joint Commission on Accreditation of Healthcare Organizations, the American Society of Anesthesiologists (ASA), the AAP, and the AAPD will use similar language t sedation categories and the expected physiologic responses.[43–46]

TOP
ABSTRACT
INTRODUCTION
DEFINITION OF TERMS USED
GOALS OF SEDATION
GENERAL GUIDELINES
CONTINUOUS QUALITY IMPR
PREPARATION AND SETUP I
SPECIFIC GUIDELINES FOR I
SPECIAL CONSIDERATIONS
WORK GROUP ON SEDATIO
STAFF
REFERENCES

This revised statement reflects the current understanding of appropriate monitoring needs both during and after sedation for a procedure.[4,6,12,1 The monitoring and care outlined in these guidelines may be exceeded at any time on the basis of the judgment of the responsible practitioner. Intended to encourage high-quality patient care, adherence to these guidelines cannot guarantee a specific patient outcome. However, structure protocols designed to incorporate the principles in this document have been widely implemented and shown to reduce morbidity.[29,32–34,37,54,5 guidelines are proffered with the awareness that, regardless of the intended level of sedation or route of administration, the sedation of a pediat represents a continuum and may result in respiratory depression and loss of the patient's protective reflexes.[47,55–59]

APPENDIX 2 Recommended Discharge Criteria

Retu

1. Cardiovascular function and airway patency are satisfactory and stable.
2. The patient is easily arousable, and protective reflexes are intact.
3. The patient can talk (if age appropriate).
4. The patient can sit up unaided (if age appropriate).
5. For a very young or handicapped child incapable of the usually expected responses, the presedation le responsiveness or a level as close as possible to the normal level for that child should be achieved.
6. The state of hydration is adequate.

Return to article

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Nitrous oxide in oxygen with varying concentrations has been successfully used for many years to provide analgesia for a variety of painful procedures in children.[15,186-210] The use of nitrous oxide for minimal sedation is defined as the administration of nitrous oxide (50% or less) with the balance as oxygen, without any other sedative, narcotic, or other depressant drug before or concurrent with the nitrous oxide to an otherwise healthy patient in ASA class I or II. The patient is able to maintain verbal communication throughout the procedure. It should be noted that although local anesthetics have sedative properties, for purposes of this guideline, they are not considered sedatives in this circumstance. If nitrous oxide in oxygen is combined with other sedating medications, such as chloral hydrate, midazolam, or an opioid, or if nitrous oxide is used in concentrations more than 50%, the likelihood for moderate or deep sedation increases.[211,212] In this situation, the clinician must be prepared to institute the guidelines for moderate or deep sedation as indicated by the patient's response.[212]

Rule XIV. Anesthesia

(Amended February 1, 1998, August 1, 2000; August 11, 2004; October 27, 2004; October 26, 2006; July 9, 2009, Effective December 31, 2006; Amended January 21, 2010, Effective March 30, 2010)

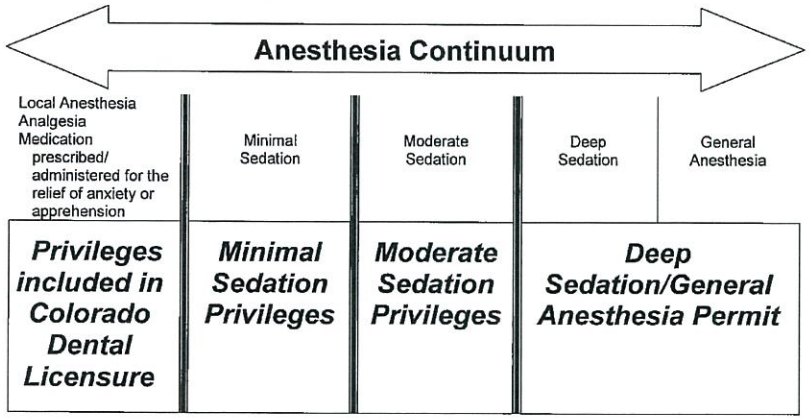
A. Introduction

1. This Rule XIV is authorized by the Dental Practice Law of Colorado including but not limited to sections 12-35-107(1)(b), (f), (h) and (i), 12-35-113(1)(q), 12-35-125(1)(f) and 12-35-128(3)(c), C.R.S. This Rule XIV replaces prior anesthesia related Board Rules XIV, XV, XVI, XVII, and XVIII.

2. The purpose of this Rule XIV is to provide dental patients in the state of Colorado open and safe access to anesthesia care by making the process for obtaining privileges or a permit well defined, transparent, and consistent for the dental professionals while at the same time, advocating for patient safety.

B. The Anesthesia Continuum

1. The anesthesia continuum represents a spectrum encompassing analgesia, local anesthesia, sedation, and general anesthesia along which no single part can be simply distinguished from neighboring parts. It is neither the route of administration nor the medication(s) used that determines or defines the level of anesthesia administered. The location on the continuum defines the level of anesthesia administered.



2. The level of anesthesia on the continuum is determined by the definitions listed under section C of this Rule XIV. Elements used to determine the level of anesthesia include the level of consciousness and the likelihood of anesthesia provider intervention(s), based upon the following patient parameters:

   a. Responsiveness

   b. Airway

   c. Respiratory (breathing)

   d. Cardiovascular

C. Definitions Related to Anesthesia

1. Anesthesia - The art and science of managing anxiety, pain, and awareness. Includes analgesia, local anesthesia, minimal, moderate or deep sedation, or general anesthesia.

2. Analgesia - The diminution or elimination of pain.

3. Local Anesthesia - The elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug.

4. Minimal Sedation - A minimally depressed level of consciousness produced by a pharmacological method, that retains the patient's ability to independently and continuously maintain an airway and respond normally to tactile stimulation and verbal command. Although cognitive function and coordination may be modestly impaired, ventilatory and cardiovascular functions are unaffected.

5. Moderate Sedation - A drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.

6. Deep Sedation - A drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained.

7. General Anesthesia - A drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

8. Monitoring - Evaluation of patients to assess physical condition and level of anesthesia.

9. Peri-anesthesia Period - The time from the beginning of the pre-anesthesia assessment until the patient is discharged from anesthesia care.

10. Anesthesia Provider - The licensed and legally authorized individual responsible for administering medications that provide analgesia, local anesthesia, minimal, moderate or deep sedation, or general anesthesia.

D. General Rules for the Safe Administration of Anesthesia

1. The anesthesia provider's education, training, experience, and current competence must correlate with the progression of a patient along the anesthesia continuum.

2. The anesthesia provider must be prepared to manage deeper than intended levels of anesthesia as it is not always possible to predict how a given patient will respond to anesthesia.

3. The anesthesia provider's ultimate responsibility is to protect the patient. This includes, but is not limited to, identification and management of any complication(s) occurring during the peri-anesthesia period.

E. Anesthesia Privileges Included in Colorado Dental Licensure

1. The following anesthesia privileges are included in Colorado dental licensure:

   a. Local Anesthesia;

   b. Analgesia;

   c. Medication prescribed/administered for the relief of anxiety or apprehension; and

   d. Nitrous Oxide/Oxygen Inhalation Analgesia in compliance with section G of this Rule XIV.

2. A dentist who elects to engage the services of another anesthesia provider in order to provide anesthesia in his or her dental office is responsible for ensuring that the facility meets the requirements outlined in this Rule XIV.

F. Anesthesia Privileges and Permits

1. Local Anesthesia Privileges for dental hygienists -

   a. A dental hygienist may obtain Local Anesthesia Privileges and administer local anesthesia or a local anesthetic reversal agent under the indirect supervision of a dentist.

   b. Local Anesthesia Privileges will be issued once and will remain valid as long as the licensee maintains an active license to practice, except as otherwise provided in this Rule XIV.

2. Temporary Privileges or Permit -

   a. A dentist will be issued temporary privileges or a temporary permit upon meeting the educational and/or experience requirements for Moderate Sedation Privileges or for a Deep Sedation/General Anesthesia Permit as outlined in this Rule XIV prior to successfully completing his/her clinical onsite inspection.

   b. Unless otherwise authorized by the Board, the temporary privileges or permit will be issued once and will remain valid for a maximum of ninety (90) days.

3. Minimal Sedation Privileges -

   a. To administer minimal sedation, a dentist shall have Minimal Sedation Privileges, Moderate Sedation Privileges or a Deep Sedation/General Anesthesia Permit issued in accordance with this Rule XIV.

   b. Minimal Sedation Privileges shall be valid for a period of five (5) years, after which such privileges may be renewed upon reapplication.

4. Moderate Sedation Privileges -

   a. To administer Moderate Sedation, a dentist shall have Moderate Sedation Privileges or a Deep Sedation/General Anesthesia Permit issued in accordance with this Rule XIV.

   b. Moderate Sedation Privileges shall be valid for a period of five (5) years after which such privileges may be renewed upon reapplication.

5. Deep Sedation/General Anesthesia Permit -

   a. To administer deep sedation/and or general anesthesia, a dentist shall have a Deep Sedation/General Anesthesia Permit issued in accordance with this Rule XIV.

   b. A Deep Sedation/General Anesthesia Permit shall be valid for a period of five (5) years after which such permit may be renewed upon reapplication.

   c. In order to initially apply for or renew a Deep Sedation/General Anesthesia Permit pursuant to this Rule XIV, an applicant must pay a fee established by the Director of the Division of Registrations pursuant to section 24-34-105, C.R.S.

G. Nitrous Oxide/Oxygen Inhalation Requirements

1. A dentist may delegate under direct supervision the monitoring and administration of nitrous oxide/oxygen inhalation to appropriately trained dental personnel, pursuant to section 12-35-113(1)(q), C.R.S.

2. The supervising dentist is responsible for determining and documenting the maximum percent-dosage of nitrous oxide administered to the patient. Documentation shall include the length of time nitrous oxide was used and the length of time the patient was reoxygenated with 100% oxygen.

3. It is the responsibility of the supervising dentist to ensure that dental personnel who administer and/or monitor nitrous oxide/oxygen inhalation are appropriately trained.

4. If nitrous oxide is used in the practice of dentistry, then the supervising dentist shall provide and ensure the following:

   a. Fail safe mechanisms in the delivery system and an appropriate scavenging system;

   b. The inhalation equipment must be evaluated for proper operation and delivery of inhalation agents;

   c. Any administration or monitoring of nitrous oxide/oxygen inhalation to patients by dental personnel is performed in accordance with generally accepted standards of dental or dental hygiene practice.

H. **Local Anesthesia Privileges for Dental Hygienists**

1. A dental hygienist may obtain Local Anesthesia Privileges after submitting a Board-approved application and upon successful completion of courses conducted by a school accredited by the American Dental Association Commission on Dental Accreditation.

2. Courses must meet the following requirements:

   a. Twelve (12) hours of didactic training, including but not limited to:

      - Anatomy;
      - Pharmacology;
      - Techniques;
      - Physiology; and
      - Medical Emergencies.

   b. Twelve (12) hours of clinical training that includes the administration of at least six (6) infiltration and six (6) block injections.

I. **Minimal Sedation Privileges** - A dentist may obtain Minimal Sedation Privileges after submitting a Board-approved application and upon successful completion of the educational requirements set forth below:

1. A specialty residency or general practice residency recognized by the American Dental Association Commission on Dental Accreditation that includes comprehensive and appropriate training to administer and manage minimal sedation; or

2. Educational criteria for Moderate Sedation Privileges or for a Deep Sedation/General Anesthesia Permit; or

3. A minimum of sixteen (16) hours of Board-approved coursework completed within the past five (5) years that provides training in the administration and induction of minimal sedation techniques and management of complications and emergencies associated with sedation.

   a. The coursework must contain an appropriate combination of didactic instruction and practical skills training.

   b. The applicant must submit for Board approval documentation of the training course(s) to include, but not be limited to, a syllabus or course outline of the program and a certificate or other documentation from course sponsors or instructors indicating the number of course hours, content of such courses and date of successful completion.

   c. Course content leading to current Basic Life Support and/or Advanced Cardiac Life Support and/or Pediatric Advanced Life Support cannot be considered as part of the sixteen (16) hours of classroom and clinical instruction.

J. **Moderate Sedation Privileges** - A dentist may obtain Moderate Sedation Privileges after submitting a Board-approved application and upon successful completion of education only or a combination of approved education and experience as set forth below:

1. Education Only Route - must submit proof of having successfully completed one of the following:

   a. A specialty residency or general practice residency recognized by the American Dental Association Commission on Dental Accreditation that includes comprehensive and appropriate training to administer and manage moderate sedation; or

   b. Educational criteria for a Deep Sedation/General Anesthesia Permit.

2. Education/Experience Route - must submit proof of successfully completing moderate sedation course(s) and acceptable sedation cases as set forth below.

   a. Education -

      I) Sixty (60) hours of Board-approved coursework completed within the past five (5) years that provides training in the administration and induction of moderate sedation techniques and management of complications and emergencies associated with sedation.

      II) Such coursework must include an appropriate combination of didactic instruction and practical skills training.

III) The applicant must submit for Board approval documentation of the training course(s) to include, but not be limited to, a syllabus or course outline of the program and a certificate or other documentation from course sponsors or instructors indicating the number of course hours, content of such courses and date of successful completion.

IV) Course content leading to current Basic Life Support and/or Advanced Cardiac Life Support and/or Pediatric Advanced Life Support cannot be considered as part of the sixty (60) hours of classroom and clinical instruction.

b. Experience -

I) Twenty (20) sedation cases that were completed as part of or separate from the Board approved sedation training course.

II) If completed separate from the course, then all cases must be completed during the one (1) year period immediately after completion of the approved training program.

III) All of the cases must be performed and documented under the on-site instruction and supervision of a person qualified to administer anesthesia at a deep sedation/general anesthesia level.

IV) All of the cases must be performed and documented by the applicant.

V) Cases may be performed on live patients or as part of a high-fidelity sedation simulation center or program.

VI) All of the cases must meet generally accepted standards for the provision and documentation of moderate sedation.

K. **Deep Sedation/General Anesthesia Permit** - A dentist may obtain a Deep Sedation/General Anesthesia Permit after submitting a Board-approved application and upon successful completion of one of the following educational requirements:

1. A residency program in general anesthesia that is approved by the American Dental Association, the American Dental Society of Anesthesiology, the Accreditation Council for Graduate Medical Education, the American Osteopathic Association or any successor organization to any of the foregoing; or

2. An acceptable post-doctoral training program (e.g., oral and maxillofacial surgery) that affords comprehensive and appropriate training necessary to administer and manage deep sedation and general anesthesia commensurate with the American Dental Association Guidelines for teaching the comprehensive control of anxiety and pain in dentistry.

L. **Clinical On-Site Inspection for Obtaining Moderate Sedation Privileges or a Deep Sedation/General Anesthesia Permit**

1. Any dentist applying for Moderate Sedation Privileges or a Deep Sedation/General Anesthesia Permit will initially be issued a temporary permit upon successfully meeting the educational and/or experience requirements as provided in this Rule XIV. The dentist must then undergo a clinical on-site inspection.

2. Unless otherwise authorized by the Board, a clinical on-site inspection must be successfully completed within ninety (90) days of a temporary permit being issued in order to receive Moderate Sedation Privileges or a Deep Sedation/General Anesthesia Permit.

3. The Board may require re-inspection of a facility as part of the process for renewal or reinstatement of the privileges or permit.

4. A separate clinical on-site inspection is not required for dentists who receive Moderate Sedation Privileges or a Deep Sedation/General Anesthesia Permit pursuant to this Rule XIV for one office and travel to other dental office locations to administer anesthesia. However, it is the responsibility of the anesthesia provider to ensure that each facility meets the requirements outlined in this rule. This responsibility also extends to a dentist without Moderate Sedation Privileges or a Deep Sedation/General Anesthesia Permit who elects to engage the services of another anesthesia provider to provide such anesthesia in his/her dental office.

5. The dentist requiring the anesthesia inspection is responsible for all fees associated with the inspection.

6. The anesthesia inspection shall consist of four (4) parts:

   a. Review of the office equipment, records, and emergency medications required in sections N, O, P.2 and P.3 of this Rule XIV.

   b. Surgical/Anesthetic Techniques. The inspector shall observe at least one (1) case while the dentist administers anesthesia at the level for which he/she is making application to the Board. The inspector may require additional cases to observe at his/her discretion.

   c. Simulated Emergencies. The dentist and his/her team must be able to demonstrate his/her expertise in managing emergencies as required in the application.

   d. Discussion Period.

7. The inspector shall be a Colorado licensed anesthesiologist or certified registered nurse anesthetist (CRNA) or dentist with a Deep Sedation/General Anesthesia Permit.

8. The inspector shall not have an unethical agreement or conflict of interest with an applicant. An inspector's receipt of payment from the applicant for services as an inspector is acceptable and does not constitute an unethical agreement or conflict of interest.

9. Inspectors shall be considered consultants for the Board and shall be immune from liability in any civil action brought against him/her occurring while acting in this capacity as set forth in section 12-35-109(3), C.R.S.

10. The documentation of the anesthesia inspection must be completed on forms approved by the Board.

M. Office Facilities and Equipment for Provision of Minimal Sedation, Moderate Sedation, Deep Sedation and/or General Anesthesia -

1. Any dentist whose practice includes the administration of minimal sedation by any anesthesia provider must provide the following office facilities and equipment, which are required to be functional at all times:

   a. Emergency equipment and facilities, including:

      I) An appropriate size bag-valve-mask apparatus or equivalent with an oxygen hook-up;

      II) Oral and nasopharyngeal airways;

      III) Appropriate emergency medications; and

      IV) An external defibrillator - manual or automatic.

   b. Equipment to monitor vital signs and oxygenation/ventilation, including:

      I) A continuous pulse oximeter; and

      II) A blood pressure cuff of appropriate size and stethoscope, or equivalent blood pressure monitoring devices.

   c. Oxygen, suction, and a pulse oximeter must be immediately available during the recovery period.

2. Any dentist whose practice includes the administration of moderate sedation by any anesthesia provider must provide the following office facilities and equipment, which are required to be functional at all times:

   a. Emergency equipment and facilities, including:

      I) An appropriate size bag-valve-mask apparatus or equivalent with an oxygen hook-up;

      II) Oral and nasopharyngeal airways;

      III) Appropriate emergency medications; and

      IV) An external defibrillator - manual or automatic.

   b. Equipment to monitor vital signs and oxygenation/ventilation, including:

      I) A continuous pulse oximeter; and

      II) A blood pressure cuff of appropriate size and stethoscope, or equivalent blood pressure monitoring devices.

   c. Oxygen, suction, and a pulse oximeter must be immediately available during the recovery period.

   d. Back-up suction equipment.

   e. Back-up lighting system.

   f. Parenteral access or the ability to gain parenteral access, if clinically indicated.

   g. Electrocardiograph, if clinically indicated.

3. Any dentist whose practice includes the administration of deep sedation and/or general anesthesia by any anesthesia provider must provide the following office facilities and equipment, which are required to be functional at all times:

   a. Emergency equipment and facilities, including:

      I) An appropriate size bag-valve-mask apparatus or equivalent with an oxygen hook-up;

      II) Oral and nasopharyngeal airways;

      III) Appropriate emergency medications; and

      IV) An external defibrillator - manual or automatic.

   b. Equipment to monitor vital signs and oxygenation/ventilation, including:

      I) A continuous pulse oximeter; and

      II) A blood pressure cuff of appropriate size and stethoscope, or equivalent blood pressure monitoring devices.

   c. Oxygen, suction, and a pulse oximeter must be immediately available during the recovery period.

   d. Back-up suction equipment.

   e. Back-up lighting system.

   f. Parenteral access or the ability to gain parenteral access, if clinically indicated.

   g. Electrocardiograph.

h. End-tidal carbon dioxide monitor if using a laryngeal mask airway or endotracheal intubation.

i. Additional emergency equipment and facilities, including:

I) Endotracheal tubes suitable for patients being treated;

II) A laryngoscope with reserve batteries and bulbs,

III) Endotracheal tube forceps (i.e. magill); and

IV) At least one additional airway device.

N. **Volatile Anesthesia Delivery Systems** - if utilized, shall include:

1. Capability to deliver oxygen to a patient under positive pressure, including a back-up oxygen system;

2. Gas outlets that meet generally accepted safety standards preventing accidental administration of inappropriate gases or gas mixture;

3. Fail-safe mechanisms for inhalation of nitrous oxide analgesia;

4. The inhalation equipment must have an appropriate scavenging system if volatile anesthetics are used; and

5. Gas storage facilities, which meet generally accepted safety standards.

O. **Documentation** - shall include, but is not limited to:

1. For administration of local anesthesia and analgesia -

a. Pertinent medical history, including weight; and

b. Medication(s) administered and dosage(s).

2. For administration of minimal sedation, moderate sedation, deep sedation or general anesthesia -

a. Medical History - current and comprehensive;

b. Weight;

c. Height for any patient over the age of 12;

d. American Society of Anesthesiology (ASA) Classification;

e. Dental Procedure(s);

f. Informed Consent;

g. Anesthesia Record, which includes:

I) Parenteral access site and method, if utilized;

II) Medication(s) administered - medication (including oxygen), dosage, route, and time given;

III) Vital signs before and after anesthesia is utilized;

IV) Intravenous fluids, if utilized; and

V) Response to anesthesia - including any complications;

h. Condition of patient at discharge.

3. For administration of moderate sedation, deep sedation or general anesthesia:

a. Physical examination - airway assessment; baseline heart rate, blood pressure, respiratory rate, and oxygen saturation;

b. Anesthesia record, which includes:

I) Time anesthesia commenced and ended;

II) At least every 5 minutes - blood pressure, heart rate; and

III) At least every 15 minutes - oxygen saturation (SAO2); respiratory rate; electrocardiograph (ECG), if clinically indicated by patient history, medical condition(s), or age; and ventilation status (spontaneous, assisted, or controlled).

P. **Patient Monitoring** - shall include, but is not limited to the following for the administration of:

1. Local Anesthesia and Analgesia -

a. General state of the patient.

2. Minimal Sedation -

a. Continuous heart rate and respiratory status;

b. Continuous oxygen saturation, if clinically indicated by patient history, medical condition(s), or age;

c. Pre and post procedure blood pressure; and

d. Level of anesthesia on the continuum.

e. Level of cooperation in the pediatric or special needs patient may not reasonably allow for full compliance with some monitoring requirements. In such instance, the supervising dentist shall use professional judgment and shall document available monitoring parameters to the best of his/her ability.

3. Moderate Sedation -

   a. Continuous heart rate, respiratory status, and oxygen saturation;

   b. Intermittent blood pressure every 5 minutes or more frequently;

   c. Continuous electrocardiograph, if clinically indicated by patient history, medical condition(s), or age; and

   d. Level of anesthesia on the continuum.

4. Deep Sedation or General Anesthesia -

   a. Continuous heart rate, respiratory status, and oxygen saturation;

   b. Intermittent blood pressure every 5 minutes or more frequently;

   c. Continuous electrocardiograph;

   d. End-tidal carbon dioxide monitoring if using a laryngeal mask airway or endotracheal intubation; and

   e. Level of anesthesia on the continuum.

Q. Miscellaneous Requirements

1. Certification(s) -

   a. All dentists and dental personnel utilizing, administering or monitoring local anesthesia, analgesia, minimal sedation, moderate sedation, deep sedation or general anesthesia shall have successfully completed current Basic Life Support (BLS) training.

   b. Additionally, any dentist applying for or maintaining Moderate Sedation Privileges or a Deep Sedation/General Anesthesia Permit must have successfully completed current Advanced Cardiac Life Support (ACLS) or Pediatric Advanced Life Support (PALS), as appropriate for the dentist's practice.

2. Personnel -

   a. Minimal/Moderate Sedation - during the administration of minimal or moderate sedation, the supervising dentist and at least one (1) other individual must be present.

   b. Deep sedation/general anesthesia - during the administration of deep sedation or general anesthesia, the supervising dentist and at least two (2) other individuals must be present; one of whom is experienced in patient monitoring and documentation.

3. Monitoring and medication administration - may be delegated to trained dental personnel under the direct supervision of the dentist; however, the supervising dentist retains full accountability.

4. Discharge - patient discharge after sedation and/or general anesthesia must be specifically authorized by the anesthesia provider.

R. Additional Requirements for Privileges or Permits: Demonstration of Continued Competency and Reinstatement of Expired Privileges or Permits

1. An applicant for Local Anesthesia Privileges, Minimal Sedation Privileges, Moderate Sedation Privileges or a Deep Sedation/General Anesthesia Permit shall demonstrate to the Board that he/she has maintained the professional ability and knowledge required to perform anesthesia when the applicant has not completed a residency program or the coursework set forth in this Rule XIV within the past five (5) years immediately preceding the application. The applicant may demonstrate competency as follows:

   a. Submit proof that he/she has engaged in the level of administration of anesthesia within generally accepted standards of dental or dental hygiene practice at or above the level for which the applicant is pursuing privileges or a permit for at least one (1) of the five (5) years immediately preceding the application, or

   b. Submit proof of an evaluation, completed within one (1) year preceding the application by a person or entity approved by the Board that certifies the applicant's ability to administer anesthesia within generally accepted standards of practice at or above the level for which he/she is requesting privileges or a permit. The proposed procedure for the evaluation and the proposed evaluating person or entity must be submitted and be pre-approved by the Board.

2. If a dentist allows his/her Colorado dental license to expire then his/her Minimal Sedation Privileges, Moderate Sedation Privileges or Deep Sedation/General Anesthesia Permit shall also expire. The dentist may apply for reinstatement of his/her Minimal Sedation Privileges, Moderate Sedation Privileges or Deep Sedation/General Anesthesia Permit simultaneously with or subsequent to application for reinstatement of licensure.

3. If a dental hygienist allows his/her Colorado dental hygienist license to expire then his/her Local Anesthesia Privileges shall also expire. The dental hygienist may apply for reinstatement of his/her Local Anesthesia Privileges simultaneously with or subsequent to application for reinstatement of licensure.

4. A dentist or dental hygienist who is submitting an application for reinstatement of his/her privileges or permit shall demonstrate to the Board the same competency requirements set forth in section R.1 if he/she has not had privileges or a permit within the two (2) years immediately preceding such reinstatement application.

S. Anesthesia Morbidity/Mortality Reporting Requirements - a complete written report shall be submitted to the Board by the anesthetizing dentist or dental hygienist and his/her supervising dentist within fifteen (15) days of any anesthesia related incident resulting in significant patient morbidity or mortality.

1. A morbidity and mortality report shall include the complete anesthesia record with an associated narrative of all events.

2. All records related to the incident shall be submitted to the Board as part of the report.

T. Effect of 2009 Amendments on Currently Issued Permits

1. Any dentist whose Board-issued permit to perform General Anesthesia and/or Deep Sedation is active on March 30, 2010 shall automatically obtain a Deep Sedation/General Anesthesia Permit pursuant to this Rule XIV. Such dentist's permit shall expire five (5) years from the date under which the prior General Anesthesia and/or Deep Sedation Permit was granted. Following such expiration, the dentist must comply with all applicable statutory and regulatory requirements in order to renew the Deep Sedation/General Anesthesia Permit.

2. Any dentist whose Board-issued permit to perform Parenteral Conscious Sedation is active on March 30, 2010 shall automatically obtain Moderate Sedation Privileges pursuant to this Rule XIV. Such dentist's privileges shall expire five (5) years from the date under which the prior Parenteral Conscious Sedation permit was granted. Following such expiration, the dentist must comply with all applicable statutory and regulatory requirements in order to renew the Moderate Sedation Privileges.

3. Any dentist whose Board-issued permit to perform Enteral Conscious Sedation is active on March 30, 2010 shall automatically obtain Minimal Sedation Privileges pursuant to this Rule XIV. Such dentist's privileges shall expire five (5) years from the date under which the prior Enteral Conscious Sedation permit was granted. Following such expiration, the dentist must comply with all applicable statutory and regulatory requirements in order to renew the Minimal Sedation Privileges.

4. Any dental hygienist whose Board-issued permit to perform Local Anesthesia is active on March 30, 2010 shall automatically obtain Local Anesthesia Privileges pursuant to this Rule XIV. Such hygienist's privileges shall remain valid for so long as the licensee maintains an active license to practice, except as otherwise provided in this Rule XIV.

U. Board Reserved Rights

1. Dentists or dental hygienists utilizing anesthesia that requires privileges or a permit shall be responsible for practicing within generally accepted standards of dental or dental hygiene practice in administering anesthesia and complying with the terms of this Rule XIV, pursuant to section 12-35-129(1), C.R.S.

2. Dentists or dental hygienists utilizing anesthesia that requires privileges or a permit, under this Rule XIV without first obtaining the required privileges or permit, or utilizing such anesthesia with expired privileges or an expired permit, may be disciplined pursuant to section 12-35-129, C.R.S.

3. Upon a specific finding of a violation of this Rule XIV, and/or upon reasonable cause, the Board may require a supervising dentist to submit proof demonstrating that applicable staff have the appropriate education/training in order to administer nitrous oxide/oxygen and/or are otherwise acting in compliance with this Rule XIV.

4. The Board may discipline or deny a dentist or dental hygienist for a violation of this Rule XIV and/or any other grounds pursuant to section 12-35-129, C.R.S.

5. In addition to the remedies set forth above, nothing in this Rule XIV shall limit the authority of the Board, upon objective and reasonable grounds, to order summary suspension of anesthesia privileges or permit pursuant to section 24-4-104(4), C.R.S.

6. In addition to the remedies set forth above, nothing in this Rule XIV shall limit the authority of the Board, upon objective and reasonable grounds, to order summary suspension of a license to practice dentistry or dental hygiene, pursuant to section 24-4-104(4), C.R.S.

7. Upon review of a morbidity/mortality report and/or upon reasonable concern regarding the use of anesthesia, the Board may require an on-site inspection of the dental facility utilized by the anesthesia provider in administering anesthesia.

8. The Board reserves all other powers and authorities set forth in the Dental Practice Law of Colorado, Article 35 of Title 12, C.R.S. and the Administrative Procedure Act, Article 4 of Title 24, C.R.S.

Rule XV. Pediatric Case Management; Medical Immobilization/Protective Stabilization

(Amended October 24, 2007, Effective December 31, 2007; Amended January 21, 2010, Effective March 30, 2010; Re-numbered December 30, 2011)

A. The purpose of this rule is to recognize that pediatric cases may require special case management, and that pediatric and special needs patients may need specialized care in order to prevent injury and to protect the health and safety of the patients, the dentist, and the dental staff. In addition to patient management of the pediatric and special needs patient, it may be necessary to medically immobilize the pediatric and special needs patients to prevent injury and to protect the health and safety of the patients, the dentist, and the dental staff. To achieve effective pediatric patient management, it is important to build a trusting relationship between the dentist, the dental staff, the patient, and the parent of guardian. This necessitates that the dentist establishes communication with them and promotes a positive attitude towards oral and dental health in order to alleviate fear and anxiety and to deliver quality dental care.

B. Pediatric Case Management

1. Parents or legal guardians cannot be denied access to the patient during treatment in the dental office unless the health and safety of the patient, parent or guardian, or dental staff would be at risk. The parent or guardian shall be informed of the reason they are denied access to the patient and both the incident of the denial and the reason for the denial shall be documented in the patient's dental record.

2. This provision shall not apply to dental care delivered in an accredited hospital or acute care facility.

C. Medical Immobilization/Protective Stabilization

1. Within this Rule, the terms medical immobilization and protective stabilization are used interchangeably. These terms refer to partial or complete immobilization of the patient necessary to protect the patient, practitioner, and other dental staff from injury while providing care. Immobilization can be performed by the dentist, staff, or parent or legal guardian with or without the aid of an immobilization device.

2. Training requirement. Prior to utilizing medical immobilization, the dentist shall have received training beyond basic dental education through a residency program or graduate program that contains content and experiences in advanced behavior management or a continuing education course of no less than 6 hours in advanced behavior management that involves both didactic and demonstration components. This training requirement will be effective October 1, 2006.

3. Pre-Immobilization Requirements

   a. Prior to utilizing medical immobilization, the dentist shall consider each of the following:

      1. Other alternative less restrictive behavioral management methods;

      2. The dental needs of the patient;

      3. The effect on the quality of dental care;

      4. The patient's emotional development; and

      5. The patient's physical condition; and

      6. The safety of the patient, dentist, and staff.

   b. Prior to using medical immobilization, the dentist shall obtain written informed consent for the specific technique of immobilization from the parent or legal guardian and document such consent in the dental record, unless the parent or legal guardian is immobilizing the patient. Consent involving solely the presentation or description of a listing of various behavior management techniques is not considered to constitute informed consent for medical immobilization. The parent or guardian must be informed of the advantages and disadvantaged of the technique(s) of immobilization being utilized and/or considered.

4. Medical Immobilization or Protective Stabilization

   a. Immobilization can be performed by the dentist, staff, or parent or legal guardian with or without the aid of an immobilization device.

   b. Immobilization must cause no serious or permanent injury and the least possible discomfort.

   c. Indication. Partial or complete immobilization may be used for required diagnosis and/or treatment if the patient cannot cooperate due to lack of maturity, mental or physical handicap, failure to cooperate after other behavior management techniques have failed and/or when the safety of the patient, dentist or dental staff would be at risk without using protective stabilization. This method can only be used to reduce or eliminate untoward movement, protect the patient and staff from injury, and to assist in the delivery of quality dental treatment.

   d. Contraindications. Medical immobilization may not be used for the convenience of the dentist, as punishment, to provide care for a cooperative patient, or for a patient who cannot be immobilized safely due to medical conditions.

   e. Documentation. The patient's records should include:

      1. Specific written informed consent for the medical immobilization, including the reason why immobilization is required;

      2. Type of immobilization used, including immobilization by a parent or guardian;

      3. Indication or reason for specific immobilization;

      4. Duration of application;

      5. Documentation of adequacy of patient airway, peripheral circulation and proper positioning of immobilization device or technique in increments of 15 minutes while immobilization is utilized.

      6. In addition, there must be documentation of the outcome of the immobilization, including the occurrence of any marks, bruises, injuries, or complications to the patient.

   f. Duration of Application.

      1. The patient record must document the time each immobilization began and ended.

      2. The status and progress of the treatment and the plan for future or remaining treatment with treatment options shall be reported at least hourly, or more frequently if appropriate, to the parent or legal guardian. After each such hourly report, renewed consent for continuation of the immobilization must be specifically obtained. Such consent may be verbal but shall be documented in the record.

   g. If the treatment plan changes during the procedure from that presented to the parent or legal guardian in the initial informed consent discussion, the parent or legal guardian shall be notified and consulted immediately.

   h. Dental hygienists and dental assistants shall not use medical immobilization by themselves, but may assist the dentist as necessary.

052. -- 053. (RESERVED)

054. DEFINITIONS (RULE 54).
For the purposes of these anesthesia rules, the following terms will be used, as defined below: (4-11-06)

01. Methods of Anxiety and Pain Control. (4-11-06)

a. Analgesia shall mean the diminution or elimination of pain. (4-7-11)

b. Local anesthesia shall mean the elimination of sensation, especially pain, in one (1) part of the body by the topical application or regional injection of a drug. (4-7-11)

c. Minimal sedation shall mean a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond normally to tactile stimulation and verbal command. Although cognitive function and coordination may be modestly impaired, ventilator and cardiovascular functions are unaffected. In accord with this particular definition, the drugs and/or techniques used should carry a margin of safety wide enough never to render unintended loss of consciousness. Further, patients whose only response is reflex withdrawal from repeated painful stimuli would not be considered to be in a state of minimal sedation. (4-7-11)

d. Moderate sedation shall mean a drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained. (4-7-11)

e. Deep sedation shall mean a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilator function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained. (4-7-11)

f. General anesthesia shall mean a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilator function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired. (4-7-11)

02. Sedation Terms. (4-11-06)

a. Advanced Cardiac Life Support (ACLS) shall mean an advanced cardiac life support course offered by a recognized accrediting organization. (4-11-06)

b. Monitor or monitoring shall mean the direct clinical observation of a patient during the administration of anesthesia by a person trained to observe the physical condition of the patient and capable of assisting with emergency or other procedures. (4-11-06)

c. Operator shall mean the supervising dentist or another person who is authorized by these rules or holds a permit to induce and administer the proper level of anesthesia/sedation. (4-11-06)

d. Titration shall mean the administration of incremental doses of a drug until a desired effect is reached. Knowledge of each drug's time of onset, peak response and duration of action is essential to avoid over sedation. Although the concept of titration of a drug to effect is critical for patient safety, when the intent is moderate sedation one must know whether the previous dose has taken full effect before administering an additional drug increment. (4-7-11)

e. Maximum recommended (MRD) shall mean maximum FDA-recommended dose of a drug, as printed in FDA-approved labeling for unmonitored home use. (4-7-11)

f. Incremental dosing shall mean administration of multiple doses of a drug until a desired effect is reached, but not to exceed the maximum recommended dose (MRD). (4-7-11)

g. Supplemental dosing during minimal sedation shall mean a single additional dose of the initial drug that may be necessary for prolonged procedures. The supplemental dose should not exceed one-half of the initial dose and should not be administered until the dentist has determined the clinical half-life of the initial dosing has passed. The total aggregate dose must not exceed one and one-half times (1.5x) MRD on the day of treatment. (4-7-11)

03. Routes of Administration. (4-11-06)

a. Enteral. Any technique of administration in which the agent is absorbed through the gastrointestinal (GI) tract or oral mucosa (i.e., oral, rectal, sublingual). (4-11-06)

b. Inhalation. A technique of administration in which a gaseous or volatile agent is introduced into the lungs and whose primary effect is due to absorption through the gas/blood interface. (4-7-11)

c. Parenteral. A technique of administration in which the drug bypasses the gastrointestinal (GI) tract [i.e., intramuscular (IM), intravenous (IV), intranasal (IN), submucosal (SM), subcutaneous (SC), intraosseous (IO)]. (4-7-11)

d. Transdermal. A technique of administration in which the drug is administered by patch or iontophoresis through skin. (4-7-11)

e. Transmucosal. A technique of administration in which the drug is administered across mucosa such as intranasal, sublingual, or rectal. (4-7-11)

055. MINIMAL SEDATION (RULE 55).
Persons licensed to practice dentistry in accordance with the Idaho Dental Practice Act and these rules are not required to obtain a permit to administer minimal sedation to adult patients. When the intent is minimal sedation for adults, the appropriate initial dosing of a single enteral drug is no more than the maximum recommended dose (MRD) of a drug that can be prescribed for unmonitored home use. (4-7-11)

01. Patient Safety. The administration of minimal sedation is permissible so long as it does not produce an alteration of the state of consciousness in a patient to the level of moderate sedation, deep sedation or general anesthesia. A dentist must first qualify for and obtain the appropriate permit from the Board of Dentistry to be authorized to sedate patients to the level of moderate sedation, deep sedation or general anesthesia. Nitrous oxide/oxygen may be used in combination with a single enteral drug in minimal sedation. Notwithstanding any other provision in these rules, a dentist shall initiate and regulate the administration of nitrous oxide/oxygen when used in combination with minimal sedation. (4-7-11)

02. Personnel. At least one (1) additional person currently certified in Basic Life Support for Healthcare Providers must be present in addition to the dentist. (4-7-11)

056. LOCAL ANESTHESIA (RULE 56).
Persons licensed to practice dentistry and dental hygiene in accordance with the Idaho Dental Practice Act and these rules are not required to obtain a permit to administer local anesthesia to patients. Dental offices in which local anesthesia is administered to patients shall, at a minimum, have and maintain suction equipment capable of aspirating gastric contents from the mouth and pharynx, a portable oxygen delivery system including full face masks and a bag-valve mask combination capable of delivering positive pressure, oxygen-enriched ventilation to the patient, a blood pressure cuff of appropriate size and a stethoscope. (4-11-06)

057. NITROUS OXIDE/OXYGEN (RULE 57).
Persons licensed to practice dentistry and dental hygiene and dental assistants certified in accordance with the Idaho Dental Practice Act and these rules are not required to obtain a permit to administer nitrous oxide/oxygen to patients. Nitrous oxide/oxygen when used in combination with other sedative agents may produce an alteration of the state of consciousness in a patient to the level of moderate sedation, deep sedation or general anesthesia. A dentist must first

qualify for and obtain the appropriate permit from the Board of Dentistry to be authorized to sedate patients to the level of moderate sedation, deep sedation or general anesthesia. (4-7-11)

01. **Patient Safety.** In connection with the administration of nitrous oxide/oxygen, a dentist shall: (4-7-11)

a. Evaluate the patient to insure that the patient is an appropriate candidate for nitrous/oxygen; and (4-7-11)

b. Insure that any patient under nitrous/oxygen shall be continually monitored; and (4-7-11)

c. Insure that a second person shall be on the office premises who can immediately respond to any request from the person administering the nitrous/oxygen. (4-7-11)

02. **Required Facilities and Equipment.** Dental offices in which nitrous oxide/oxygen is administered to patients shall, at a minimum and in addition to emergency medications, maintain appropriate facilities and have equipment on site for immediate use as follows: (4-7-11)

a. A nitrous oxide delivery system with a fail-safe system that is appropriately checked and calibrated. The equipment must also have either: (4-7-11)

i. A functioning device that prohibits the delivery of less than thirty percent (30%) oxygen; or (4-7-11)

ii. An appropriately calibrated and functioning in-line oxygen analyzer with audible alarm; and (4-7-11)

b. An appropriate scavenging system must be available; and (4-7-11)

c. A positive-pressure oxygen delivery system suitable for the patient being treated. (4-7-11)

03. **Personnel.** For nitrous oxide/oxygen administration, personnel shall include: (4-7-11)

a. An operator; and (4-11-06)

b. An assistant currently certified in Basic Life Support for Healthcare Providers. (4-7-11)

c. Auxiliary personnel must have documented training in Basic Life Support for Healthcare Providers, shall have specific assignments, and shall have current knowledge of the emergency cart inventory. The dentist and all office personnel must participate in periodic reviews of office emergency protocol. (4-7-11)

058. -- 059. (RESERVED)

060. MODERATE SEDATION (RULE 60).

Dentists licensed in the state of Idaho cannot administer moderate sedation in the practice of dentistry unless they have obtained the proper moderate sedation permit from the Idaho State Board of Dentistry. A moderate sedation permit may be either enteral or parenteral. A moderate enteral sedation permit authorizes dentists to administer moderate sedation by either enteral or combination inhalation-enteral routes of administration. A moderate parenteral sedation permit authorizes a dentist to administer moderate sedation by any route of administration. A dentist shall not administer moderate sedation to children under sixteen (16) years of age and one hundred (100) pounds unless they have qualified for and been issued a moderate parenteral sedation permit. (3-29-12)

01. **Requirements for a Moderate Enteral Sedation Permit.** To qualify for a moderate enteral sedation permit, a dentist applying for a permit shall provide proof that the dentist has completed training in the administration of moderate sedation to a level consistent with that prescribed in the American Dental Association's "Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students," as incorporated in Section 004 in these rules. The five (5) year requirement regarding the required training for a moderate enteral sedation permit

shall not be applicable to applicants who hold an equivalent permit in another state which has been in effect for the twelve (12) month period immediately prior to the application date. To obtain a moderate enteral sedation permit, a dentist must provide certification of the following: (4-7-11)

a. Completion of an American Dental Association accredited or Board of Dentistry approved post-doctoral training program within five (5) years of the date of application for a moderate enteral sedation permit that included documented training of a minimum of twenty-four (24) hours of instruction plus management of at least ten (10) adult case experiences by the enteral and/or enteral-nitrous oxide/oxygen route. These ten (10) cases must include at least three live clinical dental experiences managed by participants in groups no larger than five (5). The remaining cases may include simulations and/or video presentations, but must include one experience in returning a patient from deep to moderate sedation; and (4-7-11)

b. Proof of current certification of Advanced Cardiac Life Support or its equivalent. (4-7-11)

02. **Requirements for a Moderate Parenteral Sedation Permit.** To qualify for a moderate parenteral sedation permit, a dentist applying for a permit shall provide proof that the dentist has completed training in the administration of moderate parenteral sedation as prescribed in the American Dental Association's "Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students," as incorporated in Section 004 of these rules within the five (5) year period immediately prior to the date of application for a moderate parenteral sedation permit. The five (5) year requirement shall not be applicable to applicants who hold an equivalent permit in another state which has been in effect for the twelve (12) month period immediately prior to the date of application. The training program shall: (4-7-11)

a. Be sponsored by or affiliated with a dental school accredited by the Commission on Dental Accreditation of the American Dental Association or a teaching hospital or facility approved by the Board of Dentistry; and (4-5-00)

b. Consist of a minimum of sixty (60) hours of instruction, plus management of at least twenty (20) patients by the intravenous route; and (4-7-11)

c. Include the issuance of a certificate of successful completion that indicates the type, number of hours, and length of training received. (3-18-99)

d. In addition, the dentist must maintain current certification in Advanced Cardiac Life Support or its equivalent. (4-7-11)

03. **General Requirements for Moderate Enteral and Moderate Parenteral Sedation Permits.** (4-7-11)

a. Facility Requirements. The dentist must have a properly equipped facility for the administration of moderate sedation. The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of moderate sedation and providing the equipment, drugs and protocol for patient rescue. Evaluators appointed by the Idaho State Board of Dentistry will periodically assess the adequacy of the facility and competence of the anesthesia team. The Board adopts the standards incorporated by reference in Section 004.01.c. and Section 004.01.d. of these rules as set forth by the American Dental Association. (4-7-11)

b. Personnel. For moderate sedation, the minimum number of personnel shall be two (2) including: (4-7-11)

i. The operator; and (10-1-87)

ii. An assistant currently certified in Basic Life Support for Healthcare Providers. (4-7-11)

iii. Auxiliary personnel must have documented training in basic life support for healthcare providers, shall have specific assignments, and shall have current knowledge of the emergency cart inventory. The practitioner and all office personnel must participate in documented periodic reviews of office emergency protocol, including

simulated exercises, to assure proper equipment function and staff interaction. (4-7-11)

c. Permit Renewal. Renewal of the permit will be required every five (5) years. Proof of a minimum of twenty-five (25) credit hours continuing education in moderate sedation which may include training in medical/ office emergencies will be required to renew a permit. A fee shall be assessed to cover administrative costs. (4-7-11)

d. Reinstatement. A dentist may make application for the reinstatement of an expired or surrendered permit issued by the Board under this rule within five (5) years of the date of the permit's expiration or surrender. Applicants for reinstatement of a permit shall satisfy the facility and personnel requirements of this rule and shall be required to verify that they have obtained an average of five (5) credit hours of continuing education in moderate sedation for each year subsequent to the date upon which the permit expired or was surrendered. A fee for reinstatement shall be assessed to cover administrative costs. (4-7-11)

061. GENERAL ANESTHESIA AND DEEP SEDATION (RULE 61).
Dentists licensed in the state of Idaho cannot use general anesthesia or deep sedation in the practice of dentistry unless they have obtained the proper permit from the Idaho State Board of Dentistry by conforming with the following conditions: (4-7-11)

01. **General Requirements**. A dentist applying for a permit to administer general anesthesia or deep sedation shall provide proof that the dentist: (4-7-11)

a. Has completed an advanced education program accredited by the ADA Commission on Dental Accreditation that affords comprehensive and appropriate training necessary to administer and manage deep sedation or general anesthesia, commensurate with Part IV.C of the American Dental Association's "Guidelines for the Use of Sedation and General Anesthesia by Dentists" within the five (5) year period immediately prior to the date of application for a permit. The five (5) year requirement shall not be applicable to applicants who hold an equivalent permit in another state which has been in effect for the twelve (12) month period immediately prior to the date of application; and (4-7-11)

b. Current Certification in Advanced Cardiac Life Support or its equivalent; and (4-7-11)

c. Has an established protocol or admission to a recognized hospital. (3-18-99)

02. **Facility Requirements**. The dentist must have a properly equipped facility for the administration of general anesthesia or deep sedation. The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of general anesthesia or deep sedation and providing the equipment, drugs and protocol for patient rescue. Evaluators appointed by the Idaho State Board of Dentistry will periodically assess the adequacy of the facility and competence of the anesthesia team. The Board adopts the standards incorporated by reference in Section 004 of these rules, as set forth by the American Association of Oral and Maxillofacial Surgeons in their office anesthesia evaluation manual. (4-7-11)

03. **Personnel**. For general anesthesia or deep sedation, the minimum number of personnel shall be three (3) including: (4-7-11)

a. A qualified operator to direct the sedation as specified in Section 061 of this rule; and (4-7-11)

b. Two (2) additional individuals who have current certification in Basic Life Support for the Healthcare Provider. (4-7-11)

c. When the same individual administering the deep sedation or general anesthesia is performing the dental procedure, one (1) of the additional appropriately trained team members must be designated for patient monitoring. (4-7-11)

04. **Moderate Sedation**. A dentist holding a permit to administer general anesthesia or deep sedation under this rule may also administer moderate sedation. (4-7-11)

05. **Permit Renewal**. Renewal of the permit will be required every five (5) years. Proof of a minimum

of twenty-five (25) credit hours of continuing education in general anesthesia or deep sedation and proof of current certification in Advance Cardiac Life Support will be required to renew a permit. A fee shall be assessed to cover administrative costs. (4-7-11)

06. **Reinstatement**. A dentist may make application for the reinstatement of an expired or surrendered permit issued by the Board under this rule within five (5) years of the date of the permit's expiration or surrender. Applicants for reinstatement of a permit shall satisfy the facility and personnel requirements of this rule and shall be required to verify that they have obtained an average of five (5) credit hours of continuing education in general anesthesia or deep sedation for each year subsequent to the date upon which the permit expired or was surrendered. A fee for reinstatement shall be assessed to cover administrative costs. (4-7-11)

062. USE OF OTHER ANESTHESIA PERSONNEL (RULE 62).
A dentist who does not hold an anesthesia permit may perform dental procedures in a dental office on a patient who receives anesthesia induced by an anesthesiologist, a certified registered nurse anesthetist (CRNA), or another dentist with an anesthesia permit as follows: (3-29-10)

01. **Personnel and Equipment Requirements**. The dentist shall have the same personnel, facilities, equipment, and drugs available during the procedure and during recovery as required of a dentist who has a permit for the level of anesthesia being provided. (3-29-10)

02. **Patient's Condition Monitored Until Discharge**. The qualified anesthesia provider who induces anesthesia shall monitor the patient's condition until the patient is discharged and record the patient's condition at discharge in the patient's dental record as required by the rules applicable to the level of anesthesia being induced. The anesthesia record shall be maintained in the patient's dental record and is the responsibility of the dentist who is performing the dental procedures. (3-29-10)

03. **Use of Services of a Qualified Anesthesia Provider**. A dentist who intends to use the services of a qualified anesthesia provider shall notify the Board in writing of his intent. Such notification need only be submitted once every licensing period. (3-29-10)

04. **Advertising**. A dentist who intends to use the services of a qualified anesthesia provider may advertise the service provided so long as each such advertisement contains a prominent disclaimer that the service "will be provided by a qualified anesthesia provider." (3-29-10)

063. INCIDENT REPORTING (RULE 63).
Dentists shall report to the Board, in writing, within seven (7) days after the death or transport to a hospital or emergency center for medical treatment for a period exceeding twenty-four (24) hours of any patient to whom sedation was administered. (4-7-11)

064. SUSPENSION, REVOCATION OR RESTRICTION OF ANESTHESIA PERMIT (RULE 64).
The Board may, at any time and for just cause, institute proceedings to revoke, suspend, or otherwise restrict an anesthesia a permit issued pursuant to Sections 060 and 061 of these rules. If the Board determines that emergency action is necessary to protect the public, summary suspension may be ordered pending further proceedings. Proceedings to suspend, revoke or restrict a permit shall be subject to applicable statutes and rules governing administrative procedures before the Board. (3-18-99)

065. DETERMINATION OF DEGREE OF SEDATION BY THE BOARD (RULE 65).
In any matter under review or in any proceeding being conducted in which the Board must determine the degree of sedation or level of consciousness of a patient, the Board may base its findings or conclusions on, among other matters, The following: (4-11-06)

01. **Medication and Dosage**. The type and dosage of medication(s) that was administered to the patient as well as the route of administration of the medication(s); and (4-11-06)

02. **Expected Results**. The result that can reasonably be expected from the medication(s) administered when considering the physical and psychological status of the patient. (4-11-06)

066. -- 999. (RESERVED)

Subject Index

A

Advertising 14
- General Advertising Provisions 14
- Prohibited Advertising 14
- Specialty Advertising 15

Applications 4

C

Continuing Education for Dental Hygienists 16
- Documentation 16
- Requirements for Renewal of an Active Status Dental Hygiene License 16
- Requirements for Renewal of an Extended Access Dental Hygiene License Endorsement 16

Continuing Education for Dentists 15
- Documentation 16
- Requirements 15

D

Definitions 17
- Methods of Anxiety & Pain Control 17
- Routes of Administration 18
- Sedation Terms 17

Dental Assistants - Practice 9
- Curriculum Approval 11
- Direct Supervision 9
- Expanded Functions Qualifications 11
- Other Credentials 11
- Prohibited Duties 10

Dental Hygiene Licensure By Credentials 6
- Cardiopulmonary Resuscitation 6
- Graduation 6
- Interview 6
- Local Anesthesia 6
- National Board Examination 6
- Provisional License 6

Dental Hygienists - License Endorsements 7
- Extended Access Dental Hygiene Endorsement 7
- Extended Access Dental Hygiene Restorative Endorsement 7
- Renewal 7

Dental Hygienists - Practice 8
- Direct Supervision 8
- General Supervision 8
- Indirect Supervision 8

Dental Hygienists - Prohibited Practice 9
- Prohibited Duties 9

Determination Of Degree Of Sedation By The Board 22
- Expected Results 22
- Medication & Dosage 22

E

Examination For Dental Hygiene Licenses 5
- Clinical Examination 5
- Written Examination 5

Examination For General Dental Licenses 5
- Clinical Examination 5
- Written Examination 5

Examinations 4

F

Fees -- General 5

G

General Anesthesia & Deep Sedation 21
- Facility Requirements 21
- General Requirements 21
- Moderate Sedation 21
- Permit Renewal 21
- Personnel 21
- Reinstatement 22

I

Incident Reporting 22

L

License & Application Fees 4
- Application Fees for Dental Hygienists 4
- Application Fees for Dentists 4
- Application Fees for General Anesthesia & Moderate Sedation Permits 5
- Biennial License Fees for Dentists 4
- Biennial License Fees for Hygienists 4

Licensure Of Dental Specialists 13
- Application 14
- Examination 14
- Limitation of Practice 14
- Requirements for Specialty Licensure 13

Local Anesthesia 18

M

Minimal Sedation 18
- Patient Safety 18
- Personnel 18

Moderate Sedation 19
- General Requirements for Moderate Enteral & Moderate Parenteral Sedation Permits 20
- Requirements for a Moderate Enteral Sedation Permit 19
- Requirements for a Moderate Parenteral Sedation Permit 20

N

Nitrous Oxide/Oxygen 18, 19
- Patient Safety 19
- Required Facilities & Equipment 19

P

Provisional License, Provisional Licensure 6

Provisional Licensure 6
- Active Practice 6
- Additional 6
- Current Licensure 6
- Evidence 6

R

Requirement For CPR 5

Requirements For Dental Hygiene Licensure 5

Requirements For Dental Licensure 5

S

Suspension, Revocation Or Restriction Of Anesthesia Permit 22

U

Unlawful Practice, Unprofessional Conduct 12

Unprofessional Conduct 11
- Abandonment of Patients 12
- Altering Records 12
- Compliance With Dental Hygienist Professional Standards 13
- Compliance With Dentist Professional Standards 13
- Consent 13
- Controlled Substances 12

- Delegating Duties 13
- Discipline in Other States 12
- Disclosure 13
- Dividing Fees 12
- Exploiting Patients 13
- Fraud 12
- Harassment 12
- Legal Compliance 13
- Mental or Physical Illness 12
- Misrepresentation 13
- Office Conditions 12
- Patient Management 13
- Scope of Practice 13
- Sexual Misconduct 13
- Supervision 13
- Unauthorized Treatment 13
- Unlicensed Practice 12
- Use of Intoxicants 12

Use Of Other Anesthesia Personnel 22
- Advertisement 22
- Patient's Condition Monitored Until Discharge 22
- Personnel and Equipment Requirements 22
- Use of Services of a Qualified Anesthesia Provider 22

V

Volunteer Dental Hygiene Services 6
- Dental Hygiene Services Performed 6
- Extended Access Oral Health Care Program 6
- Volunteer Time Limit 7
- Volunteers 7

LOUISIANA REVISED STATUTE

37§793. Nitrous oxide inhalation analgesia; enteral conscious sedation; parenteral sedation; deep sedation; general anesthesia; definitions; permits; credentials; reporting; fees; limitations; exceptions

A. As used in this Section, the following terms have the meanings ascribed to them unless the context clearly indicates otherwise:

(1) "Analgesia" is the diminution or elimination of pain in the conscious patient.

(2) "Anxiolysis" is the reduction or elimination of anxiety through the perioperative use of medication before or during a dental procedure that produces a minimally depressed level of consciousness and maintains the patient's ability to maintain an airway independently and to respond appropriately to physical and verbal stimulation.

(3) "Board" is the Louisiana State Board of Dentistry.

(4) "Conscious patient" is a patient who has intact protective reflexes, including the ability to maintain an airway, and who is capable of rational response to question or command.

(5) "Conscious sedation" is a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation or verbal command and that is produced by pharmacologic or non-pharmacologic method or a combination thereof. In accordance with this definition, the drugs and techniques used should carry a margin of safety wide enough to render unintended loss of consciousness unlikely. Furthermore, patients who are sleeping and whose only response is reflex withdrawal from painful stimuli would not be considered to be in a state of conscious sedation, but rather a state of deeper sedation.

(6) "Deep sedation" is a controlled state of depressed consciousness accompanied by partial loss of protective reflexes, including the inability to continually maintain an airway independently and/or to respond appropriately to physical stimulation or verbal command, and is produced by a pharmacologic or non-pharmacologic method or combination thereof.

(7) "General anesthesia" is a controlled state of unconsciousness accompanied by partial or complete loss of protective reflexes, including inability to independently maintain an airway and respond purposefully to physical stimulation or verbal command, and is produced by a pharmacologic or non-pharmacologic method or a combination thereof.

(8) "Local anesthesia" is the elimination of sensations, especially pain, in one part of the body by the topical application or regional injection of a drug.

B. The following terms describing routes of administration shall have the meanings ascribed to them unless the context clearly indicates otherwise:

(1) "Combined conscious sedation" is any means of obtaining conscious sedation utilizing both inhalation analgesia and either an enteral or parenteral conscious sedation technique.

(2) "Enteral" is any technique of drug administration in which the drug is absorbed through the gastrointestinal (GI) tract or oral mucosa. Examples are oral, rectal, and sublingual.

(3) "Inhalation" is a technique of drug administration in which a gaseous or volatile agent is introduced into the pulmonary tree and whose primary effect is due to absorption through the pulmonary bed. An example is nitrous oxide-oxygen inhalation sedation.

(4) "Parenteral" is any technique of drug administration in which the drug bypasses the gastrointestinal (GI) tract. Examples are intramuscular (IM), intravenous (IV), intranasal (IN), submucosal (SM), subcutaneous (SC).

(5) A dental hygienist who administers nitrous oxide inhalation analgesia in a dental practice shall receive a personal permit from the board and shall be in compliance with board rules and regulations which shall include educational requirements.

C. (1) When nitrous oxide inhalation analgesia, enteral conscious sedation, parenteral conscious sedation, deep sedation, or general anesthesia are used in a dental practice, board authorization shall be obtained in compliance with board rules and regulations to insure that these procedures are performed in a properly staffed, designed, and equipped facility capable of handling procedure, problems, and emergency incidents thereto for the level of anesthesia administered. Adequacy of the facility and competence of the anesthesia team shall be determined by the board through the use of qualified anesthesia consultants.

(2) A dentist who administers nitrous oxide inhalation analgesia, enteral conscious sedation, parenteral conscious sedation, deep sedation, or general anesthesia in a dental practice shall receive a personal permit from the board for the deepest level of anesthesia/analgesia to be administered and shall be in compliance with board rules and regulations.

(3) When nitrous oxide inhalation analgesia, enteral conscious sedation, parenteral conscious sedation, deep sedation, or general anesthesia is administered in any dental office or facility, each office shall receive an office permit from the board for the deepest level of anesthesia/analgesia to be administered and must be in compliance with board rules and regulations.

(6) It has been determined that the perioperative titration of enteral medications with the intent to achieve a level of conscious sedation poses a potential overdosing threat due to the unpredictability of enteral absorption and may result in an alteration of the state of consciousness of a patient beyond the intent of the practitioner. Such potentially adverse consequences may require immediate intervention and appropriate training and equipment. No dentist licensed in Louisiana shall use any enteral medications to induce conscious sedation unless such dentist has obtained a permit as required by the provisions of the Dental Practice Act, R.S. 37:751 through 795. The use of enteral sedatives or narcotic analgesic medications within the maximum recommended dose (m.r.d.) for the purpose of providing anxiolysis shall not be deemed titration of enteral medication and shall not be prohibited by the Dental Practice Act.

(7) Permits shall not be required for the induction of anxiolysis on a patient in a dental practice. This shall include the administration of an enteral sedative, narcotic analgesic medication, or both, administered in doses appropriate for the unsupervised treatment of anxiety. Except in extremely unusual circumstances, the cumulative dose shall not exceed the m.r.d. as per the manufacturer's recommendation. It is understood that even at

appropriate doses, a patient may occasionally drift into a state that is deeper than anxiolysis. As long as the intent was anxiolysis and all of the above guidelines were observed, this shall not automatically constitute a violation. A permit shall not be required for the perioperative use of medication for the purpose of providing anxiolysis. For a patient under the age of thirteen, the administration of more than one agent of any type, including nitrous oxide, shall be considered conscious sedation, not anxiolysis, and shall require a conscious sedation permit.

D. The applicant shall comply with the board's rules and shall furnish the board with qualifying documents that substantiate his credentials relative to the permit requested.

E. (1) Each licensed dentist or dental hygienist in the practice of dentistry or dental hygiene in this state shall submit a written report within a period of ten days to the board of any mortality or other incident which results in temporary or permanent physical or mental injury to a patient requiring hospitalization of the patient during or as a result of administration by the dentist or dental hygienist of local anesthesia, enteral sedation, nitrous oxide inhalation analgesia, parenteral conscious sedation, deep sedation, or general anesthesia.

(2) The report shall include detailed information pertaining to the following:

(a) Description of dental procedure.

(b) Description of pre-operative physical condition of patient.

(c) A description of all drugs and dosages administered.

(d) Detailed description of techniques utilized in administering the drugs given.

(e) Description of adverse occurrence which shall include:

(i) Description in detail of the symptoms of any complications including but not limited to onset and type of symptoms in patient.

(ii) Treatment instituted on the patient.

(iii) Response of the patient to the treatment.

(f) Description of the patient's condition on termination of any procedures undertaken.

(3) Failure to comply with the required reporting procedures stipulated herein may result in disciplinary action by the board. The information from a dentist or dental hygienist required under this Subsection may be a prerequisite for the issuance or renewal of his license or permit to practice dentistry or dental hygiene.

F. An initial authorization permit fee shall be charged, and an annual renewal fee may be charged by the board for each dentist and dental hygienist and facility making an application under this Section as set forth in the board's rules. Such fees shall be due and payable to the board at the same time as license renewal as provided for in R.S. 37:770 and 795.

G. The authority for the administration of anesthetic and sedative agents as described in this Section shall be limited as follows:

(1) The administration of enteral conscious sedation, parenteral conscious sedation, deep sedation, and general anesthesia shall be limited to qualified dentists licensed by the board for use on dental patients.

(2) The administration of nitrous oxide inhalation analgesia shall be limited to qualified dentists and dental hygienists licensed by the board for use on dental patients. Dental hygienists shall administer nitrous oxide inhalation analgesia only under the direct supervision of a dentist licensed by the Louisiana State Board of Dentistry to whom the board has issued a permit to administer nitrous oxide inhalation analgesia.

H. (1) The office permit is not required when the facility is part of a hospital or an outpatient surgical center which meets or exceeds the requirements set forth in Louisiana Administrative Code (Title 46-Professional and Occupational Standards-Part XXXIII Dental Health Professions:), Chapter 15. The reporting requirements of Subsection E of this Section shall apply to those practicing in a facility exempt from the office permit requirement.

(2) A personal permit is not required when the dentist uses the services of a trained medical doctor, doctor of osteopathy trained in conscious sedation with parenteral drugs, certified registered nurse anesthetist, a dentist who has successfully completed a program consistent with Part II of the American Dental Association Guidelines on Teaching the Comprehensive Control of Pain and Anxiety in Dentistry, or a qualified oral and maxillofacial surgeon provided that the doctor or certified registered nurse anesthetist remains on the premises of the dental facility until any patient given parenteral drugs is sufficiently recovered. However, when the requirement for obtaining a personal permit is waived by the board under the provisions of this Chapter with regard to the utilization of a medical doctor or certified registered nurse anesthetist, the dentist may only utilize the services of a medical doctor or certified registered nurse anesthetist determined by the board to be in compliance with the board's requirements for the administration of anesthesia in said dental facility following the initial inspection in relation to the application and equipment of the provider of anesthesia.

I. The board reserves the right to inspect the facilities and/or assess the personnel covered under this Section. This inspection/assessment shall be conducted by a qualified person or committee duly appointed by the board. Such inspection and/or assessment may occur when a permit is requested or has been issued in accordance with the board's rules.

LOUISIANA ADMINISTRATIVE CODE-BOARD RULES

Chapter 15. Anesthesia/Analgesia Administration

§1501. Scope of Chapter

A. The rules of this Chapter govern the administration of anesthesia/analgesia by persons licensed to practice dentistry in the state of Louisiana to dental patients. The rules of this Chapter are promulgated in order to supplement the provisions of the Dental Practice Act, R.S. 37:751 et seq., particularly R.S. 37:793.

AUTHORITY NOTE: Promulgated in accordance with R.S. 37:760(8).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 20:658 (June 1994).

§1503. Nitrous Oxide Inhalation Analgesia

A. No dentist shall use nitrous oxide inhalation analgesia unless said dentist has received authorization by the board evidenced by receipt of a permit from the board.

B. In order to receive authorization the dentist must show and produce evidence that he/she complies with the following provisions:

1. completion of a board-approved course which conforms to American Dental Association guidelines; and

2. provide proof of current certification in cardiopulmonary resuscitation, Course "C", Basic Life Support for the Health Care Provider as defined by the American Heart Association, or its equivalent.

AUTHORITY NOTE: Promulgated in accordance with R.S. 37:760(8).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 20:658 (June 1994).

§1505. Conscious Sedation with Parenteral Drugs

A. The board shall issue two types of conscious sedation with parenteral drugs permits.

1. A "limited" permit will be issued to those dentists who qualify for such permit by meeting the minimal educational requirements specified in §1509. This permit will be limited to the administration of parenteral drugs via intramuscular (IM), submucosal (SM), intranasal (IN), and subcutaneous (SC) routes only.

2. A "full" permit will be issued to those dentists who qualify for such permit by meeting all minimal educational requirements specified in §1509.

B. In order to receive authorization the dentist must show and produce evidence that he/she complies with the following provisions:

1. completion of an advanced training program beyond the pre-doctoral dental school level accredited by the Commission on Dental Accreditation of the American Dental Association which includes anesthesiology and related academic subjects as required in §1505 of this Chapter; or

2. utilization of the services of a trained medical doctor, doctor of osteopathy trained in conscious sedation with parenteral drugs, certified registered nurse anesthetist, a dentist who has successfully completed a program consistent with Part II of the American Dental Association Guidelines on Teaching the Comprehensive Control of Pain and Anxiety in Dentistry, or a qualified oral and maxillofacial surgeon provided that said doctor or certified registered nurse anesthetist must remain on the premises of the dental facility until any patient given parenteral drugs is sufficiently recovered; or

3. successful completion of a board-approved continuing education course as described in Part III of the American Dental Association Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry provided the applicant has held a license to practice dentistry for a minimum of three years. The board has determined that 80 hours of clinical airway management would be a minimum to achieve competency as described in Part III of the previously mentioned guidelines.

C. In addition to the requirements of Subsection B of this Part the dentist must provide proof of current certification in cardiopulmonary resuscitation, course "Advanced Cardiac Life Support" as defined by the American Heart Association, or its equivalent.

D. Provide proof of current certification in Pediatric Advanced Life Support (PALS) when administering sedation to patients under the age of 13.

AUTHORITY NOTE: Promulgated in accordance with R.S. 37:760(8).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 20:659 (June 1994), amended LR 22:1216 (December 1996), LR 33:2653 (December 2007).

§1506. Conscious Sedation with Enteral Drugs

A. In order to administer enteral conscious sedation, the dentist shall:

1. comply with all requirements of this Chapter;

2. utilize a working pulse oximeter on patients;

3. maintain a proper record keeping mechanism in addition to a controlled substance log;

4. utilize an accurate scale on pediatric patients (anyone under the age of 13).

B. Drugs for enteral conscious sedation must be administered in a dental office and the patient must be observed by a qualified office staff member with training and credentials to perform the specific tasks concomitant with the procedure being administered. Continuous monitoring with pulse oximetry must be initiated with early signs of conscious sedation and continued until the patient is alert. A precordial, pretracheal stethoscope must be available to assist intraoperatively in the monitoring of heart and respiratory rates. A sphygmomanometer shall be immediately available and utilized as needed throughout the procedure. Drugs for anxiolysis may be administered off premises prior to the dental procedure.

C. For those licensees who have received permits to administer pediatric enteral conscious sedation prior to the effective date of this rule, said licensee shall satisfactorily complete a board approved course in the administration of pediatric enteral conscious sedation before the permit is renewed concurrently with the license renewal. However, a grace period of 180 days after the renewal of one's license shall be granted to the licensee if good cause can be shown that a course was not available.

D. The licensee must provide proof of current certification in cardiopulmonary resuscitation, Course "C," Basic Life Support for the Health Care Provider as defined by the American Heart Association or its equivalent.

E. For adult patients, the licensee must provide proof of current certification in Advanced Cardiac Life Support as defined by the American Heart Association or it's equivalent. For pediatric patients, the licensee must provide proof of current certification in Pediatric Life Support (PALS), or its equivalent.

AUTHORITY NOTE: Promulgated in accordance with R.S. 37:760 (8) and R.S. 37:793
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 30:2306 (October 2004), amended LR 32:244 (February 2006), LR 33:847 (May 2007), LR 33:2653 (December 2007).

§1507. General Anesthesia/Deep Sedation

A. When general anesthesia or deep sedation is administered, the provisions of this Subsection apply:

1. no dentist shall administer general anesthesia or deep sedation unless said dentist has received authorization by the board evidenced by receipt of a permit from the board;

2. in order to receive authorization the dentist must show and produce evidence that he complies with the following provisions:

a. completion of an oral and maxillofacial surgery training program accredited by the Commission on Dental Accreditation of the American Dental Association which includes anesthesiology and related academic subjects as required in §1509 of this Chapter; or successful completion of a program which complies with Part II of the American Dental Association Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dental Education at the Advanced level;

b. provide proof of current certification in the cardiopulmonary resuscitation course "Advanced Cardiac Life Support" as defined by the American Heart Association, or its equivalent;

c. provide proof of current certification in Pediatric Advanced Life Support (PALS) when administering sedation to patients under the age of 13.

AUTHORITY NOTE: Promulgated in accordance with R.S. 37:760(8).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 20:659 (June 1994), amended LR 32:2057 (November 2006), LR 33:2653 (December 2007).

§1508. Oral Administration of Versed

A. Oral Administration of Versed shall be performed on the dental premises only. Prescriptions for oral Versed intended for at-home pre-medication is prohibited. Further, all dental offices where oral Versed is administered shall be in compliance with LAC 46:XXXIII.1511 "Required Facilities, Personnel and Equipment for Sedation Procedures" as it pertains to the administration of general anesthesia/deep sedation.

AUTHORITY NOTE: Promulgated in accordance with R. S. 37:760(8) and R.S. 37:793.

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 26:488 (March 2000).

§1509. Minimal Educational Requirements for the Granting of Permits to Administer Nitrous Oxide Inhalation Analgesia, Conscious Sedation with Parenteral Drugs and General Anesthesia/Deep Sedation

A. Nitrous Oxide Inhalation Analgesia

1. To be permitted, the applicant must have successfully completed courses prescribed by the faculty of a dental school which would demonstrate mastery of scientific knowledge pertaining to use thereof and have documented a minimum of six successful cases of induction and recovery; or

2. at the post-doctoral level, the applicant must have successfully completed a continuing education course which includes a minimum of 14 hours, including a clinical component during which competency in nitrous oxide inhalation analgesia techniques are demonstrated;

3. a dentist who has been trained to administer nitrous oxide inhalation analgesia in a dental school approved by the American Dental Association or a course accepted by the Louisiana State Board of Dentistry and has been administering nitrous oxide inhalation analgesia in another state without any disciplinary or malpractice action being taken against him regarding the administration of anesthesia may be permitted to administer same in the state of Louisiana by providing documentation of experience in the previous two years, and by gaining approval of the board.

B. Conscious Sedation with Parenteral Drugs

1. To be granted a "limited" permit, the applicant must submit verification of formal post-doctoral training in the use of parenteral drugs via the intramuscular (IM), submucosal (SM), intranasal (IN), and subcutaneous (SC) routes of administration and competency to handle all emergencies relating to parenteral sedation providing such program consists of a minimum of 60 hours of instruction and 100 hours of clinical experience which includes at least 10 documented cases of parenteral sedation.

2. To be granted a "full" permit, the applicant must submit verification of formal post-doctoral training in the use of parental drugs via the intramuscular (IM), submucosal (SM), intranasal (IN), subcutaneous (SC), and conscious IV sedation routes of administration and competency to handle all emergencies relating to parenteral sedation providing such program consists of a minimum of 60 hours of instruction and 100 hours of clinical experience which includes at least 20 documented cases of parenteral sedation.

C. Conscious Sedation with Enteral Drugs

1. To be granted an unrestricted (adults and children) permit to administer conscious sedation with enteral drugs, the applicant must submit verification of formal post-doctoral training in the use of enteral conscious sedation on both pediatric and adult patients or satisfactory completion of a board approved course which includes a minimum of 16 hours of didactic training and a component on handling emergencies incident to the administration of conscious sedation.

2. To be granted a restricted permit (adults only) to administer conscious sedation with enteral drugs, the applicant must submit verification of formal post-doctoral training in the use of enteral conscious sedation on adult patients or satisfactory completion of a board approved course which includes a minimum of 8 hours of didactic training and a component on handling emergencies incident to the administration of conscious sedation.

D. Deep Sedation and General Anesthesia. Successful completion of an American Dental Association accredited program in oral and maxillofacial surgery or a program which meets or exceeds the specifications outlined in Part II of the Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry adopted by the American Dental Association.

AUTHORITY NOTE: Promulgated in accordance with R.S. 37:760(8).

HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 20:659 (June 1994), amended LR 22:1216 (December 1996), LR 32:244 (February 2006), LR 37:590 (February 2011), LR 37:2151 (July 2011).

§1511. Required Facilities, Personnel and Equipment for Sedation Procedures

A. The following are minimum requirements for facilities and equipment that must be available for use with sedation procedures.

1. The dental operatory where sedation procedures are performed must be large enough to accommodate the patient adequately on a dental chair and to permit an operating team consisting of three individuals to move about the patient.

2. The dental chair must permit the patient to be positioned so that the operating team can maintain the airway, quickly alter the patient position in an emergency, and provide a firm platform for performing cardiopulmonary resuscitation should it become necessary.

3. There must be a lighting system which is adequate to permit evaluation of the patient's skin and mucosal color.

4. There must be suction equipment which permits aspiration of the oral and pharyngeal cavities. A back-up suction device which can operate at the time of a general power failure must be available.

5. There must be an oxygen delivery system with adequate full-face masks and appropriate connectors capable of delivering a positive pressure oxygen supply to the patient.

6. Nitrous oxide equipment should:

a. conform to all requirements as established by the Council on Dental Materials and Devices of the American Dental Association;

b. provide a maximum of 100 percent and never less than 20 percent oxygen concentration at appropriate flow rates;

c. have a functional fail-safe system;

d. utilize a scavenger system in working condition;

e. be free of any obvious leaks, such as those indicated by hissing sounds or poor connections or tears of the delivery tubing or reservoir bag.

7. Ancillary equipment must be available in the operatory where the sedation procedure is being performed, must be maintained in good operating condition, and must include the following:

a. oral airways;

b. tonsillary or pharyngeal-type suction device adaptable to all office outlets;

c. sphygmomanometer of appropriate size for the patient and stethoscope;

d. adequate equipment for the establishment of an intravenous infusion when parenteral sedation procedures are performed;

e. pulse oximeter when parenteral or enteral conscious sedation on a patient is performed.

8. There must be emergency equipment and drugs available in an emergency kit or crash cart which is immediately available to the dental operatory where the sedation procedure is being performed. These kits must include the necessary drugs and equipment to resuscitate a non-breathing unconscious patient and sustain life while the patient is being transported. There should be a list in each kit of the contents and a record of when the contents were checked. The following drugs should be available in the kit:

a. epinephrine;

b. vasopressor;

c. corticosteroid;

d. bronchodilator;

e. appropriate drug antagonists;

f. antihistaminic;

g. anticholinergic;

h. coronary artery vasodilator;

i. anticonvulsant;

j. oxygen;

k. 50 percent dextrose or other antihypoglycemic; and

l. working electrocardiograph and defibrillator when general anesthesia or deep sedation are utilized.

B. Personnel

1. The authorized dentist must insure that every patient receiving nitrous oxide inhalation analgesia, conscious sedation with parenteral drugs, deep sedation or general anesthesia is constantly attended.

2. Direct supervision by the authorized dentist is required when nitrous oxide inhalation analgesia, conscious sedation with parenteral drugs, deep sedation or general anesthesia is being administered.

3. When nitrous oxide inhalation analgesia is being administered, one dentist or auxiliary who is currently certified in basic life support must be available to assist the dentist or dental hygienist in an emergency.

4. When conscious sedation with parenteral or enteral drugs is being administered one auxiliary who is currently certified in basic life support must be available to assist the dentist in an emergency.

5. When deep sedation or general anesthesia is being administered two auxiliaries who are currently certified in basic life support must be available to assist the dentist in an emergency.

AUTHORITY NOTE: Promulgated in accordance with R.S. 37:760(8).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 20:659 (June 1994), amended LR 32:244 (February 2006), LR 37:1407 (May 2011).

§1513. Exceptions

A. The board, based on formal application stating all particulars which would justify the granting of such anesthesia/analgesia permit, may grant a permit authorizing the utilization of nitrous oxide inhalation analgesia, conscious sedation with parenteral drugs, deep sedation or general anesthesia to those licensed dentists who have been using the requested sedation procedures in a competent and effective manner prior to the effective date of this Chapter, but who have not had the benefit of formal training as required in this Chapter or in R.S. 37:793.

B. The board shall continue to renew the anesthesia/ analgesia permits of dentists possessing such permits at the time these rules become effective provided there have been no disciplinary actions requiring suspensions or revocations of said permits.

AUTHORITY NOTE: Promulgated in accordance with R.S. 37:760(8).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 20:660 (June 1994).

§1515. Hospitals and Outpatient Surgical Centers; Exemption

A. Office permits for the administration of anesthesia are not required when the procedure is being performed in a hospital or outpatient surgical center approved by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).

AUTHORITY NOTE: Promulgated in accordance with R.S. 37:760(8).
HISTORICAL NOTE: Promulgated by the Department of Health and Hospitals, Board of Dentistry, LR 31:927 (April 2005).

The Commonwealth of Massachusetts
Division of Health Professions Licensure
Board of Registration in Dentistry
239 Causeway Street, 5th Floor, Suite 500
Boston, MA 02114
(617) 973-0971
www.mass.gov/dph/boards/dn

Facility Permit D-H

(See 234 CMR 6.08 Effective August 20, 2010)

Facility Requirements for Dental Offices Using Mobile and/or Portable Anesthesia Services

Application Instructions

Each dental facility or practice site utilizing mobile or portable anesthesia services is required to have a Facility Permit D-H. The operating dentist shall be responsible for ensuring that the qualified dental anesthesiologist has the proper individual anesthesia permit and a current facility permit D-P (sec.6.09) issued by the Board, and that the portable anesthesia service is appropriately permitted and equipped in accordance with 234 CMR 6.00 for the level of pain control and/or sedation to be provided.

The operating dentist shall be responsible for ensuring that the qualified dental anesthesiologist has the proper anesthesia permit and that the portable anesthesia service is appropriately permitted for the level of pain control and/or sedation to be provided.

If you already hold a current Facility Permit D for the level of anesthesia you plan to have administered by a Portable Dental Operation, please do not submit this application.

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Boston, MA 02114
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www.mass.gov/dph/boards/dn

If you already hold a current Facility Permit D for the level of anesthesia you plan to have administered by a Portable Dental Operation, please do not submit this application.

Application -Facility Permit D-H

1. APPLICANT NAME _____ MA DN Lic. # _____
   Last First MI

2. FACILITY ADDRESS: _____
   No. Street Unit #
   _____
   City/Town State Zip Code

3. BUSINESS NAME/DOING BUSINESS AS: _____

4. TELEPHONE NUMBER-DAY: _____ CELL: _____ FAX: _____

5. EMAIL ADDRESS: _____

6. **PRACTICE OWNER** (if different from applicant)

Name: _____ MA Dental Lic. # _____

Telephone: _____ Email: _____

7. **FACILITY DENTAL DIRECTOR** (if applicable – see 234 CMR 5.02 (3))

Name: _____ MA Dental Lic. # _____

Telephone: _____ Email: _____

8. **TYPES OF ANESTHESIA**

TYPE(S) OF ANESTHESIA AND/OR SEDATION TO BE ADMINISTERED
(Check all that apply.)

Nitrous Oxide- Oxygen Only _____
Nitrous Oxide-Oxygen + Oral Sedative(s) _____
Oral Sedation Only _____
I.V. Sedation _____
General Anesthesia and Deep Sedation _____
Other route of administration: _____

FACILITY PERMIT D-H APPLICATION ATTACHMENTS

- ☐ **Attachment 1**: Personal or business check or money order made payable to THE COMMONWEALTH OF MASSACHUSETTS in the amount of $180. **All fees are nonrefundable and nontransferable.**
- ☐ **Attachment 2**: Required Equipment and Emergency Drugs, as applicable (**see form attached**)
- ☐ **Attachment 3**: Copy of a schedule and log demonstrating the regular inspection of all emergency drugs and equipment for administration of anesthesia at the office site, including the date(s) and name of person who last checked drugs and equipment and the results of the checks, including that of the condition of equipment according to manufacturers' specifications.

APPLICANT ATTESTATION: I _____ HEREBY CERTIFY,
Print Full Name of Applicant

UNDER THE PAINS AND PENALTIES OF PERJURY, THAT:

- ALL INFORMATION PROVIDED IN THIS APPLICATION IS ACCURATE AND TRUE; I HAVE READ AND UNDERSTOOD THE STANDARDS AND REQUIREMENTS FOR FACILITY PERMITS AS PROMULGATED BY THE BOARD ON AUGUST 20, 2010 AT 234.CMR 6.03 AND 6.08
- I READ AND UNDERSTOOD THE REQUIREMENTS FOR ADMINSTRATION OF GENERAL ANESTHESIA, DEEP SEDATION, MODERATE SEDATION, MINIMAL SEDATION AND NITROUS OXIDE-OXYGEN AT 234 CMR 6.11-6:14 AND THAT THE QUALIFIED DENTAL ANESTHESIOLOGIST HAS THE PROPER ANESTHESIA PERMIT AND THAT THE PORTABLE ANESTHESIA SERVICE IS APPROPRIATELY PERMITTED FOR THE LEVEL OF PAIN CONTROL AND/OR SEDATION TO BE PROVIDED FOR THE OFFICE.
- I AM CURRENTLY, AND WILL CONTINUE TO BE, IN COMPLIANCE WITH ALL STATUTES, RULES, AND REGULATIONS PERTAINING TO THE PRACTICE OF DENTISTRY IN THE COMMONWEALTH OF MASSACHUSETTS AS REQUIRED BY LAW.

SIGNATURE OF APPLICANT: _____ DATE: _____

Attachment 2

AT A MINIMUM, A FACILITY THAT HOSTS A MOBILE OR PORTABLE DENTAL ANESTHESIA SERVICE WILL BE REQURED TO HAVE THE FOLLOWING EQUIPMENT AND DRUGS

EQUIPMENT REQUIRED	DATE LAST INSPECTED
Alternative light source for use during power failure	
Ambu-bag or portable bag-mask ventilator	
Automated or manual external defibrillator, including batteries and other components	
Disposable CPR mask (pediatric and adult)	
Disposable syringes (assorted sizes)	
Latex free tourniquet	
Oxygen (portable Cylinder E tank) pediatric and adult masks capable of giving positive pressure ventilation including bag-valve-mask system	
Sphygmomanometer and stethoscope (pediatric and adult)	
Suction	

EMERGENCY DRUGS AND DRUG CLASSIFICATIONS REQUIRED BY 234 CMR 6.08 TO BE PROVIDED AND MAINTAINED AT SITE

REQUIRED DRUGS	NAME OF DRUG	DOSAGE	EXPIRATION DATE
Acetylsalicylic acid (rapidly absorbable form)			
Ammonia inhalants			
Antihistamine			
Bronchodilator			
Epinephrine pre-loaded syringes (pediatric and adult)			
2 Epinephrine ampules			
Oxygen			
Vasodilator			
Vasopressor			

NAME(S) OF DENTIST(S)/ANESTHESIOLOGIST(S) WHO WILL BE ADMINISTERING ANESTHESIA AT THIS FACILITY	LICENSE NUMBER	ANESTHESIA PERMIT NUMBER	ACLS/BLS CERTIFICATION EXPIRATION DATE
Dental Director:			

Attachment 2 (page 2)

NAME(S) OF DENTAL/SURGICAL ASSISTANT(S)	EXPIRATION DATE OF CPR/BLS CERTIFICATION

SIGN AND SEND THIS APPLICATION AND ALL REQUIRED ATTACHMENTS TO:

THE MASSACHUSETTS BOARD OF REGISTRATION IN DENTISTRY

239 CAUSEWAY STREET-SUITE 500, BOSTON, MA 02114

KEEP A COPY OF THIS APPLICATION AND ALL ATTACHMENTS FOR YOUR RECORDS

The Commonwealth of Massachusetts
Division of Health Professions Licensure
Board of Registration in Dentistry
239 Causeway Street, 5th Floor, Suite 500
Boston, MA 02114
(617) 973-0971
www.mass.gov/dph/boards/dn

Facility Permit D-P

(See 234 CMR 6.09 Effective August 20, 2010)

Requirements for the Use and Provision of Portable and/or Mobile Anesthesia Services

Application Instructions

A qualified dentist anesthesiologist who travels to dental facilities or practice sites for the purpose of delivering anesthesia services or sedation services at the site must hold a Mobile Facility D-P Permit for the use of portable and/or mobile anesthesia equipment, supplies and personnel.

- The holder of a Facility Permit D-P shall:
  (a) Comply with requirements of the Board pursuant to 234 CMR 5.05 and the reporting of adverse occurrences, pursuant to 234 CMR 6.17;
  (b) Employ and provide immediate supervision of at least one dental or clinical auxiliary who is trained and qualified to assist in anesthesia administration and who is fully familiar with the procedures and protocols of the permit holder at each site where anesthesia is being administered by said permit holder;
  (c) Schedule and perform maintenance checks of all equipment conducted by a certified equipment vendor at least once per year, and retain maintenance records for a minimum of three years;
  (d) Conduct annual emergency drills for all staff involved in the administration of anesthesia, and retain records that describe the dates of the training activities, content of the training, and the attendance roster for a minimum of three years; and
  (e) Place a copy of the anesthesia chart in the patient's dental record at the site where the anesthesia was administered.
- The Facility Permit D-P, or a copy thereof, shall be prominently displayed in the facility by the qualified dental anesthesiologist whenever and wherever he/she is providing anesthesia services.
- The operating dentist shall be responsible for verifying that the qualified dental anesthesiologist has the proper anesthesia permit and that the portable anesthesia service is appropriately permitted for the level of pain control and/or sedation to be provided.
- The qualified dental anesthesiologist shall be responsible for verifying that the operating dentist and his/her clinical staff maintain current certification in ACLS or BLS for Healthcare Providers, as applicable given the type of anesthesia being administered.
- There shall be a written and signed agreement between the Facility Permit D-P applicant and the operating dentist for each site where anesthesia is to be administered by the Facility Permit D-P holder which, at a minimum describes how emergency response training and protocols will be developed and practiced, procedures for verifying qualifications of personnel who assist in the care and monitoring of the patient, responsibilities for pre- and post- operative patient assessment and monitoring, responsibilities for obtaining informed consent, and how compliance with applicable board statutes and regulations will be achieved and maintained at the site.

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Division of Health Professions Licensure
Board of Registration in Dentistry
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Boston, MA 02114
(617)973-0971
www.mass.gov/dph/boards/dn

Application -Facility Permit D-P

1. APPLICANT NAME _____ MA DN Lic. # _____
Last First MI

2. BUSINESS ADDRESS: _____
No. Street Unit #
_____
City/Town State Zip Code

3. BUSINESS NAME/DOING BUSINESS AS: _____

4. TELEPHONE NUMBER-DAY: _____ CELL: _____ FAX: _____

5. EMAIL ADDRESS: _____

6. **PRACTICE OWNER** (if different from applicant)

Name: _____ MA Dental Lic. # _____

Telephone: _____ Email: _____

7. **TYPES OF ANESTHESIA**

TYPE(S) OF ANESTHESIA AND/OR SEDATION TO BE ADMINISTERED (Check all that apply.)

Nitrous Oxide- Oxygen Only _____
Nitrous Oxide-Oxygen + Oral Sedative(s) ____
Oral Sedation Only _____
I.V. Sedation _____
General Anesthesia and Deep Sedation _____
Other route of administration: _____

FACILITY PERMIT D-P APPLICATION ATTACHMENTS

- ☐ **Attachment 1**: Personal or business check or money order made payable to THE COMMONWEALTH OF MASSACHUSETTS in the amount of $180. **All fees are nonrefundable and nontransferable.**
- ☐ **Attachment 2**: Required Equipment and Emergency Drugs (**see form attached**)
- ☐ **Attachment 3**: Copy of current ACLS or PALS or BLS certificates for all individuals administering or assisting with anesthesia
- ☐ **Attachment 4**: Copy of medical history form.
- ☐ **Attachment 5**: Copy of anesthesia chart form.
- ☐ **Attachment 6**: Copy of anesthesia consent form.
- ☐ **Attachment 7**: Copy of a schedule and log demonstrating the regular inspection of all emergency drugs and equipment for administration of anesthesia, including the date(s) and name of person who last checked drugs and equipment and the results of the checks, including that of the condition of equipment according to manufacturers' specifications.
- ☐ **Attachment 8**: Copy of a written protocol for management of emergencies.
- ☐ **Attachment 9**: Copy of schedule and content of regular and routine emergency drills.
- ☐ **Attachment 10**: Copy of Federal DEA Controlled Substance Certificate and MA Controlled Substance Registration. (M.G.L. c. 94C, §10)
- ☐ **Attachment 11**: Request for on-site inspection by the Board
- ☐ **Attachment 12**: Copy of all current individual anesthesia permits of staff.

APPLICANT ATTESTATION: I _____ **HEREBY CERTIFY,**
Print Full Name of Applicant
UNDER THE PAINS AND PENALTIES OF PERJURY, THAT:

- **ALL INFORMATION PROVIDED IN THIS APPLICATION IS ACCURATE AND TRUE;**
- **I HAVE READ AND UNDERSTOOD THE STANDARDS AND REQUIREMENTS FOR THE ADMINISTRATION OF ANESTHESIA AND SEDATION AS PROMULGATED BY THE BOARD ON AUGUST 20, 2010 AT 234.CMR 6.00, INCLUDING, BUT NOT LIMITED TO, THE REQUIREMENTS OF THIS PERMIT FOR:**
  - **AUXILIARY PERSONNEL REQUIRED**
  - **PATIENT EVALUATION REQUIRED**
  - **PRE-OPERATIVE PREPARATION REQUIRED**
  - **PATIENT MONITORING AND DOCUMENTATION REQUIRED**
  - **MANAGEMENT OF RECOVERY AND DISCHARGE OF PATIENTS**
  - **MANAGEMENT OF PEDIATRIC AND SPECIAL NEEDS PATIENTS**
  - **EMERGENCY MANAGEMENT**
  - **CURRENT ACLS, PALS AND BLS CERTIFICATION FOR ALL STAFF ADMINISTERING AND ASSISTING**
- **I UNDERSTAND THAT, UNDER THE TERMS OF THIS PERMIT, THE ADMINISTRATION OF GENERAL ANESTHSESIA, DEEP, MODERATE, AND MINIMAL CONSCIOUS SEDATION AND NITROUS OXIDE-OXYGEN SEDATION IS LIMITED SOLELY TO THE PRACTICE SITE WHERE THERE IS THE REQUISITE FACILITY PERMIT OR LICENSE FOR THE TYPE OF ANESTHESIA OR SEDATION TO BE ADMINISTERED.**
- **I AM CURRENTLY, AND WILL CONTINUE TO BE, IN COMPLIANCE WITH ALL STATUTES, RULES, AND REGULATIONS PERTAINING TO THE PRACTICE OF DENTISTRY IN THE COMMONWEALTH OF MASSACHUSETTS AS REQUIRED BY LAW.**

SIGNATURE OF APPLICANT: _____ **DATE:** _____

ATTACHMENT 2 (Page 1)

EQUIPMENT REQUIRED BY 234 CMR 6.00, AS APPLICABLE.

EQUIPMENT REQUIRED	DATE LAST INSPECTED
Alternative light source for use during power failure	
Ambu-bag or portable bag-mask ventilator	
Automated or manual external defibrillator, including batteries and other components	
Disposable CPR mask (pediatric and adult)	
Disposable syringes (assorted sizes)	
Endotracheal tubes with inflatable cuffs and other equipment designed to maintain patient airway including: ▪ Pediatric endotrachial tubes, assorted sizes. ▪ Adult endotrachial tubes, assorted sizes ▪ Connectors from tubes to gas delivery machines ▪ Syringe for cuff inflation ▪ Stylet	
Endotracheal tube forceps	
Equipment for emergency crico-thyroidectomy and/or tracheostomy with appropriate connectors to deliver 100% oxygen and establish emergency airway	
Equipment for the insertion and maintenance of an intravenous infusion	
Equipment suitable for proper positioning of the patient for administration of cardiopulmonary resuscitation, including a back board	
Equipment for continuous monitoring during anesthesia	
Gas delivery system capable of positive pressure ventilation, which must include: ▪ Oxygen ▪ Safety-keyed hose attachments ▪ Capability to administer 100% oxygen in all rooms (operatory, recovery, examination, and reception) ▪ Gas storage in compliance with safety codes ▪ Adequate waste gas scavenging system ▪ Nasal hood or cannula.	
Laryngoscope (straight and/or curved blades, assorted sizes; extra batteries and bulbs)	
Latex free tourniquet	
List of emergency telephone numbers clearly visible	
Magill forceps or other suitable instruments	
Means of monitoring blood pressure (pediatric and adult)	
Means of monitoring heart rate and rhythm, with battery pack back-up	
Means of monitoring respirations	
Means of monitoring temperature	
Means of transporting patients	
Method to accurately record elapsed time	
Nasopharyngeal airways (pediatric and adult)	
Oropharyngeal airways (pediatric and adult	
Oxygen (portable Cylinder E tank) pediatric and adult masks capable of giving positive pressure ventilation including bag-valve-mask system	
Scavenger system, if inhalation agents are used	
Sphygmomanometer and stethoscope (pediatric and adult)	
Suction: ▪ Suction catheter for endotracheal tube ▪ Tonsillar suction tip ▪ Suction equipment for use during power failure ▪ Capability of suction in all operatories and recovery rooms.	
Schedule and log for checking and recording dates when anesthesia accessories and supply of emergency drugs have been checked	
If nitrous oxide and oxygen delivery equipment capable of delivering less than 25% oxygen is used, an in-line oxygen analyzer must be used	

ATTACHMENT 2 (Page 2)

EMERGENCY DRUGS AND DRUG CLASSIFICATIONS REQUIRED, AS APPLICABLE.

REQUIRED DRUGS	NAME OF DRUG	DOSAGE	EXPIRATION DATE
Acetylsalicylic acid (rapidly absorbable form)			
Ammonia inhalants			
Anticonvulsant			
Antihistamine			
Antihypoglycemic agent			
Antihypertensive medications			
Antiemetic			
Atropine			
Bronchodilator			
Corticosteroid			
Dantrolene Sodium (required if a halogenated anesthesia agent e.g. halothane, enflurane, isoflurane is used or depolarizing skeletal muscle relaxants e.g. succinylcholine are administered)			
Epinephrine pre-loaded syringes and ampules (pediatric and adult			
Lidocaine			
Intravenous antihypoglycemic agent (dextrose 50% or glucagon)			
Medication to treat supraventricular tachycardia (e.g. adenosine, verapamil, etc.)			
Muscle relaxants			
Narcotic antagonist and reversing agents			
Oxygen			
Sodium bicarbonate			
Succinylcholine			
Vasodilator			
Vasopressor			

NAME(S) OF DENTIST(S)/ANESTHESIOLOGIST(S) WHO WILL BE ADMINISTERING ANESTHESIA AT THIS FACILITY	LICENSE NUMBER	ANESTHESIA PERMIT NUMBER	ACLS/BLS CERTIFICATION EXPIRATION DATE
Dental Director:			

Attachment 2 (page 3)

NAME(S) OF DENTAL/SURGICAL ASSISTANT(S)	EXPIRATION DATE OF CPR/BLS CERTIFICATION

SIGN AND SEND THIS APPLICATION AND ALL REQUIRED ATTACHMENTS TO:

THE MASSACHUSETTS BOARD OF REGISTRATION IN DENTISTRY

239 CAUSEWAY STREET-SUITE 500, BOSTON, MA 02114

KEEP A COPY OF THIS APPLICATION AND ALL ATTACHMENTS FOR YOUR RECORDS

DENTAL ANESTHESIOLOGY GUIDE FROM DR. MILLER

DENTAL ANESTHESIOLOGY:
A GUIDE TO THE RULES AND REGULATIONS OF THE UNITED STATES OF AMERICA

Dr. Sean G. Boynes

2008-2009 EDITION

Published and Printed in Association with the American Society of Dental Anesthesiologists

DENTAL ANESTHESIOLOGY: A GUIDE TO THE RULES AND REGULATIONS OF THE UNITED STATES OF AMERICA

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TABLE OF CONTENTS

Page Number	
4	Introduction
5	Commonly Used Definitions in Dental Anesthesiology
6	ADA Policy Statement on the Use of Dental Anesthesia
8	ADA Guidelines: The Use of Sedation and General Anesthesia by Dentists
14	ADA Anesthesia Teaching Guidelines Summary
15	AAOMS Office Anesthesia Evaluation Manual
16	Organized Dental Anesthesiolgy
17	ADBA Recognized Programs
18	Guide Production Information
20	Guide Interpretation and Key
21	State-by-State Guide to the Anesthesia Rules and Regulations of the United States
72	State Regulation Table Summaries

INTRODUCTION

In the United States, all individual states have the privilege to establish their own qualifications, rules, and regulations for professional licensure. Although each state has a dental board, the amount of independence differs from state to state. The majority of these boards are often operative within other government branches, while specific board members are normally appointed to that position by the state governor. In general, regulations and standards for licensure are determined by statute and can only be altered by proper proceedings within the state governing body.

The wide variation that exists between the state dental boards often leads to confusion and frustration. The different standards that each state sets, makes it difficult for the practitioner to understand what is expected of him/her to practice their given profession. Presented as a useful professional tool, this guide provides a state-by-state summary of dental anesthesia guidelines, rules, and regulations. Please read the production information section for a report concerning how the guide was produced.

COMMONLY USED DEFINITIONS IN DENTAL ANESTHESIOLOGY

- ***analgesia*** – the diminution or elimination of pain.
- ***anxiolysis*** – the diminution or elimination of anxiety.
- ***conscious sedation*** – a minimally depressed level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond appropriately to physical stimulation or verbal command and that is produced by a pharmacological or non-pharmacological method or a combination thereof.
- ***deep sedation*** – an induced state of depressed consciousness accompanied by partial or complete loss of protective reflexes, including the inability to continually maintain an airway independently and/or to respond purposefully to physical stimulation or verbal command, and is produced by a pharmacological or non-pharmacological method or a combination thereof.
- ***enteral*** – any technique of administration in which the agent is absorbed through the gastrointestinal (GI) tract or oral mucosa.
- ***general anesthesia*** – an induced state of unconsciousness accompanied by partial or complete loss of protective reflexes, including the inability to continually maintain an airway independently and respond purposefully to physical stimulation or verbal command, and is produced by a pharmacological or non-pharmacological method or combination thereof.
- ***incremental dosing*** – administration of multiple doses of a drug until a desired effect is reached, but not to exceed the maximum recommended dose (MRD).
- ***inhalation*** – a technique of administration in which a gaseous or volatile agent is introduced into the lungs and whose primary effect is due to absorption through the gas/blood interface.
- ***local anesthesia*** – the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug.
- ***maximum recommended dose (MRD)*** – maximum FDA-recommended dose of a drug, as printed in FDA-approved labeling for unmonitored home use.
- ***minimal sedation*** - a minimally depressed level of consciousness, produced by a pharmacological method, that retains the patient's ability to independently and continuously maintain an airway and respond *normally* to tactile stimulation and verbal command. Although cognitive function and coordination may be modestly impaired, ventilatory and cardiovascular functions are unaffected. In accord with this particular definition, the drug(s) and/or techniques used should carry a margin of safety wide enough never to render unintended loss of consciousness. Further, patients whose only response is reflex withdrawal from repeated painful stimuli would not be considered to be in a state of minimal sedation.
- ***moderate sedation*** – a drug-induced depression of consciousness during which patients respond *purposefully* to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained.
- ***parenteral*** – a technique of administration in which the drug bypasses the gastrointestinal tract.
- ***recovery*** – the ability to regain full health, or a return to baseline status.
- ***supplemental dosing*** - during minimal sedation, supplemental dosing is a single additional dose of the initial dose of the initial drug that may be necessary for prolonged procedures.
- ***titration*** – the administration of small incremental doses of a drug until a desired clinical effect is observed.
- ***transdermal*** – a technique of administration in which the drug is administered by patch or iontophoresis through skin.
- ***transmucosal*** – a technique of administration in which the drug is administered across mucosa such as intranasal, sublingual, or rectal.

ADA POLICY STATEMENT: THE USE OF SEDATION AND GENERAL ANESTHESIA BY DENTISTS

INTRODUCTION

The administration of sedation and general anesthesia has been an integral part of dental practice since the 1840s. Dentists have a legacy and a continuing interest and expertise in providing anesthetic and sedative care to their patients. It was the introduction of nitrous oxide by Horace Wells, a Hartford, Connecticut dentist, and the demonstration of anesthetic properties of ether by William Morton, Wells' student, that gave the gift of anesthesia to medicine and dentistry. Dentistry has continued to build upon this foundation and has been instrumental in developing safe and effective sedative and anesthetic techniques that have enabled millions of people to access dental care. Without these modalities, many patient populations such as young children, physically and mentally challenged individuals and many other dental patients could not access the comprehensive care that relieves pain and restores form and function. The use of sedation and anesthesia by appropriately trained dentists in the dental office continues to have a remarkable record of safety. It is very important to understand that anxiety, cooperation and pain can be addressed by both psychological and pharmacological techniques and local anesthetics, which are the foundation of pain control in dentistry. Sedation may diminish fear and anxiety, but do not obliterate the pain response and therefore, expertise and in-depth knowledge of local anesthetic techniques and pharmacology is necessary. General anesthesia, by definition, produces an unconscious state totally obtunding the pain response.

Anxiety and pain can be modified by both psychological and pharmacological techniques. In some instances, psychological approaches are sufficient. However, in many instances, pharmacological approaches are required. Local anesthetics are used to control regional pain. Sedative drugs and techniques may control fear and anxiety, but do not by themselves fully control pain and, thus, are commonly used in conjunction with local anesthetics. General anesthesia provides complete relief from both anxiety and pain.

This policy statement addresses the use of minimal, moderate and deep sedation and general anesthesia, as defined in the Association's *Guidelines for the Use of Sedation and General Anesthesia by Dentists*. These terms refer to the effects upon the central nervous system and are not dependent upon the route of administration. The use of sedation and general anesthesia in dentistry is safe and effective when properly administered by trained individuals. The American Dental Association strongly supports the right of appropriately trained dentists to use these modalities in the treatment of dental patients and is committed to their safe and effective use.

EDUCATION

Training to competency in minimal and moderate sedation techniques may be acquired at the predoctoral, postgraduate, graduate, or continuing education level. Dentists who wish to utilize minimal or moderate sedation are expected to successfully complete formal training which is structured in accordance with the Association's *Guidelines for Teaching Pain Control and Sedation for to Dentists and Dental Students*. The knowledge and skills required for the administration of deep sedation and general anesthesia are beyond the scope of predoctoral and continuing education. Only dentists who have completed an advanced education program accredited by the Commission on Dental Accreditation (CODA) that provides training in deep sedation and general anesthesia are considered educationally qualified to use these modalities in practice.

The dental profession's continued ability to control anxiety and pain effectively is dependent on a strong educational foundation in the discipline. The Association supports efforts to expand the availability of courses and programs at the predoctoral, advanced and continuing educational levels that are structured in accordance with its *Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students*. The ADA urges dental practitioners to regularly participate in continuing education in the areas of sedation and anesthesia.

SAFE PRACTICE
Dentists administering sedation and anesthesia should be familiar with the ADA *Guidelines for the Use of Sedation and General Anesthesia by Dentists.* Dentists who are qualified to utilize sedation and general anesthesia have a responsibility to minimize risk to patients undergoing dental treatment by:
• Using only those drugs and techniques in which they have been appropriately trained;
• Limiting use of these modalities to patients who require them;
• Conducting a preoperative evaluation of each patient consisting of at least a thorough review of medical and dental history, a focused clinical examination and consultation, when indicated, with appropriate medical and dental personnel;
• Conducting physiologic and visual monitoring of the patient;
• Having available appropriate emergency drugs, equipment and facilities and maintaining competency in their use;
• Maintaining fully documented records of drugs used, dosage, vital signs monitored, adverse reactions, recovery from the anesthetic, and, if applicable, emergency procedures employed;
• Utilizing sufficient support personnel who are properly trained for the functions they are assigned to perform;
• Treating high-risk patients in a setting equipped to provide for their care.
The Association expects that patient safety will be the foremost consideration of dentists who use sedation and general anesthesia.

STATE REGULATION
Appropriate permitting of dentists utilizing moderate sedation, deep sedation and general anesthesia is highly recommended. State dental boards have the responsibility to ensure that only qualified dentists use sedation and general anesthesia. State boards set acceptable standards for safe and appropriate delivery of sedation and anesthesia care, as outlined in this policy and in the ADA *Guidelines for the Use of Sedation and General Anesthesia by Dentists.*
The Association recognizes that office-based, ambulatory sedation and anesthesia play an integral role in the management of anxiety and pain control for dental patients. It is in the best interest of the public and the profession that access to these cost-effective services be widely available.

RESEARCH
The use of minimal, moderate and deep sedation and general anesthesia in dentistry will be significantly affected by research findings and advances in these areas. The Association strongly supports the expansion of both basic and clinical research in anxiety and pain control. It urges institutions and agencies that fund and sponsor research to place a high priority on this type of research, which should include: 1) epidemiological studies that provide data on the number of these procedures performed and on morbidity and mortality rates, 2) clinical studies of drug safety and efficacy, 3) basic research on the development of safer and more effective drugs and techniques, 4) studies on improving patient monitoring, and 5) research on behavioral and other non-pharmacological approaches to anxiety and pain control.

ADA GUIDELINES:
THE USE OF SEDATION AND GENERAL ANESTHESIA BY DENTISTS

INTRODUCTION
The administration of local anesthesia, sedation and general anesthesia is an integral part of dental practice. The American Dental Association is committed to the safe and effective use of these modalities by appropriately educated and trained dentists. The purpose of these guidelines is to assist dentists in the delivery of safe and effective sedation and anesthesia. Dentists providing sedation and anesthesia in compliance with their state rules and/or Regulations prior to adoption of this document are not subject to *Section III. Educational Requirements.*

EDUCATIONAL REQUIREMENTS
A. Minimal Sedation
1. To administer minimal sedation the dentist must have successfully completed:
a. training to the level of competency in minimal sedation consistent with that prescribed in the ADA *Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students,*
or
a comprehensive training program in moderate sedation that satisfies the requirements described in the Moderate Sedation section of the *ADA Guidelines for Teaching Pain Control and Sedation to Dentists and Dental Students* at the time training was commenced,
or
b. an advanced education program accredited by the ADA Commission on Dental Accreditation that affords comprehensive and appropriate training necessary to administer and manage minimal sedation commensurate with these guidelines;
and
c. a current certification in Basic Life Support for Healthcare Providers.
2. Administration of minimal sedation by another qualified dentist or independently practicing qualified anesthesia healthcare provider requires the operating dentist and his/her clinical staff to maintain current certification in Basic Life Support for Healthcare Providers.

B. Moderate Sedation
1. To administer moderate sedation, the dentist must have successfully completed:
a. a comprehensive training program in moderate sedation that satisfies the requirements described in the Moderate Sedation section of the ADA *Guidelines for Teaching Pain Control and*
Sedation to Dentists and Dental Students at the time training was commenced,
or
b. an advanced education program accredited by the ADA Commission on Dental Accreditation that affords comprehensive and appropriate training necessary to administer and manage moderate sedation commensurate with these guidelines;
and
c. a current certification in 1) Basic Life Support for Healthcare Providers and 2) Advanced Cardiac Life Support (ACLS) or an appropriate dental sedation/anesthesia emergency management course.
2. Administration of moderate sedation by another qualified dentist or independently practicing qualified anesthesia healthcare provider requires the operating dentist and his/her clinical staff to maintain current certification in Basic Life Support for Healthcare Providers.

C. Deep Sedation or General Anesthesia
1. To administer deep sedation or general anesthesia, the dentist must have completed:
a. an advanced education program accredited by the ADA Commission on Dental Accreditation that affords comprehensive and appropriate training necessary to administer and manage deep sedation or general anesthesia, commensurate with Part IV.C of these guidelines;
and
b. a current certification in 1) Basic Life Support for Healthcare Providers and 2) Advanced Cardiac Life Support (ACLS) or an appropriate dental sedation/anesthesia emergency management course.
2. Administration of deep sedation or general anesthesia by another qualified dentist or independently practicing qualified anesthesia healthcare provider requires the operating dentist and his/her clinical staff to maintain current certification in Basic Life Support (BLS) Course for the Healthcare Provider.
For all levels of sedation and anesthesia, dentists, who are currently providing sedation and anesthesia in compliance with their state rules and/or regulations prior to adoption of this document, are not subject to these educational requirements.

CLINICAL GUIDELINES
A. Minimal sedation
1. Patient Evaluation
Patients considered for minimal sedation must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II) this may consist of a review of their current medical history and medication use. However, patients with significant medical considerations (ASA III, IV) may require consultation with their primary care physician or consulting medical specialist.
2. Pre-Operative Preparation
• The patient, parent, guardian or care giver must be advised regarding the procedure associated with the delivery of any sedative agents and informed consent for the proposed sedation must be obtained.
• Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed.
• Baseline vital signs must be obtained unless the patient's behavior prohibits such determination.
• A focused physical evaluation must be performed as deemed appropriate.
• Preoperative dietary restrictions must be considered based on the sedative technique prescribed.
• Pre-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.
3. Personnel and Equipment Requirements
Personnel:
• At least one additional person trained in Basic Life Support for Healthcare Providers must be present in addition to the dentist.
Equipment:
• A positive-pressure oxygen delivery system suitable for the patient being treated must be immediately available.
• When inhalation equipment is used, it must have a fail-safe system that is appropriately checked and calibrated. The equipment must also have either (1) a functioning device that prohibits the delivery of less than 30% oxygen or (2) an appropriately calibrated and functioning in-line oxygen analyzer with audible alarm.
• An appropriate scavenging system must be available if gases other than oxygen or air are used.
4. Monitoring and Documentation
Monitoring: A dentist, or at the dentist's direction, an appropriately trained individual, must remain in the operatory during active dental treatment to monitor the patient continuously

until the patient meets the criteria for discharge to the recovery area. The appropriately trained individual must be familiar with monitoring techniques and equipment. Monitoring must include:
• Oxygenation:
– Color of mucosa, skin or blood must be evaluated continually.
– Oxygen saturation by pulse oximetry may be clinically useful and should be considered.
• Ventilation:
– The dentist and/or appropriately trained individual must observe chest excursions continually.
– The dentist and/or appropriately trained individual must verify respirations continually.
• Circulation:
– Blood pressure and heart rate should be evaluated pre-operatively, post-operatively and intra-operatively as necessary (unless the patient is unable to tolerate such monitoring).
Documentation: An appropriate sedative record must be maintained, including the names of all drugs administered, including local anesthetics, dosages, and monitored physiological parameters.
5. Recovery and Discharge
• Oxygen and suction equipment must be immediately available if a separate recovery area is utilized.
• The qualified dentist or appropriately trained clinical staff must monitor the patient during recovery until the patient is ready for discharge by the dentist.
• The qualified dentist must determine and document that level of consciousness, oxygenation, ventilation and circulation are satisfactory prior to discharge.
• Post-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.
6. Emergency Management
If a patient enters a deeper level of sedation than the dentist is qualified to provide, the dentist must stop the dental procedure until the patient returns to the intended level of sedation. The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of minimal sedation and providing the equipment and protocols for patient rescue.
7. Management of Children
For children 12 years of age and under, the American Dental Association supports the use of the American Academy of Pediatrics/American Academy of Pediatric Dentists *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic*
Procedures.

B. Moderate Sedation
1. Patient Evaluation
Patients considered for moderate sedation must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II) this should consist of at least a review of their current medical history and medication use. However, patients with significant medical considerations (e.g., ASA III, IV) may require consultation with their primary care physician or consulting medical specialist.
2. Pre-operative Preparation
• The patient, parent, guardian or care giver must be advised regarding the procedure associated with the delivery of any sedative agents and informed consent for the proposed sedation must be obtained.
• Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed.
• Baseline vital signs must be obtained unless the patient's behavior prohibits such determination.
• A focused physical evaluation must be performed as deemed appropriate.
• Preoperative dietary restrictions must be considered based on the sedative technique prescribed.
• Pre-operative verbal or written instructions must be given to the patient, parent, escort,

guardian or care giver.

3. Personnel and Equipment Requirements

Personnel:

• At least one additional person trained in Basic Life Support for Healthcare Providers must be present in addition to the dentist.

Equipment:

• A positive-pressure oxygen delivery system suitable for the patient being treated must be immediately available.

• When inhalation equipment is used, it must have a fail-safe system that is appropriately checked and calibrated. The equipment must also have either (1) a functioning device that prohibits the delivery of less than 30% oxygen or (2) an appropriately calibrated and functioning in-line oxygen analyzer with audible alarm.

• An appropriate scavenging system must be available if gases other than oxygen or air are used.

• The equipment necessary to establish intravenous access must be available.

4. Monitoring and Documentation

Monitoring: A qualified dentist administering moderate sedation must remain in the operatory room to monitor the patient continuously until the patient meets the criteria for recovery. When active treatment concludes and the patient recovers to a minimally sedated level a qualified auxiliary may be directed by the dentist to remain with the patient and continue to monitor them as explained in the guidelines until they are discharged from the facility. The dentist must not leave the facility until the patient meets the criteria for discharge and is discharged from the facility. Monitoring must include:

• Consciousness:

– Level of consciousness (e.g., responsiveness to verbal command) must be continually assessed.

• Oxygenation:

– Color of mucosa, skin or blood must be evaluated continually.

– Oxygen saturation must be evaluated by pulse oximetry continuously.

• Ventilation:

– The dentist must observe chest excursions continually.

– The dentist must monitor ventilation. This can be accomplished by auscultation of breath sounds, monitoring end-tidal CO2 or by verbal communication with the patient.

• Circulation:

– The dentist must continually evaluate blood pressure and heart rate (unless the patient is unable to tolerate and this is noted in the time-oriented anesthesia record).

– Continuous ECG monitoring of patients with significant cardiovascular disease should be considered.

Documentation:

– Appropriate time-oriented anesthetic record must be maintained, including the names of all drugs administered, including local anesthetics, dosages and monitored physiological parameters.

– Pulse oximetry, heart rate, respiratory rate and blood pressure must be recorded continually.

5. Recovery and Discharge

• Oxygen and suction equipment must be immediately available if a separate recovery area is utilized.

• The qualified dentist or appropriately trained clinical staff must continually monitor the patient's blood pressure, heart rate, oxygenation and level of consciousness.

• The qualified dentist must determine and document that level of consciousness; oxygenation, ventilation and circulation are satisfactory for discharge.

• Post-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.

• If a reversal agent is administered before discharge criteria have been met, the patient must be monitored until recovery is assured.

6. Emergency Management

If a patient enters a deeper level of sedation than the dentist is qualified to provide, the dentist

must stop the dental procedure until the patient returns to the intended level of sedation. The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of moderate sedation and providing the equipment, drugs and protocol for patient rescue.

7. Management of Children

For children 12 years of age and under, the American Dental Association supports the use of the American Academy of Pediatrics/American Academy of Pediatric Dentists *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures.*

C. Deep Sedation or General Anesthesia

1. Patient Evaluation

Patients considered for deep sedation or general anesthesia must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II) this must consist of at least a review of their current medical history and medication use and NPO status. However, patients with significant medical considerations (e.g., ASA III, IV) may require consultation with their primary care physician or consulting medical specialist.

2. Pre-operative Preparation

• The patient, parent, guardian or care giver must be advised regarding the procedure associated with the delivery of any sedative or anesthetic agents and informed consent for the proposed sedation/anesthesia must be obtained.

• Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed.

• Baseline vital signs must be obtained unless the patient's behavior prohibits such determination.

• A focused physical evaluation must be performed as deemed appropriate.

• Preoperative dietary restrictions must be considered based on the sedative/anesthetic technique prescribed.

• Pre-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.

• An intravenous line, which is secured throughout the procedure, must be established except as provided in part IV. C.6. Pediatric and Special Needs Patients.

3. Personnel and Equipment Requirements

Personnel: A minimum of three (3) individuals must be present.

• A dentist qualified in accordance with part III. C. of these Guidelines to administer the deep sedation or general anesthesia.

• Two additional individuals who have current certification of successfully completing a Basic Life Support (BLS) Course for the Healthcare Provider.

• When the same individual administering the deep sedation or general anesthesia is performing the dental procedure, one of the additional appropriately trained team members must be designated for patient monitoring.

Equipment:

• A positive-pressure oxygen delivery system suitable for the patient being treated must be immediately available.

• When inhalation equipment is used, it must have a fail-safe system that is appropriately checked and calibrated. The equipment must also have either (1) a functioning device that prohibits the delivery of less than 30% oxygen or (2) an appropriately calibrated and functioning in-line oxygen analyzer with audible alarm.

• An appropriate scavenging system must be available if gases other than oxygen or air are used.

• The equipment necessary to establish intravenous access must be available.

• Equipment and drugs necessary to provide advanced airway management, and advanced cardiac life support must be immediately available.

• If volatile anesthetic agents are utilized, an inspired agent analysis monitor and capnograph should be considered.

• Resuscitation medications and an appropriate defibrillator must be immediately available.

4. Monitoring and Documentation

Monitoring: A qualified dentist administering deep sedation or general anesthesia must remain in the operatory room to monitor the patient continuously until the patient meets the criteria for recovery. The dentist must not leave the facility until the patient meets the criteria for discharge and is discharged from the facility. Monitoring must include:

• Oxygenation:

– Color of mucosa, skin or blood must be continually evaluated.

– Oxygenation saturation must be evaluated continuously by pulse oximetry.

• Ventilation:

– Intubated patient: End-tidal CO2 must be continuously monitored and evaluated.

– Non-intubated patient: Breath sounds via auscultation and/or end-tidal CO2 must be continually monitored and evaluated.

– Respiration rate must be continually monitored and evaluated.

• Circulation:

– The dentist must continuously evaluate heart rate and rhythm via ECG throughout the procedure, as well as pulse rate via pulse oximetry.

– The dentist must continually evaluate blood pressure.

• Temperature:

– A device capable of measuring body temperature must be readily available during the administration of deep sedation or general anesthesia.

– The equipment to continuously monitor body temperature should be available and must be performed whenever triggering agents associated with malignant hyperthermia are administered.

Documentation:

– Appropriate time-oriented anesthetic record must be maintained, including the names of all drugs administered, including local anesthetics, doses and monitored physiological parameters.

– Pulse oximetry and end-tidal CO2 measurements (if taken), heart rate, respiratory rate and blood pressure must be recorded at appropriate intervals.

5. Recovery and Discharge

• Oxygen and suction equipment must be immediately available if a separate recovery area is utilized.

• The dentist or clinical staff must continually monitor the patient's blood pressure, heart rate, oxygenation and level of consciousness.

• The dentist must determine and document that level of consciousness; oxygenation, ventilation and circulation are satisfactory for discharge.

• Post-operative verbal and written instructions must be given to the patient, parent, escort, guardian or care giver.

6. Pediatric and Special Needs Patients

Because many dental patients undergoing deep sedation or general anesthesia are mentally and/or physically challenged, it is not always possible to have a comprehensive physical examination or appropriate laboratory tests prior to administering care. When these situations occur, the dentist responsible for administering the deep sedation or general anesthesia should document the reasons preventing the recommended preoperative management.

In selected circumstances, deep sedation or general anesthesia may be utilized without establishing an indwelling intravenous line. These selected circumstances may include very brief procedures or periods of time, which, for example, may occur in some pediatric patients; or the establishment of intravenous access after deep sedation or general anesthesia has been induced because of poor patient cooperation.

7. Emergency Management

The qualified dentist is responsible for sedative/anesthetic management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of deep sedation or general anesthesia and providing the equipment, drugs and protocols for patient rescue.

ADA TEACHING GUIDELINES: FOR TEACHING PAIN CONTROL TO DENTISTS AND DENTAL STUDENTS

The administration of local anesthesia, sedation and general anesthesia is an integral part of the practice of dentistry. The American Dental Association is committed to the safe and effective use of these modalities by appropriately educated and trained dentists.

Anxiety and pain control can be defined as the application of various physical, chemical and psychological modalities to the prevention and treatment of preoperative, operative and postoperative patient anxiety and pain to allow dental treatment to occur in a safe and effective manner. It involves all disciplines of dentistry and, as such, is one of the most important aspects of dental education. The intent of these *Guidelines* is to provide direction for the teaching of pain control and sedation to dentists and can be applied at all levels of dental education from predoctoral through continuing education. They are designed to teach initial competency in pain control and minimal and moderate sedation techniques.

These *Guidelines* recognize that many dentists have acquired a high degree of competency in the use of anxiety and pain control techniques through a combination of instruction and experience.

It is assumed that this has enabled these teachers and practitioners to meet the educational criteria described in this document.

It is not the intent of the *Guidelines* to fit every program into the same rigid educational mold. This is neither possible nor desirable. There must always be room for innovation and improvement.

They do, however, provide a reasonable measure of program acceptability, applicable to all institutions and agencies engaged in predoctoral and continuing education.

The curriculum in anxiety and pain control is a continuum of educational experiences that will extend over several years of the predoctoral program. It should provide the dental student with the knowledge and skills necessary to provide minimal sedation to alleviate anxiety and control pain without inducing detrimental physiological or psychological side effects. Dental schools whose goal is to have predoctoral students achieve competency in techniques such as local anesthesia and nitrous oxide inhalation and minimal sedation must meet all of the goals, prerequisites, didactic content, clinical experiences, faculty and facilities, as described in these *Guidelines.*

Techniques for the control of anxiety and pain in dentistry should include both psychological and pharmacological modalities. Psychological strategies should include simple relaxation techniques for the anxious patient and more comprehensive behavioral techniques to control pain.

Pharmacological strategies should include not only local anesthetics but also sedatives, analgesics and other useful agents. Dentists should learn indications and techniques for administering these drugs enterally, parenterally and by inhalation as supplements to local anesthesia.

The predoctoral curriculum should provide instruction, exposure and/or experience in anxiety and pain control, including minimal and moderate sedation. The predoctoral program must also provide the knowledge and skill to enable students to recognize and manage any emergencies that might arise as a consequence of treatment. Predoctoral dental students must complete a course in Basic Life Support for the Healthcare Provider. Though Basic Life Support courses are available online, any course taken online should be followed up with a hands-on component and be approved by the American Heart Association or the American Red Cross.

Local anesthesia is the foundation of pain control in dentistry. Although the use of local anesthetics in dentistry has a long record of safety, dentists must be aware of the maximum safe dosage limit for each patient, since large doses of local anesthetics may increase the level of central nervous system depression with sedation. The use of minimal and moderate sedation requires an understanding of local anesthesia and the physiologic and pharmacologic implications of the local anesthetic agents when combined with the sedative agents

The knowledge, skill and clinical experience required for the safe administration of deep sedation and/or general anesthesia are beyond the scope of predoctoral and continuing education programs. Advanced education programs that teach deep sedation and/or general anesthesia to competency have specific teaching requirements described in the Commission on Dental Accreditation requirements for those advanced programs and represent the educational and clinical requirements for teaching deep sedation and/or general anesthesia in dentistry.

The objective of educating dentists to utilize pain control, sedation and general anesthesia is to enhance their ability to provide oral health care. The American Dental Association urges dentists to participate regularly in continuing education update courses in these modalities in order to remain current.

THE AMERICAN ASSOCIATION OF ORAL AND MAXILLOFACIAL SURGEONS' OFFICE ANESTHESIA EVALUATION MANUAL

Designed by the American Association of Oral and Maxillofacial Surgeons' Committee on Anesthesia, the Office Anesthesia Evaluation Manual is employed by some state dental boards to conduct office inspections. The Office Anesthesia Evaluation Manual provides the practitioner with resources and guidelines for current practice protocols and emergency procedures. Areas covered are monitoring, complications and emergencies, CPR, management of blood pressure problems, adverse drug reactions, and contact allergies.

The majority of state dental boards use this manual as a way to promote patient safety in the non-hospital setting during procedures that require the administration of local anesthesia, conscious sedation, deep sedation, or general anesthesia. Further information, including how to obtain a manual, is available via the internet at www.aaomsstore.com.

ORGANIZED DENTAL ANESTHESIOLOGY

AMERICAN DENTAL BOARD OF ANESTHESIOLOGY

The mission of the American Dental Board of Anesthesiology (ADBA) is to ensure that all dentists who have been trained according to Part II of the ADA's "Guidelines for the Teaching of Pain and Anxiety Control in Dentistry," will attain and maintain the highest possible level of knowledge and skill in the spectrum of anesthesia for dentistry. The ADBA is the main accrediting board for dentist with a minimum of two years of training.

Contact Information: American Dental Board of Anesthesiology
1345 Grand Avenue: Suite 102
Piedmont, CA 94610

AMERICAN SOCIETY OF DENTIST ANESTHESIOLOGISTS

The American Society of Dentist Anesthesiologists (ASDA) comprises a group of dentists who have completed a minimum of two years of full-time postdoctoral training in anesthesiology. The clinical training supported by the ASDA includes a significant portion devoted to hospital operating room anesthesiology rotations as well as ambulatory anesthesia for medical and dental patients.

Contact Information: ASDA Executive Director
105 Joyce Run
Winder, GA 30680
Phone: (678) 753-0241
Fax: (678) 753-1645
Email: asda@asdahq.org

NATIONAL DENTAL BOARD OF ANESTHESIOLOGY

The mission of the National Dental Board of Anesthesiology (NDBA) is to advance the art and science of anesthesiology in dentistry in its efforts to provide optimum health care. The NDBA has been formed to recognize dentist's education and expertise in general anesthesia and evaluate the clinical skills with a written and oral examination. This will document clinicians education and skills in dental anesthesiology and provides them diplomat status. The NDBA has been established to recognize dentists who have training and expertise in the administration of anesthesia and embraces all dentists who administer general anesthesia.

Contact Information: 211 East Chicago Avenue
Suite 780
Chicago, IL 60611
Toll Free: 1-877-255-3731
Email: www.ndbahome.es.com

AMERICAN DENTAL SOCIETY OF ANESTHESIOLOGY

The ADSA is a unique organization that represents and respects all dental anesthesia providers across the entire spectrum of anesthesia and pain control in dentistry. In order to recognize the expertise and the pursuit of excellence in dental anesthesiology the American Dental Society of Anesthesiology established the Fellowship in Dental Anesthesiology in 1964. In order to become a Fellow in the ADSA, an individual has to have satisfactorily completed either an oral and maxillofacial surgery or a one year dental anesthesiology residency. The Fellowship is the highest level of achievement within the ADSA. Most State Dental Boards and many national organizations recognize the level of expertise associated with the Fellowship.

Contact Information: 211 East Chicago Avenue
Suite 780
Chicago, IL 60611
Toll Free: 1-877-255-3732
Email: www.adsahome.org

AMERICAN DENTAL BOARD OF ANESTHESIOLOGY RECOGNIZED TRAINING PROGRAMS

Loma Linda University
Department of Anesthesiology
11092 Anderson Street
Loma Linda, CA 92354
Two-Year Certificate Program
www.llu.edu/llu/dentistry/anesthesia/graduateprogram.html

The Ohio State University
2131 Postle Hall
305 West 12th Avenue
Columbus, OH 43210
27-Month Master's Degree Program
www.dent.ohio-state.edu/anesthesiology

University of Pittsburgh
3501 Terrace Street
Department of Anesthesiology
G-89 Salk Hall
Pittsburgh, PA 15261
12 / 24-Month Certificate Program
www.dental.pitt.edu/students/residency_program.php#dental

University of California, Los Angeles
Center for Health Sciences
Los Angeles, CA 90095
Two-year Certificate Program
http://nelson.dent.ucla.edu/divisions/index.asp?id=18

Mount Sinai Medical Center
One Gustav L. Levy Place
New York, NY 10029
Two-Year Certificate Program
http://www.msm.edu/dent/education/dent_anes/

Lutheran Medical Center
Department of Anesthesiology
150 55th Street: Room 2234
Brooklyn, NY 11220
Duration: 24-Months
http://lmedental.lmemc.com/

University of Toronto
Department of Anaesthesia
124 Edward Street
Toronto, Ontario, Canada
M5G 1G6
Three-Year Master's Degree Program
www.utoronto.ca/dentistry/academic/graduate/

Stony Brook University
Department of Anesthesiology
1104 Sullivan Hall
Stony Brook, NY 11994
Two-Year Certificate Program
http://anes.anesthes.sunysb.edu/

THE 2005 DENTAL ANESTHESIOLOGY GUIDE PRODUCTION INFORMATION

ABOUT THE GUIDE

Produced in order to serve the dental community, this guide was created to provide the dental professional with information relating to the rules and regulations concerning dental anesthesiology. Because of the wide variation between state dental boards, the ability of a practitioner to determine the standards of each state is difficult, at best. This guide offers a state-by-state summary of the dental anesthesia guidelines in a quick-find format.

HOW THE GUIDE WAS PRODUCED

Each state was assigned one page that would be formatted to contain the pertinent rules and regulations produced by the individual state dental boards. In order for any rule or regulation to be selected for publication, the state dental board, within either published guidelines or verbal confirmation, must have supplied the information.

The initial search for dental anesthesiology rules and regulations was completed using the internet as the primary resource. State dental boards were located using a common search engine, with each site then being sourced for that Board's Dental Practice Act. Subsequently, the rules and regulations concerning anesthesiology were separated from the rest of the text body and printed for accessibility. For those states that did not have Practice Act postings, telephone contact was initiated to attain that state's dental anesthesiology rules and regulations. Once the guidelines were read, the information was formatted into the existing template. The state boards were then contacted via telephone in order to obtain the remaining, needed information such as: fees; telephone number changes; office inspection specifics; and the estimated number of permit holders.

THE 2005 DENTAL ANESTHESIOLOGY GUIDE PRODUCTION INFORMATION (CONTINUED)

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS PER STATE POPULATION

This portion of the guide was established in hopes of determining the total number of permit holders within the United States (**Conscious Sedation and General Anesthesia Permits only**). Unfortunately, not every state dental board was able to supply an exact number. Therefore, only those states willing and/or able to provide an estimated number of permit holders have listings related to this section.

NOT AVAILABLE (N/A)

Not Available (N/A) is used in the following circumstances:

- The information was unable to be attained.
- There was a discrepancy between published guidelines, verbal confirmation, and/or proposed changes to a particular guideline.
- The information was provided after publication deadline dates.

DISCLAIMER

The information provided within this guide reflects current rules, regulations, and fees, relating to dental anesthesiology. They do not reflect the complete rules and regulations of each dental board. This publication is designed to act as a guide for dental professionals and is in no way a replacement for an individual state's actual rules and regulations, especially as it relates to state law examinations. Each state possesses their own guidelines and fees. Therefore, this publication, in no way, guarantees the fees stated within. It should also be noted that there is a continual change in rules and regulations within the legislature. Please be advised to contact individual Boards with any professional, up-to-date inquiries.

GUIDE INTERPRETATION AND KEY

STATE SEAL

Dental Board Web- Site Information

State has developed regulations that adopt the new ADA Guidelines on Anesthesia. (2007-2008)

State Dental Board Address and Contact Information

Permits available with fee schedule and renewal:

- **All inclusive permits** = One permit accounts for that level and all levels below (i.e. a single Unrestricted or General Anesthesia license will also provide certification/permission to provide Parenteral / Nitrous Oxide Sedation).
- **Individual permits** = The licensee must possess each level permit in order to perform said procedure (i.e. in order to provide both general and parenteral anesthesia the licensee must hold both a general and parenteral anesthesia permit).

TRAINING REQUIREMENTS:

STATE OFFICE INSPECTION RULES AND GUIDELINES / INFORMATION ON OFFICIALS OF THE OFFICE INSPECTION TEAM:

Per Office – Every office in which the licensee administers anesthesia shall be inspected
Single Office – One time inspection of permit holder at single office

REQUIRED OFFICE FACILITIES / EQUIPMENT REQUIREMENTS

ADDITIONAL RULES AND REGULATIONS:

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
DOES NOT INCLUDE NITROUS OXIDE PERMITS

ABBREVIATIONS USED:

CRDTS: Central Regional Dental Testing Service
NERB: Northeast Regional Board
SRTA: Southern Regional Testing Agency
WREB: Western Regional Examing Board
OCS: Oral Conscious Sedation
ACLS: Advanced Cardiac Life Support
PALS: Pediatric Advanced Life Support
JCAHO: Joint Commission on Accreditation of Healthcare Organizations
AAOMS: American Assoc. of Oral Maxillofacial Surgeons

ALABAMA

Alabama Board of Dental Examiners
5346 Stadium Trace Parkway: Suite 112
Hoover, AL 35244
Phone: (205) 985-7267 Fax: (205) 985-0674
www.dentalboard.org

State Permits: Individual Permits
Renewal: Annually (Renewal Fee: **$200.00** [OCS: **$50.00**])
- Parenteral Sedation (Fee: **$750.00**)
- General Anesthesia (Fee: **$750.00**)
- Oral Conscious Sedation (Fee: **$100.00**)

TRAINING REQUIREMENTS

- **Parenteral Sedation:** Completion of a minimum of sixty hours of instruction and the management of at least the number of patients recommended by the American Dental Association's Council on Dental Education (20). The hours of instruction must cover the following: (a) patient evaluation and medical risk assessment, (b) Management of medical emergencies (including ACLS), (c) Parenteral conscious sedation techniques.
- **General Anesthesia:** Only dentists who have completed an advanced education program structured in an advanced education level, which affords comprehensive and appropriate training necessary to administer and manage deep sedation/general anesthesia, are considered educationally qualified to use deep sedation and general anesthesia in practice.
- **Oral Conscious Sedation:** Completion of an ADA accredited post-graduate program; or training that includes a minimum of 16 hours involving OCS in a board approved course; or has certification of training by any entity approved by the board.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Team of Three Examiners – Appointed by the Board that, at the least, possess the permit in which they are inspecting.
- **Criteria of On-Site Inspection:** (A) Three procedures utilizing Parenteral Sedation and/or General Anesthesia should be observed, (B) The dentist and his/her team must perform an actual demonstration of their method for managing emergency situations, and (C) All office equipment and records related to patient care should be available for inspection by the visiting doctors.
- **Per Office Inspection Information:** If a request to perform anesthesia at a secondary office is submitted, any secondary office inspection will be limited to the dental facility and equipment provided that the same personnel satisfactorily evaluated at the primary office are identical.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Office Inspection Guidelines:** Specific attention should be directed to the following areas: (a) oxygen and supplemental gas delivery system (including backup systems), (b) provision for suction and backup system, (c) auxiliary lighting system, (d) gas storage, (e) suitability of operatory, (f) patient transportation equipment (if used), (g) recovery area, (h) sterilization areas, (i) preparation of medication, (j) completeness of office patient-care records, (k) monitoring equipment.
- **Monitoring & Equipment:** (A) *Respiration* – (i) pretracheal stethoscope, or (ii) electronically enhanced pretracheal stethoscope, or (iii) pulse oximetry **[mandatory]**. (B) *Heart Rate* – (i) precordial stethoscope, or (ii) plethysmograph, or (iii) pulse monitor, or (iv) electrocardioscope (ECG). (C) *Blood Pressure* – (i) sphygmomanometer and stethoscope, or (ii) manufactured monitor with automatic setting **[preferred]**. *Summary* – Standard, modern day, monitor with pulse oximetry, automated blood pressure, ECG feature, oximetry / ECG heart rate would be most beneficial.
- **Patient Recovery:** (A) Patients should be retained in the surgery area until all protective reflexes have fully returned unless the dental staff is in immediate attendance at all times in the recovery area. (B) The major requirement for the recovery area is that the staff must be able to observe the patient.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** *Conscious Sedation* – The minimum number of people involved must be two, i.e., the dentist or other licensed professional and an assistant trained to monitor physiologic variables.
  Deep Sedation or General Anesthesia – One personnel is the operating dentist, who directs the deep sedation or general anesthesia. The second is a person whose responsibilities are observation and monitoring of the patient; if this person is an appropriately trained professional, he or she may direct the deep sedation or general anesthesia. The third person assists the operating dentist.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
153

ALASKA

Alaska State Board of Dental Examiners
Division of Occupational Licensing
Juneau, AK 99811-0806
Phone: (907) 465-2542 Fax: (907) 465-2974
www.dced.state.ak.us/occ/pden.htm

State Permits: Inclusive Permits
Renewal: **$150.00**
- Use of General Anesthesia Permit (Fee: **$150.00**)
- Parental Sedation Permit (Fee: **$150.00**)

TRAINING REQUIREMENTS

- The board will issue a permit to a dentist licensed in the state for the administration of an anesthetic agent or agents for the purpose of inducing general anesthesia if the applicant offers certified proof that the applicant:
  1) is a diplomat of the American Board of Oral and Maxillofacial Surgery;
  2) is a member of the American Association of Oral and Maxillofacial Surgery;
  3) has fulfilled not less than 36 months of oral surgery advanced education approved by the Council on Dental Education of the American Dental Association;
  4) is a certified member of an American Dental Association Specialty Board and meets the minimum requirement in anesthesiology as recommended by the American Board of Oral and Maxillofacial Surgery; or
  5) has completed a minimum of one year of advanced training in anesthesiology in an accredited program beyond the undergraduate dental school level.

SINGLE OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- Before the issuance of a parenteral sedation permit and during the term of the permit, the board will, in its discretion, require an on-site inspection of the permittee's facilities and equipment and an evaluation of the ancillary staff to determine if the standards have been met. The evaluation may be carried out by the board or its designated representative. Inspections will be conducted according to the general guidelines described in the Anesthesia Evaluation Manual (Third Edition, copyright 1986), published by the American Association of Oral and Maxillofacial Surgeons.

STATEMENT OF REQUIREMENTS

- A holder of a permit to administer an anesthetic for the purpose of inducing surgical anesthesia shall:
  1) obtain and maintain an adequate airway for the patient;
  2) use an oxygen machine and have it available for maintaining the ventilation of the lungs;
  3) have the knowledge of and be able to skillfully place needles into veins for the administration of drugs;
  4) maintain in his office at all times with the appropriate drugs and medicines for emergencies

ADDITIONAL RULES AND REGULATIONS

- **Operative Procedure:** A dentist administering a general anesthetic may not perform an operative procedure for the duration of the anesthesia.
- **Other than permit holders:** In addition to a dentist holding a valid permit for the administration of an anesthetic agent or agents for the purpose of inducing general anesthesia; the following persons may administer an anesthetic agent:
  1) a registered nurse certified by the Association of Nurse Anesthetists who while in a dental office administers the anesthetic agent under the direct supervision of a dentist holding a valid permit.
  2) a board eligible anesthesiologist who while in a dental office administers the anesthetic agent while under the direct supervision of a dentist holding a valid permit.
  3) a dentist who administers an anesthetic agent under the direct supervision of a medical doctor in a licensed hospital even though the dentist does not have a valid permit to do so.
- **Morbity and Mortality:** A dentist shall report to the board a death that occurred on the premises used for the practice of dentistry within 48 hours after the death.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
60

ARIZONA

Arizona State Board of Dental Examiners
5060 North 19th Avenue; Suite 406
Phoenix, AZ 85015
Phone: (602) 242-1492 Fax: (602) 242-1445

www.azdentalboard.org

State Permits: All Inclusive per Location
Renewal Every Three Years: **$300.00** per Location
- General Anesthesia and Semi-Conscious Sedation [1301] (Fee: **$300.00**)
  - Conscious Sedation [1302] (Fee: **$300.00**)
  - Oral Conscious Sedation (Fee: **$300.00**)

TRAINING REQUIREMENTS

- **General Anesthesia and Semi-conscious sedation:** (A) Complete a full credit load during one calendar year of training in anesthesiology or related academic subjects, beyond the undergraduate level. (B) Be a diplomat of the American Board of Oral and Maxillofacial Surgeons or eligible for examination by the American Board of Oral and Maxillofacial Surgeons, or a Fellow of the American Dental Society of Anesthesiology, or eligible for examination by the American Dental Society of Anesthesiology. (C) Employ or work with a licensed allopathic or osteopathic physician who is a member of the anesthesiology staff of an accredited hospital in the state of Arizona and ensures that the anesthesiologist remains on the dental facility premises until patient discharge. (All applicants must maintain ACLS Certification)
- **Conscious Sedation:** (A) Current ACLS Certification; (B) Participate in 60 clock hours of Board-approved undergraduate, graduate, or postgraduate education within the three years before submitting the permit application that covers: (i) administration of parenteral sedative medications to at least ten patients, (ii) physical evaluation, (iii) management of medical emergencies, (iv) the importance of and techniques for maintaining proper documentation, and (v) demonstrate the proper use of monitoring equipment.
- **Oral Conscious Sedation:** (A) Complete a Board-approved post-doctoral residency program that includes documented training in oral conscious sedation; or (B) Participate in 30 clock hours of Board-approved undergraduate, graduate, or post-graduate education in oral conscious sedation within the five years before submitting the permit application.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Team of two dentists who are board members, or board designees.
- **Criteria of On-Site Inspection:** (A) The administration of general anesthesia/semi-conscious sedation and/or conscious sedation. (Oral conscious sedation observation is not required; however an office / equipment inspection must be completed.) (B) Successful responses by the dentist to oral examination questions from the evaluation team; about patient management and medical emergencies and medicines. (C) Proper record keeping.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Office Inspection Guidelines:** Specific attention will be paid to availability of equipment and personnel, anesthetic management, and proper record keeping as specified.
- **Monitoring & Equipment:** The facility must contain the following: (i) anesthesia or analgesia machine **(GA Permit)**, (ii) emergency drugs, (iii) ECG **(GA Permit)**, (iv) pulse oximetry, (v) cardiac defibrillator **(GA Permit)**, (vi) positive pressure oxygen, (vii) suction equipment, (viii) Laryngoscope and blades **(GA Permit)**, (ix) endotracheal tubes **(GA Permit)**, (x) Magill forceps **(GA permit)**, (xi) oral airways/nasopharyngeal tubes (xii) stethoscope, (xiii) blood pressure monitoring device, (xiv) maintains properly trained staff of supervised personnel capable of handling procedures, complications, and emergency incidents.

ADDITIONAL RULES AND REGULATIONS

- **Accountability:** Permit holder must maintain proper documentation of controlled substances; that includes a "perpetual" inventory log.
- **Other than Permit Holders:** A dentist who obtains a 1301 or 1302 permit may employ a nurse anesthetist to administer anesthesia.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
208

ARKANSAS

Arkansas State Board of Dental Examiners
101 East Capital Ave.; Suite 111
Little Rock, AR 72201
Phone: (501) 682-2085 Fax: (501) 682-3543

www.asbde.org

State Permits: All Inclusive
Renewal: Yearly (Including Facility Permits)
- Conscious Sedation [Level 3] (Fee: **$150.00**)
- Deep Sedation or General Anesthesia [Level 4] (Fee: **$500.00**)
- Facility Permit (Only needed with Level 4 or Higher) (Fee: **$500.00**)

TRAINING REQUIREMENTS

- **Deep Sedation or General Anesthesia (Level 4):** (A) A didactic and clinical program at a dental school, hospital, or graduate dental or medical program accredited by the ADA Commission on Dental Accreditation; or (B) A residency in general anesthesia at an institution certified by the American Society of Anesthesiology, the American Medical Association, or the Joint Commission on Hospital Accreditation, resulting in the dentist becoming clinically competent in the administration of general anesthesia. The residency must include a minimum of 390 hours of didactic study, 1040 hours of clinical anesthesiology, and 260 cases of administration of General Anesthesia to an ambulatory outpatient; **and** (C) The dentist must be current in ACLS.
- **Conscious Sedation:** A didactic and clinical program at a dental school, hospital, or graduate dental or medical program approved by the American Dental Association Commission on Dental Accreditation and/or a program approved by the Arkansas State Board of Dental Examiners resulting in the dentist becoming competent in administering agents to render a patient to Level 3 Conscious Sedation. **Note:** If a dentist is administering Level 3 Sedation to a patient under the age of 12 years and does not hold a permit to administer General Anesthesia, the dentist must have current certification in Pediatric Advanced Life Support (PALS).
- **Oral Conscious Sedation:** Must currently possess a Level 3 Permit.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Team of two or more dentists chosen and approved by the Board. The evaluators must hold a current Level 4 permit and must have practiced Level 4 anesthesia for a minimum of one year. In addition, the Board must appoint a dentist member of the Board to serve as an observer at any evaluation.
- **Criteria of On-Site Inspection:** (A) Demonstration of anesthesia technique applied; (B) Simulated emergency situations; (C) Proper staff preparedness and training; (D) Proper record keeping; (E) Recovery area; (F) Availability of oxygen delivery system (positive pressure), proper suction equipment & lighting.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** The facility must contain the following: (i) pulse oximeter, (ii) blood pressure cuff and stethoscope, (iii) scavenging system for nitrous oxide, (iv) oral airways, (v) appropriate emergency drugs, (vi) appropriate emergency drugs for ACLS **(GA Permit)**, (vii) tonsillar suction tip **(GA Permit)**, (viii) Laryngoscope with blades **(GA Permit)**, (ix) Endotracheal tubes with connectors **(GA Permit)**, (x) electrocardioscope and defibrillator **(GA Permit)**, (xi) adequate equipment for the establishment of an intravenous infusion, (xii) automatic blood pressure monitoring device **(GA Permit)**, (xiii) McGill forceps **(GA Permit)**
- **Record Keeping:** (A) Informed consent must be given and recorded; (B) Complete and appropriate reporting of the patient's weight, all drugs administered, dosages, and level of consciousness must be a permanent portion of the patient record; (C) Vital signs must be recorded pre-operatively, intra-operatively, and post-operatively; (D) A discharge level of consciousness must be recorded.

ADDITIONAL RULES AND REGULATIONS

- **Temporary Permit:** Applicants who have applications approved for a Level 4 permit are issued a temporary permit for one year (maximum) in duration. A self-evaluation and compliance form must be completed and returned to the board before any Level 4 permit is issued.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
89

CALIFORNIA

Dental Board of California
2005 Evergreen Street; Suite 1550
Sacramento, CA 95815
Phone: (916) 263-2300 Fax: (916) 263-2140

www.dbc.ca.gov

State Permits: All Inclusive
Renewal: Biennially (Office Inspection Every 6 Years)
- Conscious Sedation (Fee: **$200 + $350** Office Inspection)
- General Anesthesia (Fee: **$200 + $350** Office Inspection)
- Oral Conscious Sedation (Fee: **$200** / Renewal: **$75**)

TRAINING REQUIREMENTS

- **General Anesthesia:** (A) Completion of a residency program in general anesthesia of not less than one calendar year, that is approved by the Board of Directors of the American Dental Society of Anesthesiology for eligibility for a fellowship in General Anesthesia, or has a fellowship in general anesthesia; or (B) Has completed a graduate program in oral and maxillofacial surgery which has been approved by the Commission on Accreditation of the ADA.
- **Conscious Sedation:** Successful completion of a course consisting of (a) 60 hours of instruction, (b) the completion of at least 20 conscious sedation cases within an educational setting.
- **Oral Conscious Sedation Certification (Pediatric; 13 years or less):** Completion of (A) a board approved program consisting of 25 hours of specific instruction, including a clinical component utilizing at least one minor patient; (B) completion of post graduate education in OMFS, periodontics, or pediatric dentistry; (C) completed a general practice residency or advanced education in general dentistry.
- **Oral Conscious Sedation Certification (Adult):** Completion of (A) post graduate education in OMFS, periodontics, or pediatric dentistry; (B) completed a general practice residency or advanced education in general dentistry, (C) board approved education program on oral medication and sedation; (D) If currently using OCS, documentation of 10 cases satisfactorily performed by the applicant.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** (A) Consists of two or more persons chosen and approved by the board. (B) These persons must meet one of the criteria for a general anesthesia permit and/or the criteria for conscious sedation permit and must have utilized general anesthesia or conscious sedation, whichever applicable, in a dental practice setting for a minimum of three years immediately preceding their application to be an evaluator. (C) At least one of the evaluators must have experience in evaluation of dentists administering general anesthesia or conscious sedation.
- **Criteria of On-Site Inspection:** (I) The office inspection shall consist of the following three parts: (a) Office Facilities and Equipment (Including oxygen supply, suction equipment, and recovery area); (b) Record keeping; (c) Drugs (…to include the following *Emergency Medications*: vasopressor, corticosteroid, bronchodilator, muscle relaxant **(GA Permit)**, medication for treatment of cardiopulmonary arrest **(GA Permit)**, appropriate drug antagonist, antihistaminic, anticholinergic, antiarrhythmic **(GA Permit)**, coronary artery vasodilator, antihypertensive **(GA Permit)**, an anticonvulsant, oxygen, and an antihypoglycemic. (II) The evaluation of the applicant for a permit shall consist of the following two parts: (a) A demonstration of General Anesthesia or Conscious Sedation, whichever applicable, during a dental procedure. Any anesthesia technique that is routinely employed can be demonstrated. It should be noted that the evaluation will also include patient recovery; (b) Proper management of simulated emergencies, in which, knowledge of and method of treatment must be physically demonstrated by the dentist and his or her operating team for thirteen specific emergencies.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** The following is considered necessary equipement: (i) Oral Airways, (ii) tonsillar type suction tip, (iii) endotracheal tube forceps **(GA Permit)**, (iv) sphygmomanometer and stethoscope, (v) electrocardioscope and defibrillator **(GA Permit)**, (vi) endotracheal tubes **(GA Permit)**, (vii) proper ancillary equipment, including a laryngoscope with blades and spare batteries/bulbs **(GA Permit)**, (viii) equipment for the establishment of an intravenous infusion, (ix) precordial/pretracheal stethoscope, (x) pulse oximetry
- **Continuing Education:** [*General Anesthesia/Conscious Sedation*] A permittee shall be required to complete **15 hours** of approved courses of study related to GA/CS as a condition of renewal of a permit. [*Oral Conscious Sedation*] A permittee shall be required to complete **7 hours** of approved courses of study relating to OCS as a condition of renewal of a permit

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
1803

COLORADO

Colorado State Board of Dental Examiners
1560 Broadway: Suite 1350
Denver, CO 80202
Phone: (303) 894-7800 Fax: (303) 894-7764

www.dora.state.co.us/DENTAL

State Permits: All Inclusive
Renewal: Not Available
- Conscious/Deep Sedation (Fee: **Included with Office Inspection**)
- General Anesthesia (Fee: **Included with Office Inspection**)
- Office Inspection [Effective for 5 years] (Fee: Shall not exceed **$400.00**)

TRAINING REQUIREMENTS

- **General Anesthesia:** A Colorado licensed dentist shall meet one of the following requirements: (A) Proof of successful completion of a residency program in general anesthesia of not less than one calendar year that is approved by the Board of Directors of the American Dental Society of Anesthesiology for eligibility for the Fellowship in general Anesthesia; or (B) Proof of successful completion of a graduate program in oral and maxillofacial surgery which has been approved by the Commission on Dental Accreditation; or (C) Proof of employment of or supervision by a trained Doctor of Medicine or Doctor of Osteopathy who is a member of the anesthesiology staff of an accredited hospital, or proof of employment of or supervision by a Colorado licensed dentist who has met the requirements specified above, provided that the doctor/dentist administers the anesthesia and remains on the premises of the dental facility.
- **Conscious Sedation:** Colorado licensed dentist shall meet one of the following requirements: (A) Completion of the education requirements specified under General Anesthesia; or (B) Proof of successful completion of a specialty residency or general practice residency recognized by the Commission on Dental Accreditation; or (C) Proof of successful completion of a minimum of 60 course hours within the past 5 years that provide training in the administration and induction of conscious/deep sedation techniques and the potential problems and emergencies associated, as well as documentation of 20 treatment cases.

SINGLE OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The dentist requiring the inspection shall obtain his/her own inspector. The inspector must be an Oral Surgeon, Certified Nurse Anesthetist, Anesthesiologist, a Dental Anesthesiologist, or a Board Certified Pediatric Dentist with current PALS certification. The inspector must have a current, unrestricted Colorado dental, medical, or nursing license. The inspector shall not have had a previous, current, or intended working relationship with the dentist he/she is inspecting.
- **Criteria of On-Site Inspection:** The office inspection shall consist of four parts: (I) Review of the office equipment, records, and emergency medications; (II) Simulated emergencies – The dentist and his/her team must perform an actual demonstration of their method for managing a minimum of eight emergency situations set forth by the board and be proficient in at least 75% of these situations; (III) Discussion Period; (IV) Surgical/Anesthetic Techniques – The inspector shall observe at least one case while the dentist administers conscious/deep sedation. The inspector is authorized to observe additional cases at his/her discretion.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** The facility must contain the following: (i) back-up suction equipment; (ii) back-up lighting; (iii) capability to deliver oxygen to a patient under positive pressure; (iv)sterilization, (v) a recovery area with oxygen and suction, (vi) an ambu bag, (vii) oral and nasopharyngeal airways, (viii) endotracheal tubes suitable for children and adults **(GA Permit)**, (ix) laryngoscope with reserve batteries and bulbs **(GA Permit)**, (x) endotracheal tube forceps **(GA Permit)**, (xi) emergency drugs, (xii) an IV catheter with continuous drip, (xiii) pulse oximeter, (xiv) blood pressure cuff of appropriate size and stethoscope.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** (A) During administration of parenteral conscious sedation, the dentist and at least one other individual must be present. (B) A minimum of 3 individuals must be present during the administration of general anesthesia. The dentist qualified to administer anesthesia and two individuals, one of whom is trained in patient monitoring.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
153

CONNECTICUT

Connecticut Department of Public Health
410 Capitol Ave. – MS # 12APP
Hartford, CT 06134
Phone: (860) 509-7590 Fax: (860) 509-8457

http://www.ct.gov/dph/cwp/view.asp?a=3121&q=389280&dphNav_GID=1821

State Permits: Individual Permits
Renewal: Annually during licensee's month of birth
- Conscious Sedation (Fee: **$160.00**)
- General Anesthesia and Conscious Sedation (Fee: **$160.00**)
- Office Inspection at 5 Year Intervals

TRAINING REQUIREMENTS
- **General Anesthesia and Conscious Sedation:** Applicant must satisfy either: (A) completion of a full course in a post-doctorate training program in Oral and Maxillofacial Surgery, approved by the ADA; or (B) completion of a minimum of one-year full time training in a post-doctoral program in anesthesiology structured in accordance with Part Two of the ADA Council on Dental Education Guidelines for Teaching Comprehensive Control of Pain and Anxiety; or (C) hold current certification as a diplomat of the American Board of Oral and Maxillofacial Surgery and have graduated from a dental school or a post-doctoral dental residency training program no later than 1966; or (D) have been limiting practice to oral and maxillofacial surgery in accordance with Section 20-160a, Chapter 379, Connecticut General Statutes for 10 years prior to application. In addition, the applicant must hold current certification in BLS or ACLS, while the applicant's entire staff must also hold BLS or ACLS certification.
- **Conscious Sedation:** Applicant must satisfy: (A) Graduate, within the two years prior to applying for the permit, from a dental school or post-doctoral residency which included: a didactic course in conscious sedation; and which also includes either at least 4 weeks active participation in full-time rotation in hospital operating room anesthesia or 10 documented clinical cases utilizing parenterally administered conscious sedation in the dental operatory; or (B) complete and "Intensive Course" in post-doctoral continuing education program; or (C) document by patient anesthesia or sedation records the completion of a minimum of 12 parenterally administered conscious sedation procedures per year performed in the office, for each of the 3 one-year periods immediately preceding the date of application; and submit certification of completion of at least 24 hours of CE in one of the following areas: anesthesia, parenterally administered conscious sedation, or emergency medicine; (D) completion of one of (A), (B), (C), or (D) aforementioned within training requirements for General Anesthesia and Conscious Sedation.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES
- **Structure of Office Inspection Team:** (A) Two members recommended to the Commission by the Chairperson of the Anesthesia Committee of the CSOMS (Connecticut Society of Oral and Maxillofacial Surgeons) who have fulfilled the requirements of the CSOMS to be an office anesthesia evaluator; or (B) One member who has fulfilled the requirements of the CSOMS to be an office anesthesia evaluator, and one member who is a Fellow of the American Dental Society of Anesthesiology both of whom shall be recommended to the Commissioner by the Chairperson of the Anesthesia Committee of the CSOMS.
- **Criteria of On-Site Inspection:** The office inspection shall consist of the following parts: (a) observation of the general anesthesia or parenteral conscious sedation technique employed by the practitioner during a minimum of two operative cases, with the total time for both cases not to exceed two hours (if applicant already possesses a state permit = one case review); (b) simulation of management of medical emergencies; (c) evaluation of office equipment, emergency drugs, and anesthesia records; (d) an exit interview between the practitioner and the evaluation team; (e) verification of BLS certification with recommendation for ACLS

OFFICE FACILITY / EQUIPMENT REQUIREMENTS
- **Monitoring & Equipment:** (i) Oral Airways, (ii) tonsillar type suction tip, (iii) endotracheal tube forceps **(GA Permit)**, (iv) sphygmomanometer and stethoscope, (v) electrocardioscope and defibrillator **(GA Permit)**, (vi) endotracheal tubes **(GA Permit)**, (vii) proper ancillary equipment, including a laryngoscope with blades and spare batteries/bulbs **(GA Permit)**, (viii) equipment for the establishment of an intravenous infusion, (ix) precordial/pretracheal stethoscope, (x) pulse oximetry, (xi) nasal hood or cannula, (xii) equipment for emergency crico-thyroidotomy or tracheostomy and appropriate connectors for administering oxygen, (xiii) EKG monitor (means of monitoring heart rate), (xiv) pre-cordial, nasal hood whistle, or direct observation of chest by anesthesia assistant to monitor respiration

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
131

DELAWARE

Delaware State Board of Dental Examiners
Cannon Building
861 Silver Lake Blvd.: Suite 203
Dover, DE 19904-2467
Phone: (302) 744-4500 Fax: (302) 739-2711

http://www.dpr.delaware.gov/boards/dental/index.shtml

New ADA Guideline Adoption

State Permits: Unrestricted-Inclusive; Restricted-Individual
Renewal: Biennially
- Restricted Permit I: Conscious Sedation induced by parenteral or enteral or rectal routes (Fee: **$15.00**)
- Restricted Permit II: Conscious Sedation induced by nitrous oxide (Fee: **$15.00**)
- Unrestricted: General Anesthesia and Deep Sedation Permit (Fee **$15.00**)

TRAINING REQUIREMENTS
- **Restricted Permit I:** In order to receive such a permit, the dentist must produce evidence showing that he or she: (A) Completed a minimum of 60 hours of instruction, including the clinical management of at least 20 patients; (B) Must be certified in CPR as documented by the American Heart Association or American Red Cross. (ACLS is encouraged.) (C) Must also have a properly equipped facility for the administration of a Restricted I permit with a supervised team of auxiliary personnel capable to reasonable handle proper procedures.
- **Restricted Permit II:** In order to receive such a permit, the dentist must produce evidence showing that he or she: (A) Completed a minimum of 14 instructional hours including clinical experience; (B) Must have certification in CPR as certified by the American Heart Association or American Red Cross
- **Unrestricted Permit:** In order to receive such a permit, the dentist must produce evidence showing that he or she: (A) Completed a minimum of two years of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level, or (B) is a Diplomat of the American Board of Oral and Maxillofacial Surgeons, or (C) has satisfactorily completed a residency in Oral and Maxillofacial Surgery at an institution approved by the Council on Dental Education, or (D) is a Fellow of the American Dental Society of Anesthesiology, or (E) employs or works in conjunction with a trained M.D. or D.O. who is a member of the anesthesiology staff of an accredited hospital. In addition, (F) the applicant must have a properly equipped facility, staffed with a supervised team of auxiliary personnel capable to reasonable handle proper procedures, and (G) the applicant must be certified in ACLS.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES
- **Structure of Office Inspection Team:** The State Board of Dental Examiners shall appoint a team of Advisory Consultants and alternates to conduct the on-site inspection and evaluation of a licensed dentist applying for a Restricted I or Unrestricted Anesthesia Permit. If the applicant has been satisfactorily evaluated by another similar organization (e.g., the Delaware Society of Oral and Maxillofacial Surgeons which used the AAOMS Office Anesthesia Evaluation Manual Standards), then the Board may accept this evaluation and not require additional on-site evaluations.
- **Criteria of On-Site Inspection: [Office Inspection for Restricted Type I and Unrestricted Permits]** The office inspection shall consist of the inspection and evaluation of the facilities, equipment, and personnel of the applicant. The Anesthesia Advisory Consultants shall utilize the "Guidelines for the Use of Conscious Sedation, Deep Sedation and General Anesthesia for Dentistry", as approved by the ADA in October 1996, or any current update thereof.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS
- **Monitoring & Equipment:** A list of emergency drugs and equipment that should be on hand would consist of the following: (i) agents capable of treating: hypotension and bradycardia, allergy/bronchospasm, seizures, narcotic-induced respiratory depression, angina, adrenal insufficiency, and nausea; (ii) equipment to provide artificial respiration; (iii) equipment to establish intravenous access and inject medications.

ADDITIONAL RULES AND REGULATIONS
- **Continuing Education:** Unrestricted Permit holders must obtain **12 hours** of anesthesia related CE. Restricted Type I Permit holders must obtain **6 hours** of anesthesia related CE.
- **Additional Personnel:** A CRNA may be utilized only if the dentist providing care possesses the appropriate permit.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
125

FLORIDA

Florida Board of Dentistry
4052 Bald Cypress Way, Bin #C-08
Tallahassee, FL 32399-3258
Phone: (850) 245-4474 Email: MQA_Dentistry@doh.state.fl.us

www.doh.state.fl.us/mqa/dentistry

State Permits: All Inclusive with General Anesthesia Only
Renewal: Biennially
- Conscious Sedation (Fee: **$300.00**)
- General Anesthesia (Fee: **$ 300.00**)
- Pediatric Conscious Sedation Permit (Fee: **$300.00**)

TRAINING REQUIREMENTS
- **General Anesthesia:** The applicant must complete a minimum of one-year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program as described in Part II of the "Guidelines for Teaching the Comprehensive Control in Pain and Anxiety in Dentistry" as published by the ADA. In addition, a dentist employing or using general anesthesia or deep sedation and all assistant/dental hygienist personnel shall be certified in CPR at the basic life support level (including training with a defibrillator) with a periodic update not to exceed two years. It should also be noted, the applicant must be currently trained in ACLS or ATLS.
- **Conscious Sedation:** The applicant must have received formal training in the use of Conscious Sedation. The formal training must be sponsored by or affiliated with a University, Teaching Hospital, or other facility approved by the Board, or may be part of the undergraduate curriculum of an accredited dental school and must contain, at a minimum, 60 hours of didactic training and the supervised personal administration of at least 20 patients including supervised training, clinical experience and demonstrated competence in management of the compromised airway. In addition, the applicant and staff must be CPR certified (including training with a defibrillator) with the applicant possessing ACLS certification.
- **Pediatric Conscious Sedation:** The applicant must have received formal training in the use of Pediatric Conscious Sedation as demonstrated in the requirements for the Florida State Dental Board Conscious Sedation Permit.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES
- **Structure of Office Inspection Team:** The Chairman of the Board or the Board by majority vote shall appoint consultants who are Florida licensed dentists to inspect facilities where general anesthesia, deep sedation, conscious sedation, or pediatric conscious sedation is performed. Consultants shall receive instruction in inspection procedures from the Board prior to initiating an inspection.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS
- **Monitoring & Equipment:** The permit applicants shall comply with the following requirements at each location where anesthesia procedures are performed. Each facility must possess the following: (a) adequate size and design of operatory, (b) if a recovery room is present it shall be equipped with suction equipment, positive pressure oxygen, and sufficient light, (c) the operatory must possess a mechanism for positive pressure oxygen, including full face mask for adults and for pediatric patients, (d) oral and nasal airways of various sizes, (e) blood pressure cuff and stethoscope, (f) cardioscope **(GA Permit)**, (g) pulse oximetry, (h) defibrillator equipment, (i) appropriate IV set-up, (j) laryngoscope with current batteries **(GA Permit)**, (k) intubation forceps and endotracheal tubes **(GA Permit)**, (l) tonsillar suction with back up suction, (m) CPR board or suitable chair, (n) appropriate emergency drugs, (o) all necessary monitoring structures as permanent apparatus to and within the individual facility anesthesia area.
- **Written Protocols:** The applicant shall provide written emergency protocols for the treatment of the following: laryngospasm, bronchospasm, emesis and aspiration, airway blockage, angina, MI, hypertension and hypotension, allergic and toxicity reactions, convulsions, and hyper/hypo- ventilation.

ADDITIONAL RULES AND REGULATIONS
- **Continuing Education:** Each anesthesia permit holder must complete at least **4 hours** of continuing education relating to anesthesia each biennium.
- **Miscellaneous:** 1.An applicant for any type of anesthesia permit must demonstrate training and administration of the particular type of anesthesia within 2 years prior to application including documentation of actual clinical administration of 20 anesthetics. 2.GA permit holders must maintain dantrolene, when using volatile gases.
- **Restrictions:** A dentist who does not hold an anesthesia permit may not allow any person to administer anesthesia to his patients unless the treatment is rendered within a facility approved by the Board. (Please Contact the State Board for specific details.)

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
674

GEORGIA

Georgia State Board of Dentistry
237 Coliseum Drive
Macon, GA 31217-3858
Phone: (478) 207-2440 Fax: (478) 207-1685

www.sos.state.ga.us/plb/dentistry

State Permits: All Inclusive
Renewal: Biennially **$50.00** (Provisional Permits = 6 Months)
- Conscious Sedation (Fee: **$ 100.00** - Price includes one site evaluation)
- General Anesthesia (Fee: **$ 100.00** - Price includes one site evaluation)
- On site evaluation fee = **$100.00** per additional site evaluation
- Oral Conscious Sedation (Fee: **$100.00**)

TRAINING REQUIREMENTS
- **General Anesthesia/Deep Sedation:** The applicant must have completed a minimum of one year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level at an institution accredited by the Commission on Dental Accreditation; or is a diplomat of the American Board of Oral and Maxillofacial Surgery, is a member of the American Association of Oral and Maxillofacial Surgeons, or is a Fellow of the American Dental Society of Anesthesiology.
- **Conscious Sedation:** Must meet one of the following requirements… **(I) As an undergraduate dental student…** (A) The applicant must have received formal training in the use of conscious sedation at an accredited institution. The course must include a minimum of 60 hours of didactic instruction in conscious sedation, which is to include instruction in safety and management of emergencies. (B) Must have managed a minimum of 15 patients, at least three of whom must be children 12 or under, using conscious sedation techniques in each modality for which a permit is desired; and (C) Reached an achievement of a level of competency consistent with the standards of the institution of training. **(II) As a post-graduate student, or through a CE course…** (A) Successful completion of a course with a minimum of 60 hours of didactic instruction in conscious sedation which included instruction in safety and management of emergencies; (B) Management of a minimum of 10 patients, at least 2 of whom must be children age 12 or under, using conscious sedation techniques in each modality for which a permit is desired; and (C) Reached an achievement of a level of competency consistent with the standards of the institution of training.
- **Oral Conscious Sedation:** (A) The applicant must have received formal training in the use of conscious sedation at an accredited institution. The course must include a minimum of 60 hours of didactic instruction in conscious sedation, which is to include instruction in safety and management of emergencies. (B) Must have managed a minimum of 15 patients, at least three of whom must be children 12 or under, using conscious sedation techniques in each modality for which a permit is desired; and (C) Reached an achievement of a level of competency consistent with the standards of the institution of training.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES
- **Structure of Office Inspection Team:** The board is authorized to designate qualified persons to perform the on-site examination.
- **Criteria of On-Site Inspection:** (A) The applicant must utilize a properly equipped facility for the administration of the particular permit applied, including physical plant and equipment, which has been evaluated and certified by the on-site examination. (B) The applicant must demonstrate to the satisfaction of the board or any designee thereof proficiency in administering general anesthesia on a patient or patients in the dentist's office in a safe and effective manner.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS
- **Monitoring & Equipment:** Utilizes a properly equipped facility for the administration of general anesthesia, including physical plant and equipment which has been evaluated and certified by an onsite examination.

ADDITIONAL RULES AND REGULATIONS
- **Other Than Permit Holders:** A person who is duly licensed as a certified registered nurse anesthetist in this state from administering anesthesia in a dental facility, provided that such anesthesia is administered under the direction and responsibility of a dentist duly permitted. Given that such nurse anesthetist shall remain on the premises of the dental facility until any patient given an anesthetic by such nurse anesthetist is stabilized and has regained consciousness.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
357

HAWAII

Hawaii Board of Dental Examiners
335 Merchant St.; 3rd Floor
Honolulu, HI 96813
Phone: (808) 586-3000 Fax:

www.hawaii.gov/dcca/areas/pvl/boards/dentist/

State Permits: All Inclusive
Renewal: Biennially
- Conscious Sedation (Fee: $ 50.00 + $15.00 Service Fee)
- General Anesthesia (Fee: $ 50.00 + $15.00 Service Fee)
- Office Inspection Fee Not Disclosed

TRAINING REQUIREMENTS

- **General Anesthesia:** The applicant must have completed (A) A minimum of 2 years of advanced academic study (or its equivalent) beyond the undergraduate dental school level in a training program as described in Part 2 of the Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry adopted by the ADA Council of Dental Education; or (B) is a Diplomat of the American Board of Oral and Maxillofacial Surgery; or (C) is eligible for examination by the American Board of Oral and Maxillofacial Surgery; or (D) is a member of the American Association of Oral and Maxillofacial Surgeons; or (E) the applicant is a Fellow of the American Dental Society of Anesthesiology
- **Conscious Sedation:** The applicant has completed a minimum of one year of advanced academic study (or its equivalent) beyond the undergraduate dental school level in a training program as described in Part 2 of the Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry adopted by the ADA Council on Dental Education; or the applicant meets any of the requirements for a General Anesthesia Permit.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The board shall appoint a team of advisory consultants to conduct the on-site inspection and evaluation of the facilities, equipment, and personnel of a licensed dentist applying for written authorization to administer or to employ another person to administer anesthesia; thereafter, re-inspections may be conducted. The advisory consultants shall also aid the board in the adoption of criteria and standards relative to the regulation and control of anesthesia.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facilities and staff requirements:** The applicant must have a properly equipped facility for the administration of general anesthesia/conscious sedation staffed with a supervised team of auxiliary personnel capable of reasonably handling anesthesia procedures, problems, and emergencies incident thereto. This evaluation, to determine whether the facility is adequate and properly equipped, may be carried out in a manner that generally follows the guidelines, standards, requirements, and basic principles as described in the "American Society of Oral Surgeons Office Anesthesia Emergency Self Evaluation Manual."

ADDITIONAL RULES AND REGULATIONS

- **Re-evaluation:** The board may, at any time, reevaluate the credentials, facilities, equipment, personnel, and procedures of a licensed dentist who has previously received written authorization from the board to determine if the dentist is still qualified to have written authorization.
- **Other Than Permit Holders:** A person who is duly licensed as a certified registered nurse anesthetist in this state from administering anesthesia in a dental facility, provided that such anesthesia is administered under the direction and responsibility of a dentist duly permitted. Given that such nurse anesthetist shall remain on the premises of the dental facility until any patient given an anesthetic by such nurse anesthetist is stabilized and has regained consciousness.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
55

IDAHO

Idaho State Board of Dentistry
PO Box 83720
Boise, ID 83720-0021
Phone: (208) 334-2369 Fax: (208) 334-3247

www2.state.id.us/isbd/

State Permits: All Inclusive
Renewal: Every 5 Years
- Limited Conscious Sedation (Fee: $300.00)
- Comprehensive Conscious Sedation (Fee: $300.00)
- General Anesthesia & Deep Sedation (Fee: $300.00)

TRAINING REQUIREMENTS

- **General Anesthesia & Deep Sedation:** A dentist applying for a permit to administer general anesthesia and deep sedation shall provide proof that he/she: (A) Has completed a minimum of 1 year of advance training in anesthesiology and related academic subjects beyond the undergraduate level with the 5 year period immediately prior to the date of application for a permit. The 5 year requirement shall not be applicable to applicants who hold an equivalent permit in another state which has been in effect for the 12 month period immediately prior to the date of application. An applicant must verify the administration of general anesthesia or deep sedation on at least 2 occasions in each of the 12 months immediately prior to the date of application; or (B) Is a diplomat of the American Board of Oral and Maxillofacial Surgery; or (C) Is a member of the American Association of Oral and Maxillofacial Surgeons; or (D) Is a Fellow of the American Dental Society of Anesthesiology; and (E) Has Current Certification in ACLS or its equivalent; and (F) Has an established protocol for admission to a recognized hospital.
- **Comprehensive Conscious Sedation:** The applicant must have formal training and certification in the use of conscious sedation drugs as described in the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry," within the 5 year period immediately prior to the date of application for a permit. The 5 year requirement shall not be applicable to applicants who hold an equivalent permit in another state which has been in effect for the 12 month period immediately prior to the date of application. An applicant must verify the administration of general anesthesia or deep sedation on at least 2 occasions in each of the 12 months immediately prior to the date of application. The formal training program shall: (a) Be sponsored by or affiliated with a dental school accredited by the Commission on Dental Accreditation of the American Dental Association or a teaching hospital or facility approved by the Board; and (b) Consist of a minimum of 60 hours didactic education and 20 hours of patient contact; (c) Include the issuance of a certificate of successful completion that indicates the type, number of hours, and length of training received; (d) The dentist must show proof of current certification of ACLS or its equivalent.
- **Limited Conscious Sedation:** To obtain this permit, the applicant must provide certification of the following: (a) completion of an ADA accredited post-doctoral training program (w/in 5 years) that included a minimum of 18 hours of didactic edu. and 20 clinical experiences on patients undergoing enteral or combo- inhalation-enteral conscious sedation; or (b) completion of board approved course within 5 years that included documented training of a minimum of 18 hours of didactic educatin plus 20 clinically-oriented experiences which provided competency in enteral and combination inhalation-enteral sedation; and (c) ACLS certification.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Adequacy of the facility and competence of the anesthesia team will be determined by evaluators appointed by the Board.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The dentist must have a properly equipped facility for the administration of general anesthesia, staffed with a dentist-supervised team of auxiliary personnel capable of reasonably handling procedures, problems, and emergencies incidents. Adequacy of the facility and competence of the anesthesia team will be determined by evaluators appointed by the Board and will use the AAOMS guidelines for facility requirements.

ADDITIONAL RULES AND REGULATIONS

- **Continuing Education:** Proof of a minimum of 25 credit hours of continuing education, every renewal period, in general anesthesia or conscious sedation will be required to renew a permit.
- **Personnel:** *GA* – Minimum of 3 personnel including: qualified person to direct sedation; qualified person for observation and monitoring of patient [CPR cert.]; and an assistant for operator (CPR cert.). *Conscious Sedation*- Minimum of 2 personnel including: The operator and an assistant trained to monitor appropriate physiologic parameters and assist in any support or resuscitation measures required (CPR cert.).

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
90

ILLINOIS

Illinois State Board of Dentistry
Department of Professional Regulation and Education
320 West Washington; 3rd Floor
Springfield, IL 62786
Phone: (217) 782-0458 Fax: (217) 782-7645

www.idfpr.com/dpr/WHO/dent.asp

State Permits:
Renewal: Biennially
- Conscious Sedation [Permit A] (Fee: $300.00)
- General Anesthesia/Deep Sedation [Permit B] (Fee: $300.00)

TRAINING REQUIREMENTS

- **General Anesthesia/Deep Sedation:** Training requirements include: (A) completion of an approved training program in anesthesiology to administer deep sedation or general anesthesia that shall be 2 calendar years that includes a minimum of 200 hours of didactic and 2,000 hours of clinical training; or (a) a diplomat of the American Board of Oral and Maxillofacial Surgery; (b) eligibility for examination by the American Board of Oral and Maxillofacial Surgery pursuant to the July 1, 1989 standards; (c) completion of a minimum of 2 years of advanced training in anesthesiology or related academic subjects, or its equivalent, in a training program as outlined in by the ADA Guidelines; (d) a specialty license in oral and maxillofacial surgery issued by the Department.
- **Conscious Sedation:** Training requirements include: (A) completion of a course of study that includes a minimum 60 hours of didactic and clinical study that includes training in conscious sedation (both light and deep), physical evaluation, venupuncture, technical administration, recognition and management of complications and emergencies, and monitoring with additionally supervised experience in providing conscious sedation to 20 or more patients. The anesthesiology training program must have been an organized sequence of study operated by one entity and completed in less than one calendar year; or (B) meet the requirements as set forth for the General Anesthesia/Deep Sedation requirements.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** No specific office guidelines are currently published; however, there is a self-certification on Affidavit requiring a notarized applicant signature.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** *Self Certification Affidavit. For Conscious Sedation permit:* The applicant must certify that the following equipment is on-site: (a) sphygmomanometer and stethoscope; (b) an oxygen delivery system with full face masks and connectors that is capable of delivering oxygen to the patient under positive pressure, with a backup system; (c) emergency drugs and equipment appropriate to the medications administered; (d) adequate suction equipment appropriate to the medications administered; (e) adequate back-up suction equipment; (f) an emergency back-up lighting system that will permit the completion of any operation underway; and (g) a pulse oximeter. *For General Anesthesia Permit:* Applicant must certify that the following equipment is on-site: (a) laryngoscope complete with selection of blades and spare batteries and bulbs; (b) endotracheal tubes and connectors and face masks; (c) tonsillar suction tips; (d) nasal and oral airways in sizes appropriate to the patient population; (e) device for monitoring temperature; (f) electrocardioscope and defibrillator; (g) pulse oximeter; (h) equipment for the establishment of an intravenous infusion; (i) emergency drugs and equipment appropriate to the medications administered; (j) an operating table or chair that permits appropriate access to the patient and provides a firm platform for the management of CPR; (k) a recovery area that has oxygen, lighting, suction, and electrical outlets (the recovery area may be the operating area); (l) an emergency backup lighting system that will permit the completion of any operation underway.

ADDITIONAL RULES AND REGULATIONS

- **Continuing Education:** Proof of a minimum of 4 credit hours of continuing education is required.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
145

INDIANA

Indiana State Board of Dentistry
402 East Washington St.; Room W072
Indianapolis, IN 46204
Phone: (317) 234-2054 Fax: (317) 233-4236

http://www.in.gov/pla/dental.htm

State Permits: All Inclusive
Renewal: Biennially (Fee: $50.00)
- Light Parenteral Conscious Sedation (Fee: $50.00)
- General Anesthesia and Deep Sedation (Fee: $50.00)
- Multiple Facility Registration (Fee: $25.00)

TRAINING REQUIREMENTS

- **General Anesthesia:** An applicant for a permit to employ general anesthesia or deep sedation must provide satisfactory evidence of completing a minimum of 1 year of postdoctoral training in anesthesiology and related academic subjects which meets the following requirements: (A) must be full time and be a minimum of 1 year in duration; (B) the program shall be a joint cooperative effort between the training institution's department of anesthesiology and department of dentistry; (C) instruction in both didactic basic science and clinical procedures; (D) the program shall include pre-anesthetic patient evaluation, administration of anesthesia in the operating room on a daily basis; (E) training must include anesthetic management for ambulatory outpatient procedures and the use of inhalation and intravenous sedation techniques; (F) must include instruction in pain management; (G) the program shall include training and successful completion of a course in ACLS.
- **Light Parenteral Conscious Sedation:** In order to obtain a permit, an applicant must meet one of the following criteria: (i) graduate from an approved dental school which included training in conscious sedation techniques at the pre-doctoral level; or (ii) the applicant completed an intensive postdoctoral training program in the use of light parenteral conscious sedation techniques. Both programs must include a minimum of 60 hours of instruction and the management of at least 10 patients.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Emergency Equipment Affidavit:** Submit an affidavit that the practitioner's office meets the Board's equipment requirements. You must submit a separate affidavit for each office where you will administer anesthesia or sedation.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** All practitioners utilizing anesthesia must have in their offices, as a minimum, the following emergency equipment available: (a) portable oxygen system capable of delivering positive pressure high/low oxygen including: an ambu-bag, a Robert Shaw demand valve or equivalent, a full face mask, and oral/nasal airways; (b) emergency source of power; (c) suction apparatus; (d) electrocardiograph (GA Permit), (e) a laryngoscope and assorted blades; (f) endotracheal tubes; (g) drugs necessary to follow ACLS protocol (BLS protocol for Conscious Sedation Permit); (h) equipment for continuous intravenous fluid infusion to facilitate drug administration; (i) stethoscope; (j) body temperature measuring device; (k) a defibrillator; (l) a pulse oximeter, (m) a sphygmomanometer.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** *For Conscious Sedation:* At least one additional person who has successfully completed a course in BLS must be present. *For General Anesthesia:* An anesthesia team, defined as… at least 1 dentist who holds a permit to administer general anesthesia or deep sedation (trained in ACLS) and at least 2 persons who are employed in the dental office or who are dental hygienists that are trained and currently competent in BLS must be present.
- **Miscellaneous:** It is strongly recommended that the dentist and trained staff hold drills on emergency procedures 4 times per year. A record that the drills have taken place should be maintained in the office of the dentist. The record should include the date that the drill took place and the names of those persons who participated in the drill. The records may be destroyed after 3 years.
- **Continuing Education:** The permittee must obtain at least 5 hours of anesthesia related CE credits each renewal period.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
307

IOWA

Iowa Board of Dental Examiners
400 S.W. 8th St.; Suite D
Des Moines, IA 50309-4687
Phone: (515) 281-5157 Fax: (515) 281-7969

www.state.ia.us/dentalboard

State Permits: All Inclusive
Renewal: Biennially
- Conscious Sedation (Fee: **$100.00**)
- General Anesthesia / Deep Sedation (Fee: **$100.00**)
- Office Inspection Fee is separate & shall not exceed $150.00

TRAINING REQUIREMENTS

- **General Anesthesia/Deep Sedation:** The dentist must meet the following requirements: (a) has successfully completed Part II of the American Dental Association Council on Education Guidelines; and (b) has formal training in airway management; or (c) has completed a minimum of 1 year of advanced training in anesthesiology and related academic subjects; or (d) is a diplomat of the American Board of Oral and Maxillofacial Surgery; or (e) is eligible for examination by the American Board of Oral and Maxillofacial Surgery; or (f) is a member of the American Association of Oral and Maxillofacial Surgeons; or (g) is a Fellow of the American Dental Society of Anesthesiology; and (h) maintains current certification in ACLS.
- **Conscious Sedation:** A permit may be issued to a licensed dentist to use conscious sedation on an outpatient basis for dental patients provided the dentist meets the following requirements: (a) has successfully completed Parts I and III of The ADA Council on Dental Education Guidelines; and (b) has formal training in airway management; or (c) has submitted evidence of successful completion of conscious sedation experience at the graduate level, which is approved by the board; (d) has successfully completed a formal training program, approved by the board, which included physical evaluation , IV sedation, airway management, monitoring, basic life support and emergency management.
- **Oral Conscious Sedation:** If a dentist intends to achieve a state of conscious sedation from the administration of an antianxiety premedication, the rules for conscious sedation apply.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The anesthesia credentials committee shall include at least six additional members who are licensed to practice dentistry in Iowa. At least four members of the committee shall hold deep sedation/general anesthesia or conscious sedation permits issued under this chapter. The anesthesia credentials committee may submit recommendations to the board regarding the appropriate nature and frequency of site visits.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** A dentist using anesthesia shall maintain a properly equipped facility. The facility shall maintain and the dentist shall be trained on the following equipment: anesthesia or analgesia machine, EKG monitor, positive pressure oxygen, suction, laryngoscope and blades, endotracheal tubes, Magill forceps, oral airways, stethoscope, blood pressure monitoring device, pulse oximeter, emergency drugs, defibrillator. The facility shall be staffed with trained auxiliary personnel capable of reasonably handling procedures, problems and emergencies incident to the administration of general anesthesia.

ADDITIONAL RULES AND REGULATIONS

- **Accountability:** All licensed dentists in the practice of dentistry in this state must submit a report within a period of 30 days to the board of any mortality or other incident which results in temporary or permanent physical or a mental injury requiring hospitalization of the patient during, or as a result of, antianxiety premedication, nitrous oxide inhalation analgesia, conscious sedation or deep sedation/general anesthesia related thereto.
- **Equipment and Facilities Affidavit:** Each anesthesia applicant must verify that each facility in which anesthesia practices are implemented is/are properly equipped according to standard of care. This checklist must be completed and signed by the applicant and accompany the permit application.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
89

KANSAS

Kansas Dental Board
900 SW Jackson; Room 564-S
Topeka, KS 66612
Phone: (785) 296-6400 Fax: (785) 296-3116

www.accesskansas.org/kdh/licensure.html

State Permits: All Inclusive
Renewal: Biennially
- Conscious Sedation [Level 1] (Fee: **$100.00**)
- General Anesthesia [Level 2] (Fee: **$100.00**)
- Office inspection shall occur w/in 1 year and 5 yrs thereafter

TRAINING REQUIREMENTS

- **General Anesthesia [Level 2]:** Permit requirements include: (a) meeting the requirements for a Level 1 permit and satisfactorily completing one of the following; (i) a course of study and residency program in anesthesia approved by the board of healing arts; (ii) an advanced oral and maxillofacial surgery program; (iii) a minimum of one year of advanced training in anesthesiology that meet the ADA published standards; or (iv) having regularly engaged in the administration of deep sedation or general anesthesia in a competent manner for a period of three years immediately before the effective date of this regulation.
- **Conscious Sedation [Level 1]:** Permit requirements include: (a) current certification in BLS; (b) successful completion of one of the following: (i) a minimum of 60 hours of instruction in intravenous conscious sedation, including didactic and supportive courses, provided by a training program approved by the board; or (ii) an internship or residency program that includes supervised experience in intravenous conscious sedation equal to the 60 hours of instruction aforementioned; or (iii) have regularly engaged in the administration of conscious sedation in a competent manner for a period of 3 years.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Information not available.
- **Criteria of On-Site Inspection:** Each licensed dentist holding a Level 1 or Level 2 permit shall allow the board and its duly authorized agents or employees to inspect the dentist's office during business hours to ensure compliance with the anesthesia regulations. An examination may be required as part of the inspection.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** ***Level 1 Permit:*** Each licensed dentist applying for a Level 1 permit shall provide evidence satisfactory to the board that the dentist maintains a properly equipped facility that shall include the following: (i) a blood pressure monitor; (ii) an oxygen delivery system with full face masks, including connectors capable of delivering oxygen under positive pressure; and (iii) emergency drugs and equipment. ***Level 2 Permit:*** Each licensed dentist applying for a Level 1 permit shall provide evidence satisfactory to the board that the dentist maintains a properly equipped facility that shall include the following: (i) a blood pressure monitor; (ii) an oxygen delivery system with full face masks, including connectors capable of delivering oxygen under positive pressure; (iii) emergency drugs and equipment; and (iv) appropriate equipment for intubation and IV infusions.

ADDITIONAL RULES AND REGULATIONS

- **Level 1 permit restrictions:** A licensed dentist holding a Level 1 permit shall not be authorized to use any of the following agents: (a) Ultra-short acting barbiturates, such as: (i) thiopental; or (ii) Brevital; (b) ketamine; or (c) propofol. A Level 1 permit holder shall not use any inhalation anesthetic agent other than nitrous oxide.
- **Accountability:** Each licensed dentist holding a Level 1 or Level 2 permit shall submit a written report to the board within 30 days of any of the following occurrences related to the use of conscious sedation, deep sedation, or general anesthesia: (i) death; (ii) any adverse occurrence which results in permanent organic brain dysfunction; or (iii) physical injury causing hospitalization of the patient within 24 hours of the procedure.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
95

KENTUCKY

Kentucky Board of Dentistry
312 Whittington Parkway.; Suite 101
Louisville, KY 40222
Phone: (502) 429-7280 Fax: (502) 429-7282

http://dentistry.ky.gov

State Permits:
Renewal: Biennially
- Conscious Sedation (Fee: **$30.00**)
- General Anesthesia (Fee: **$30.00**)
- Pediatric Enteral Sedation (Incorporated in Conscious Sedation Permit)

TRAINING REQUIREMENTS

- **General Anesthesia:** A dentist shall not use general anesthesia on an outpatient basis for a dental patient unless he/she: (a) has completed 1 year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program as described in Part 2 of the ADA Guidelines; or (c) be a Diplomat of the American Board of Oral Surgery; or (d) be eligible for examination by the American Board of Oral Surgery; and (e) have completed a course in ACLS or PALS within the past 24 months.
- **Conscious Sedation:** A dentist administering conscious sedation with a parenteral drug shall: (a) have completed a course in ACLS or PALS within the past 24 months; (b) has completed an approved course in conscious sedation with parenteral drugs in a program approved by the Kentucky Board of Dentistry, which includes physical diagnosis and patient evaluation; and passing a course of didactic and clinical training with documentation of having treated a minimum of 25 cases; (c) or is a diplomat, board eligible, eligible for board examination in a specialty, or a graduate of an accredited general practice residency, if he can provide proof of training in the use of conscious sedation with a parenteral drug. The training shall be consistent with Part 2 of the ADA Guidelines.
- **Pediatric Enteral Sedation:** The same educational and equipment requirements of the administrative regulation of conscious sedation with parenteral drugs shall be required for the enteral sedation of patients under 13 years of age.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The inspection team shall be determined by the board and reflect the principles of peer review.
- **Criteria of On-Site Inspection:** The board may conduct an unannounced on-site inspection of a facility to determine that the protocol, procedures, facility, drug, equipment, and personnel utilization meet board standards.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** The following equipment shall be required: (i) oxygen delivery system with adequate full-face masks and appropriate connectors that are capable of delivering oxygen to a patient under positive pressure, and an adequate back up system; (ii) pulse oximeter; (iii) blood pressure cuff and stethoscope; (iv) oral airway; and (v) appropriate emergency drugs (To include: nitroglycerin, vasopressor, antihypertensive, naloxone, 50% dextrose; antihistamine; aerosol bronchodilator, anticonvulsant, EPI, atropine, ASA, and flumazenil; and (vi) suction system w/ back-up.

ADDITIONAL RULES AND REGULATIONS

- **Continuing Education:** For both permit types, the holder is to obtain **6 hours** of continuing education every 2 years relating to anesthesia safety and emergency procedures that cannot be used to satisfy other continuing education requirements.
- **Anesthesia Records:** Records shall include: (a) informed consent for oral conscious sedation; (b) vital signs, blood pressure, and pulse; (c) patients weight, all drugs administered, dosages, and level of consciousness; and (d) a discharge level of consciousness, blood pressure, and pulse.
- **Personnel:** The following shall be present during the administration of general anesthesia or deep sedation: (a) the qualified operating dentist to direct the general anesthesia or deep sedation; (b) a person to observe and monitor the patient; and (c) an assistant to the operating dentist.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
203

LOUISIANA

Louisiana State Board of Dentistry
365 Canal St.; Suite 2680
New Orleans, LA 70130
Phone: (504) 568-8574 Fax: (504) 568-8598

www.lsbd.org

State Permits: All Inclusive
Renewal: Biennially (Renewal Fee: **$200.00**)
- Parenteral Sedation/Anesthesia (Limited/Full -Conscious/Deep/General) (Fee: **$400.00**)
- Enteral Conscious Sedation Permit (Restricted/Unrestricted) (Fee: **$100.00**)
- Nitrous Oxide Analgesia (Fee: **$50.00**)

TRAINING REQUIREMENTS

- **General Anesthesia/Deep Sedation:** In order to receive authorization the dentist must show and produce evidence that he/she complies with the following provisions: (a) completion of an oral and maxillofacial surgery training program accredited by the Commission on Dental Accreditation of the ADA which includes anesthesiology and related academic subjects; or successful completion of a program which complies with Part II of the ADA Guidelines; (b) provide proof of current certification in CPR or its equivalent
- **"Full" Conscious Sedation:** In order to receive authorization, the dentist must show and produce evidence that he/she complies with the following provisions: (a) completion of an advanced training program beyond the pre-doctoral dental school level accredited by the ADA which includes anesthesiology and related academic subjects; (b) utilization of the services of a trained medical doctor trained in conscious sedation with parenteral drugs, a dentist who has successfully completed a program consistent with Part II of the ADA Guidelines on Teaching the Comprehensive Control of Pain and Anxiety in Dentistry; (c) successful completion of a board-approved continuing education course as described in Part III of the ADA Guidelines provided the applicant has held a license to practice dentistry for a minimum of three years. The board has determined that 80 hours of clinical airway management would be a minimum to achieve competency as described in Part III of the previously mentioned guidelines. In addition, the dentist must provide proof of current certification in CPR. To be granted a "full" permit, the applicant must submit verification of formal post-doctoral training in the use of parenteral drugs via the intramuscular, submucosal, intranasal, and conscious IV sedation routes of administration and competency to handle all emergencies relating to parenteral sedation providing such program consists of a minimum of 60 hours of instruction and 100 hours of clinical experience which includes at least 20 documented cases of parenteral sedation.
- **"Limited" Conscious Sedation: [Limited to administration of parenteral drugs via IM, SM, intranasal and SC routes only.]** To be granted a "limited" permit, the applicant must submit verification of formal post-doctoral training in the use of parenteral drugs via the intramuscular, submucosal, intranasal, and subcutaneous routes of administration and competency to handle all emergencies relation to parenteral sedation providing such program consists of a minimum of 60 hours of instruction and 100 hours of clinical experience which includes at least 10 documented cases of parenteral sedation.
- **Enteral Conscious Sedation Permit:** To be granted an unrestricted (adults and children) permit, the applicant must submit verification of formal post-doctoral training in the use of enteral conscious sedation on both pediatric and adult patients or satisfactory completion of a board approved course which includes a minimum of 16 hours of didactic training and a component on handling emergencies incident to the administration of conscious sedation. To be granted a restricted permit (adults only), the applicant must submit verification of formal post-doctoral training in the use of enteral conscious sedation on adult patients or satisfactory completion of a board approved course which includes a minimum of 8 hours of didactic training and a component on handling emergencies.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Facilities Affidavit:** Each applicant must provide a signed affidavit verifying that the facility in which they will practice anesthesia is fully equipped according to the standard of care set forth in the application document.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The following are minimum requirements for facilities and equipment that must be available for use with sedation procedures: (a) appropriate lighting and suctioning equipment with proper back-up; (b) proper oxygen delivery system with face masks (capable of providing oxygen at positive pressure); (c) oral airways, (d) tonsillar suction device; (e) sphygmomanometer of appropriate size for the patient and a stethoscope; (f) adequate equipment for the establishment of an intravenous infusion when parenteral sedation procedures are performed; (e) pulse oximeter when parenteral sedation procedures are performed, and (f) appropriate emergency drugs should be readily available.

ADDITIONAL RULES AND REGULATIONS

- **Oral Administration of Versed:** Oral administration of Versed shall be performed on the dental premises only. Prescriptions for oral Versed intended for at-home pre-medication is prohibited. Further, all dental offices where oral Versed is administered shall be in compliance with proper facility requirements.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
394

MAINE

Maine Board of Dental Examiners
143 State House Station
Augusta, ME 04333
Phone: (207) 287-3333 Fax: (207) 287-8140

www.maincdental.org

State Permits: All Inclusive
- Conscious Sedation Permit A (Fee: **$125.00**)
- Conscious Sedation Permit B – **Facility Permit**
- General Anesthesia and Sedation Permit A (Fee: **$125.00**)
- General Anesthesia and Sedation Permit B – **Facility Permit**
- Facility Permit (Per Facility) – (Fee: **$125.00**)

TRAINING REQUIREMENTS

- **General Anesthesia:** Documentation of: (a) successful completion of minimum of 1 year of advanced training in anesthesiology beyond the dental school level; (b) certification by the American Board of Oral and Maxillofacial Surgery; or (c) a Fellowship in Anesthesia of the American Dental Society of Anesthesiology; and (d) ACLS certification.
- **Conscious Sedation:** Documentation of: (a) successful completion of pre-doctoral or continuing education conscious sedation training in an accredited educational institution or program, which included a minimum of 60 hours of didactic instruction and twenty cases of clinical experience as set forth in Section C of the rules regarding the used of conscious sedation OR certification by the American Board of Oral and Maxillofacial surgery OR of Fellowship in Anesthesia of the American Dental Society of Anesthesiology.
- **Permit B:** ***General Anesthesia and Sedation*** - Is a facility permit that applies only when the licensed dentist providing treatment employs or works in conjunction with a trained anesthesiologist and has not personally obtained a general anesthesia/sedation permit. ***Conscious Sedation*** - Applies to a dentist, who without personally obtaining a conscious sedation permit, may employ or work in conjunction with a conscious sedation provider in an out-patient dental facility who is (1) a dentist holding a valid general anesthesia permit under this rule or (2) a Maine licensed physician who has completed the required medical education

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The Anesthesia Evaluation Committee will be appointed by the board to provide On-Site inspections.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** The applicant must have available for inspection the following: (1) three charts of patients that have been administered anesthesia; (2) appropriate lighting and suction; (3) proper oxygen delivering system with back-up; (4) adequate recovery area with oxygen, suction, lighting, and electrical outlets; (5) laryngoscope with blades; (6) endotracheal tubes with connectors; (7) tonsillar suction; (8) endotracheal tube forceps; (9) sphygomanometer and stethoscope; (10) defibrillator/AED; (11) pulse oximeter; (12) adequate equipment for the establishment of an intravenous infusion; and (13) emergency drugs (vasopressor, corticosteroid, bronchodilator, muscle relaxant, intravenous medication for treatment of cardiopulmonary arrest, narcotic antagonist, benzodiazepine antagonist, antihistamine, antiarrhythmic, anticholinergic, coronary artery vasodilator, and an antihypertensive). [The Board adopts the standards regarding the equipment within a facility as set forth by the current edition of the "American Association of Oral and Maxillofacial Surgeons Office Anesthesia Evaluation Manual", as the standards by which the Board shall approve facility equipment.]

ADDITIONAL RULES AND REGULATIONS

- **Limitations:** No dentist shall administer or employ any agent(s) which has a narrow margin for maintaining consciousness including, but not limited to, ultra-short-acting barbiturates, propofol, parenteral ketamine, and similarly acting drugs, or quantity of agent(s), technique(s), or any combination thereof, that would likely render a patient deeply sedated, generally anesthetized or otherwise not meeting the conditions of the definition of conscious sedation as stated in the definitions of this rule, **unless he or she holds a valid general anesthesia permit issued by the Board.**
- **Continuing Education:** A minimum of **six (6) continuing education hours** is required biennially of those holding general anesthesia and sedation permits. These hours shall be directly related to anesthesia/sedation, physical diagnosis, complications, techniques, A.C.L.S. and B.C.L.S and are a part of already existing continuing education requirements.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
42

MARYLAND

Maryland State Board of Dental Examiners
The Benjamin Rush Bldg.; Spring Grove Hospital
55 Wade Avenue
Baltimore, MD 21228
Phone: (410) 402-8500 Fax: (410) 402-8505

www.dhmh.state.md.us/dental

New ADA Guideline Adoption

State Permits: All Inclusive
Renewal: Not Available
- Parental Sedation (Fee: **$ 1,050.00**) Renewal (Fee: **$ 450.00**)
- General Anesthesia (Fee: **$ 1,050.00**) Renewal (Fee: **$ 450.00**)
- Facility Permit (Fee: **$ 1,050.00**) Renewal (Fee: **$ 450.00**)

Transfer Fee: **$50.00**

TRAINING REQUIREMENTS

- **Class I-Moderate Enteral Sedation:** an applicant shall successfully complete: (1) A Board-approved course of instruction that documents training of at least 24 hours of didactic education plus 20 clinically-oriented experiences which provide competency in oral and combination inhalation-oral moderate sedation; or (2) A post-doctoral training program accredited by the Commission on Dental Accreditation or its successor organization which affords comprehensive and appropriate training necessary to administer and manage moderate enteral sedation; (3) Hold current certification in either ACLS, PALS, or successfully complete a course approved by the Board that provides instruction on medical emergencies and airway management; (4) Receive a successful evaluation by the Board or the Board's designee; (5) Provide an affidavit to the Board indicating whether the applicant has ever treated a patient under deep sedation or general anesthesia with an incident.
- **Class II-Moderate Parenteral Sedation:** an applicant shall successfully complete: (1) A Board-approved course of instruction that documents training of at least 60 hours of didactic instruction plus management of at least 20 patients per participant in moderate parenteral sedation techniques; or (2) A post-doctoral training program accredited by the Commission on Dental Accreditation or its successor organization which affords comprehensive and appropriate training necessary to administer and manage moderate parenteral sedation; (3) Hold current certification in either ACLS or PALS; (4) Receive a successful evaluation by the Board or the Board's designee; (5) Provide an affidavit to the Board indicating whether the applicant has ever treated a patient under deep sedation or general anesthesia with an incident.
- **Class III-Deep Sedation &General Anesthesia:** an applicant shall have successfully completed. (1) An advanced training program in anesthesia and related subjects beyond the undergraduate dental curriculum that is approved by the Board; or (2) A post-doctoral training program accredited by the Commission on Dental Accreditation or its successor organization which affords comprehensive and appropriate training necessary to administer and manage deep sedation and general anesthesia; (3) Hold current certification in either ACLS or PALS; (4) Receive a successful evaluation by the Board or its designee; (5) Provide an affidavit to the Board indicating whether the applicant has ever treated a patient under deep sedation or general anesthesia with an incident.
- **Class I-III-Dental School Facility Permit:** To obtain a dental school Class III facility permit a dental school recognized by the Commission on Dental Accreditation or its successor organization shall: (1) Submit to the Board an application on a form provided by the Board; (2) Pay the fee set by the Board in COMAR 10.44.20; and (3) Provide evidence satisfactory to the Board that the dental school meets the qualifications for a Class III dental school facility permit. B. A dental school Class III facility permit shall expire on April 1 of the fifth year following the effective date of the permit.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Criteria of On-Site Inspection:** To qualify for a permit, the applicant shall pass the permit evaluation, in addition to demonstrating, through an evaluation conducted by the Board or the Board's designee, using criteria established by the Board, that the facility is properly equipped and staffed for the administration of anesthesia for the practice of dentistry. **[Administrative Evaluation:** Each applicant shall pass: (1) An office inspection evaluation; (2) A clinical evaluation consistent with the age level of the patients treated by the dentist; (3) An evaluation of the dentist to safely administer sedation techniques; and (4) An evaluation of the ability of the dentist to effectively respond to sedation related emergencies.]

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Inspection Requirements:** The evaluation shall consist of four parts: (1) Evaluation of office facilities, particularly oxygen supply, equipment, records, and emergency medications; (2) Simulated demonstration of G.A. / parenteral sedation being provided for a patient who is receiving dental treatment; (3) Simulated demonstration of emergencies in the surgery area with the participation of the office staff trained to handle the medical/dental emergencies. All staff in the operating theater shall be currently BLS certified.

ADDITIONAL RULES AND REGULATIONS

- **Continuing Education:** A permittee must complete not less than **10 hours** of clinical continuing education related to sedation or anesthesia in a classroom setting during the 5-year term of the permit.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
153

MASSACHUSETTS

The Massachusetts Board of Registration in Dentistry
239 Causeway St.; 2nd Floor Suite 200
Boston, MA 02114
Phone: (617) 973-0971 Fax: (617) 973-0982

www.state.ma.us/reg/boards/dn

State Permits: All Inclusive
Renewal: Biennially
- General Anesthesia [Permit A] (Fee: **$120.00**)
- Conscious Sedation [Permit B] (Fee: **$ 120.00**)
- Nitrous-Oxide Oxygen Sedation [Permit C] (Fee: **$120.00**)
- Facility Permits [Permit D] (Fee: **$120.00**)

TRAINING REQUIREMENTS

- **General Anesthesia:** Qualification for the issuance of Permit A includes documentation of: (a) successful completion of a minimum of one year advanced training in anesthesiology beyond the dental school level; (b) having met the requirements for certification by the American Board of Oral and Maxillofacial Surgery; or (c) certification as a Fellow in Anesthesia by the American Dental Society of Anesthesiology
- **Conscious Sedation:** Qualification for the issuance of Permit B include documentation of having successfully completed a course which conforms to the American Dental Association Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry, Parts 1 and 2.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Anesthesia administration evaluations and on-site facility inspections shall be conducted by at least one evaluator appointed by the Board upon recommendation of the Anesthesia Review Committee. If the results of the evaluation or inspection are deemed unsatisfactory, a second evaluation or inspection may be conducted, within a reasonable time, by a different evaluator upon written request of the applicant. All dentists performing administration evaluations and on-site facility inspections shall meet the educational requirements for Fellowship of the American Dental Society of Anesthesiology.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** A facility which administers General Anesthesia, Deep Sedation, Conscious Sedation, and/or Nitrous Oxide-Oxygen Sedation must be equipped with the following drugs and equipment: (a) suction; (b) monitoring equipment (including stethoscope and sphygmanometer); (c) equipment capable of delivering oxygen under positive pressure; (d) gas delivery machines must have an oxygen fail-safe system, adequate waste gas scavenging, and shall be checked and calibrated periodically; (e) a protocol for management of emergencies shall be developed and emergency drills must be carried out and documented; (f) all emergency equipment and drugs must be maintained on a scheduled basis; (g) an adequate supervised recovery area must be available; (h) epinephrine; (i) an antihistamine; (j) an anticonvulsant; (K) vasodilator; (l) an antihypoglycemic agent; (m)a bronchodilator; (n) corticosteroid; (o) vasopressor; (p) equipment for the insertion and maintenance of an intravenous infusions (not required for facilities administering nitrous oxide-oxygen); and a pulse oximeter (not including N_2O permit).
- **Additional Drugs and Equipment Needed for General Anesthesia:** (a) a narcotic antagonist; (b) a muscle relaxant; (c) atropine; (d) lidocaine; (e) sodium bicarbonate; (f) dantrolene sodium; (g) EKG monitor and defibrillactor; and (H) endotracheal tubes and laryngoscope.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** *For General Anesthesia:* At least 3 appropriately trained individuals are required: (a) the operating dentist, who directs the general anesthesia/deep sedation; (b) a person responsible for observing and monitoring the patient. If this person is an appropriately trained professional, he or she may direct and/or administer the general anesthesia and/or deep sedation; and (c) a person assisting the operating dentist. *For Conscious Sedation:* At least 2 appropriately trained individuals are required: (a) the operating dentist, that directs the conscious sedation / nitrous oxide-oxygen sedation; and (b) an assistant trained to monitor appropriate physiologic parameters. **All personnel involved in the administration of general anesthesia, deep sedation, conscious sedation and/or nitrous oxide-oxygen sedation must be certified in BLS.**

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
391

MICHIGAN

Michigan Board of Dentistry
Department of Commerce / Industry Services
PO Box 30670
Lansing, MI 48909-8170
Phone: (517) 335-0918 Fax: (517) 241-3082

www.michigan.gov/mdch/0,1607,7-132-27417_27529_27533---,00.html

Please Contact the Board of Dentistry For Specific Permit Details.

TRAINING REQUIREMENTS

- **General Anesthesia:** A dentist shall not administer general anesthesia unless all of the following requirements are satisfied: (A) Completion of a minimum of 1 year of advanced training in general anesthesia and pain control; (B) The dentist and delegatee, if any, maintain current certification in basic or advanced cardiac life support from an agency or organization that grants such certification pursuant to the published standards.
- **Conscious Sedation:** A dentist shall not administer general anesthesia unless all of the following requirements are satisfied: (A) The dentist complies with the provisions of a General Anesthesia Permit; (B) the dentist complies with both of the following provisions: (i) The dentist has completed a minimum of 60 hours of training in intravenous conscious sedation and related academic subjects, including a minimum of 40 hours of supervised clinical instruction in which the individual has sedated not less than 20 patients; (ii) The dentist and the delegatee, if any, maintain current certification in basic or advanced cardiac life support from an agency or organization that grants such certification pursuant to the published standards.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** There are no current published guidelines for office inspections.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The board adopts the standards regarding the equipment within a facility set forth by the American Association of Oral and Maxillofacial Surgeons in the publication entitled "Office Anesthesia Evaluation Manual". A copy of the manual may be obtained from the Michigan Board of Dentistry, PO Box 30018, Lansing, MI 48909.

ADDITIONAL RULES AND REGULATIONS

- **Morbidity and Mortality:** A dentist shall file a morbidity report with the board within 30 days after the occurrence of an incident. A dentist shall file a mortality report with the board within 5 days after the occurrence of an incident.
- **Enteral sedation; requirements for approval of course and instructor:** (1) A course in enteral sedation shall be approved by the board of dentistry and shall, at a minimum, be consistent with the enteral sedation course as outlined in the American dental association's educational guidelines "Part Three: Teaching the Comprehensive Control of Pain and Anxiety in a Continuing Education Program," October 2003, whose guidelines are adopted by the board. Such a course must provide training in patient assessment, recognition of emergencies and airway management, including the ability to manage an unconscious airway. (2) An instructor of a course in enteral sedation shall be approved by the board of dentistry and shall have at least 3 years experience which includes his or her formal postdoctoral training in anxiety and pain control. (3) An instructor of an approved enteral sedation course shall certify the competency of a participant upon a participant's satisfactorily completing training in each conscious sedation technique, including instruction, clinical experience, and airway management.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
NOT AVAILABLE

MINNESOTA

Minnesota Board of Dentistry
2829 University Ave. SE; Suite 450
Minneapolis, MN 55414
Phone: (612) 617-2250 Fax: (612) 617-2260

www.dentalboard.state.mn.us

State Permits -Certificates: All Inclusive
Renewal: Annually (Biennial)
Conscious Sedation Certificate (Fee: $50.00)
General Anesthesia Certificate (Fee: $50.00)
Office Inspection: Every 5 Years

TRAINING REQUIREMENTS

- **General Anesthesia:** To administer general anesthesia a dentist must: (1) complete a board approved course in ACLS; (2) a one-year residency in general anesthesia at an institution certified by the American Society of Anesthesiology, the American Medical Association, or the Joint Commission on Hospital Accreditation, resulting in the dentist becoming clinically competent in the administration of general anesthesia. The residency must include a minimum of 390 hours of didactic study, 1,040 hours of clinical anesthesiology, and 260 cases of administration of general anesthesia to an ambulatory outpatient; (3) A dentist shall be prepared and competent to diagnose, resolve, and reasonably prevent any untoward reaction or medical emergency that may develop any time after the administration of general anesthesia.
- **Conscious Sedation:** To administer conscious sedation a dentist must: (1) a course of education resulting in the dentist becoming clinically competent for administration of conscious sedation, with to include a minimum of 60 hours of didactic education in both enteral and parenteral administration, 24 hours of clinical experience, and personally administering and managing at least ten individual supervised cases of administration of parenteral conscious sedation, and having the instructor submit to the board documentation of successful completion of the course; (2) ACLS certification; (3) A dentist shall be prepared and competent to diagnose, resolve, and reasonably prevent any untoward reaction or medical emergencies that may develop any time after rendering a patient in the state of conscious sedation.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The board shall require that the dentist undergo an on-site inspection or further review of the dentist's anesia/sedation credentials. The board may direct an anesthesia consultant who has been approved by the board and provided with board-established guidelines to assist in the inspection. The application form must include information on office facilities, support staff training, emergency protocols, monitoring equipment, and record-keeping procedures.
- **Inspection Procedures:** (1) The dentist must be notified in writing by the board if an on-site inspection is required and provided with the name of an anesthesia consultant who is qualified to coordinate the inspection. The dentist may have an on-site inspection performed by another individual or organization or agency that has been approved by the board. The dentist must make arrangements for the scheduling or completion of the inspection within 30 calendar days of the date the notice is mailed. (2) Within 30 calendar days following an on-site inspection, the dentist must cause the individual or organization or agency conducting the inspection to provide the board with the written results of the inspection. (3) A dentist who fails an on-site inspection may have the general anesthesia or conscious sedation certificate suspended or be subject to disciplinary proceedings.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** Dentists who administer anesthesia services must have the following equipment: (a) AED or FFD; (b)positive pressure O2 delivery with back-up; (c) functioning suction with back-up; (d) auxiliary lighting; (e) gas storage; (f) recovery area; (g) method to monitor respiratory function; and (h) a board-approved emergency cart or kit. (There must be documentation that all emergency equipment and drugs are checked and maintained regularly.)

ADDITIONAL RULES AND REGULATIONS

- **Direct Monitoring:** An individual qualified to administer general anesthesia or conscious sedation, who is in charge of the administration of the anesthesia or sedation, must remain in the operatory room to continuously monitor the patient once general anesthesia or conscious sedation is achieved and until all dental services are completed on the patient. Thereafter, an individual qualified to administer anesthesia or sedation must ensure that the patient is appropriately monitored and discharged.
- **Prohibitions:** Dental hygienists or registered dental assistants may not administer general anesthesia or conscious sedation.
- **Facility Regulation:** A dentist who employs or contracts another licensed health care professional with the qualified training and legal qualification to administer general anesthesia or conscious sedation must notify the board that these services are being provided in the office facility. The dentist is also responsible for maintaining the appropriate facilities, equipment, emergency supplies, and a record of all general anesthesia or conscious sedation procedures performed in the facility.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
64

MISSISSIPPI

Mississippi State Board of Dental Examiners
600 East Amite Street; Suite 160
Jackson, MS 39201-2801
Phone: (601) 944-9622 Fax: (601) 944-9624

www.msbde.state.ms.us

State Permits: All Inclusive
Renewal: Biennially

- Conscious Sedation (Fee: $ 300.00; Renewal: $ 150.00)
- General Anesthesia (Fee: $ 300.00; Renewal: $150.00)
- Enteral Conscious Sedation (Fee: $ 300.00; Renewal: $150.00)

TRAINING REQUIREMENTS

- **General Anesthesia:** : In order to administer general anesthesia the applicant must do the following: (a) Produce evidence of a current ACLS certificate; and (b) Provide evidence of one or more of the following: (i) Completion of an advanced training program in anesthesia and related academic subjects beyond the undergraduate dental curriculum that satisfies the requirements described in Parts I, II, and III of the ADA's "Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry" at the time training was commenced. (ii) Completion of an ADA-accredited post-doctoral training program, which affords the comprehensive and appropriate training necessary to administer and manage general anesthesia, commensurate with these guidelines.
- **Conscious Sedation:** In order to administer conscious sedation the applicant must do the following: (a) Produce evidence of a current ACLS certificate; and (b) Provide evidence of one or more of the following: (i) Completion of formal training, sponsored by or affiliated with a university, teaching hospital, or other facility approved by the Board or part of the undergraduate curriculum of an accredited dental school, in the use of enteral sedation. Such certification shall specify the type, hours, and length of training. The minimum number of didactic hours shall be 60, and the minimum number of patient cases shall be 10. (ii) Completion of a comprehensive training program in enteral conscious sedation that satisfies the requirements described in Parts I and III of the ADA's Anesthesia Guidelines. (iii) Completion of an ADA-accredited post-doctoral training program, which affords the comprehensive and appropriate training necessary to administer and manage conscious sedation.
- **Enteral Conscious Sedation:** In order to administer enteral conscious sedation the applicant must meet the same requirements as stated for the Conscious Sedation Permit.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The on-site evaluation shall be carried out in a manner prescribed by the Board, and the cost thereof shall be included in the anesthesia permit fee. Evaluations shall be performed by a minimum of 2 qualified experts, as determined by the Board.
- **Criteria of On-Site Inspection:** All facilities wherein anesthesia may be administered shall be inspected at least once every 5 years beginning from the date of initial permit to ensure that all equipment is of the appropriate type and in good working order.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** The Board adopts the standards regarding the equipment within a facility as set forth by the American Association of Oral and Maxillofacial Surgeons (AAOMS) in the *Office Anesthesia Evaluation Manual*, latest edition, as the standards by which each dentist administering enteral conscious sedation, parenteral conscious sedation, and/or general anesthesia must meet. Certification of offices by AAOMS as meeting the standards adopted constitutes a *prima facie* showing that the dentist meets the standards.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** All auxiliaries who have direct patient care responsibilities must possess current BLS certification.
- **Report of Morbidity or Mortality:** All dentists in the State of Mississippi must submit a complete report within a period of 30 days to the State Board of Dental Examiners of any mortality or other incident occurring in the outpatient facilities of such dentists which results in permanent physical or mental injury to a patient during, or as a direct result of dental procedures or anesthesia or sedation.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
121

MISSOURI

Missouri Dental Board
3605 Missouri Blvd.; PO Box 1367
Jefferson City, MO 65102-1367
Phone: (573) 751-0040 Fax: (573) 751-8216

http://pr.mo.gov/dental.asp

State Permits: All Inclusive
Renewal: Every Five Years

- Conscious Sedation (Fee: $100.00)
- General Anesthesia (Fee: $100.00)
- Enteral Conscious Sedation Permit (Fee: $100.00)
- Anesthesia Site Certificate [Needed for all Permits] (Fee: $100.00)

TRAINING REQUIREMENTS

- **General Anesthesia:** In order for a dentist to use general anesthesia the following requirements must be met: (a) Satisfactory completion of a minimum of 1 year of advanced training in anesthesiology and related academic subjects or its equivalent, beyond the undergraduate dental school level; (b) Is a member of the American Association of Oral and Maxillofacial Surgery, is a Diplomat of the American Board of Oral and Maxillofacial Surgery or is eligible for examination by the ABOMS; (c) Is a Fellow of the American Dental Society of Anesthesiology; and (d) Provide proof of current ACLS (for the applicant) and CPR certification for all office personnel on the anesthesia team shall be provided to the Missouri Dental Board on an ongoing basis during the 5 year interval between on-site visits.
- **Conscious Sedation:** In order for a dentist to use general anesthesia the following requirements must be met: (a) Satisfactory completion of a postgraduate program that is a minimum of 12 continuous months and is accredited by the American Dental Association. This program must include: (i) 60 hours of didactic training in pain and anxiety control in accordance with the Guidelines of the ADA; and (ii) Successful management of parenteral conscious sedation in 20 patients; and (iii) Four continuous weeks of general anesthesia training under the direct or indirect supervision of a department of anesthesiology in a facility accredited by the Joint Commission on Accreditation of Healthcare Organizations, or its successor organization. (b) Provide proof of current ACLS (for the applicant) and CPR certification for all office personnel on the anesthesia team shall be provided to the Missouri Dental Board on an ongoing basis during the 5 year interval between on-site visits.
- **Enteral Conscious Sedation:** No dentist shall admin. enteral sedation or prescribe sedative agents unless they possess a permit. Additionally, no dentist shall provide enteral sedation unless the site has undergone an approved inspection. To qualify for an enteral conscious sedation permit, a dentist shall: (a) complete training consistent with Part I and III of the ADA Guidelines for TCPAD, (b) an ADA accredited post-doctoral training program; or (c) an enteral conscious sedation course approved by the board. Additionally, documentation during the past 5 years be provided of (a) ACLS; (b) a minimum of 15 hours of other board-approved CE pertaining to anesthesia care.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Adequacy of the facility and competency of the anesthesia team will be determined by an on-site visit by a team of consultants appointed by the Missouri Dental Board which shall include at least one diplomat of the American Board of Oral and Maxillofacial Surgery. On-site inspections shall be conducted for each office at least every 5 years.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** *General Anesthesia Permit* - On-site evaluations shall be conducted in accordance with established guidelines as defined in the American Association of Oral and Maxillofacial Surgeons' Office Anesthesia Manual and which are incorporated by reference. *Conscious Sedation Permit / Enteral Conscious Sedation Permit* – On-site evaluations shall be in accordance with the criteria for the issuance of permits in the latest edition of the *Parenteral Conscious Sedation Manual / Enteral Conscious Sedation Manual* which is incorporated by reference.

ADDITIONAL RULES AND REGULATIONS

- **Renewal Guidelines:** To renew an anesthesia permit, a dentist shall, 90 days prior: (A) Submit to the board a minimum of 5 unedited, complete patient records that may be chosen by the board from the preceding 5 years; (B) Demonstrate, at the board's discretion, through an on-site visit that each site and all personnel comply with the stated criteria; (C) Submit evidence of his or her continuous ACLS or PALS certification and continuous BLS certification for the anesthesia team members at each site; (D) provide **15 hours of CE** relative to anesthesia (please contact board for specific CE requirements).
- **Drug Restrictions:** No dentist holding only a parenteral conscious sedation permit shall use thiopental, methohexital, propofol, or ketamine for parenteral conscious sedation.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
153

MONTANA

Montana Board of Dentistry
301 South Park; PO Box 200513
Helena, MT 59620-0513
Phone: (406) 841-2390 Fax: (406) 841-2305

http://mt.gov/dli/den/

State Permits: Not Available
Renewal: Annually (Renewal Fee: $25.00)

- Conscious Sedation (Fee: $200.00)
- Light General Anesthesia (Fee: $200.00)
- General Anesthesia (Fee: $200.00)
- Inspection Fee: $200.00 (Reinspection Fee: $150.00)

TRAINING REQUIREMENTS

- **General Anesthesia/Light General Anesthesia:** No person engaged in the practice of dentistry or oral surgery may perform any dental or surgical procedure upon another person if a general anesthetic is administered unless such anesthetic is administered and monitored by: (a) an anesthesiologist licensed to practice medicine by the state board of medical examiners; (b) a nurse anesthetist recognized in that specialty by the state board of nursing; or (c) another health professional who has received at least one year of postgraduate training in the administration of general anesthesia. In addition, dentists providing general anesthesia or conscious sedation must present evidence of successful completion of an advanced course in cardiac life support within the three most recent years.
- **Conscious Sedation:** With respect to conscious sedation, no dentist shall administer drugs to achieve the state known as conscious sedation during a dental procedure or a dental-surgical procedure unless he or she has received formal training in conscious sedation techniques from an institution, organization, or training course approved by the board consisting of a minimum of 40 clock hours of didactic instruction and 20 clock hours of additional patient contact. This requirement does not apply to the administration of an oral drug for the purpose of providing mild relaxation.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Each facility where conscious sedation or general anesthesia is to be provided shall be initially inspected by a team appointed by the board prior to the initial issuance of the appropriate permit to administer anesthesia on the premises, and at intervals not to exceed five years. The inspection team shall consist of at least two individuals. Any dentist whose facility is to be inspected shall be notified at least 30 days prior to the inspection and the names of the inspection team shall be provided to him.
- **Criteria of On-Site Inspection:** The on-site inspection shall include a test of the applicant and his staff on their abilities to recognize and manage complications likely to occur considering the techniques being used. Early recognition of complications will be emphasized. The facility must be inspected for the presence of drugs and equipment appropriate for the level of sedation or anesthesia to be provided. The inspection team shall evaluate office staff in proficiency in handling emergency procedures.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Standards:** (I) A *general anesthesia facility* under these rules must contain a minimum of equipment, supplies and drugs, including, but not limited to, the following: (a) a positive pressure oxygen delivery system; (b) stethoscope and sphygmomanometer; (c) laryngoscope, endotracheal tubes and a Magill forceps; (d) oral pharyngeal and/or nasopharyngeal airways; (e) electrocardiac monitor and defibrillator; (f) appropriate drugs for emergencies to include drugs to provide advanced cardiac life support; (g) a precordial stethoscope; (h) pulse oximeter; and (i) suction devices. (II) A *conscious sedation facility* under these rules must contain a minimum of equipment, supplies, and drugs, including, but not limited to, the following: (a) a positive pressure oxygen delivery system; (b) precordial stethoscope; (c) pulse oximeter; (d) stethoscope and sphygmomanometer; (e) oral pharyngeal and/or nasopharyngeal airways; (f) appropriate drugs for emergencies; and (g) suction devices.

ADDITIONAL RULES AND REGULATIONS

- **Continuing Education:** (I) All dentists holding permits to provide general anesthesia must submit evidence of having attended a minimum of **20 clock hours of CE every three years**, in order to qualify for renewal of their permits. (II) All dentists holding permits to provide conscious sedation must submit evidence of having attended a minimum of **12 clock hours of CE every three years**, in order to qualify for renewal of their permits.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
33

NEBRASKA

Nebraska Board of Dentistry
301 Centennial Mall South; 3rd Floor
PO Box 94986
Lincoln, NE 68509
Phone: (402) 471-2115 Fax: (402) 471-3577

www.hhs.state.ne.us/crl/medical/dental/dentindex.htm

State Permits: All Inclusive
Renewal: Every four years
- Conscious Sedation (Fee: **$200.00**)
- General Anesthesia (Fee: **$200.00**)
- Inhalation Analgesia (Fee: **$100.00**)
- An additional **$25.00** fee is charged for certificate printing

TRAINING REQUIREMENTS

- **General Anesthesia:** The applicant must meet one of the following criteria: (a) Completed one year of advanced training in anesthesiology and related academic subjects beyond the dental school level in an approved training program; (b) Is a diplomat of the American Board of Oral and Maxillofacial Surgery; (c) Is educationally qualified to apply for examination by the American Board of Oral and Maxillofacial Surgery; (d) Is a Fellow of the American Dental Society of Anesthesiology; or (e) Is a licensed dentist who has been administering general anesthesia in a competent and efficient manner as determined by the Board for 10 of 12 years preceding October 1, 1988. In addition, BLS certification is necessary.
- **Conscious Sedation:** (a) The applicant must be certified as competent in the administration of parenteral sedation by a university, teaching hospital, or other facility; or (b) The applicant is a licensed dentist who has been administering parenteral sedation on an outpatient basis for 12 months preceding October 1, 1988. In addition, BLS certification is necessary.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The Board or its representative(s) who holds a dental license and has anesthesia training beyond inhalation analgesia will conduct an initial on-site evaluation using a form provided by the Department within 150 days of receipt of the application.
- **Criteria of On-Site Inspection:** The inspector(s) will review the following procedures routinely performed by the applicant: (a) preoperative evaluation of patients; (b) management of medical risk patients; (c) technique and method of administration of anesthesia; (d) monitoring of patients during procedures and recovery; (e) record keeping; (f) use and qualification of auxiliary personnel; and (g) management of emergencies.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** The applicant must maintain a properly equipped facility for general anesthesia that meets the following standards/criteria: (a) lighting and suction equipment with back-up; (b) an oxygen delivery system with full face masks and connectors that is capable of delivering oxygen under positive pressure; (c) a recovery area that has oxygen, lighting, suction, and electrical outlets; (d) laryngoscope with selection of blades (**GA Permit**); (e) endotracheal tubes and connectors (**GA Permit**); (f) oral airways; (g) tonsillar suction tips; (h) endotracheal tube forceps (**GA Permit**); (i) sphygmomanometer and stethoscope; (j) equipment for the establishment of an intravenous infusion; (k) pulse oximeter; (l) cardiac oscilloscope (**GA Permit**).
- **Emergency Drugs:** Drugs with current dates must be available for treatment of the following medical emergencies: *General Anesthesia Permit:* (a) laryngospasm; (b) bronchospasm; (c) nausea and vomiting; (d) angina; (e) myocardial infarction; (f) hypotension; (g) hypertension; (h) cardiac arrest; (i) allergic reaction; (j) convulsions; (k) respiratory arrest; (l) narcotic overdose; (m) benzodiazepine overdose. *Parenteral Conscious Sedation:* (a) airway obstructions; (b) allergic reactions; (c) hypotension; (d) respiratory arrest; (e) narcotic overdose; (f) benzodiazepine overdose.

ADDITIONAL RULES AND REGULATIONS

- **Display of Permit:** Each certificate holder will keep the certificate available in an office or place in which he/she uses anesthesia and will show proof of the certificate upon request.
- **Personnel:** All assistants must have a current certification in BLS.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
81

NEVADA

Nevada State Board of Dental Examiners
6010 South Rainbow Blvd. [Suite A-1]
Las Vegas, NV 89118
Phone: (702) 486-7044 Fax: (702) 486-7046

http://www.nvdentalboard.nv.gov

State Permits: All Inclusive
Renewal: Annually
- Conscious Sedation (Fee: **$350.00**; Renewal: **$100.00**)
- General Anesthesia (Fee: **$350.00**; Renewal: **$100.00**)
- Facility Fee: **$350.00 [Re-inspection - $250.00]**

TRAINING REQUIREMENTS

- **General Anesthesia:** For a general anesthesia permit, the applicant must show evidence of the completion of an ACLS course and the following requirements: (a) The completion of a program, subject to the approval of the board, of advanced training in anesthesiology and related academic subjects beyond the level of undergraduate dental school in a training program as described in Part II of the "Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry;" (b) The completion of a graduate program in oral and maxillofacial surgery which has been approved by the Commission on Dental Accreditation of the American Dental Association.
- **Conscious Sedation:** For a conscious sedation permit, the applicant must show evidence of the following: (a) The completion of a course of study, subject to the approval of the board, of not less than 60 hours dedicated exclusively to the administration of conscious sedation, and the successful management of the administration of conscious sedation to not less than 20 patients; or (b) The completion of a program for specialty training which is approved by the Commission on Dental Accreditation of the American Dental Association and which includes education and training described in subparagraph (a), above, and completion of an ACLS or PALS course.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** When an inspection or evaluation is required to issue or renew a general anesthesia permit or conscious sedation permit, the board will designate two or more persons, each of whom holds a general anesthesia or conscious sedation permit, and has practiced anesthesia for a minimum of 3 years preceding his appointment, exclusive of his training in the administration of anesthesia. At least one of the inspectors must have had experience in the evaluation of dentists using anesthesia.
- **Criteria of On-Site Inspection:** An office inspection must consist of: (1) An evaluation of the office's facilities and equipment, records and emergency medications; and (2) A demonstration of the following: (a) the administration to a patient who is receiving dental treatment of the type of anesthesia or sedation for which the dentist is applying for a permit; (b) simulated emergencies in the surgical area of the dental office with participation by the members of the staff who are trained to handle emergencies; (c) a dental procedure utilizing the type of anesthesia as applied; (d) the appropriate monitoring of patients; (e) the observation of a patient during recovery and the time allowed for recovery.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring & Equipment:** A dentist's office inspected for the issuance or renewal of an anesthesia permit must meet the following minimum standards: (i) proper lighting equipment with back-up; (ii) suction equipment with back-up; (iii) system for delivering oxygen at positive pressure; (iv) a recovery area must be provided that has available oxygen, lighting, suction, and electrical outlets. **A member of the staff must be able to observe the patient at all times during the recovery.** (v) a laryngoscope complete with an adequate selection of blades and spare batteries and bulbs (**GA Permit**); (vi) endotracheal tubes and appropriate connectors (**GA Permit**); (vii) oral airways; (viii) a tonsillar or pharyngeal suction tip; (ix) an endotracheal tube forcep (**GA Permit**); (x) a sphygmomanometer and stethoscope; (xi) an electrocardioscope and defibrillator (**GA Permit**); (xii) adequate equipment for the establishment of an intravenous infusion; and (xiii) a pulse oximeter; (xiv) appropriate emergency drugs [*vasopressor, corticosteroid, bronchodilator, muscle relaxant, intravenous medication for treatment of cardiopulmonary arrest, appropriate drug antagonist, antihistamine, anticholinergic, antiarrhythmic, coronary artery vasodilator, anti-hyperteinsive, and anticonvulsive].*

ADDITIONAL RULES AND REGULATIONS

- **Continuing Education:** Every 2 years permit holders must complete at least 3 hours of CE in anesthesia.
- **Restrictions:** Unless the anesthesia provider maintains unrestricted active staff privileges at a hospital or surgical center approved by the JCAHO, a dentist who does not hold a general anesthesia permit may not allow any person to administer general anesthesia deep sedation or conscious sedation to his patients unless the treatment is rendered within a facility approved by the Board (per office inspection).
- **Written Consent:** A proper written consent must be obtained prior to anesthesia administration.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
121

NEW HAMPSHIRE

New Hampshire Board of Dental Examiners
2 Industrial Park Dr.
Concord, NH 03301-8520
Phone: (603) 271-4561 Fax: (603) 271-6702

www.state.nh.us/dental

State Permits: All Inclusive
Renewal: Biennially
- Conscious Sedation (Fee: **$10.00**)
- General Anesthesia (Fee: **$10.00**)
- ***Inspection Fees shall be borne by the dentist examined.***

TRAINING REQUIREMENTS

- Unless practicing in a hospital or New Hampshire licensed ambulatory surgical facility, no dentist shall use general anesthesia, deep sedation or conscious sedation on an outpatient basis for dental patients except as follows: (1) Such dentist shall possess a permit of authorization issued by the board; (2) Such permit shall be subject to review and shall be renewed every 2 years at the same time as biennial registration for the practice of dentistry; (3) A permit shall not be required when nitrous oxide/oxygen is used alone to produce anxiolysis; and (4) Nitrous oxide/oxygen equipment shall have fail-safe features and oxygen flow control which meet federal drug administration standards.
- **General Anesthesia:** The training requirements are as follows: (a) Completion of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program as described in Part 2 of the ADA Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry; or (b) Completion of advanced training in anesthesiology and related academic subjects as described in the ADA Commission on Dental Accreditation requirements for each advanced program; or (c) Employs or works in conjunction with an anesthesiology staff, physician, dentist, or a certified registered nurse anesthetist of a New Hampshire licensed health care facility.
- **Conscious Sedation:** In order to receive a permit to use conscious sedation only, the dentist shall meet the requirements of Part 1 or Part 3 of the "ADA Guidelines for the Use of Conscious Sedation, Deep Sedation and General Anesthesia for Dentists."

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The evaluation shall be carried out by a team of dental consultants acting as agents of the board that currently possess permits to administer anesthesia. These evaluations shall be held at least once every 5 years.
- **Individual Office Requirement:** If more than one office location is used by the dentist, then each office shall have an on-site evaluation.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The applicant must have a properly staffed and equipped facility, as set forth in the "Guidelines for the Use of Conscious Sedation, Deep Sedation and General Anesthesia for Dentists' of the ADA" and The "Office Anesthesia Evaluation Manual" of the American Association of Oral and Maxillofacial Surgeons.

ADDITIONAL RULES AND REGULATIONS

- **Morbidity and Mortality:** Within 20 days, each dentist who has been using general anesthesia or conscious sedation shall inform the board in writing of all cases of morbidity and mortality occurring in the outpatient facility.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
52

NEW JERSEY

New Jersey State Board of Dentistry
124 Halsey St.; PO Box 45005
Newark, NJ 07101
Phone: (973) 504-6405 Fax: (973) 273-8075

www.state.nj.us/lps/ca/medical/dentistry.htm

State Permits: All Inclusive
Renewal: Biennially
- Conscious Sedation (No Fee)
- General Anesthesia (No Fee)
- Enteral Sedation (No Fee)

TRAINING REQUIREMENTS

- **General Anesthesia:** In order to receive a permit, the dentist shall apply on an official application form and submit certified or verifiable proof that he or she: (a) has completed a minimum of 3 years postdoctoral training in oral surgery, or a minimum one-year training course in anesthesiology; or (b) is a diplomat in oral surgery or is Board-eligible in oral surgery; or (c) is a Fellow of the American Dental Society of Anesthesiology, or is a member of the American Society of Oral Surgeons and/or is a member of the New Jersey Society of Oral Surgeons. In addition, the applicant must possess current certification in ACLS or its equivalent.
- **Conscious Sedation:** The dentist shall submit as part of a completed application a certification from an accredited university, teaching hospital, or other training institution, establishing that the applicant has completed formal training in the administration of conscious sedation. Such training shall consist of a combined 80 hours didactic instruction and supervised clinical training in the administration of conscious sedation. Such formal training shall have been completed with three years preceding the date of application. Supervised clinical training shall consist of, at a minimum, delivering intravenous, intramuscular, subcutaneous, submucosal and inhalation medications, monitoring patient activity and managing patient care for 20 patients. In addition, the applicant must possess current certification in BLS or ACLS.
- **Enteral Sedation:** Any New Jersey dentists who wish to administer any pharmacological agent in any dose for the purpose of inhibiting patient response beyond diminishing patient anxiety must possess an enteral sedation permit. A dentist applying for this new permit must submit certification verifying that the dentist has completed Board-approved postdoctoral course work at an accredited dental school, or in a college or university clinical setting, which has prepared the applicant to administer enteral sedation safely and effectively. The course work must consist of a minimum of 40 hours of didactic training in basic enteral sedation, physical evaluation, recognition and management of complications and emergencies, and patient monitoring. A list of approved courses is posted on the Board's Web site. In addition, a dentist completing a general practice residency or a postdoctoral training program more than three years prior to application may qualify for a permit if he or she has completed a Board-approved program of 20 hours of didactic training in enteral sedation within the three years immediately preceding the date of application. The general practice residency or postdoctoral training program must include a minimum of 60 hours of training in anesthesia or conscious sedation.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** *GA Permit* - The dental facility of any permit holder shall be inspected and approved by the Sate Board of Dentistry or its designee, once every 6 years. In a dental facility where a permit holder administers general anesthesia, the mobile equipment and supplies of the permit holder shall be inspected and approved by the State Board of Dentistry or its designee once every 6 years. ***Conscious Sedation Permit (Enteral/Parenteral)*** – The applicant shall certify as part of the application for a permit that he or she possesses basic equipment and supplies to deal with emergency situations. When a conscious sedation permit holder utilizes mobile equipment and supplies to administer conscious sedation, the mobile equipment and supplies of the holder shall be inspected by the Board or its designee not less than once every 3 years.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** ***Conscious Sedation*** - The permit holder's facility shall contain the following, readily accessible and properly operating, equipment: emergency drug kit, positive pressure oxygen; stethoscope; suction; nasopharyngeal tubes; oropharyngeal tubes; a blood pressure monitoring device; an EKG monitoring; and pulse oximeter. The permit holder's facility shall also contain back-up, battery-operated equipment consisting of, at a minimum, lighting, suction and a pulse oximeter, which shall be readily accessible and properly operating. ***General Anesthesia*** – The applicant must certify that he or she possesses basic equipment and supplies to deal with emergency situations, which equipment and supplies shall be readily accessible and in good order. This shall consist of no less than the list that shall be supplied by the Board (Available at www.state.nj.us/lps/ca/dentistry/inventory.htm).

ADDITIONAL RULES AND REGULATIONS

- **Continuing Education:** A licensee who holds an anesthesia permit shall certify to the Board upon biennial renewal that the holder has completed at least 20 hours of CE in courses devoted to anesthesia education.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
330

NEW MEXICO

New Mexico Board of Dental Health Care
2550 Cerrillos Road
Santa Fe, NM 87505
Phone: (505) 476-4680 Fax: (505) 476-4545

http://www.rld.state.nm.us/Dentalindex.html

State Permits: All Inclusive
Renewal: Every Six Years
- Dentist Nitrous Oxide (Fee: **$25.00**)
- Dentist Conscious I [Oral and Rectal Administration](Fee: **$25.00**)
- Dentist Conscious II [Parenteral Route](Fee: **$300.00**)
- Dentist Deep Sedation (Fee: **$300.00**)

TRAINING REQUIREMENTS

- **Enteral Sedation [Dentist Conscious I]:** The applicant must have satisfied one of the following: (a) completed training to the level of competency in enteral conscious sedation consistent with the prescribed in Part I and III of the ADA Guidelines; (b) completion of an ADA accredited post-doctoral training program; or (c) grandfathered permit holders.
- **Parenteral Sedation [Dentist Conscious II]:** To administer parenteral conscious sedation the dentist must satisfy one of the following criteria: (a) completion of a comprehensive training program in parenteral conscious sedation that satisfies the requirements described in Part III of the ADA Guidelines; (b) completion of an ADA accredited post-doctoral training program; or (c) grandfathered permit holders. In addition the permit holder must possess current BLS and ACLS certification.
- **Deep Sedation/General Anesthesia:** To administer general anesthesia the dentist must satisfy one of the following criteria: (a) completion of an advanced training program in anesthesia and related subjects beyond the undergraduate dental curriculum that satisfies the requirements described in Part II of the ADA Guidelines; (b) completion of an ADA accredited post-doctoral training program, which affords comprehensive and appropriate training necessary to administer and manage deep sedation or general anesthesia; (c) grandfathered permit holders. In addition, the permit holder must possess current ACLS and BLS certification.
- **Temporary permits:** The anesthesia committee evaluates the application and identifies any additional information required. If the application appears to be in order, the anesthesia committee may recommend the board issue a temporary permit. Temporary permits allow time to complete processing of the application, administer the examination and inspect the facility. Fees for temporary permits parallel the cost of the applied anesthesia permit.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The Anesthesia Committee shall consist of licensed dentists, including at least one Board Certified Oral and Maxillofacial Surgeon, one general dentist, a non-voting ex-officio board member, one dentist not engaged in the use of sedation techniques, and when possible, representatives of other interested dental specialties. Each anesthesia committee member should be currently practicing some form of sedation and be currently qualified as an examiner, with the exception of the non-sedating dentist.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The Anesthesia Committee will schedule the examination and facility inspection, when required, with the applicant. The Anesthesia Committee uses the American Association of Oral and Maxillofacial Surgeons Office Anesthesia Evaluation Manual as a guide for the examinations.

ADDITIONAL RULES AND REGULATIONS

- **Anesthesia Permit at Large:** This permit allows the holder to provide anesthesia services to patients in dental offices on an out-patient basis. The holder of the permit assumes all responsibility for the administration of the sedation or anesthesia in the dental office. The holder of this permit may be evaluated and inspected by the Anesthesia Committee as deemed necessary. The permit holder will inform the Board of all dental facilities where anesthesia services are to be provided and follow all other procedures as previously outlined.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
150

NEW YORK

New York State Board of Dentistry
89 Washington Ave.; 2nd FL – West Wing
Albany, NY 12234
Phone: (518) 474-3817 (EXT-550) Fax:(518) 473-6995

www.op.nysed.gov/dent.htm

State Permits: All Inclusive
Renewal: Triennial
- Conscious Sedation (Fee: **$100.00**)
- General Anesthesia (Fee: **$100.00**)
- Dental Enteral Conscious Sedation (Fee: **$100.00**)

TRAINING REQUIREMENTS

- **Enteral Sedation (Without Inhalation Agents):** The applicant must present evidence of completion of either: (a) pre doctoral or post-doctoral education consisting of a specialty program or residency accredited by an acceptable accrediting body which includes coursework in BLS and additional course work consisting of at least 18 clock hours, including but not limited to, instruction in nitrous oxide use and emergency management. In addition to the coursework, 20 clinical experiences in the use of enteral conscious sedation; or (b) post-doctoral coursework approved by the Department which has equivalent education as in the aforementioned subsection (a). In addition, the applicant must also verify current certification in BLS.
- **Conscious Sedation:** The applicant must present evidence of completion of a post doctoral education acceptable to the Department and accredited by an acceptable accrediting body, which includes at least 60 clock hours of coursework and an additional clinical experience demonstrating the successful use of parenteral conscious sedation on no fewer than 20 patients. In addition, the applicant must also verify current certification in ACLS.
- **Deep Sedation/General Anesthesia:** The applicant must present evidence of completion of the following: (A) at least two years of post-doctoral education in anesthesia acceptable to the Department and accredited by an acceptable accrediting body; or (B) a graduate level program in oral and maxillofacial surgery acceptable to the Department and accredited by an acceptable accrediting body. The applicant must also have a valid course completion card in ACLS.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Facilities Affidavit:** Each applicant must provide a signed affidavit verifying that the facility in which they will practice anesthesia is fully equipped according to the standard of care set forth in the application document.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The facility must have proper equipment to monitor vital signs, oxygen saturation (shall not be required to be monitored in cases in which conscious sedation through an enteral route is provided as long as the patient's conduct prohibits monitoring); ventilation (observation or auscultation); body temperature. Each facility shall be constructed to permit ready access by emergency equipment. A protocol for handling emergencies including transport to an emergency facility, shall be posted in each treatement and recovery area. A defibrillator shall be immediately accessible at each facility.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** During the administration of deep sedation or general anesthesia, a minimum of 3 individuals shall be present in the operatory. Individuals shall include: a licensed dentist or physician qualified to administer anesthesia and two additional individuals who have BLS documentation. During the administration of conscious sedation using the enteral or parenteral route with or without inhalation agents, a minimum of 2 individuals shall be present in the operator. Such individuals shall include the licensed dentist or physician qualified to administer anesthesia and one additional individual who have BLS documentation.
- **Continuing Education:** A licensed dentist administering anesthesia care shall successfully complete and maintain a course in ACLS, or its equivalent as determined by the department, and have current documentation attesting to this fact. For the renewal of certificates in Dental Enteral Conscious Sedation, which authorizes the licensed dentist to employ conscious sedation (enteral route only with or without inhalation agents), the licensed dentist shall successfully complete: (a) a course in BLS, or its equivalent as determined by the department, and have current documentation attesting to this fact; and (b) an additional six clock hours of education in sedation techniques including but not limited to, coursework in medications and recognition and management of complications and emergencies.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
1106

NORTH CAROLINA

North Carolina State Board of Dental Examiners
507 Airport Boulevard; Suite 105
Morrisville, NC 27560-8200
Phone: (919) 678-8223 Fax: (919) 678-8472

www.ncdentalboard.org

New ADA Guideline Adoption

State Permits: All Inclusive
Renewal: Annual
- Anesthesia/Sedation Application Fee: **$100.00**
- Anesthesia/Sedation Renewal Fee: **$50.00**
- Anesthesia/Sedation Evaluation Fee: **$175.00**
- Anesthesia/Sedation Site Inspection Fee: **$275.00**

TRAINING REQUIREMENTS

- **Minimal Conscious Sedation:** Minimal Conscious Sedation is provided for behavioral management of patients 13 years or older, by oral or rectal routes of administration of a single pharmacological agent, in one or more doses, not to exceed the manufacturer's maximum recommended dose at the time of treatment, possibly in combination with nitrous oxide. Drugs in combination are not permitted for Minimal Conscious Sedation. Evidence of training must be ONE of the following: Successful completion of training consistent with that described in Part I or Part III of the ADA Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry, and have documented administration of minimal conscious sedation in at least 5 cases; (b) Successful completion of an ADA accredited post-doctoral training program which affords comprehensive training necessary to administer and manage minimal conscious sedation; (c) Successful completion of an 18-hour minimal conscious sedation course which must be approved by the Board based on whether it affords comprehensive training necessary to administer and manage minimal conscious sedation; (d) Successful completion of an ADA accredited postgraduate program in pediatric dentistry; (e) Is a North Carolina licensed dentist in good standing who has been utilizing the minimal conscious sedation in a competent manner for at least 1 year immediately preceding the effective date of the Rule and his/her office has passed an on-site inspection by a Board evaluator. Competency shall be determined by presentation of successful administration of minimal conscious sedation in a minimum of 5 clinical cases.
- **Moderate Conscious Sedation or Moderate Pediatric Conscious Sedation:** A dentist must meet the following requirements: (1) Satisfactory completion of a minimum of 60 hours of didactic training, including PALS, and instruction in intravenous conscious sedation and satisfactory management of a minimum of 10 patients, under supervision, using intravenous sedation; or (2) Satisfactory completion of a pre-doctoral dental or postgraduate program which included intravenous conscious sedation training (3) Satisfactory completion of an internship or residency which included intravenous conscious sedation training equivalent to that defined in Subparagraph (c)(1) of this Rule; (d) A dentist may modify his/her moderate conscious sedation permit to include the privilege of moderate pediatric conscious sedation by completing a Board approved pediatric dental degree or pediatric dental residency program or obtaining the equivalent hours of continuing education program in pediatric dental anesthesia.
- **Moderate Conscious Sedation Limited to Oral Routes of Administration and Nitrous Oxide Inhalation:** A dentist must meet the following requirements: (1) successfully complete 24 hours of didactic training and manage at least 10 adult case experiences, including at least three live clinical dental experiences. The live clinical cases shall not be handled by groups with more than five participants. The remaining cases may include simulations, video presentations or both, but must include one experience in returning/restoring a patient from deep to moderate sedation. or (2) document, with patient names and dates of completion, at least 100 cases of oral moderate conscious sedation procedures successfully completed within one year preceding the effective date of these rules and; (3) fulfill all the requirements listed in .0401 for minimal conscious sedation. (j) A dentist who is qualified to administer general anesthesia, moderate conscious sedation or moderate pediatric conscious sedation and holds a general anesthesia, moderate conscious sedation permit or a moderate pediatric conscious sedation permit may administer minimal conscious sedation without obtaining a separate minimal conscious sedation permit.
- **General Anesthesia:** The applicant must produce evidence of: (a) Completion of a minimum of one year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level; or (b) Graduation from a program certified by the American Dental Association in Oral and Maxillofacial Surgery; or (c) Diplomat status or eligibility for examination by the American Board of Oral and Maxillofacial Surgery; or (d) Fellowship of the American Dental Society of Anesthesiology; or (e) Is a dentist who has been administering general anesthetics in a competent manner for 5 years preceding the effective date of this Rule. In addition, the applicant must have current ACLS (or equivalent) certification.

PER OFFICE FOR EQUIPMENT / SINGLE OFFICE FOR ANESTHETIC EVALUATION

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** When an evaluation or on-site inspection is required, the Board will designate two or more persons, each of whom is qualified to administer general anesthesia and has so administered such for a minimum of 3 years preceding the inspection. When an on-site inspection involves only a facility and equipment check and not an evaluation of the dentist, such inspection may be accomplished by one or more evaluators.
- **Criteria of On-Site Inspection:** During an inspection or evaluation, the applicant or permit holder shall demonstrate the administration of anesthesia while the evaluator observes. The applicant must also demonstrate that the facility is properly equipped and staffed with appropriate trained auxiliary personnel.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring and Equipment:** The facility must be equipped with: (i) an appropriately sized operatory; (ii) appropriate lighting and back-up; (iii) suction and back-up; (iv) positive pressure oxygen delivery system; (v) oral and nasal airways of various sizes; (vi) blood pressure monitoring device; (vii) electrocardiograph; (viii) pulse oximeter; (ix) defibrillator; (x) IV set-up as necessary for specific procedures; (xi) laryngoscope with current batteries; (xii) intubation forceps and endotracheal tubes; (xiii) tonsillar suction; (xiv) appropriate emergency drugs as listed in Subsection 4 of the North Carolina Rules and Regulations, under Equipment.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
236

NORTH DAKOTA

North Dakota State Board of Dental Examiners
PO Box 7246
Bismarck, ND 58507-7246
Phone: (701) 258-8600 Fax: (701) 224-9824

www.nddentalboard.org

New ADA Guideline Adoption

State Permits: All Inclusive
Renewal: Initially for 12 months then biennially (Fee: **$200.00**)
- Anesthesia / Sedation (Fee: **$200.00**)
  - The fee for an on-site inspection will be at a rate similar to compensation paid board members for services rendered to the State of North Dakota.

TRAINING REQUIREMENTS

- **Anesthesia Permit:** Initial applications for anesthesia and sedation are available for download or by request. The ADA recently modified it's guidelines for the use of sedation by appropriately trained dentists. Please review the ADA's Guidelines For The Use of Sedation and General Anesthesia For Dentists. The NDSBDE has amended its requirements and application process for anesthesia endorsements accordingly. In order to provide anesthesia / sedation modalities: (1) You must obtain written notification of approval to administer general anesthesia or deep sedation, moderate parenteral sedation and moderate enteral sedation. A permit for minimal sedation must be obtained if the enteral dosing is in combination with nitrous oxide inhalation analgesia. A dentist licensed under North Dakota Century Code chapter 43-28 and practicing in North Dakota may not use general anesthesia or conscious sedation on any patient unless such dentist has a permit, currently in effect, issued by the Board, initially for a period of twelve months and renewable biennially thereafter, authorizing the use of such general anesthesia or conscious sedation. Applicants must be in compliance with the American Dental Association's most recent policy statement, GUIDELINES FOR THE USE OF SEDATION AND GENERAL ANESTHESIA BY DENTISTS. (2) Prior to approval to administer general anesthesia or conscious sedation an office inspection and evaluation is required. A dentist who holds a conscious sedation or general anesthesia permit and who relocates his practice requires a new site evaluation. Office inspections conducted as part of the AAOMS certification process may be considered in lieu of the office inspection required by the Board. (3) The Anesthesia Committee evaluates the application and identifies any additional information required. If the application appears to be in order, the Anesthesia Committee may recommend the Board issue a temporary permit. Temporary permits allow time to complete processing of the application, administer the evaluation and inspect the facility. A temporary permit may be revoked if the applicant fails the site inspection or if the applicant fails to cooperate with the timely scheduling of the site inspection. Upon final approval of the application and the site evaluation the Anesthesia Committee will recommend a final action to the Board. If an application is denied for failure to meet the requirements of the NDSBDE, the areas of non-compliance will be identified and the applicant may re-apply when the requirements are met. Any expenses incurred for the site evaluation process are the sole responsibility of the anesthesia permit applicant. (Example: Anesthesiologist fee for site inspection including travel expenses.). (4) A minimal sedation permit is not required if the total aggregate dose does not exceed 1.5x the maximum FDA- recommended dose of a single enteral drug, as printed in FDA approved labeling for unmonitored home use. Use of multiple agents in dosing requires a sedation permit. Use of nitrous oxide inhalation with enteral medication requires a sedation permit.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The dental examiners approve the applicant's facility after an inspection conducted by an individual or individuals designated by the dental examiners.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The applicant must have a properly equipped facility(s), whether fixed, mobile, or portable, for the administration of general anesthesia or deep sedation in which the permit holder agrees to have available and utilize adequate monitoring, personnel, emergency equipment and drugs as recommended in the ADA's "Guidelines for the Use of Conscious Sedation, Deep Sedation and General Anesthesia for Dentists" and/or the American Association of Oral and Maxillofacial Surgeon's "Office Anesthesia Evaluation Manual."

ADDITIONAL RULES AND REGULATIONS

- **ACLS / PALS Certification:** A dentist administering or supervising general anesthesia or deep sedation, moderate parenteral sedation, moderate enteral conscious sedation or minimal sedation shall at all times be certified in ACLS. It is the dentist's responsibility to maintain current ACLS and/or PALS certification (if required), including CPR, at all times. PALS is required for administration of general anesthesia and conscious sedation on patients age 12 and under.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
44

OHIO

Ohio State Dental Board
77 S. High St.; 18th Floor
Columbus, OH 43266-0306
Phone: (614) 466-2580 Fax: (614) 752-8995

www.dental.ohio.gov

State Permits: All Inclusive
Renewal: Biennially
- Conscious Sedation [Includes Pediatric Oral Sedation] (Fee: $327.00)
- General Anesthesia/Deep Sedation (Fee: $527.00)

TRAINING REQUIREMENTS

- **Conscious Sedation [Includes Pediatric Oral Sedation]:** The applicant must produce evidence showing that he/she: (a) Has satisfactorily completed comprehensive pre-doctoral or continuing education conscious sedation training in an accredited educational institution or program, which included a minimum of 60 hours of didactic instruction and 20 cases of clinical experience commensurate with each intended route(s) of administration, whether; (i) Oral sedation for children twelve years or younger; or (ii) Non-intravenous parenteral; or (iii) Intravenous; or (b) Has satisfactorily completed an accredited post-doctoral training program which included conscious sedation training to the aforementioned; or (c) Has satisfactorily completed the qualifications governing the use of general anesthesia as mentioned in the Ohio Administrative Code; and (d) At the time of application maintains successful completion of an ACLS course, or its age appropriate equivalent; and (e) Maintains a permanent address within the state of Ohio where he or she conducts business pursuant to his or her Ohio state dental license.
- **General Anesthesia/Deep Sedation:** The applicant must produce evidence showing: (a) Completion of an approved, accredited post-doctoral training program which affords appropriate training necessary to administer deep sedation and general anesthesia; and/or (b) Completion of an approved Accreditation Council for Graduate Medical Education (ACGME) accredited post-doctoral training program in anesthesiology which affords appropriate training necessary to administer deep sedation and general anesthesia; and/or (c) Completion of a minimum of one year advanced clinical training in anesthesiology from a Joint Commission on Accreditation of Healthcare Organization (JCAHO) accredited institution beyond the minimum one year pre-doctoral training in anesthesiology and that meets the objectives set forth in Part II of the ADA Guidelines; and (d) Completion of an ACLS course or its equivalent.

PER OFFICE / SINGLE OFFICE WITH MOBILE FACILITY

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The evaluation shall be conducted by a qualified consultant appointed by the Ohio State Dental Board.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The applicant must have a properly equipped facility(s), whether fixed, mobile, or portable, for the administration of general anesthesia or deep sedation and parenteral conscious sedation in which the permit holder agrees to have available and utilize adequate monitoring, personnel, emergency equipment and drugs as recommended in the ADA's "Guidelines for the Use of Conscious Sedation, Deep Sedation and General Anesthesia for Dentists" and/or the American Association of Oral and Maxillofacial Surgeon's "Office Anesthesia Evaluation Manual."

ADDITIONAL RULES AND REGULATIONS

- **A Mobile or Portable Facility:** In the case of a mobile or portable facility, one inspection of that facility shall be conducted in the office of an Ohio licensed dentist where deep sedation or general anesthesia is administered. A written list of all monitors, emergency equipment, and other materials which the mobile anesthesia provider agrees to have available at all times while administering conscious sedation, deep sedation, and general anesthesia in multiple locations shall be provided to the Ohio State Dental Board.
- **New Facility(s):** All permit holders shall provide written notification within 10 days to the Ohio State Dental Board if anesthesia services are provided at any new facility(s) other than those already listed.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
576

OKLAHOMA

Oklahoma Board of Dentistry
201 N.E. 38th Terr., #2
Oklahoma City, OK 73105
Phone: (405) 524-9037 Fax: (405) 524-2223

www.dentist.state.ok.us

State Permits: All Inclusive
Renewal: Annually
- General Anesthesia (Fee: $ 100.00)
- Conscious Sedation (Fee: $ 100.00)
- Pediatric Conscious Sedation Permit Fee: $100.00

TRAINING REQUIREMENTS

- **Pediatric Conscious Sedation:** Every dentist who administers pediatric conscious sedation using enteral agents to dental patients ages 12 years and younger must satisfy at least one of the following requirements: (a) has accrued a minimum of 16 hours training in enteral sedation, or must have participated in an education program approved by the Board. These 16 hours are in addition to those accrued completing certification in BLS; (b) satisfactory completion of a postgraduate program in oral and maxillofacial surgery or pediatric dentistry at a dental school approved by either the Board or the Council on Accreditation; (c) satisfactory completion of a general practice residency; (d) licensed dentists in Oklahoma who have provided pediatric conscious sedation utilizing enteral methods to dental patients 12 years and less; (d) does need to possess a facility inspection permit and demonstrate the administration of pediatric enteral conscious sedation.
- **Conscious Sedation:** Every dentist who administers conscious sedation using parenteral methods for dental patients must satisfy at least one of the following: (a) has accrued a minimum of 60 hours training in parenteral conscious sedation techniques given by a faculty member of recognized teaching institution or hospital, or participated in an education program approved by the Board; (b) completion of an ADA Commission on Dental Accreditation approved advanced dental education program which includes at least 60 hours of comprehensive and appropriate training necessary to administer and manage parenteral conscious sedation; and (c) possess current certification in ACLS or PALS and BLS.
- **Deep Sedation/General Anesthesia:** Every dentist who administers general anesthesia or deep sedation must meet one of the following: (a) A minimum of two years of post-doctoral training in anesthesiology as described by the ADA in Part II of Guidelines for Teaching Anxiety and Pain Control; (b) A dentist with one year of post-doctoral training in anesthesiology with a current general anesthesia permit will be grandfathered; (c) Specialty certification in oral and maxillofacial surgery; (d) Certification as a Fellow in Anesthesia by the American Dental Society of Anesthesiology; (e) Possess current certification in ACLS or PALS and BLS.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The Anesthesia Advisory Committee shall be composed of: Two dentists who hold general anesthesia provider permits; Two dentists who hold conscious sedation provider permits; One dentist permit holder at large; One current member of the Board. All of which will serve a 3-year term.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The evaluation of the facility's equipment and personnel will follow the ADA's Guidelines for the Use of Conscious Sedation, Deep Sedation, and General Anesthesia in Dentistry. This evaluation will be on a prescribed form approved by the Board and available to the applicant for review prior to a request for an inspection. A written list of all monitors, emergency equipment, drugs, and other materials which the mobile or portable anesthesia provider agrees to have available at all times. The dentist holding a facility permit can work with or employ: (a) A dentist holding a valid parenteral conscious sedation permit; (b) A dentist holding a valid general anesthesia permit; and (c) A CRNA licensed to practice in the State of Oklahoma, provided the dentist directly supervises the CRNA.

ADDITIONAL RULES AND REGULATIONS

- **Continuing Education:** All permit holders must complete **6 hours** of permit specific CE in 3 years time. These hours are in addition to those relating to BLS, ACLS, or PALS.
- **Personnel:** *For Enteral Sedation-* At least one assistant involved and certified in BLS; *For Conscious Sedation and General Anesthesia-* At least two assistants involved and certified in BLS.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
147

OREGON

Oregon Board of Dentistry
1600 SW 4th Ave.; Suite 770
Portland, OR 97201
Phone: (971) 673-3200 Fax: (971) 673-3202

www.oregon.gov/Dentistry/index.shtml

State Permits: All Inclusive
Renewal: Biennially
- Nitrous Oxide [Class I Permit] (Fee: $40.00)
- Conscious Sedation [Class II Permit](Fee: $75.00)
- Deep Conscious Sedation [Class III Permit] (Fee: $75.00)
- General Anesthesia [Class IV Permit] (Fee: $140.00)

TRAINING REQUIREMENTS

- **Conscious Sedation:** To administer parenteral conscious sedation the dentist must satisfy one of the following criteria: (a) Has completed a training course of at least 20 hours of either pre-doctoral dental school accredited by the Commission on Dental Accreditation, or (b) Has completed a postgraduate instruction, or the equivalent of that required in graduate training programs, in sedation, recognition, and management of complications and emergency care. In addition, the permit holder must possess BLS certification.
- **Deep Sedation:** To administer deep sedation the dentist must satisfy one of the following criteria: (a) Completion of an ADA accredited postdoctoral training program which affords comprehensive and appropriate training necessary to administer and manage parenteral conscious sedation; or (b) Completion of a comprehensive training program in parenteral conscious sedation that satisfies the requirements described in Part III of the ADA Anesthesia Guidelines. In addition, the permit holder must be ACLS certified.
- **General Anesthesia:** To administer deep sedation the dentist must satisfy one of the following: (a) Completion of an advanced training program in anesthesia and related subjects beyond the undergraduate dental curriculum that satisfies the requirements described in Part II of the ADA Guidelines; or (b) Completion of an ADA accredited postdoctoral training program which affords comprehensive and appropriate training necessary to administer and manage general anesthesia, commensurate to the aforementioned guidelines. In addition, the applicant must currently hold certification in ACLS or PALS, whichever is appropriate for the patient.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The evaluation shall be performed by a team appointed by the Board and shall include: A permit holder who has the same type of license as the licensee to be evaluated and who holds a current anesthesia permit in the same class or higher than that being evaluated; a member of the Board's Anesthesia Committee; and any licensed dentist, deemed appropriate by the Board President, may serve as team leader and shall be responsible for organizing and conducting the evaluation.
- **Criteria of On-Site Inspection:** The in-office evaluation shall include: (a) Observation of one or more cases of anesthesia to determine the appropriateness of technique and adequacy of patient evaluation and care; (b) Inspection of facilities/equipment; (c) Confirmation that auxiliary personnel and applicant are appropriately trained.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The following facilities, equipment and drugs shall be on site and available for immediate use during the procedure and during recovery: (a) proper lighting and suction with back-up; (b) an oxygen delivery system with adequate full face mask and appropriate connectors; (c) a recovery area that has available oxygen, lighting, suction and electrical outlets; (d) sphygmomanometer, precordial stethoscope or capnograph; (e) pulse oximeter; (f) proper emergency drugs.

ADDITIONAL RULES AND REGULATIONS

- **Restrictions:** The following drugs are conclusively presumed to produce general anesthesia and may only be used by a licensee holding a Class IV Permit: (i) Ultra short acting barbiturates; (ii) Alkylphenols (propofol); (iii) Neuroleptic agents; (iv) Dissociative agents (ketamine); (v) Etomidate; and (vi) Rapidly acting steroid preparations.
- **Pain Management:** Chapter 528 (2007 Laws) known as Senate Bill 879. This new legislation requires that all Oregon licensed dentists must complete one pain management education program developed by the Oregon Pain Management Commission.
- **Use of Trained Auxiliary:** After adequate training, an assistant, when directed by a dentist, may introduce additional anesthetic agents to an infusion line under the direct visual supervision of a dentist.
- **Reporting of Adverse Occurrences:** The licensee performing the dental procedure must submit a written detailed report to the Board within five days of the incident.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
274

PENNSYLVANIA

Pennsylvania State Board of Dentistry
PO Box 2649
Harrisburg, PA 17105-2649
Phone: (717) 783-7162 Fax: (717) 787-7769

www.dos.state.pa.us/bpo/cwp/view.asp?a=1101&q=432687

State Permits: All Inclusive
Renewal: Biennially
- Restricted Type II [Nitrous Oxide] (Fee: $15.00)
- Restricted Type I [Conscious Sedation](Fee: $200) Inspection-$975.00
- Unrestricted [General Anesthesia](Fee: $280) Inspection-$975.00

TRAINING REQUIREMENTS

- **Conscious Sedation:** To secure a restricted permit I, a dentist shall have done one of the following: (a) Successfully completed a course on conscious sedation comprising at least 80 hours of undergraduate or postgraduate didactic instruction and clinical experience in a program that conforms to Part I or Part III of the ADA's Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry; (b) Administered conscious sedation on a regular basis in the course of his dental practice for 5 or more years prior to January 1, 1986.
- **General Anesthesia:** To secure an unrestricted permit, a dentist shall have done one of the following: (a) Successfully completed at least 1 year in a post graduate program for advanced training in anesthesiology and related academic subjects that conforms to Part II of the ADA's Guidelines; (b) Be certified as a Diplomat of the American Board of Oral and Maxillofacial Surgeons, a Fellow of the American Association of Oral and Maxillofacial Surgeons or a Fellow of the American Society of Dental Anesthesiology, or be eligible for examination by the American Board of Oral and Maxillofacial Surgeons; (c) Administered general anesthesia on a regular basis in the course of his dental practice for at least 5 years prior to January 1, 1986.
- **Enteral Sedation:** All practitioners providing oral medication to achieve conscious sedation should review section 33.331 of the PA code. The board interprets this to require such practitioners to have a Restricted I Conscious Sedation Permit.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Office inspections will be performed through the Pennsylvania Society of Oral and Maxillofacial Surgeons
- **Criteria of On-Site Inspection:** Approximately once every five years, the Board, through its authorized agents, may conduct a routine inspection of a dental office for the purpose of determining whether the office is in compliance with the equipment and facility requirements prescribed.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The board will require the applicant to undergo a clinical evaluation and office inspection conducted by the Board through its authorized agents. The clinical evaluation and office inspection will be conducted in accordance with the "American Association of Oral and Maxillofacial Surgeons' Office Anesthesia Evaluation Manual."

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** Auxiliary personnel who assist the permit holder in the administration of anesthesia: (i) Are trained to perform the duties that the permit holder delegates to them, if the duties do not require the professional judgment and skill of the permit holder and do not involve the administration of general anesthesia, conscious sedation, or nitrous oxide/oxygen analgesia. (ii) Perform their duties under the direct on-premises supervision of the permit holder who shall assume full responsibility for the performance of the duties. (iii) Do not render assistance in areas that are beyond the scope of the permit holder's authority.
- **Other Than Permit Holders:** Certified registered nurse anesthetists who are delegated the duties of administering anesthesia must not perform duties that are beyond the scope of the permit holder's authority.
- **Notification:** The Board must receive prior notice of the first time that a dental office of the permit holder will be used for the administration of general anesthesia, conscious sedation or nitrous oxide/oxygen analgesia.
- **Continuing Education:** A dentist that does not possess an anesthesia permit, but opts to employ a permit holder for anesthesia services must receive **5 CE credit hours** specific for anesthesiology. A dentist possessing a permit must complete at least **15 hours** of CE. (Please call the dental board for specific details.)

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
502

RHODE ISLAND

Rhode Island Board of Examiners in Dentistry
3 Capital Hill; Room 205
Providence, RI 02908
Phone: (401) 222-5960 Fax: (401) 222-6548

www.health.ri.gov/hsr/professions/dental.php

State Permits: Not Available
Renewal: Every 5 years
- General Anesthesia/Deep Sedation (Fee: $70.00)
- Parenteral / Combined Conscious Sedation (Fee: $70.00)
- Inhalation Conscious Sedation (Fee: $70.00)
- Nitrous Oxide Analgesia (No Fee)
- Facility Permit (Fee: $40.00)

TRAINING REQUIREMENTS

- **Deep Sedation/General Anesthesia:** To administer general anesthesia the dentist must satisfy the following criteria: (a) Completion of an advanced training program in anesthesia and related subjects beyond the undergraduate dental curriculum that satisfies the requirements described in Part II of the ADA Guidelines; (b) Completion of an ADA accredited post-doctoral training program, which affords comprehensive and appropriate training necessary to administer and manage deep sedation or general anesthesia. In addition, the permit holder must be certified in ACLS.
- **Combined Conscious Sedation:** Satisfy one of the following education and training requirements: (a) completion of a comprehensive training program in enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation) consistent with that prescribed in Part III of the ADA *Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry* at the time training was commenced; or (b) completion of an ADA accredited post-doctoral training program which affords comprehensive and appropriate training necessary to administer and manage enteral and/or combination inhalation-enteral conscious sedation (combined conscious sedation
- **Parenteral Conscious Sedation:** To administer parenteral conscious sedation the dentist must satisfy one of the following criteria: (a) Completion of a comprehensive training program in parenteral conscious sedation that satisfies the requirements described in Part III of the ADA Guidelines; (b) Completion of an ADA accredited post-doctoral training program. In addition, the permit holder must be certified in BLS.
- **Inhalational Conscious Sedation:** The applicant must satisfy one of the following education and training requirements: (a) Completion of a training consistent with that described in Part I or Part III of the ADA Guidelines for Teaching the Comprehensive Control of Pain and Anxiety; (b) Completion of an ADA accredited post-doctoral training program. In addition, the permit holder must be certified in BLS.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The Board may, through appointed advisory consultants, conduct such inspections and investigations as deemed necessary by the Board to ensure compliance with the requirements.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** In order to determine the adequacy and safety of the physical facility, the current standards of the ADA, "Guidelines for the Use of Conscious Sedation, Deep Sedation and General Anesthesia for Dentists," including but not limited to the following equipment requirements: (i) equipment must have a fail-safe system that is appropriately checked and calibrated; (ii) equipment must have an appropriate scavenging system; and (iii) if nitrous oxide and oxygen delivery equipment capable of delivering less than 25% oxygen is used, an in-line oxygen analyzer must be used. In addition, the standards for "Occupational Exposure to Waste Anesthetic Gases and Vapors" of the National Institute for Occupational Safety and Health and the Rhode Island Fire Safety Code where flammable anesthetics are present will be used.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** Each member of the "team of auxiliary personnel" shall hold a current certificate in BLS.
- **Written Consent:** Written informed consent shall be administered and obtained for each patient undergoing anesthesia care.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
90

SOUTH CAROLINA

South Carolina Board of Dentistry
PO Box 11329
Columbia, SC 29211-1329
Phone: (803) 896-4599 Fax: (803) 896-4596

www.llr.state.sc.us/pol/dentistry/

The Board of Dentistry Does Not Issue Anesthesia Permits.

TRAINING REQUIREMENTS

- **Sedation:** A dentist may employ or use sedation on an out-patient basis for dental patients provided he or she: (a) has received formal training in the use of sedation; (b) is certified by the institution where the training was received to be competent in the administration of sedation; and such certification shall specify the type, the number of hours and length of training. The minimum number of didactic hours shall be 40 and the minimum number of patient contact hours shall be 20. The preceding is necessary for recognition of the formal training program. This formal training program shall be sponsored by or affiliated with a university, teaching hospital, or other facility approved by the Board or part of the undergraduate curriculum of an accredited dental school.
- **General Anesthesia:** To administer general anesthesia the dentist must satisfy the following criteria: (a) completion of a minimum of one year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program as described in academic subjects beyond the undergraduate dental school level in a training program as described in Part II of the ADA Guidelines; or (b) is a graduate of an ADA accredited program in Oral and Maxillofacial Surgery, or is a Diplomat of the American Board of Oral and Maxillofacial Surgery, or is eligible for examination by the American Board of Oral and Maxillofacial Surgery; or (c) is a Fellow of the American Dental Society of Anesthesiology; or (d) is a licensed dentist who has been utilizing general anesthesia in a competent and effective manner for the 10 year period preceding the effective date of these rules and regulations.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Evaluations will be completed by a qualified anesthesiologist licensed to practice in South Carolina.
- **Criteria of On-Site Inspection:** The qualified inspector would monitor the patient until discharge from the dental office. The anesthesiologist and the dentist would be responsible for insuring standard of care. In addition, the facility will be inspected to insure that it is properly equipped to administer anesthesia. The majority of office inspections relate to a complaint being registered against the dentist.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** Dentists whose credentials qualify to provide anesthesia care shall be subject to review, and their facilities subject to inspection. The inspection will occur to verify that the facility can support the use of anesthesia.

ADDITIONAL RULES AND REGULATIONS

- **Reporting of Adverse Occurrences:** All licensed dentists engaged in the active practice of dentistry while administering general anesthesia or sedation must submit a report within a 30 day period to the Board regarding any known mortality or serious, unusual incident which occurs in a dental facility or during the 24 hour period after the patient leaves the facility, if the incident produces significant temporary or permanent physical or mental injury of the patient as a direct result of the administration of the general anesthesia or sedation.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
NONE ISSUED

SOUTH DAKOTA

South Dakota State Board of Dentistry
PO Box 1037, 106 W. Capitol Ave.
Pierre, SD 57501-1037
Phone: (605)224-1282 Fax: (605) 224-7426

http://www.sdboardofdentistry.com/

State Permits: All Inclusive
Renewal: Annually
- Nitrous Oxide (Fee: $25.00)
- Parenteral Sedation (Fee: $25.00)
- General Anesthesia (Fee: $25.00)

TRAINING REQUIREMENTS

- **General Anesthesia:** The applicant must meet one of the following criteria: (a) Has completed a minimum of one year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program as described in Part II of the ADA Guidelines; (b) Is a diplomat of the American Board of Oral and Maxillofacial Surgery; (c) Is eligible for examination by the American Board of Oral and Maxillofacial Surgery; (d) Is a member of the American Association of Oral and Maxillofacial Surgeons; or (e) Is a Fellow of the American Dental Society of Anesthesiology
- **Parenteral Sedation:** The applicant must meet one of the following criteria: (a) Has documented experience at the graduate level specifying the type, number of hours, length of training, and number of supervised parenteral sedation cases; or (b) Has successfully completed a formal training program as described in Part III of the ADA Guidelines.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** There are not currently any published guidelines as to office inspections. However, the board may at any time require an on-site inspection of the facility, equipment, and personnel to determine if the requirements are being met.
- **Facilities Affidavit:** Each applicant must provide a signed affidavit verifying that the facility in which they will practice anesthesia is fully equipped according to the standard of care set forth in the application document.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The applicant must maintain a facility equipped for the administration of general anesthesia and staffed with trained auxiliary personnel capable of handling procedures, problems, and emergencies.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** All employee dental auxiliaries must be trained and capable of administering basic life support. A qualified dentist may not administer general anesthesia or monitor a patient without the presence and assistance of qualified BLS certified dental auxiliaries.
- **Reporting of Adverse Occurrences:** All dentists must submit a report to the Board of Dentistry within 30 days after any death or any incident which results in temporary or permanent physical or mental injury requiring medical treatment of the patient during, or as a result of, anesthesia administration.
- **Monitoring by Auxiliaries:** Licensed dental hygienists and advanced dental assistants may monitor patients receiving analgesic or anesthetic agents while under the direct supervision of a licensed dentist who has been authorized by the board for the specific type of analgesic or anesthetic agent if the dental hygienist or advanced dental assistant holds a current certification in BLS and has completed at least an eight-hour course in anesthetic assisting.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
31

TENNESSEE

Tennessee Board of Dentistry
425 5th Ave. North; Cordell Hull Bldg.
Nashville, TN 37247-1010
Phone: (800) 778-4123 Fax: (615) 532-5369

http://health.state.tn.us/Boards/Dentistry/index.htm

State Permits: All Inclusive
Renewal: Annually
- Limited Conscious Sedation (Enteral &/or Inhalational)(Fee: $300.00)
- Comprehensive Conscious Sedation (Inclusive for Pediatrics) (Fee: $300.00)
- Deep Sedation/General Anesthesia (Fee: $300.00)

TRAINING REQUIREMENTS

- **Limited Conscious Sedation:** To obtain a limited conscious sedation permit, a dentist must provide certification of one of the following: (a) completion of an ADA accredited postdoctoral training program which affords comprehensive training necessary to administer and manage enteral and/or combination inhalation-enteral conscious sedation, or (b) completion of a CE course which consists of a minimum of 18 hours of didactic instruction plus 20 clinically-oriented experiences which provide competency in enteral and/or combination inhalation-enteral conscious sedation.
- **Comprehensive Conscious Sedation:** To obtain a comprehensive conscious sedation permit a dentist must provide certification in one of the following: (a) completion of an ADA accredited postdoctoral training program which affords comprehensive training to administer and manage parenteral conscious sedation, or (b) completion of a CE course which consists of a minimum of 18 hours of didactic instruction plus 20 clinically-oriented experiences which provide competency in enteral and/or combination inhalation-enteral conscious sedation; or (c) possess on the effective date of this regulation a current valid intravenous conscious sedation permit issued by the board.
- **Deep Sedation/General Anesthesia:** To obtain a deep sedation/general anesthesia permit, a dentist must provide certification of one of the following: (a) successful completion of a minimum of one year advanced training in anesthesiology and related academic subjects beyond the undergraduate level in a training program as described in the ADA Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry; or (b) proof of successful completion of a graduate program in oral and maxillofacial surgery which has been approved by the Commission on Accreditation of the ADA; or (c) proof of successful completion of a residency program in general anesthesia of not less than one calendar year that is approved by the Board of Directors of the ADA of Anesthesiology. In addition, ACLS/PALS certification is needed.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Facilities Affidavit:** Each applicant must provide a signed affidavit verifying that the facility in which they will practice anesthesia is fully equipped according to the standard of care set forth in the application document.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** (a) The treatment room must be large enough to accommodate the patient adequately on a table or in a dental chair and to allow an operating team, consisting of at least 3 persons, to move freely about. (b) The facility must have an adequate lighting and suction system with back-up. (c) A system for delivering oxygen must have adequate full-face masks and appropriate connectors, and be capable of delivering oxygen to the patient under positive pressure. (d) Inspections of the anesthesia equipment shall be made each day the equipment is used and a log kept recording the inspection and its results.
- **Monitoring:** (i) Interval recording of blood pressure and pulse must occur; (ii) Oxygen saturation must be monitored continuously by pulse oximeter; (iii) Continuous EKG monitored with electrocardioscope must occur (GA); (iv) Respirations must be monitored for intubated patients by auscultation or end tide CO_2 (GA); (v) A cardiac defibrillator must be available.

ADDITIONAL RULES AND REGULATIONS

- **Pediatric Anesthesia:** A dentist who provides anesthesia for children must provide evidence of adequate training in pediatric techniques and in pediatric resuscitation including the recognition of pediatric airway and respiratory problems.
- **Written Protocols:** Written protocols must be established by the dentist to manage emergencies related to anesthesia administration.
- **Personnel:** During conscious sedation, at least one person, in addition to the operating dentist, must be present. During general anesthesia, at least two persons, in addition to the operating dentist, must be present. All auxiliary personnel must possess current BLS certification.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
219

TEXAS

Texas State Board of Dental Examiners
333 Guadalupe, Tower 3; Suite 800
Austin, Texas 78701
Phone: (512) 463-6400 Fax: (512) 463-7452

www.tsbde.state.tx.us

State Permits: Not Available
Renewal: Annually
- Enteral Conscious Sedation (Fee: $28.75)
- Nitrous Oxide/Oxygen Conscious Sedation (Fee: $28.75)
- Parenteral Conscious Sedation (Fee: $28.75)
- Deep Sedation/General Anesthesia (Fee: $28.75)

TRAINING REQUIREMENTS

- **Enteral Sedation:** The applicant must have satisfied one of the following: (a) completed training to the level of competency in enteral conscious sedation consistent with the prescribed in Part I and III of the ADA Guidelines; (b) completion of an ADA accredited post-doctoral training program; or (c) completion of the two-day conscious sedation course in Pediatric Dentistry that is approved and developed by the American Academy of Pediatric Dentistry; or (d) completion of a two-day enteral conscious sedation approved by the State Board of Dental Examiners.
- **Parenteral Conscious Sedation:** To administer parenteral conscious sedation the dentist must satisfy one of the following criteria: (a) completion of a comprehensive training program in parenteral conscious sedation that satisfies the requirements described in Part III of the ADA Guidelines; (b) completion of an ADA accredited post-doctoral training program. In addition, BLS and ACLS/PALS certification is needed.
- **Deep Sedation/General Anesthesia:** To administer general anesthesia the dentist must satisfy one of the following criteria: (a) Completion of an advanced training program in anesthesia and related subjects beyond the undergraduate dental curriculum that satisfies the requirements described in Part II of the ADA Guidelines; (b) Completion of an ADA accredited post-doctoral training program, which affords comprehensive and appropriate training necessary to administer and manage deep sedation or general anesthesia. In addition, the permit holder must possess current ACLS/PALS and BLS certification.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Facilities Affidavit:** Each applicant must provide a signed affidavit verifying that the facility in which they will practice anesthesia is fully equipped according to the standard of care set forth in the application document.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Monitoring:** (i) Oxygen saturation shall be evaluated continuously by pulse oximetry; (ii) Ventilation-breath sounds must be monitored; end-tidal CO_2; (iii) Continuous EKG monitoring of all patients throughout the procedure with electrocardioscopy shall occur; (iv) Blood pressure shall be recorded every five-minutes; (v) A device to measure body temperature must be used **(GA Permit)**.
- **Recovery Area:** Oxygen and suction equipment must be immediately available in the recovery area for the continual monitoring of vital signs when the anesthetic is no longer being administered, i.e., the patient must have continuous supervision until oxygenation, ventilation, circulation, and temperature, as indicated, are stable and the patient is appropriately responsive for discharge from the facility.

ADDITIONAL RULES AND REGULATIONS

- **Portability of Anesthesia Privileges:** An applicant can request portability of a sedation/anesthesia permit be granted at the time permit issuance. This will enable the applicant to offer sedation/anesthesia in locations other than a single dental office/facility. This will be granted if the applicant meets the standards set forth by the State Board of Dental Examiners.
- **Patient Evaluation:** Patients subjected to anesthesia must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II), this may be simply a review of their current medical history and medication use. However, with individuals who may not be medically stable or who have a significant health disability (ASA III, IV), consultation with their primary care physician or consulting medical specialist regarding potential procedure risk should be considered.
- **Personnel:** All dental auxiliaries involved in the administration of anesthesia must possess current BLS certification.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
1440

UTAH

Utah Board of Dentists and Dental Hygienists
PO Box 146741
Salt Lake City, UT 84114-6741
Phone: (801) 530-6628 Fax: (801) 530-6511

http://www.dopl.utah.gov/licensing/dentistry.html

State Permits: All Inclusive
Renewal: Biennially
- Class I Permit [Enteral Sedation] (Fee: $131.00)
- Class II Permit [Nitrous Oxide] (Fee: $131.00)
- Class III Permit [Parenteral Conscious Sedation] (Fee: $131.00)
- Class IV Permit [General Anesthesia] (Fee: $131.00)

TRAINING REQUIREMENTS

- **Enteral Sedation:** The qualifications for a class I permit are: (a) current licensure as a dentist in Utah; and (b) documentation of current CPR or BLS certification.
- **Conscious Sedation:** The qualifications for a class III permit are: (a) current licensure as a dentist in Utah; (b) evidence of current ACLS certification; (c) evidence of holding a current Utah controlled substance license in good standing, and a current DEA Registration in good standing; (d) evidence of having successfully completed comprehensive predoctoral or postdoctoral training in the administration of parenteral conscious sedation which conforms to the Guidelines for Teaching Comprehensive Control of Pain and Anxiety in Part III.
- **Deep Sedation/General Anesthesia:** The qualifications for a class IV permit are: (a) meet the requirements as in sections (a-c) within conscious sedation above; (b) evidence of having successfully completed advanced training in the administration of general anesthesia and deep sedation consisting of not less than one year in a program which conforms to the Guidelines set forth by the ADA Guidelines in Part II, and a letter from the course director documenting competency in performing general anesthesia or deep sedation; and (c) documentation of successful completion of advanced training in obtaining a health history, performing a physical examination and diagnosis of a patient consistent with the administration of general anesthesia or deep sedation.
- **Controlled Substance Permit: This permit is required for any use of controlled substances and the cost of this permit is included in the total fee for each anesthesia permit.**

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Facilities Affidavit:** Each applicant must provide a signed affidavit verifying that the facility in which they will practice anesthesia is fully equipped according to the standard of care set forth in the application document.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** *For General Anesthesia-* The applicant must ensure via affadavit the dental facility is equipped with current emergency drugs, equipment capable of delivering oxygen under positive pressure, precordial stethoscope for continuous monitoring of cardiac function and respiratory work, electrocardiographic monitoring and pulse oximetry, means of monitoring blood pressure, and temperature monitoring; the preceding or equivalent monitoring of the the patient will be used for all patients during all general anesthesia or deep sedation procedures; in addition, temperature monitoring will be used for children. All the aforementioned equipment must be inspected annually by a certified technician and is calibrated and in good working order. *For Parenteral Conscious Sedation-* The applicant must ensure the dental facility is equipped with pulse oximetry, current emergency drugs, and equipment capable of delivering oxygen under positive pressure; the patient's heart rate, blood pressure, respirations and responsiveness are checked at specific intervals during the anesthesia and recovery period and that these observations are appropriately recorded in the patient record.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** *For parenteral conscious sedation,* a minimum of 2 persons, with one person constantly monitoring the patient, must be present during the administration of anesthesia as follows: (i) an operating dentist and a permittee dentist; or (ii) an operating permittee dentist and a BLS certified assistant trained and qualified to monitor appropriate and required physiologic parameters; or (iii) an operating permittee dentist and another licensed professional qualified to administer this class of anesthesia. *For general anesthesia,* a minimum of 3 persons who are appropriately trained and qualified must be present in the following manner: (i) an operating dentist holding a permit under this classification, an anesthesia assistant trained to observe and monitor the patient using the equipment required above, and an individual to assist the operating dentist; (ii) an operating dentist, an assistant to the dentist and a dentist holding a permit under this classification; (iii) another licensed professional qualified to administer this class of anesthesia and an individual to assist the operating dentist.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
256
(NOTE: 622 DENTISTS HOLD A CLASS I PERMIT)

VERMONT

Vermont Board of Dentistry
National Life Building; North FL2
Montpelier, VT 05620
Phone: (802) 828-2390 Fax: (802) 828-2465

http://www.vtprofessionals.org/opr1/dentists/

State Permits: All Inclusive
Renewal: Not Available
- Parenteral Conscious Sedation (Fee: $225.00)
- General Anesthesia/Deep Sedation (Fee: $225.00)

TRAINING REQUIREMENTS

- **General Anesthesia:** An applicant must demonstrate that he or she: (a) has a properly staffed and equipped facility, as set forth in the current edition of the Office Anesthesia evaluation Manual of the American Association of Oral and Maxillofacial Surgeons; and (b) has either completed a minimum of 12 months of advanced clinical training in anesthesiology and related academic subjects beyond undergraduate dental school level; or (c) is a diplomate of the American Board of Oral and Maxillofacial Surgery, is a fellow or member of the American Association of Oral and Maxillofacial Surgeons, or is a fellow of the American Dental Society of Anesthesiology or also successfully completed a CODA accredited oral and maxillofacial surgery residency program.
- **Conscious Sedation:** TO INCLUDE REPEATED DOSING OF ORAL SEDATIVE AGENTS Applicants submit: (a) documentation of satisfactory completion of a conscious sedation training program provided under the auspices of a dental school or program accredited by the Commission on Dental Accreditation of the ADA; or (b) Certification by a CODA accredited school showing that the applicant has completed a course of training in conscious sedation while a student in an accredited school of dentistry or through postgraduate training which meets the requirements of the ADA Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry; or (c) Conscious Sedation endorsement Based on Endorsement from Another Jurisdiction: documentation showing that he or she is a licensed dentist in good standing in a jurisdiction of the U.S. or Canada having standards equivalent of this state; or (d) **For those treating children under 12 years of age,** documentation of appropriate training, in pediatric sedation techniques according to the guidelines of the American Academy of pediatric Dentistry and in pediatric resuscitation including the recognition and management of pediatric airway and respiratory problems; and (e) A signed affidavit certifying that the dentist: (1) understands the requirements of these rules; and (2) will use a properly staffed and equipped facility.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Prior to issuance, at the time of application and at such times as the Board deems necessary, the Board may conduct an inspection of the dentist's facility, equipment, and staff. Such inspection will be conducted by a team appointed by the Board.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The applicant must have a properly stffed and equipped facility, as set forth in the current edition of the Office Anesthesia Evaluation Manual of the American Association of Oral and Maxillofacial Surgeons.
- **Monitoring Requirements:** To minimize risks to patients, a dentist who uses conscious sedation shall: (a) Ensure that monitoring of a patient under conscious sedation begins prior to the administration of sedation, and takes place continuously during the procedure and recovery from sedation. The person who administers the sedation or another licensed practitioner qualified to administer conscious sedation shall remain on the premises until the patient is responsive and discharged; (b) Ensure that monitoring includes: continuous direct clinical observation of the patient; interval recording of blood pressure and pulse; continuous evaluation of oxygen saturation; and additonal devices such as EKG for monitoring when dictated by the medical needs of the patient; and (c) Ensure that alarms on devices used for monitoring are enabled.

ADDITIONAL RULES AND REGULATIONS

- **Hospital Dental Anesthesia:** A dentist administering general anesthesia or parenteral sedation within a hospital type setting does not require board approval.
- **Restrictions:** Patients in ASA risk categories Class III and Class IV shall only be provided conscious sedation:(1) by an oral and maxillofacial surgeon after performing an evaluation and documenting the ASA risk assessment category and any special monitoring requirements that may be necessary; or (2) by a dentist with a conscious sedation endorsement after consultation with the patient's primary care physician or other medical specialist regarding potential risk and special monitoring requirements that may be necessary.
- **Continuing Education:** Each permittee must complete 6 hours of anesthesia-related CE during each renewal period.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
58

VIRGINIA

Virginia Board of Dentistry
Perimeter Center; 99060 Maryland Dr.; Suite 300
Richmond, VA 23233-1463
Phone: (804) 367-4400 Fax: (804) 527-4475

www.dhp.state.va.us/dentistry/default.ht

The Board of Dentistry Does Not Issue Anesthesia Permits.

TRAINING REQUIREMENTS

- **Conscious Sedation:** A dentist may administer conscious sedation upon completion of training for this treatment modality according to guidelines published by the ADA, while enrolled at an approved dental school or while enrolled in a post-doctoral university or teaching hospital program or completion of an approved CE course consisting of 60 hours of didactic instruction plus the management of at least 20 patients. In addition, dentists shall hold current certification in ACLS or PALS and have DEA certification.
- **General Anesthesia:** To administer general anesthesia, the dentist must satisfy one of the following criteria: (a) Completion of minimum of one calendar year of advanced training in anesthesiology and related academic subjects beyond the undergraduate dental school level in a training program in conformity with published guidelines by the ADA; or (b) Completion of an ADA approved residency in any dental specialty which incorporates into its curriculum the standards of teaching comparable to those set forth in published guidelines by the ADA. In addition, dentists shall hold current certification in ACLS or PALS and have DEA certification.
- **Enteral Sedation:** A dentist may administer conscious sedation by an enteral method if he has completed an approved continuing education program of not less than 18 hours of didactic instruction plus 20 clinically-oriented experiences in enteral and/or combination inhalation-enteral conscious sedation techniques. The course content shall be consistent with the guidelines published by the ADA.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** Office inspections will be conducted by personnel appointed by the Board. The inspector will evaluate (a) display of name and license(s); (b) recordkeeping; (c) laboratory work order; (d) requirements to administer general anesthesia and/or conscious sedation: intravenous and intramuscular; (e) facility requirements; (f) reporting of adverse reactions; (g) drug security inventory and records; (h) environmental conditions.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** A dentist who administers general anesthesia and conscious sedation (excluding nitrous oxide) shall be proficient in handling emergencies and complications related to pain control procedures, including the maintenance of respiration and circulation, immediate establishment of an airway and cardiopulmonary resuscitation, and shall maintain the following emergency airway equipment in the dental facility: (i) full face mask for children and/or adults; (ii) oral nasopharyngeal airways; (iii) endotracheal tubes for children or adults, with appropriate connectors; (iv) a laryngoscope with reserve batteries and bulbs and appropriately sized laryngoscope blades; (v) source of delivery of oxygen under controlled pressure; and (vi) mechanical (hand) respiratory bag.

ADDITIONAL RULES AND REGULATIONS

- **Personnel:** The team for general anesthesia shall consist of the operating dentist, a second person to monitor and observe the patient, and a third person to assist the operating dentist. The team for conscious sedation shall consist of the operating dentist and a second person to assist, monitor, and observe the patient.
- **Treatment Modalities:** Anesthesia and sedation may be provided in a dental office for patients who are Class I and II as classified by the American Society of Anesthesiologists (ASA). conscious sedation, deep sedation or general anesthesia shall not be provided in a dental office for patients in ASA risk categories of Class IV and V. Patients in ASA risk category Class III shall only be provided general anesthesia or sedation by: a dentist after consultation with their primary care physician; an oral and maxillofacial surgeon after performing an evaluation and documenting the ASA risk assessment category of the patient and any special monitoring requirements that may be necessary.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
NONE ISSUED

WASHINGTON

Washington State Dental Health Care Quality Assurance Commission
300 Israel Road
Tumwater, WA 98501
Phone: (360) 236-4822 Fax: (360) 664-9077

https://fortress.wa.gov/doh/hpqual/hus3/Dental/default.htm

State Permits: All Inclusive
Renewal: Triennially (Renewal Fee: $50.00)
- Conscious Sedation [Parenteral/Multiple Enteral] (Fee: $50.00)
- General Anesthesia/Deep Sedation (Fee: $50.00)

TRAINING REQUIREMENTS

- **Parenteral Conscious Sedation/Multiple Enteral Sedation:** To administer conscious sedation with parenteral or multiple oral agents, the dentist must have successfully completed a postdoctoral course(s) of sixty clock hours or more which includes training in basic conscious sedation, physical evaluation, venipuncture, technical administration, recognition and management of complications and emergencies, monitoring, and supervised experience in providing conscious sedation to fifteen or more patients.
- **Deep Sedation/General Anesthesia:** To administer deep sedation or general anesthesia, the dentist must have current and documented proficiency in advanced cardiac life support. One method of demonstrating such proficiency is to hold a valid and current ACLS certificate or equivalent. A dentist must also meet one or more of the following criteria: (a) Have completed a minimum of one year's advanced training in anesthesiology or related academic subjects, or its equivalent beyond the undergraduate dental school level, in a training program as outlined in Part 2 of *Teaching the Comprehensive Control of Pain and Anxiety in an Advanced Education Program*, published by the American Dental Association, Council on Dental Education, dated July 1993. (b) Is a fellow of the American Dental Society of Anesthesiology. (c) Is a diplomate of the American Board of Oral and Maxillofacial Surgery, or is eligible for examination by the American Board of Oral and Maxillofacial Surgery pursuant to the July 1, 1989, standards. (d) Is a fellow of the American Association of Oral and Maxillofacial Surgeons. (2) Only a dentist meeting the above criteria for administration of deep sedation or general anesthesia may utilize the services of an appropriate licensed nurse

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- Applicants for GA permits prior to issuance of said permit must participate in an on-site inspection at all practice locations. Inspections may be conducted by the applicant or by a peer. For mobile anesthesia services; a completed inspection form must be submitted for each facility where anesthesia services are provided.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Procedures for the Administration of General Anesthesia:** Patients receiving deep sedation or general anesthesia must have continual monitoring of their heart rate, blood pressure, and respiration. In so doing, the licensee must utilize electrocardiographic monitoring and pulse oximetry. The patient's blood pressure, heart rate, and respiration shall be recorded at least every five minutes.
- **Facility Requirements:** Office facilities and equipment shall include: (a) proper lighting and suction equipment with back-up; (b) an oxygen delivery system capable of delivering high flow oxygen under positive pressure, with back-up; (c) a recovery area that has available oxygen, adequate lighting, suction, and electrical outlets; (d) laryngoscope complete with adequate selection of blades, spare batteries, and bulbs (GA); (e) endotracheal tubes and appropriate connectors (GA); (f) oral airways; (g) tonsillar or pharyngeal suction tip (GA); (h) endotracheal tube forceps (GA); (i) sphygomomanometer and stethoscope; (j) adequate equipment to establish an intravenous infusion; (k) pulse oximetry; (l) electrocardiographic monitor; (m) synchronized defibrillator available on premises; (n) bag-valve-mask resuscitation equipment.
- **Emergency Drugs:** Emergency drugs of the following types shall be maintained: vasopressor, corticosteroid, bronchodilator, muscle relaxant, intravenous medication for treatment of cardiac arrest, narcotic antagonist, antihistamine, anticholinergic, antiarrhythmic, coronary artery vasodilator, antihypertensive, anticonvulsant.

ADDITIONAL RULES AND REGULATIONS

- **Continuing Education:** A dentist granted a permit to administer general anesthesia, must participate in 21 hours of CE every 3 years. The education must be provided by organizations approved by the DQAC and must be in one or more of the following areas: general anesthesia, conscious sedation, physical evaluation, medical emergencies, monitoring and use of monitoring equipment, pharmacology of drugs and agents used in sedation and anesthesia, or BLS, or ACLS, or PALS.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
248

WEST VIRGINIA

West Virginia State Board of Dental Examiners
1319 Robert C. Byrd Drive; PO Box 1447
Crab Orchard, WV 25827
Phone: (877) 914-8266 Fax: (304) 253-9454

www.wvdentalboard.org

State Permits: All Inclusive
Renewal: Annually
- Anxiolysis *Class 2* (Fee: $50.00)
- Enteral Conscious Sedation *Class 3A* (Fee: $600.00; Renewal: $100.00)
- Conscious Sedation *Class 3B* (Fee: $600.00; Renewal: $200.00)
- General Anesthesia/Deep Sedation *Class 4* (Fee: $600.00; Renewal: $200.00)

TRAINING REQUIREMENTS

- **Deep Sedation/General Anesthesia:** The applicant shall produce evidence of one of the following: (a) Complete a minimum of one year of advanced training in an approved anesthesia residency; (b) He or she is a diplomate of the American Board of Oral and Maxillofacial Surgery; (c) He or she is a Fellow of the American Association of Oral and Maxillofacial Surgery (AAOMS); (d) He or she has successfully completed an ADA accredited oral and maxillofacial surgery program as evidenced by a letter from the program director stating that said applicant is qualified t perform such anesthesia techniques; (e) He or she is a Fellow of the American Dental Society of Anesthesiology.
- **Conscious Sedation:** The applicant shall produce evidence of one of the following: (a) He or she meets at least one of the criteria described in subdivisions (a-c) a of general anesthesia requirements; (b) He or she has satisfactorily completed at least one year of post-doctoral dental training in a dental residency or specialty program approved by the ADA or AMA which must include didactic studies and practical experience; or (c) He or she has satisfactorily completed a CE course or program regarding the administration of conscious sedation which meets or exceeds the ADA Council on Dental Education's current guidelines.
- **Anxiolysis and Enteral Sedation:** Those dentists who prescribe a single pre-med for anxiety, combined with the use of nitrous oxide must obtain a Class 2 permit. Those who use multiple dosing beyond the recommendations of the manufacturer, with or without the use of nitrous oxide, to obtain a level of conscious sedation must obtain a level 3a permit. In order to obtain a Class 2 permit the applicant must have completed a board approved course of at lest 6 hours didactic and clinical instruction.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The Board shall appoint a five member subcommittee to carry out the review and on-site inspection of any dentist applying for or renewing a permit. The subcommittee will consist of one member of the board who shall act as chairman; one diplomat of the American Board of Oral and Maxillofacial Surgery; one Fellow of the American Dental Society of Anesthesiology or Fellow of the American Association of Oral and Maxillofacial Surgery; one general dental practitioner engaged in providing out-patient general anesthesia or parenteral conscious sedation services; and one dental practitioner specializing in pediatric dentistry.
- **Inspection Information:** On-site inspections are required and shall be performed for all initial applicants. Therefore, the board may re-inspect annually, at its discretion, but must perform an on-site inspection for all permit holders at least once every five years.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** The applicant must have a properly equipped facility for the administration of general anesthesia staffed with a supervised team of auxiliary personnel capable of reasonably handling procedures, problems, and emergencies incident thereto as outlined in the office anesthesia evaluation manual as adopted and amended by the Board of Dental Examiners.

ADDITIONAL RULES AND REGULATIONS

- **Pediatric Anesthesia:** In the case of any dentist who treats children who applies for any permit, such dentist must document his or her competency to administer general anesthesia and parenteral conscious sedation to children by demonstration to the satisfaction of the board his or her familiarity with the guidelines for the elective use of conscious sedation, deep sedation and general anesthesia in pediatric patients of the American Academy of Pediatrics and the American Academy of Pediatric Dentistry.
- **Qualified Monitors:** For those permit holders that hold a Class 4 will be **required** to show proof of the following: Certification of ACLS or PALS; Certification of Qualified Monitors (Someone other than the permit holder with is a dental auxiliary who has completed the AAOMS Oral and Maxillofacial Anesthesia Assistants Program or the DOCS course. Other qualified monitors include, other healthcare professionals such as licensed practical nurses and registered nurses. Submissions of their current license and/or proof of recent training will be accepted for verification. Class 3 permit holders are **recommended** to use qualified monitors.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
91

WISCONSIN

Wisconsin Dentistry Examining Board
1400 E. Washington Dr.; PO Box 8935
Madison, WI 53708
Phone: (608) 266-2112

http://drl.wi.gov/prof/dent/def.htm

State Permits: All Inclusive
- Class I: Enteral Conscious Sedation (Fee: $53.00)
- Class II: Conscious Sedation (Fee: $53.00)
- Class III: General Anesthesia (Fee: $53.00)

TRAINING REQUIREMENTS

- **Enteral Conscious Sedation:** A Board-approved training course which includes: 1) 18 hours of didactic instruction addressing physical evaluation of patients, conscious sedation-enteral, emergency management, and conforms to principles in part 1 or 3 of the ADA "Guidelines for Teaching the Comprehensive control of Anxiety and Pain in Dentistry." 2) 20 clinical cases using an enteral route of administration, which may include group observation or 3) Graduate level training approved by the board that includes the above requirements and 4) Proof of BLS or ACLS certification
- **Conscious Sedation:** A Board-approved training course which includes: 1) A minimum of 60 hours of didactic instruction addressing physical evaluation of patients, IV sedation, and emergency management; 2) 20 clinical cases managing parenteral routes of administration or 3) Graduate level training approved by the Board that includes the above requirements or 4) Has been Wisconsin licensed and administered conscious sedation-parenteral on an outpatient basis for 5 years prior to January 1, 2007 5) Proof of ACLS Certification
- **Deep Sedation/General Anesthesia:** A Board-approved postdoctoral training program in administration of deep sedation and general anesthesia; 2) A postdoctoral anesthesiology program approved by the Accreditation Council for Graduate Medical Education 3) One year of advanced clinical training in anesthesiology meeting part 2 objectives of the ADA "Guidelines for Teaching the Comprehensive Control of Anxiety and Pain in Dentistry" 4) Has been Wisconsin licensed and utilizing general anesthesia for at least 5 years prior to January 1, 2007 5) Proof of ACLS certification

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Facilities Affidavit:** Each applicant must provide a signed affidavit verifying that the facility in which they will practice anesthesia is fully equipped according to the standard of care set forth in the application document.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** No general anesthesia or sedation may be administered to a patient in a dental office unless the dental office contains: (a) proper lighting and suction equipment with back-up; (b) an oxygen delivery system capable of postive pressure delivery; (c) a sterilization area; (d) a recovery area which shall include installed oxygen and suction equipment; (e) oral and nasopharyngeal airways; (f) endotracheal tubes suitable for children and adults; (g) a laryngoscope with reserve batteries and bulbs; (h) McGill forceps; (i) equipment for performing a tracheostomy or cricotomy.
- **Monitoring:** Monitoring equipement must include: (i) sphygemomanometer and stethoscope; (ii) device to measure oxygen saturation; (iii) device to measure heart rate and respirations.
- **Emergency Drugs:** The following drug types, as are appropriate to the type of anesthesia or sedation used, shall be available in any dental office where general anesthesia or conscious sedation is administered: intravenous fluids, cardiotonic drugs, vasopressors, anti-arrhythmic agents, anti-hypertensive agents, diuretics, antiemetics, narcotic antagonists, and phenothiazine and tranquilizers.

ADDITIONAL RULES AND REGULATIONS

- **Recordkeeping:** In a patient's record file, a dentist shall document the treatment given and the patient's response to treatment. The record shall include: (i) A written and dated medical history which is signed by the dentist; (ii) A written examination chart with the proposed procedure clearly indicated and probable complications written on the record; (iii) A consent form signed by the patient for any surgery proposed; (iv) Radiographs; (v) Anesthetic type, amount administered and any unusual reaction; (vi) All prescriptions ordered; and (vii) Pre-operative, intra-operative and post-operative vital signs.
- **Restrictions:** Unless a dentist holds a class 3 permit, he or she shall not administer any drug that has a narrow margin for maintaining consciousness including, but not limited to, ultra-short acting barbiturates, propofol, ketamine, or any other similarly acting drugs.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
58

WYOMING

Wyoming Board of Dental Examiners
2020 Carey Avenue; Fourth Floor
Cheyenne, WY 82002
Phone: (307) 777-6529 Fax: (307) 777-3508

http://plboards.state.wy.us/dental

State Permits: All Inclusive
Renewal: Not Available
- Conscious Sedation (Fee: $100.00)
- General Anesthesia/Deep Sedation (Fee: $100.00)
- Enteral Conscious Sedation (Fee: NA)
- Anesthesia Office Audit Fee: $500.00 per site plus travel expenses of the site inspectors

TRAINING REQUIREMENTS

- **Enteral Conscious Sedation:** A licensed dentist can show proof of proficiency in administering enteral conscious sedation by successfully passing an appropriate examination which includes: (a) discussion and review of three surgical cases including anesthetic technique; (b) review of records; (c) demonstration of managing emergencies. In addition, a dentist must provide: (i) documented experience at the graduate level, acceptable to the Board, specifying the type, the number of hours, the length of training and the number of patient contact hours, including documentation of the number of supervised enteral conscious sedation; or (ii) proof that he is a licensed dentist who has a minimum of 60 hours of didactic instruction and 10 cases of clinical experience involved with enteral conscious sedation.
- **Conscious Sedation:** A licensed dentist can show proof of proficiency in administering conscious sedation by successfully passing an appropriate examination which includes: (a) discussion and review of three surgical cases including anesthetic technique; (b) review of records; (c) demonstration of managing emergencies. In addition, a dentist must provide: (i) documented experience at the graduate level, acceptable to the Board, specifying the type, the number of hours, the length of training and the number of patient contact hours, including documentation of the number of supervised enteral conscious sedation; or (ii) proof that he is a licensed dentist who has successfully completed a formal training program, approved by the Board
- **Deep Sedation/General Anesthesia:** A licensed dentist can show proof of proficiency in administering general anesthesia by successfully passing an appropriate examination which includes: (a) discussion and review of three surgical cases including anesthetic technique; (b) review of records; (c) demonstration of managing emergencies. In addition, a dentist must provide: (i) proof that he has completed a minimum of one year of advanced training in anesthesiology and related academic subjects beyond the undergraduate level; (ii) proof that he is a diplomat of the American Board of Oral and Maxillofacial Surgery, is a member of the American Association of Oral and Maxillofacial Surgeons, is a Fellow of the American Dental Society of Anesthesiology; or (iii) proof that he is a licensed dentist who has been utilizing general anesthesia for 5 years preceding this rule.

PER OFFICE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** The board shall provide for the inspection of the anesthesia and sedation equipment of permitted dentists on a regular basis to insure the equipment is of the appropriate type and is in working order.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** All facilities and equipment used in the administration of anesthesia must meet the board's requirements of Standard of Care.

ADDITIONAL RULES AND REGULATIONS

- **Standards of Conduct:** A dentist shall not accept or perform professional responsibilities, which the dentist knows or has reason to know that the dentist is not competent to perform. A dentist shall not abandon or neglect a patient under and in need of immediate professional care, without making reasonable recommendations for the continuation of such care.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
24

DISTRICT OF COLUMBIA

District of Columbia Board of Dentistry
717 14th Street; NW; Suite 600
Washington, D.C. 20005
Phone: (877) 672-2174 Fax: (202) 727-8471

http://www.dchealth.dc.gov/doh/cwp/view,a,1371,q,600666,dohNav_GID,1878,dohNav,%7C34427%7C34429%7C,.asp

State Permits: Not Available
Renewal:
- Conscious Sedation (Fee: Not Available)
- General Anesthesia/Deep Sedation (Fee: Not Available)

TRAINING REQUIREMENTS

- **General Anesthesia:** To be qualified to administer general anesthesia, a dentist shall do the following: (a) Have had a minimum of one year of training in anesthesiology beyond the undergraduate dental school level or its equivalent, sponsored by an accredited hospital or an institution recognized by the Commission on Dental Accreditation of the ADA; or (b) Have been certified, or be eligible to take the examination for certification as a Fellow in General Anesthesia of the American Society of Dental Anesthesiologists according to the standards as of January 1, 1982.
- **Conscious Sedation:** To be qualified to administer intravenous sedation, a dentist shall have successfully completed a course with a minimum of 60 clock hours of instruction beyond the undergraduate dental school level sponsored by an accredited hospital or institution recognized by the Commission on Dental Accreditation of the ADA.

NOT AVAILABLE

STATE OFFICE INSPECTION RULES AND GUIDELINES

- **Structure of Office Inspection Team:** There are not currently published guidelines related to office inspections.

OFFICE FACILITY / EQUIPMENT REQUIREMENTS

- **Facility Requirements:** There are not currently any published guidelines related to facility requirements.

ADDITIONAL RULES AND REGULATIONS

- **Anesthesia Permit at Large:** This permit allows the holder to provide anesthesia services to patients in dental offices on an out-patient basis. The holder of the permit assumes all responsibility for the administration of the sedation or anesthesia in the dental office. The holder of this permit may be evaluated and inspected by the Anesthesia Committee as deemed necessary. The permit holder will inform the Board of all dental facilities where anesthesia services are to be provided and follow all other procedures as previously outlined.

ESTIMATED NUMBER OF CURRENT PERMIT HOLDERS:
NOT AVAILABLE

ANXIOLYSIS / ORAL CONSCIOUS SEDATION REGULATIONS

Oral Sedation and Anxiolysis regulations are generally based on the intended sedation level. Therefore, the rules governing their use range depending on the rulings of the State Legislature and/or Dental Board. Under the old ADA Guidelines, most states used the type of dosing to define their regulations (i.e. multiple or stacked dosing is defined as **oral conscious sedation** and a single dose is defined as **anxiolysis**). Because of the discrepancy in rules, the ADA formatted new anesthesia guidelines that incorporated the terms **minimal sedation** and **moderate sedation** that can apply to oral sedation. These definitions can be found on Page 5.

The Following is a breakdown of the rules and regulations surrounding oral sedation administration:

Jurisdiction	OCS/OMS Permit Required	OCS Permit Not Required	Anxiolysis Only	Conscious Sedation Permit or Moderate Sedation Permit Required
Alabama	X			
Alaska		X		
Arizona	X			
Arkansas			X	X
California	X			
Colorado			X	
Connecticut		X		
Delaware			X	X
Florida	X			
Georgia	X			
Hawaii		X		
Idaho	X			
Illinois			X	X
Indiana		X		
Iowa			X	X
Kansas	X (Proposed)			
Kentucky		X		
Louisiana	X			
Maine	X			
Maryland	X (New Guidelines)			
Massachusetts	X			
Michigan			X	X
Minnesota				X
Mississippi	X			
Missouri	X			
Montana				X
Nebraska		X		
Nevada				X
New Hampshire	X			
New Jersey	X			

ANXIOLYSIS / ORAL CONSCIOUS SEDATION REGULATIONS

Jurisdiction	OCS/OMS Permit Required	OCS Permit Not Required	Anxiolysis Only	Conscious Sedation Permit or Moderate Sedation Permit Required
New Mexico	X		X	
New York	X			
North Carolina	X			
North Dakota	X (New Guidelines)	X	X	
Ohio			X	X (Pediatric Oral Sedation)
Oklahoma		X		
Oregon	X			
Pennsylvania			X	X
Rhode Island			X	X (Combined Conscious Sedation Requirements)
South Carolina		X		
South Dakota	X (Proposed)			
Tennessee	X			
Texas	X			
Utah		X		
Vermont				X
Virginia	X			
Washington			X	X (Multiple Enteral)
West Virginia	X			
Wisconsin				X
Wyoming			X	X
D.C.		X (No Present Regulations)		

NITROUS OXIDE REGULATIONS

Nitrous oxide inhalation analgesia, "the administration by inhalation of a combination of nitrous oxide and oxygen producing an altered level of consciousness that retains the patient's ability to independently and continuously maintain an airway and respond purposefully to physical or verbal command."

The Following is a breakdown of the rules and regulations surrounding nitrous oxide administration:

Jurisdiction	Permit Required	Permit Not Required	Assistant Monitoring	No Assistant Monitoring
Alabama		X	X	
Alaska		X	N/A	N/A
Arizona		X	X	
Arkansas		X	X	
California		X	X	
Colorado		X	X	
Connecticut		X	X	
Delaware	X		N/A	N/A
Florida		X	N/A	N/A
Georgia		X	N/A	N/A
Hawaii		X	X	
Idaho		X	X	
Illinois		X	N/A	N/A
Indiana		X	N/A	N/A
Iowa		X	X	
Kansas		X	X	
Kentucky		X	X	
Louisiana	X			X
Maine		X	N/A	N/A
Maryland		X		X
Massachusetts	X		X	
Michigan		X	X	
Minnesota		X	X	
Mississippi		X	X	
Missouri		X	X	
Montana		X	X	
Nebraska	X		X	
Nevada		X	X	
New Hampshire		X	N/A	N/A
New Jersey		X	X	

NITROUS OXIDE REGULATIONS

Jurisdiction	Permit Required	Permit Not Required	Assistant Monitoring	No Assistant Monitoring
New Mexico	X		X	
New York		X	N/A	N/A
North Carolina		X	N/A	N/A
North Dakota		X	X	
Ohio		X	N/A	N/A
Oklahoma		X	X	
Oregon	X		X	
Pennsylvania	X			X
Rhode Island	X			X
South Carolina		X	N/A	N/A
South Dakota	X		X	
Tennessee		X	X	
Texas	X		X	
Utah	X		X	
Vermont		X	X	
Virginia		X	N/A	N/A
Washington		X		X
West Virginia		X	X	
Wisconsin		X	N/A	N/A
Wyoming		X	X	
D.C.		X	X	

PARENTERAL/CONSCIOUS/ INTRAVENOUS/MINIMAL/MODERATE SEDATION & GENERAL ANESTHESIA/ DEEP SEDATION REGULATIONS

The Following is a breakdown of the rules and regulations surrounding parenteral / moderate sedation / conscious sedation & general anesthesia / deep sedation administration:

Jurisdiction	Permit Issued	Permit Not Issued	Office Inspection Protocol		
			On-Site Inspection	Signed Affidavit	N/A
Alabama	X		X		
Alaska	X		X		
Arizona	X		X		
Arkansas	X		X		
California	X		X		
Colorado	X		X		
Connecticut	X		X		
Delaware	X		X		
Florida	X		X		
Georgia	X		X		
Hawaii	X		X		
Idaho	X		X		
Illinois	X			X	
Indiana	X			X	
Iowa	X		X		
Kansas	X		X		
Kentucky	X		X		
Louisiana	X			X	
Maine	X		X		
Maryland	X		X		
Massachusetts	X		X		
Michigan	-	-	-	-	-
Minnesota	X		X		
Mississippi	X		X		
Missouri	X		X		
Montana	X		X		
Nebraska	X		X		
Nevada	X		X		
New Hampshire	X		X		
New Jersey	X		X (G.A.)	X (C.S.)	

PARENTERAL/CONSCIOUS/ INTRAVENOUS/MINIMAL/MODERATE SEDATION & GENERAL ANESTHESIA/ DEEP SEDATION REGULATIONS

Jurisdiction	Permit Issued	Permit Not Issued	Office Inspection Protocol		
			On-Site Inspection	Signed Affidavit	N/A
New Mexico	X		X		
New York	X		X		
North Carolina	X		X		
North Dakota	X		X		
Ohio	X		X		
Oklahoma	X		X		
Oregon	X		X		
Pennsylvania	X		X		
Rhode Island	X		X		
South Carolina		X	X	X	
South Dakota	X			X	
Tennessee	X			X	
Texas	X			X	
Utah	X			X	
Vermont	X		X		
Virginia		X	X		
Washington	X		X		
West Virginia	X		X		
Wisconsin	X			X	
Wyoming	X		X	X	
D.C.	-	-	-	-	-

REGULATION SYNOPSIS

Jurisdiction	ADA Guidelines (2003)Specifically Used	ADA Guidelines (2007) Adopted	AAOMS Office Manual Used in Office Inspection	Anesthesia Related Continuing Education Needed to Renew Permit
Alabama	X			
Alaska			X	
Arizona	-	-	-	-
Arkansas	X			
California	X			X
Colorado	-	-	-	-
Connecticut	X		X	
Delaware		X	X	X
Florida	X			X
Georgia			X	
Hawaii	X		X	
Idaho	X		X	X
Illinois	X			X
Indiana				X
Iowa	X			
Kansas	X			
Kentucky	X			X
Louisiana	X			
Maine			X	X
Maryland		X		X
Massachusetts	X			
Michigan			X	
Minnesota	-	-	-	-
Mississippi	X		X	
Missouri	X		X	X
Montana				X
Nebraska	-	-	-	-
Nevada	X			X
New Hampshire	X		X	
New Jersey				X

REGULATION SYNOPSIS

Jurisdiction	ADA Guidelines (2003) Used	ADA Guidelines (2007) Adopted	AAOMS Office Manual Used in Office Inspection	Anesthesia Related Continuing Education Needed to Renew Permit
New Mexico	X		X	
New York				X
North Carolina		X		
North Dakota		X	X	
Ohio	X		X	X
Oklahoma	X			X
Oregon	X			X (Pain Management)
Pennsylvania	X		X	X
Rhode Island	X			
South Carolina	X			
South Dakota	X			
Tennessee	X			
Texas	X			
Utah	X			
Vermont	X		X	X
Virginia	X			
Washington	X			X
West Virginia	X			X
Wisconsin	X			
Wyoming	-	-	-	-
D.C.	X			

~~NAC 631.2211 Scope.~~

PROPOSED REVISIONS TO ANESTHESIA REGULATIONS
FIRST DRAFT

NAC 631.0051. "Evaluation" Defined. "Evaluation" means the screening and assessment of the proper administration and safe practice of conscious sedation, deep sedation, and general anesthesia to insure that anesthesia services meets the minimum standard of care, as well as the compliance with the proper procedures in the event of an emergency related to the administration of the same by at least two members or designated representatives of the Board without a conflict of interest or any other ethical or legal impediment.

NAC 631.0056 "Facility" Defined. "Facility" means the site where a permit holder administers general anesthesia, deep sedation and conscious sedation services, including but not limited to the operating theater, physical plant and office.

NAC 631.0071 "Inspection" Defined. "Inspection" means the observation and visual review of the facility by at least two members or designated representatives of the Board without a conflict of interest or any other ethical or legal impediment, to determine if a facility is supplied, equipped, staffed, and maintained in a condition to support provision of anesthesia services that meet the minimum standard of care.

NAC 631.2211 Scope. (NRS 631.190, 631.265) NAC 631.2213 to 631.2256, inclusive, do not apply to the administration of:

1. Local anesthesia;

2. Nitrous oxide~~-~~-oxygen analgesia, if the delivery system for the nitrous oxide~~-~~-oxygen contains a mechanism which guarantees that an oxygen concentration of at least 25 percent will be administered to the patient at all times during the administration of the nitrous oxide; and

3. Oral medication that is administered to a patient to relieve anxiety in the patient, if the medication is not given in a dosage that is sufficient to induce in a patient a controlled state of depressed consciousness or unconsciousness similar to the state produced pursuant to the administration of general anesthesia, deep sedation or conscious sedation.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

NAC 631.2212 Board to determine degree of sedation. (NRS 631.190, 631.265) In a proceeding of the Board at which the Board must determine the degree of sedation or level of consciousness of a patient, the Board will base its findings on:

1. The type and dosage of medication that was administered or is proposed for administration to the patient; and

2. The degree of sedation or level of consciousness that should reasonably be expected to result from that type and dosage of medication.

(Added to NAC by Bd. of Dental Exam'rs by R005~~-~~-99, eff. ~~9-7-2000~~9-7-2000)

NAC 631.2213 ~~P~~Administrator permit required; qualifications of applicants; evaluations. (NRS 631.190, 631.265)

1. Except as otherwise set forth in NAC 631.2211 to 631.2256, inclusive, no dentist may~~:~~

~~(a) U~~ use general anesthesia ~~or deep sedation for dental patients, except in a facility accredited by the Joint Commission on Accreditation of Healthcare Organizations, unless he first obtains a general anesthesia permit; or~~

~~(b) Use~~, deep sedation, or conscious sedation for dental patients, except in a facility accredited by ~~the Joint Commission on Accreditation~~[expand definition of ~~Healthcare Organizations~~accrediting agencies], unless ~~he~~he or she first obtains a general anesthesia ~~permit~~ or conscious sedation ~~permit.~~

~~Ê A separate general anesthesia permit or conscious sedation permit, as appropriate, is required for each location at which a dentist administers general anesthesia, deep sedation or conscious sedation.~~

~~2.~~administrator permit.

2. To obtain a general anesthesia ~~permit~~ or conscious sedation administrator permit, a dentist must apply to the Board for such a permit on a form prescribed by the Board, submit any fees that are set by the Board, receive a passing grade for an evaluation pursuant to N~~RS~~AC 631.~~345~~2233 and NAC 631.2235, and produce evidence showing that he is a dentist who is licensed in this State, and:

(a) For a conscious sedation administrator permit, the applicant must show evidence of:

(1) The completion of a course of study, subject to the approval of the Board, of not less than 60 hours dedicated exclusively to the administration of conscious sedation, and the successful management of the administration of conscious sedation to not less than 20 patients; or

(2) The completion of a program for specialty training which is approved by the Commission on Dental Accreditation of the American Dental Association and which includes education and training in the administration of conscious sedation that is equivalent to the education and training described in subparagraph (1) and completion of an Advanced Cardiac Life Support course given by the American Heart Association or, if licensed as a specialist in pediatric dentistry, completion of a Pediatric Advanced Life Support course given by the American Heart Association.

(b) For a general anesthesia administrator permit, the applicant must show evidence of the completion of an Advanced Cardiac Life Support course given by the American Heart Association and:

(1) The completion of a program, subject to the approval of the Board, of advanced training in anesthesiology and related academic subjects beyond the level of undergraduate dental school in a training program as described in Part II of the Guidelines for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry, published by the Council on Dental Education and available from the American Dental Association, 211 East Chicago Ave., Chicago, Illinois 60611; or

(2) The completion of a graduate program in oral and maxillofacial surgery which has been approved by the Commission on Dental Accreditation of the American Dental Association.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

NAC 631.221~~7 Review of holder of permit; annual renewal of permit~~4 Temporary administrator permits. (NRS 631.190, 631.265)

1. The ~~holder of~~Board may grant a temporary general anesthesia ~~permit or~~and/or conscious sedation ~~permit is subject to review by the Board at any time.~~

~~2. Each general anesthesia permit and conscious sedation permit must be renewed annually.~~

administrator permit to an applicant who meets the qualifications for a permit to administer that type of anesthesia or sedation pursuant to NAC 631.2213.

2. A temporary permit is valid for not more than 90 days, but the Board may, in any case it deems appropriate, grant a 90-day extension of the permit.

3. Before the expiration of the temporary permit, the dentist must pass an evaluation in accordance with NAC 631.2235.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~11-28-90; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

NAC 631.~~2219 Inspection and evaluation; reevaluation. (NRS 631.190, 631.265)~~

~~1. The Board will require an inspection and evaluation of the facility, equipment, personnel, records of patients and the procedures used by every dentist who seeks or holds~~2215 Administrator Permits: Renewals.

1. The holder of a general anesthesia ~~permit~~ or conscious sedation ~~permit, and of the dentist himself, before issuing such an original permit to the dentist, and at least once in every 5-year period thereafter.~~

~~2.~~administrator permit is subject to review by the Board at any time.

2. Each general anesthesia and conscious sedation administrator permit must be renewed annually.

3. The Board will renew general anesthesia ~~permits~~ and conscious sedation administrator permits annually unless the holder is informed in writing, 60 days before the date for renewal, that ~~a reevaluation~~another evaluation of his credentials is required. In determining whether ~~reevaluation~~another evaluation is necessary, the Board will consider, among other factors, complaints by patients and reports of adverse occurrences. ~~A reevaluation~~Another evaluation will, if appropriate, include an inspection of the facility, equipment, personnel, and records of patients and an evaluation of the procedures used by the holder, and an examination of his qualifications.

~~(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A 7-30-04; R005-99, 9-7-2000)~~

~~NAC 631.2221 Inspectors and evaluators; participation of members of Board. (NRS 631.190, 631.265)~~

~~1. When an inspection or evaluation is required to issue or renew~~

4. A holder of a general anesthesia ~~permit or~~and/or conscious sedation ~~permit, the Board will designate two or more persons, each of whom holds a general anesthesia permit or conscious sedation permit and has practiced general anesthesia, deep sedation or conscious sedation, as applicable, for a minimum of 3 years preceding his appointment, exclusive of his training in~~administrator permit is subject to further evaluation at least once

in every 5-year period after the initial evaluation.

NAC 631.2216 Site permit required: facilities.

1. A dentist who is licensed in this State and who desires to receive a permit for a facility to be utilized for the administration of anesthesia or ~~sedation. At least one of the inspectors or evaluators must have had experience in the evaluation of dentists using general anesthesia, deep sedation or~~ conscious sedation~~, as applicable. At least one member of~~ must obtain a site permit by:

(a) Submitting to the Board an application for a site permit or for the renewal of a site permit, in a form approved by the Board;

(b) Payment of a fee for the inspection ~~or evaluation team must have had substantial experience in the administration of the type of anesthesia contemplated for use by the dentist being evaluated and must hold the type of permit for which the dentist is applying.~~

~~2. Any member of the Board who is a dentist may observe or consult in any inspection or evaluation. A member of the Board who is not a dentist may be present at an observation but may not participate in any grading or evaluation resulting from the inspection or evaluation.~~

~~(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A 7-30-84; R005-99, 9-7-2000)~~

~~NAC 631.2223 Inspections and evaluations: General requirements. (NRS 631.190, 631.265) An inspection or evaluation ordered by the Board must be conducted in all offices where~~of a facility which is established by the Board;

(c) Submitting to the Board written documentation which demonstrates that the applicant or an anesthesiologist or dentist who is to be employed by the applicant to administer the general anesthesia, deep sedation or conscious sedation ~~is~~ holds an appropriate license or permit issued by the appropriate board in this State to ~~be administered and, except as otherwise required in NAC 631.2236, must consist of:~~

~~1. An evaluation of the office's facilities and equipment, records and emergency medications; and~~

~~2. A demonstration of:~~

~~(a) The administration to a patient who is receiving dental treatment of the type of~~ administer such anesthesia or sedation ~~for which the dentist is applying for a permit;~~

~~(b) Simulated emergencies in the surgical area of the dental office with participation by the members of the staff who are trained to handle emergencies;~~

~~(c) A dental procedure utilizing the type of anesthesia or sedation for which the dentist is applying for a permit;~~

~~(d) Any anesthesia or sedation technique that is routinely employed during the administration of anesthesia or sedation;~~

~~(e) The appropriate monitoring of a patient during anesthesia or sedation; and~~

~~(f) The observation of a patient during recovery and the time allowed for recovery.~~

~~(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)~~

~~NAC 631.2225 Inspections and evaluations: Simulated emergencies~~, and if the person to be employed is an anesthesiologist, that the anesthesiologist maintains unrestricted active staff privileges within the department of anesthesiology at a hospital or surgical center approved by the Joint Commission, and

(d) Obtaining a passing grade on the inspection conducted pursuant to Subsection 2 herein.

2. Upon receipt of an application for a site permit, the Board will appoint one of its members or a representative of the Board to inspect the facility of the applicant to determine whether the facility complies with the requirements set forth in NAC 631.2227, 631.2229 and 631.2231. The person conducting the inspection shall report his or her determination to the Board's Executive Director.

3. If the person conducting the inspection determines that the facility complies with the requirements of NAC 631.2227, 631.2229 and 631.2231 and the applicant has otherwise met the requirements of this section, the Executive Director shall issue a site permit to the applicant.

4. Each site permit issued by the Executive Director must be renewed annually.

5. A holder of a site permit is subject to further inspection at least once in every 5-year period after the initial inspection.

6. A holder of a permit for a facility shall maintain the information described in paragraph (c) of subsection 1 at his office at all times.

NAC 631.2221 Inspection and evaluation; participation of members of Board. (NRS 631.190, 631.265) ~~A dentist's office inspected or evaluated for the issuance or renewal of~~

1. When an inspection and evaluation is required to issue or renew a site and/or an administrator permit, the Board will designate two or more persons, each of whom holds a general anesthesia permit or conscious sedation permit ~~must meet the following minimum standards with regard to simulated~~and has practiced general anesthesia, deep sedation or conscious sedation, as applicable, for a minimum of 3 years preceding his or her appointment, exclusive of his or her training in the administration of anesthesia or sedation. At least one of the evaluators must have had experience in the administration of the type of anesthesia contemplated for use by the dentist being evaluated and must hold the type of permit for which the dentist is applying.

2. Any member of the Board who is a dentist may observe or consult in any inspection

or evaluation. A member of the Board who is not a dentist may be present to observe but may not participate in any evaluation or inspection.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A 7-30-84; R005-99, 9-7-2000)

NAC 631.2223 Evaluations: General requirements. (NRS 631.190, 631.265) An evaluation of the dentist ordered by the Board must include a demonstration of:

(a) The administration to a patient who is receiving dental treatment of the type of anesthesia or sedation for which the dentist is applying for a permit;

(b) Simulated emergencies in the surgical area of the facility with participation by the members of the staff who are trained to handle emergencies;

(c) A dental procedure utilizing the type of anesthesia or sedation for which the dentist is applying for a permit;

(d) Any anesthesia or sedation technique that is routinely employed during the administration of anesthesia or sedation;

(e) The appropriate monitoring of a patient during anesthesia or sedation; and

(f) The observation of a patient during recovery and the time allowed for recovery.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2225 Evaluations: Simulated emergencies. (NRS 631.190, 631.265) The dentist and his ~~staff~~or her personnel must demonstrate a knowledge of and a method of treatment for the following types of emergencies:

1. Airway obstruction laryngospasm;

2. Bronchospasm;

3. Emesis and aspiration of foreign material under anesthesia;

4. Angina pectoris;

5. Myocardial infarction;

6. Hypotension;

7. Hypertension;

8. Cardiac arrest;

9. Allergic reaction;

10. Convulsions;

11. Hypoglycemia;

12. Asthma;

13. Respiratory depression;

14. Allergy to or overdose from local anesthesia;

15. Hyperventilation syndrome; and

16. Syncope.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000)~~
~~NAC 631.2227 Inspections and evaluations~~9-7-2000)

NAC 631.2226 Inspections: General. An inspection pursuant to NAC 631.2226(2) must be conducted in all offices where general anesthesia , deep sedation or conscious sedation is to be administered and consist of an inspection of the physical facilities and equipment, records of patients and emergency medications.

NAC 631.2227 Inspections: Physical facilities and equipment. (NRS 631.190, 631.265) A ~~dentist's office~~facility inspected ~~or evaluated~~ for the issuance or renewal of a ~~general anesthesia~~site permit~~, conscious sedation permit or certificate of site approval~~ must meet the following minimum standards with regard to physical facilities and equipment:

1. The operating theater must be large enough to accommodate the patient adequately on a table or in a dental chair and to allow an operating team consisting of at least three persons to move freely about the patient.

2. The operating table or dental chair must:

(a) Allow the patient to be placed in a position such that the operating team can maintain the airway;

(b) Allow the operating team to alter the patient's position quickly in an emergency; and

(c) Provide a firm platform for the management of cardiopulmonary resuscitation.

3. The lighting system must be adequate to allow an evaluation of the patient's skin and mucosal color. An alternate lighting system must derive its power from batteries and must be sufficiently intense to allow completion of any procedure underway at the time of a general power failure.

4. Suction equipment must be available that allows aspiration of the oral and pharyngeal cavities. An alternate suction device that will function effectively during a general power failure must be available.

5. A system for delivering oxygen must have adequate full~~-~~face masks and appropriate connectors, and be capable of delivering oxygen to the patient under positive pressure. An adequate alternate system for delivering oxygen is also required.

6. A recovery area must be provided that has available oxygen, adequate lighting, suction and electrical outlets. The recovery area may be the operating theater. A member of the staff must be able to observe the patient at all times during the recovery.

7. Except as otherwise provided in this subsection, ancillary equipment must include:

(a) A laryngoscope complete with an adequate selection of blades and spare batteries and bulbs;

(b) Endotracheal tubes and appropriate connectors;

(c) Oral airways;

(d) A tonsillar or pharyngeal suction tip adaptable to all office suction outlets;

(e) An endotracheal tube type forcep;

(f) A sphygmomanometer and stethoscope;

(g) An electrocardioscope and defibrillator;

(h) Adequate equipment for the establishment of an intravenous infusion; and

(i) A pulse oximeter.

~~E~~

A ~~dentist's office~~facility inspected ~~or evaluated~~ for the issuance or renewal of a site permit where only conscious sedation ~~permit~~shall be administered is not required to have the ancillary equipment described in paragraphs (a), (b), (e) and (g).

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

NAC 631.2229 Inspections and ~~e~~Evaluations: Records of patients. (NRS 631.190, 631.265) ~~A dentist's office~~ An inspect~~ed or evaluated~~ion for the issuance or renewal of a ~~general anesthesia permit, conscious sedation permit or certificate of site approval must~~

~~meet the following minimum standards with regard to the records of patients:~~
~~1.~~site permit and an evaluation for issuance or renewal of an administrator permit shall determine that, at a minimum, the following records of the patient are maintained by the dentist:

1. Adequate medical history and records of physical evaluation~~.~~
~~2. Records of the administration of anesthesia must include:~~
~~(a)~~;

2. Medications administered and dosages;

3. Informed Consent;

4. The patient's blood pressure and pulse~~;~~
~~(b) The names of the drugs~~ before and ~~the amounts administered~~after anesthesia is utilized;
~~(c)~~

5. The length of the procedure; and
~~(d) A~~,

6. The response to anesthesia, including any complications~~ of anesthesia.~~
.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

NAC 631.2231 Inspections~~ and evaluations~~: Emergency drugs. (NRS 631.190, 631.265) Except as otherwise provided in this section, a ~~dentist's office~~facility inspected ~~or evaluated~~ for the issuance or renewal of a ~~general anesthesia permit, conscious sedation permit or certificate of site approval must maintain~~site permit must maintain appropriately emergency drugs of the following categories which must be immediately available for use on the patient:

1. Vasopressor;

2. Corticosteroid;

3. Bronchodilator;

4. Muscle relaxant;

5. Intravenous medication for the treatment of cardiopulmonary arrest;

6. Appropriate drug antagonist;

7. Antihistaminic;

8. Anticholinergic;

9. Antiarrhythmic;

10. Coronary artery vasodilator;

11. Anti~~-~~-hypertensive; and

12. Anti~~-~~-convulsive.
~~C~~

A ~~dentist's office~~facility that is inspected ~~or evaluated~~ for the issuance or renewal of a site permit where only conscious sedation ~~permit~~shall be administered is not required to maintain the emergency drugs described in subsections 4, 5, 9 and 11.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

NAC 631.2233 Inspections and evaluations: Recommendations of inspectors ~~or~~and evaluators; decision of Board. (NRS 631.190, 631.265)

1. The persons performing an inspection ~~or~~of a facility and/or the evaluation of a ~~dentist's office~~dentist for the issuance or renewal of a ~~general anesthesia permit or conscious sedation~~site and/or administrator permit shall grade the ~~office~~facility and/or dentist as passing or failing. Within ~~10~~five business days after completing the inspection

~~or~~and evaluation, each inspector or evaluator shall report his or her recommendation for passing or failing to the Board, setting forth the details supporting ~~his~~their conclusion. The Board is not bound by these recommendations.

~~2. The Board will make the final determination whether the office has passed or failed the inspection or evaluation and will notify the dentist whose office is the subject of the inspection or evaluation in writing, of its findings within 30 days after~~

2. After the Board receives a recommendation from each inspector ~~or evaluator who inspected or evaluated the office.~~ and evaluator, the Board will make the final determination whether the facility and/or the dentist has passed or failed the inspection and/or the evaluation and will provide prompt notice in writing of the final determination to the dentist and/or facility that is the subject of the inspection and evaluation.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

NAC 631.2235 Inspections and evaluations: Failure to pass; requests for reinspections and/or reevaluations. (NRS 631.190, 631.265)

1. A ~~dentist whose office~~facility that the Board determines has failed the inspection ~~or~~and/or a dentist the Board determines has failed the evaluation is not entitled to have a ~~general anesthesia permit or conscious sedation~~site and/or administrator permit issued or ~~renewed.~~

~~2. A~~ renewed.

2. Prior to a final determination by the Board, the Executive Director may immediately suspend the site and/or administrator permits if all of the inspectors of a facility or evaluators of a dentist have recommended a fail, or in the event a unanimous recommendation is not received, Chairperson of the Anesthesia Committee recommends temporary suspension.

3. The Executive Director shall promptly notify the facility and dentist of a temporary suspension in writing.

4. A facility or dentist who has received a written notice of failure from the Board or notice of temporary suspension from the Executive Director may, within 15 days after ~~receiving~~the date of the notice, forward to the Executive Director a request ~~the Board~~ in writing for a ~~reevaluation. T~~reinspection of the ~~request for~~facility and/or a reevaluation ~~must state specific grounds supporting it.~~

~~3. If the reevaluation is granted by the Board, it~~of the dentist along with the payment of the applicable fee.

5. Upon a timely request for reinspection and/or reevaluation and payment of the applicable fees, the reinspection and/or reevaluation will be conducted by different persons in the manner set forth by NAC 631.2219 to 631.2233, inclusive, for an original inspection and/or evaluation.

~~4~~

6. No facility and/or dentist who has received a notice of failing an inspection or evaluation from the Board may request more than one reinspection and/or reevaluation within ~~any period of~~a 12 ~~months~~month period.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000~~)

~~NAC 631.2236 Certificate of site approval: General requirements~~9-7-2000)

NAC 631.2237 Procedures required before administration of anesthetic or sedation. (NRS 631.190, 631.265)

~~1. A dentist who is licensed in this State may employ:~~

~~(a) An anesthesiologist who is licensed as such by the State of Nevada; or~~

~~(b) A dentist who is licensed in this State and who holds~~

1. Written consent of the patient must be obtained before the administration of a general ~~anesthesia permit~~anesthetic, deep sedation or conscious sedation ~~permit,~~

~~E to administer~~, unless the dentist determines that an emergency situation exists in which delaying the procedure to obtain the consent would likely cause permanent injury to the patient. If the patient is a minor, the consent must be obtained from his parent or legal guardian.

2. A medical history must be taken before the administration of a general ~~anesthesia~~anesthetic, deep sedation or conscious sedation. A patient should be asked to describe any current medical conditions or treatments, including, without limitation, medications, drug allergies, impending or past operations and pregnancy, and to give other information that may be helpful to the person administering the anesthetic or sedation. The dentist is not required to make a complete medical examination of the patient and draw medical diagnostic conclusions. If a dentist suspects a medical problem and calls in a physician for an examination and evaluation, he may then rely upon that conclusion and diagnosis. Questions asked of and answers received from the patient must be permanently recorded and signed by the patient before the administration of any general anesthetic, deep sedation or conscious sedation, ~~as appropriate, to his patients at his office if he holds a certificate of site approval issued pursuant to this section.~~

~~2. A dentist who is licensed in this State and who desires to receive or renew a certificate of site approval must submit to the Board:~~

~~(a) An application for a certificate or for the renewal of a certificate, in a form~~

~~approved by the Board;~~

~~(b) The fee for the inspection of a facility which is established by the Board pursuant to NRS 631.345; and~~

~~(c) Written documentation which demonstrates that the anesthesiologist or dentist who is to be employed to administer the~~and this record must be a permanent part of the patient's record of treatment.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2239 Properly equipped facility required; qualifications of auxiliary personnel. (NRS 631.190, 631.265)

1. A dentist using general anesthesia, deep sedation or conscious sedation ~~holds an appropriate license or permit issued by the appropriate board in this State to administer such anesthesia or sedation, and if the person to be employed is an anesthesiologist, that the anesthesiologist maintains unrestricted active staff privileges within the department of anesthesiology at a hospital or surgical center approved by the Joint Commission on Accreditation of Healthcare Organizations.~~

~~3. Upon receipt of an application pursuant to this section, the Board will appoint one of its members or a representative of the Board to inspect the office of the applicant to determine whether the office complies with the requirements set forth in NAC 631.2227, 631.2229 and 631.2231. The person conducting the inspection shall report his determination to the Board.~~

~~4. If the person conducting the inspection determines that the office of the applicant complies with the requirements of NAC 631.2227, 631.2229 and 631.2231 and the applicant has otherwise met the requirements of this section, the Executive Director shall issue a certificate of site approval to the applicant.~~

~~5. A holder of a certificate of site approval shall maintain the information described in paragraph (c) of subsection 2 at his office at all times.~~

~~6. Each certificate of site approval issued by the Board must be renewed annually.~~

~~7. The Board may reinspect the office of the holder of a certificate of site approval at any time.~~

~~(Added to NAC by Bd. of Dental Exam'rs by R005-99, eff. 9-7-2000; A by R231-03, 5-25-2004)~~

~~NAC 631.2237 Procedures required before administration of anesthetic or sedation. (NRS 631.190, 631.265)~~

~~1. Written consent of the patient must be obtained before the administration of a general anesthetic, deep sedation or conscious sedation, unless the dentist determines that an emergency situation exists in which delaying the procedure to obtain the consent would likely cause permanent injury to the patient. If the patient is a minor, the consent must be obtained from his parent or legal guardian.~~

~~2. A medical history must be taken before the administration of a general anesthetic, deep sedation or conscious sedation. A patient should be asked to describe any current medical conditions or treatments, including, without limitation, medications, drug allergies, impending or past operations and pregnancy, and to give other information that may be helpful to the person administering the anesthetic or sedation. The dentist is not required to make a complete medical examination of the patient and draw medical diagnostic conclusions. If a dentist suspects a medical problem and calls in a physician for an examination and evaluation, he may then rely upon that conclusion and diagnosis. Questions asked of and answers received from the patient must be permanently recorded and signed by the patient before the administration of any general anesthetic, deep sedation or conscious sedation, and this record must be a permanent part of the patient's record of treatment.~~

~~(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)~~

~~NAC 631.2239 Properly equipped facility required; qualifications of auxiliary personnel. (NRS 631.190, 631.265)~~

~~1. A dentist using general anesthesia, deep sedation or conscious sedation~~ shall maintain a properly equipped facility for the administration of the anesthesia or sedation which is staffed with supervised auxiliary personnel who are capable of reasonably handling procedures, problems and emergencies incident thereto.

2. A dentist using general anesthesia, deep sedation or conscious sedation shall ensure that his auxiliary personnel are certified in basic cardiopulmonary resuscitation by the American Heart Association.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

NAC 631.224 Employment of certified registered nurse anesthetist. (NRS 631.190, 631.265)

1. Any dentist who holds a general anesthesia permit pursuant to the provisions of NAC 631.2211 to 631.2256, inclusive, may employ a certified registered nurse anesthetist to administer the general anesthesia, deep sedation or conscious sedation to a patient if the dentist is physically present and directly supervises the administration of the general anesthesia, deep sedation or conscious sedation to the patient. The holder of the permit must maintain at his office evidence in writing that the certified registered nurse anesthetist is licensed to practice in the State of Nevada and maintains unrestricted active staff privileges within the department of anesthesiology at a hospital or surgical center which is certified by the Joint Commission~~on~~.

~~Accreditation of Healthcare Organizations.~~

2. Except as otherwise provided in NAC 631.2236, a dentist who does not hold a general anesthesia permit may not allow any person to administer general anesthesia, deep sedation or conscious sedation to his patients unless the treatment is rendered within a facility approved by the Joint Commission~~on~~.

~~Accreditation of Healthcare Organizations.~~

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-7-85~~10-7-85; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

NAC 631.2241 Report of injuries to patients. (NRS 631.190, 631.265) Each holder of a general anesthesia permit, conscious sedation permit or certificate of site approval shall submit to the Board a complete report regarding any mortality or unusual incident which occurs outside a facility accredited by the Joint Commission ~~on Accreditation of Healthcare Organizations~~ and produces permanent injury to a patient or requires the hospitalization of a patient, as a direct result of the administration of general anesthesia, deep sedation or conscious sedation. The report must be submitted within 30 days after the date of the incident. If a dentist fails to report any incident as required by this section, his permit may be revoked.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~10-21-83~~10-21-83; A by R005~~-~~-99, ~~9-7-2000)~~

~~NAC 631.2254 Temporary permits. (NRS 631.190, 631.265)~~

~~1. The Board may grant a temporary permit to administer general anesthesia and deep sedation or a temporary permit to administer conscious sedation to an applicant who meets the qualifications for a permit to administer that type of anesthesia or sedation pursuant to NAC 631.2213.~~

~~2. A temporary permit is valid for not more than 90 days, but the Board may, in any case it deems appropriate, grant a 90-day extension of the permit.~~

~~3. The Board may require the holder of a temporary permit to pass an on-site inspection as a condition of retaining the permit. If the holder fails the inspection, his permit will be revoked. In case of revocation, the holder of a temporary permit may apply to be reinspected in accordance with the procedures set forth in NAC 631.2235.~~

~~(Added to NAC by Bd. of Dental Exam'rs, eff. 11-28-90; A by R005-99, 9-7-2000)~~

~~NAC 631.2256~~9-7-2000)

NAC 631.2256 Continuing education required. (NRS 631.190, 631.265, 631.342) Every 2 years, the holder of a general anesthesia permit or conscious sedation permit must complete at least 3 hours in courses of study that specifically relate to anesthesia or sedation, as applicable, before his permit may be renewed. This training will be credited toward any continuing education required by NAC 631.173.

(Added to NAC by Bd. of Dental Exam'rs, eff. ~~11-28-90~~11-28-90; A by R005~~-~~-99, ~~9-7-2000~~9-7-2000)

PROPOSED REVISIONS TO ANESTHESIA REGULATIONS
FIRST DRAFT

NAC 631.0051. "Evaluation" Defined. "Evaluation" means the screening and assessment of the proper administration and safe practice of conscious sedation, deep sedation, and general anesthesia to insure that anesthesia services meets the minimum standard of care, as well as the compliance with the proper procedures in the event of an emergency related to the administration of the same by at least two members or designated representatives of the Board without a conflict of interest or any other ethical or legal impediment.

NAC 631.0056 "Facility" Defined. "Facility" means the site where a permit holder administers general anesthesia, deep sedation and conscious sedation services, including but not limited to the operating theater, physical plant and office.

NAC 631.0071 "Inspection" Defined. "Inspection" means the observation and visual review of the facility by at least two members or designated representatives of the Board without a conflict of interest or any other ethical or legal impediment, to determine if a facility is supplied, equipped, staffed, and maintained in a condition to support provision of anesthesia services that meet the minimum standard of care.

NAC 631.2211 Scope. (NRS 631.190, 631.265) NAC 631.2213 to 631.2256, inclusive, do not apply to the administration of:

1. Local anesthesia;

2. Nitrous oxide-oxygen analgesia, if the delivery system for the nitrous oxide-oxygen contains a mechanism which guarantees that an oxygen concentration of at least 25 percent will be administered to the patient at all times during the administration of the nitrous oxide; and

3. Oral medication that is administered to a patient to relieve anxiety in the patient, if the medication is not given in a dosage that is sufficient to induce in a patient a controlled state of depressed consciousness or unconsciousness similar to the state produced pursuant to the administration of general anesthesia, deep sedation or conscious sedation.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2212 Board to determine degree of sedation. (NRS 631.190, 631.265) In a proceeding of the Board at which the Board must determine the degree of sedation or level of consciousness of a patient, the Board will base its findings on:

1. The type and dosage of medication that was administered or is proposed for

administration to the patient; and

2. The degree of sedation or level of consciousness that should reasonably be expected to result from that type and dosage of medication.

(Added to NAC by Bd. of Dental Exam'rs by R005-99, eff. 9-7-2000)

NAC 631.2213 Administrator permit required; qualifications of applicants; evaluations. (NRS 631.190, 631.265)

1. Except as otherwise set forth in NAC 631.2211 to 631.2256, inclusive, no dentist may use general anesthesia, deep sedation, or conscious sedation for dental patients, except in a facility accredited by [expand definition of accrediting agencies], unless he or she first obtains a general anesthesia or conscious sedation administrator permit.

2. To obtain a general anesthesia or conscious sedation administrator permit, a dentist must apply to the Board for such a permit on a form prescribed by the Board, submit any fees that are set by the Board, receive a passing grade for an evaluation pursuant to NAC 631.2233 and NAC 631.2235, and produce evidence showing that he is a dentist who is licensed in this State, and:

(a) For a conscious sedation administrator permit, the applicant must show evidence of:

(1) The completion of a course of study, subject to the approval of the Board, of not less than 60 hours dedicated exclusively to the administration of conscious sedation, and the successful management of the administration of conscious sedation to not less than 20 patients; or

(2) The completion of a program for specialty training which is approved by the Commission on Dental Accreditation of the American Dental Association and which includes education and training in the administration of conscious sedation that is equivalent to the education and training described in subparagraph (1) and completion of an Advanced Cardiac Life Support course given by the American Heart Association or, if licensed as a specialist in pediatric dentistry, completion of a Pediatric Advanced Life Support course given by the American Heart Association.

(b) For a general anesthesia administrator permit, the applicant must show evidence of the completion of an Advanced Cardiac Life Support course given by the American Heart Association and:

(1) The completion of a program, subject to the approval of the Board, of advanced training in anesthesiology and related academic subjects beyond the level of undergraduate dental school in a training program as described in Part II of the Guidelines

for Teaching the Comprehensive Control of Pain and Anxiety in Dentistry, published by the Council on Dental Education and available from the American Dental Association, 211 East Chicago Ave., Chicago, Illinois 60611; or

(2) The completion of a graduate program in oral and maxillofacial surgery which has been approved by the Commission on Dental Accreditation of the American Dental Association.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2214 Temporary administrator permits. (NRS 631.190, 631.265)

1. The Board may grant a temporary general anesthesia and/or conscious sedation administrator permit to an applicant who meets the qualifications for a permit to administer that type of anesthesia or sedation pursuant to NAC 631.2213.

2. A temporary permit is valid for not more than 90 days, but the Board may, in any case it deems appropriate, grant a 90-day extension of the permit.

3. Before the expiration of the temporary permit, the dentist must pass an evaluation in accordance with NAC 631.2235.

(Added to NAC by Bd. of Dental Exam'rs, eff. 11-28-90; A by R005-99, 9-7-2000)

NAC 631.2215 Administrator Permits: Renewals.

1. The holder of a general anesthesia or conscious sedation administrator permit is subject to review by the Board at any time.

2. Each general anesthesia and conscious sedation administrator permit must be renewed annually.

3. The Board will renew general anesthesia and conscious sedation administrator permits annually unless the holder is informed in writing, 60 days before the date for renewal, that another evaluation of his credentials is required. In determining whether another evaluation is necessary, the Board will consider, among other factors, complaints by patients and reports of adverse occurrences. Another evaluation will, if appropriate, include an inspection of the facility, equipment, personnel, and records of patients and an evaluation of the procedures used by the holder, and an examination of his qualifications.

4. A holder of a general anesthesia and/or conscious sedation administrator permit is subject to further evaluation at least once in every 5-year period after the initial evaluation.

NAC 631.2216 Site permit required: facilities.

1. A dentist who is licensed in this State and who desires to receive a permit for a facility to be utilized for the administration of anesthesia or conscious sedation must obtain a site permit by:

(a) Submitting to the Board an application for a site permit or for the renewal of a site permit, in a form approved by the Board;

(b) Payment of a fee for the inspection of a facility which is established by the Board;

(c) Submitting to the Board written documentation which demonstrates that the applicant or an anesthesiologist or dentist who is to be employed by the applicant to administer the general anesthesia, deep sedation or conscious sedation holds an appropriate license or permit issued by the appropriate board in this State to administer such anesthesia or sedation, and if the person to be employed is an anesthesiologist, that the anesthesiologist maintains unrestricted active staff privileges within the department of anesthesiology at a hospital or surgical center approved by the Joint Commission, and

(d) Obtaining a passing grade on the inspection conducted pursuant to Subsection 2 herein.

2. Upon receipt of an application for a site permit, the Board will appoint one of its members or a representative of the Board to inspect the facility of the applicant to determine whether the facility complies with the requirements set forth in NAC 631.2227, 631.2229 and 631.2231. The person conducting the inspection shall report his or her determination to the Board's Executive Director.

3. If the person conducting the inspection determines that the facility complies with the requirements of NAC 631.2227, 631.2229 and 631.2231 and the applicant has otherwise met the requirements of this section, the Executive Director shall issue a site permit to the applicant.

4. Each site permit issued by the Executive Director must be renewed annually.

5. A holder of a site permit is subject to further inspection at least once in every 5-year period after the initial inspection.

6. A holder of a permit for a facility shall maintain the information described in paragraph (c) of subsection 1 at his office at all times.

NAC 631.2221 Inspection and evaluation; participation of members of Board. (NRS 631.190, 631.265)

1. When an inspection and evaluation is required to issue or renew a site and/or an administrator permit, the Board will designate two or more persons, each of whom holds a general anesthesia permit or conscious sedation permit and has practiced general anesthesia, deep sedation or conscious sedation, as applicable, for a minimum of 3 years preceding his or her appointment, exclusive of his or her training in the administration of anesthesia or sedation. At least one of the evaluators must have had experience in the administration of the type of anesthesia contemplated for use by the dentist being evaluated and must hold the type of permit for which the dentist is applying.

2. Any member of the Board who is a dentist may observe or consult in any inspection or evaluation. A member of the Board who is not a dentist may be present to observe but may not participate in any evaluation or inspection.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A 7-30-84; R005-99, 9-7-2000)

NAC 631.2223 Evaluations: General requirements. (NRS 631.190, 631.265) An evaluation of the dentist ordered by the Board must include a demonstration of:

(a) The administration to a patient who is receiving dental treatment of the type of anesthesia or sedation for which the dentist is applying for a permit;

(b) Simulated emergencies in the surgical area of the facility with participation by the members of the staff who are trained to handle emergencies;

(c) A dental procedure utilizing the type of anesthesia or sedation for which the dentist is applying for a permit;

(d) Any anesthesia or sedation technique that is routinely employed during the administration of anesthesia or sedation;

(e) The appropriate monitoring of a patient during anesthesia or sedation; and

(f) The observation of a patient during recovery and the time allowed for recovery.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2225 Evaluations: Simulated emergencies. (NRS 631.190, 631.265) The dentist and his or her personnel must demonstrate a knowledge of and a method of treatment for the following types of emergencies:

1. Airway obstruction laryngospasm;
2. Bronchospasm;
3. Emesis and aspiration of foreign material under anesthesia;
4. Angina pectoris;
5. Myocardial infarction;
6. Hypotension;
7. Hypertension;
8. Cardiac arrest;
9. Allergic reaction;
10. Convulsions;
11. Hypoglycemia;
12. Asthma;
13. Respiratory depression;
14. Allergy to or overdose from local anesthesia;
15. Hyperventilation syndrome; and
16. Syncope.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2226 Inspections: General. An inspection pursuant to NAC 631.2226(2) must be conducted in all offices where general anesthesia , deep sedation or conscious sedation is to be administered and consist of an inspection of the physical facilities and equipment, records of patients and emergency medications.

NAC 631.2227 Inspections: Physical facilities and equipment. (NRS 631.190, 631.265) A facility inspected for the issuance or renewal of a site permit must meet the following minimum standards with regard to physical facilities and equipment:

1. The operating theater must be large enough to accommodate the patient adequately

on a table or in a dental chair and to allow an operating team consisting of at least three persons to move freely about the patient.

2. The operating table or dental chair must:

(a) Allow the patient to be placed in a position such that the operating team can maintain the airway;

(b) Allow the operating team to alter the patient's position quickly in an emergency; and

(c) Provide a firm platform for the management of cardiopulmonary resuscitation.

3. The lighting system must be adequate to allow an evaluation of the patient's skin and mucosal color. An alternate lighting system must derive its power from batteries and must be sufficiently intense to allow completion of any procedure underway at the time of a general power failure.

4. Suction equipment must be available that allows aspiration of the oral and pharyngeal cavities. An alternate suction device that will function effectively during a general power failure must be available.

5. A system for delivering oxygen must have adequate full-face masks and appropriate connectors, and be capable of delivering oxygen to the patient under positive pressure. An adequate alternate system for delivering oxygen is also required.

6. A recovery area must be provided that has available oxygen, adequate lighting, suction and electrical outlets. The recovery area may be the operating theater. A member of the staff must be able to observe the patient at all times during the recovery.

7. Except as otherwise provided in this subsection, ancillary equipment must include:

(a) A laryngoscope complete with an adequate selection of blades and spare batteries and bulbs;

(b) Endotracheal tubes and appropriate connectors;

(c) Oral airways;

(d) A tonsillar or pharyngeal suction tip adaptable to all office suction outlets;

(e) An endotracheal tube type forcep;

(f) A sphygmomanometer and stethoscope;

(g) An electrocardioscope and defibrillator;

(h) Adequate equipment for the establishment of an intravenous infusion; and

(i) A pulse oximeter.

A facility inspected for the issuance or renewal of a site permit where only conscious sedation shall be administered is not required to have the ancillary equipment described in paragraphs (a), (b), (e) and (g).

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2229 Inspections and Evaluations: Records of patients. (NRS 631.190, 631.265) An inspection for the issuance or renewal of a site permit and an evaluation for issuance or renewal of an administrator permit shall determine that, at a minimum, the following records of the patient are maintained by the dentist:

1. Adequate medical history and records of physical evaluation;

2. Medications administered and dosages;

3. Informed Consent;

4. The patient's blood pressure and pulse before and after anesthesia is utilized;

5. The length of the procedure; and,

6. The response to anesthesia, including any complications.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2231 Inspections: Emergency drugs. (NRS 631.190, 631.265) Except as otherwise provided in this section, a facility inspected for the issuance or renewal of a site permit must maintain appropriately emergency drugs of the following categories which must be immediately available for use on the patient:

1. Vasopressor;

2. Corticosteroid;

3. Bronchodilator;

4. Muscle relaxant;

5. Intravenous medication for the treatment of cardiopulmonary arrest;

6. Appropriate drug antagonist;

7. Antihistaminic;

8. Anticholinergic;

9. Antiarrhythmic;

10. Coronary artery vasodilator;

11. Anti-hypertensive; and

12. Anti-convulsive.

A facility that is inspected for the issuance or renewal of a site permit where only conscious sedation shall be administered is not required to maintain the emergency drugs described in subsections 4, 5, 9 and 11.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2233 Inspections and evaluations: Recommendations of inspectors and evaluators; decision of Board. (NRS 631.190, 631.265)

1. The persons performing an inspection of a facility and/or the evaluation of a dentist for the issuance or renewal of a site and/or administrator permit shall grade the facility and/or dentist as passing or failing. Within five business days after completing the inspection and evaluation, each inspector or evaluator shall report his or her recommendation for passing or failing to the Board, setting forth the details supporting their conclusion. The Board is not bound by these recommendations.

2. After the Board receives a recommendation from each inspector and evaluator, the Board will make the final determination whether the facility and/or the dentist has passed or failed the inspection and/or the evaluation and will provide prompt notice in writing of the final determination to the dentist and/or facility that is the subject of the inspection and evaluation.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2235 Inspections and evaluations: Failure to pass; requests for reinspections and/or reevaluations. (NRS 631.190, 631.265)

1. A facility that the Board determines has failed the inspection and/or a dentist the Board determines has failed the evaluation is not entitled to have a site and/or

administrator permit issued or renewed.

2. Prior to a final determination by the Board, the Executive Director may immediately suspend the site and/or administrator permits if all of the inspectors of a facility or evaluators of a dentist have recommended a fail, or in the event a unanimous recommendation is not received, Chairperson of the Anesthesia Committee recommends temporary suspension.

3. The Executive Director shall promptly notify the facility and dentist of a temporary suspension in writing.

4. A facility or dentist who has received a written notice of failure from the Board or notice of temporary suspension from the Executive Director may, within 15 days after the date of the notice, forward to the Executive Director a request in writing for a reinspection of the facility and/or a reevaluation of the dentist along with the payment of the applicable fee.

5. Upon a timely request for reinspection and/or reevaluation and payment of the applicable fees, the reinspection and/or reevaluation will be conducted by different persons in the manner set forth by NAC 631.2219 to 631.2233, inclusive, for an original inspection and/or evaluation.

6. No facility and/or dentist who has received a notice of failing an inspection or evaluation from the Board may request more than one reinspection and/or reevaluation within a 12 month period.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2237 Procedures required before administration of anesthetic or sedation. (NRS 631.190, 631.265)

1. Written consent of the patient must be obtained before the administration of a general anesthetic, deep sedation or conscious sedation, unless the dentist determines that an emergency situation exists in which delaying the procedure to obtain the consent would likely cause permanent injury to the patient. If the patient is a minor, the consent must be obtained from his parent or legal guardian.

2. A medical history must be taken before the administration of a general anesthetic, deep sedation or conscious sedation. A patient should be asked to describe any current medical conditions or treatments, including, without limitation, medications, drug allergies, impending or past operations and pregnancy, and to give other information that may be helpful to the person administering the anesthetic or sedation. The dentist is not required to make a complete medical examination of the patient and draw medical diagnostic

conclusions. If a dentist suspects a medical problem and calls in a physician for an examination and evaluation, he may then rely upon that conclusion and diagnosis. Questions asked of and answers received from the patient must be permanently recorded and signed by the patient before the administration of any general anesthetic, deep sedation or conscious sedation, and this record must be a permanent part of the patient's record of treatment.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2239 Properly equipped facility required; qualifications of auxiliary personnel. (NRS 631.190, 631.265)

1. A dentist using general anesthesia, deep sedation or conscious sedation shall maintain a properly equipped facility for the administration of the anesthesia or sedation which is staffed with supervised auxiliary personnel who are capable of reasonably handling procedures, problems and emergencies incident thereto.

2. A dentist using general anesthesia, deep sedation or conscious sedation shall ensure that his auxiliary personnel are certified in basic cardiopulmonary resuscitation by the American Heart Association.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.224 Employment of certified registered nurse anesthetist. (NRS 631.190, 631.265)

1. Any dentist who holds a general anesthesia permit pursuant to the provisions of NAC 631.2211 to 631.2256, inclusive, may employ a certified registered nurse anesthetist to administer the general anesthesia, deep sedation or conscious sedation to a patient if the dentist is physically present and directly supervises the administration of the general anesthesia, deep sedation or conscious sedation to the patient. The holder of the permit must maintain at his office evidence in writing that the certified registered nurse anesthetist is licensed to practice in the State of Nevada and maintains unrestricted active staff privileges within the department of anesthesiology at a hospital or surgical center which is certified by the Joint Commission.

2. Except as otherwise provided in NAC 631.2236, a dentist who does not hold a general anesthesia permit may not allow any person to administer general anesthesia, deep sedation or conscious sedation to his patients unless the treatment is rendered within a facility approved by the Joint Commission.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-7-85; A by R005-99, 9-7-2000)

NAC 631.2241 Report of injuries to patients. (NRS 631.190, 631.265) Each holder of a general anesthesia permit, conscious sedation permit or certificate of site approval shall submit to the Board a complete report regarding any mortality or unusual incident which

occurs outside a facility accredited by the Joint Commission and produces permanent injury to a patient or requires the hospitalization of a patient, as a direct result of the administration of general anesthesia, deep sedation or conscious sedation. The report must be submitted within 30 days after the date of the incident. If a dentist fails to report any incident as required by this section, his permit may be revoked.

(Added to NAC by Bd. of Dental Exam'rs, eff. 10-21-83; A by R005-99, 9-7-2000)

NAC 631.2256 Continuing education required. (NRS 631.190, 631.265, 631.342) Every 2 years, the holder of a general anesthesia permit or conscious sedation permit must complete at least 3 hours in courses of study that specifically relate to anesthesia or sedation, as applicable, before his permit may be renewed. This training will be credited toward any continuing education required by NAC 631.173.

(Added to NAC by Bd. of Dental Exam'rs, eff. 11-28-90; A by R005-99, 9-7-2000)

OUTLINE OF REGULATIONS PERTAINING TO ADMINISTRATION OF GENERAL ANESTHESIA, CONSCIOUS SEDATION OR DEEP SEDATION

SECTION	EXPLANATION
631.002	Definition of "Certificate of Site Approval" [Revised]
631.0056	Definition of "facility" [New]
631.0071	Definition of "inspection" [New]
631.2211	Scope of Administration of General Anesthesia, conscious sedation or deep sedation regulations [No revisions]
631.2212	Board to determine degree of sedation [No revisions]
631.2213	Administrator Permit Required; qualifications of applicants; evaluations [Revised]
631.2214	Temporary administrator permits [New]
631.2215	Administrator permits: renewal [New - Combination of 631.2217 and 2219]
631.2216	Site permit required: facilities [New]
631.2217	Deleted
631.2219	Deleted
631.2221	Inspection and evaluation: participation of members of Board [Revised]
631.2223	Evaluations: General Requirements [Revised]
631.2225	Evaluations: Simulated Emergencies [Revised]
631.2226	Inspections: General [New]
631.2227	Inspections: Physical facilities and equipment [Revised]
631.2229	Inspection and evaluation: Records of patients [Revised]
631.2231	Inspections: Emergency drugs [Revised]

631.2233	Inspections and evaluations: Recommendations of inspectors and evaluators; decision of Board [Revised]
631.2235	Inspections and evaluations: Failure to pass; requests for reinspections and/or reevaluations [Revised]
631.2236	Re-numbered as NAC 631.2216.
631.2237	Procedures required before administration of anesthetic or sedation [Revised]
631.2239	Properly equipped facility required; qualifications of auxiliary personnel. [Revised]
631.224	Employment of certified registered nurse anesthestist. [No revisions]
631.2241	Report of injuries to patients [Revised]
631.2254	Temporary Permits [Revised into NAC 631.2214]]
631.2256	Continuing education required. [No revisions]

OVERVIEW OF REINSPECTION/REEVALUATION PROCESS (NAC 631.2235)

Evaluation (Administrator Permit)
Inspection (Site Permit)

- Pass → Permit issued by Board
- Fail →
  - No temp susp: Matter to Bd for approval of recommendations. → Board does not approve issuance/renewal and temp. admn permit revoked → Timely written request for reinsp/reval
    - Pass → Permit issued by Board
    - Fail → Bd does not approve issuance – prior decision stands. No further reeval/reinsp for 12 mos.
  - Temp Suspension by Exec. Director
    - No request for reinsp/reval → Board does not approve issuance/renewal and temp. admn permit revoked
    - Timely written request for reeval/reinsp
      - Fail → Board does not approve issuance/renewal and temp admn permit revoked. No further reeval/reinsp for 12 months.
      - Pass → Permit issued by Board

NEVADA STATE BOARD OF DENTAL EXAMINERS
6010 S Rainbow Boulevard, #A-1
Las Vegas, NV 89118
Videoconference Meeting
Friday, October 1, 2010 8:21 am

Videoconferencing was available at the Board office, 6010 S Rainbow Boulevard, Suite A-1, in Las Vegas and at the State of Nevada Board of Medical Examiners, 1105 Terminal Way, Suite 301 in Reno.

Minutes

Call to Order

***1. Roll call and Establish a Quorum**
Roll call and Establish Quorum: Dr. Pappas called the meeting to order and Ms. Kelly conducted the following role call:

Dr. Tony Guillen----------PRESENT
Dr. M Masih Soltani----------PRESENT
Dr. Donna Hellwinkel----------PRESENT
Dr. J Gordon Kinard----------PRESENT
Dr. William Pappas----------PRESENT
Dr. Jade Miller----------PRESENT (via telephone)
Dr. J. Stephen Sill----------PRESENT
Mrs. Rosanne "Missy" Matthews----------PRESENT
Mrs. Leslea Villigan----------PRESENT
Mr. James "Tuko" McKernan----------PRESENT
Mrs. Lisa Wark----------PRESENT

Others Present: John Hunt, Board Legal Counsel; Lee Drizin, Special Board Counsel; Cameron Vandenberg, Deputy Attorney General; Kathleen Kelly, Executive Director; Debra Shaffer, Deputy Executive Director.

Public Attendees: Guy Shampaine, NERB; Xuan-Thu Failing, HOPES; Melissa Fellman, HOPES; Kevin Moore, DDS; Nicole Horn, NDHA; Todd Krempel; Michael Sanders, UNLV SDM; Michel Daccache; Tucker DiEdwardo, LVI; Alex Tanchek, NDHA; John DiGrazia, NDA.

Everyone stood to say the Pledge of Allegiance.

***2. Notice of Workshop and Request for Comments regarding regulation changes/amendments to Nevada Administrative Code NAC 631.150 and NAC 631.210(3)(b) to add display of permits for anesthesia administration and NAC 631.210(3)(b) for addition of 'permit' which is issued by the NSBDE authorizing local and/or nitrous oxide analgesia administration for a licensed hygienists**

Ms. Kelly requested that the Board give approval for a requirement that all licensees must display license certificate and indicate that the Board advises that permits must also display anesthesia certificates. She indicated that the regulation does not define permit and licensees were confused, therefore, they would like a regulation to change the wording to include permit with certificate.

Roll call vote:
Dr. Tony Guillen----------yes
Dr. Jade Miller----------yes
Dr. Donna Hellwinkel----------yes
Dr. J Gordon Kinard----------yes
Dr. William Pappas----------yes
Dr. M Masih Soltani----------yes
Dr. J. Stephen Sill----------yes
Mrs. Rosanne "Missy" Matthews----------yes
Mrs. Leslea Villigan----------yes
Mr. James "Tuko" McKernan----------yes
Mrs. Lisa Wark----------yes

The Board is in agreement to change the language. Ms. Kelly indicated that there was no draft language yet, but wanted to ask the Board to change the language to include permit with certifcate, which the Board will be including the word permit to NAC 631.210 (3)(b) next to the word certificate. She further indicated that both words are used synonymously and with the Boards permission she will put the draft language together and send to LCB; once the language is returned from LCB she will post the thirty (30) day notice for hearing.

MOTION: Dr. Hellwinkel made the motion to authorize Ms. Kelly to draft the language and submit the language to LCB. Second by Mr. McKernan. All in favor.

MOTION: Dr. Hellwinkel made the motion to go out of agenda order to item (4). Second by Dr. Guillen. All in favor.

***4. Executive Director's Report**

***a. Minutes**

1. April 30, 2010- Board Meeting
2. July 14, 2010- Board Meeting

Ms. Kelly asked that both be tabled but indicated that the drafts were complete but were not provided in the Board books.

MOTION: Dr. Guillen made the motion to table the minutes. Second by Dr. Sill. All in favor.

***b. FY11 Budget-Draft/Financials**

Ms. Kelly indicated that for the previous fiscal year 450 licensees took advantage of the early-bird renewal discount. She commented that there were fewer dentists renewing and as a result were suspended which have now been revoked. Dr. Hellwinkel inquired if the discount on license renewals affected the Boards budget/income. She indicated that she would not recommend offering a discount again unless the license fees were increased. She indicated she was financially cutting back in different areas, such as the newsletter which will only be released once a year in hopes that everyone will begin to refer to the website. Another change was that address changes can now be done online. She indicated that the cost for printing and mailing have gone up, which there will be a new mailing

for the regulation changes. She indicated further that the staff has not received any salary increases and currently the Board is exempt from furloughs, furthermore, again this year the Board staff will not be receiving merit salary either like all state employees. Ms. Kelly briefly explained how she calculates the budget figures.

MOTION: Dr. Hellwinkel made the motion to proceed to item (5). Second by Dr, Kinard. All in favor.

***5. Board Counsel's Report**

***a. Legal Actions/Lawsuit(s) Update**

1. Consideration of Stipulation Agreement

a. Fernando Leon, DDS

Mr. Hunt indicated that the Board did not adopt the proposed stipulation at the last Board meeting, however, the new draft proposed has the suggested changes made and mentioned that an informal hearing was held and the new drafted stipulation is being presented for Board approval.

MOTION: Dr. Miller made the motion to adopt. Second by Dr. Kinard. Roll call vote:

Dr. Tony Guillen----------yes
Dr. Jade Miller----------yes
Dr. Donna Hellwinkel----------abstain
Dr. J Gordon Kinard----------yes
Dr. William Pappas----------yes
Dr. M Masih Soltani----------yes
Dr. J. Stephen Sill----------yes
Mrs. Rosanne "Missy" Matthews----------yes
Mrs. Leslea Villigan----------yes
Mr. James "Tuko" McKernan----------yes
Mrs. Lisa Wark----------yes

Motion was agreed to; the stipulation was adopted.

b. Diana G Tolentino, DDS

Mr. Hunt indicated that this was her first offense and went over the provisions. He indicated that the offense was in regards to dental assistants.

MOTION: Dr. Guillen made the motion to adopt. Second by Dr. Sill. Roll call vote:

Dr. Tony Guillen----------yes
Dr. Jade Miller----------yes
Dr. Donna Hellwinkel----------yes
Dr. J Gordon Kinard----------yes
Dr. William Pappas----------yes
Dr. M Masih Soltani----------yes
Dr. J. Stephen Sill----------yes

Mrs. Rosanne "Missy" Matthews----------yes
Mrs. Leslea Villigan----------yes
Mr. James "Tuko" McKernan----------yes
Mrs. Lisa Wark----------yes

Motion was agreed to; stipulation was adopted.

c. Joseph Mir, DDS

Mr. Hunt indicated that Dr. Mir had no previous actions and went over the provisions.

MOTION: Dr. Guillen made the motion to adopt. Second by Mrs. Wark. Roll call vote:

Dr. Tony Guillen----------yes
Dr. Jade Miller----------yes
Dr. Donna Hellwinkel----------yes
Dr. J Gordon Kinard----------yes
Dr. William Pappas----------yes
Dr. M Masih Soltani----------yes
Dr. J. Stephen Sill----------yes
Mrs. Rosanne "Missy" Matthews----------yes
Mrs. Leslea Villigan----------yes
Mr. James "Tuko" McKernan----------yes
Mrs. Lisa Wark----------yes

Motion was agreed to; stipulation agreement adopted.

d. Glenn R Justice, DDS

Mr. Hunt indicated that the Board received two complaints on Dr. Justice and went over the provisions. Dr. Hellwinkel inquired on the arrangements for scheduled payments which she commented that they were unusual. Mr. Hunt indicated that it just creates more work for Ms. Kelly and Ms. Shaffer and further mentioned that should Dr. Justice fail to make the scheduled payments on time will result in an automatic suspension of his license. Dr. Guillen inquired if Dr. Justice had any previous issues, which Mr. Hunt and Ms. Kelly indicated that he did not.

MOTION: Dr. Kinard made the motion to adopt the stipulation. Second by Dr. Sill. Roll call vote:

Dr. Tony Guillen----------yes
Dr. Jade Miller----------yes
Dr. Donna Hellwinkel----------yes
Dr. J Gordon Kinard----------yes
Dr. William Pappas----------yes
Dr. M Masih Soltani----------yes
Dr. J. Stephen Sill----------yes
Mrs. Rosanne "Missy" Matthews----------yes
Mrs. Leslea Villigan----------yes
Mr. James "Tuko" McKernan----------yes
Mrs. Lisa Wark----------yes

Motion was agreed to; the stipulation was adopted.

MOTION: Dr. Guillen made the motion to go to item (6b). Second by Mrs. Matthews. All in favor.

***6. New Business**

***b. Approval for dental licensure by WREB-NRS 631.240**

1. Kaveh K Kohanof DDS
2. Margaret S O'Donnell DMD
3. Raffi Partamian DDS
4. John M Quinn DMD
5. Aaron G Radmall DMD
6. Amirali Tahbaz DDS
7. Ryan C Wait DDS
8. Jennifer G Yanga DMD

Dr. Guillen indicated that all applications were reviewed, met criteria, and recommended approval.

MOTION: Mrs. Wark made the motion to approve. Second by Dr. Soltani. All in favor.

***c. Approval of specialty dental license by credential- NRS 631.255**

1. Michel Daccache DDS – Oral & Maxillofacial Surgery
2. Shawn B Davis DMD – Oral & Maxillofacial Surgery

Dr. Guillen indicated that both applications were reviewed, met criteria, and recommended approval.

MOTION: Mr. McKernan made the motion to approve. Second by Mrs. Wark. All in favor.

***d. Approval of specialty dental license by application– NRS 631.250**

1. Cody S Johnson DMD – Pediatric Dentistry
2. Jarom N Luu DDS – Oral & Maxillofacial Surgery
3. Michelle C Sue DDS – Endodontics
4. Jason T VanLue DMD – Orthodontics

Dr. Guillen indicated that all applications were reviewed, met criteria, and recommended approval.

MOTION: Dr. Miller made the motion to approve. Second by Dr. Kinard. All in favor.

***e. Approval for dental hygiene licensure by WREB- NRS 631.300**

1. Kristen M Lund RDH
2. Erin N Wilson RDH
3. Gretchen R Slack-Donchez, RDH

Dr. Guillen indicated that all applications were reviewed, met criteria, and recommended approval. Ms. Kelly noted to the Board and for the record that (e1) should read "Lind" not "Lund."

MOTION: Mr. McKernan made the motion to approve. Second by Mrs. Matthews. All in favor.

***f. Approval for anesthesia-Temporary Permit – NAC 631.2254**

***1. General Anesthesia**

a. Jarom Luu, DDS
b. Katherine A Keeley, DDS, MD
c. Michel Daccache, DDS

Dr. Guillen indicated that all paperwork was in order and recommended approval.

MOTION: Dr. Sill made the motion to approve. Second by Mr. McKernan. All in favor.

***2. Conscious Sedation**

a. Adam Stout, DMD
b. Curry H Leavitt, DMD
c. Bradley Welch, DDS
d. Matthew D Welebir, DDS

Dr. Guillen indicated that all paperwork was in order and recommended approval.

MOTION: Mr. McKernan made the motion to approve. Second by Dr. Sill. All in favor.

***g. Approval for site permits – NAC 631.2236**

***1. General Anesthesia**

a. Katherine A Keeley, DDS, MD
   1. 2649 Wigwam Pkwy, #102 Henderson, NV 89074

b. John Carahalis, DMD
   1. 4855 S Pecos Rd Ste B-1, Las Vegas, NV 89121

Dr. Guillen asked that (a) Dr. Keeley be tabled. He indicated that Dr. Carhalis's office passed inspection and recommended approval.

MOTION: Mr. McKernan made the motion to approve. Second by Mrs. Matthews. All in favor.

***2. Conscious Sedation**

a. Cari Calloway-Nelson, DDS
   1. 7175 N Durango Dr. Suite 150, Las Vegas, NV 89149

b. Ross Stokes, DDS
   1. 7260 S Rainbow Blvd, Ste 104, Las Vegas, NV 89118

c. Curry H Leavitt, DMD
   1. 7475 W Sahara Ave, Ste 101, Las Vegas, NV 89117

d. Bradley Welch, DDS
   1. 1701 N Green Valley Pkwy., 7A, Henderson, NV 89074

e. Matthew D Welebir, DDS
   1. 1001 Whitney Ranch Dr., Suite #110, Henderson, NV 89014
   2. 6006 W Smoke Ranch Rd., Las Vegas, NV 89108
   3. 8551 W Lake Mead Blvd #260, Las Vegas, NV 89128

Dr. Guillen indicated that each site was evaluated, inspected, passed, and recommended approval.

MOTION: Mr. McKernan made the motion to approve. Second by Mrs. Wark. All in favor.

***h. Approval for 90-day extension of anesthesia permit – NAC 631.2254(2)**
***1. Conscious Sedation**

a. Tam P Nguyen, DDS
b. Jaren T Jensen, DDS
c. Saeid Mohtashami, DDS
d. Steven Weinberg, DDS

Dr. Guillen indicated that they were still working on scheduling the site visit and recommended approval.

MOTION: Dr. Soltani made the motion to approve. Second by Mr. McKernan. All in favor.

***i. Approval of Dental Public Health Program and Protocol-Pursuant to NRS 631.287(2); NAC 631.210(5)**

1. HOPES of Northern Nevada

Mrs. Fellman indicated that Northern Nevada HOPES is an HIV medical clinic and that they also have a pharmacy on staff, social services and a dental clinic that was donated by a Dr. Bell. She said that they will be starting work at the dental clinic with public health endorsed hygiene services once they have funding in January. Ms. Failing added that the program is a population that has a stigma associated with it. She indicated that a lot of the patients would like to stay on-site because of that stigma status with the community. She commented that they were really happy to be present and to have the Board consider approving their program. Dr. Hellwinkel noted that in the protocol it indicated that local anesthesia would be permitted only when appropriate medical supervision was available and inquired what that meant. Ms. Fellman indicated that the director of the medical clinic, which the medical clinic is a separate building from the dental clinic, would be the one supervising when available in the dental clinic to watch them administer. She further indicated that there is a coalition with Northern Nevada HOPE and TMCC for those who need to be given local anesthesia and that patients will be able to go to TMCC through the coalition to be given care. Dr. Hellwinkel inquired if this was the arrangement until they have a dentist present in the future when, to which Ms. Fellman answered affirmatively. Dr. Hellwinkel inquired further that in the protocol they mention that they have a collaborative arrangement with Access-to-Healthcare network, but read somewhere where it mentioned Absolute Dental. Ms. Fellman indicated that Absolute Dental is the preferred provider that works with Access-to-Healthcare Network which they are not a direct insurance but participants who work with them take a reduced rate; furthermore, the Ryan White grant that supports HOPES pays Absolute dental for it services. Ms. Kelly indicated that in accordance to the statute, a registered dental hygienist can administer local anesthesia with the written authorization of the patient's regular treating

dentist. She indicated, however, in this case these patients do not have a regular treating dentist and therefore, does not believe it will be possible for them to administer. Additionally, the director of the facility would have to submit to the secretary/treasurer written confirmation that there will be medical personnel and necessary emergency equipment available, and that they will be there to supervise the dental hygienists when they administer local anesthesia or nitrous oxide. Ms. Kelly indicated that under NRS 631.215 they have to have a dental director. Ms. Kelly indicated that a dentist has to be the dental director of a non-profit organization. Ms. Kelly, in response to Dr. Hellwinkel's inquiry, indicated that the purpose of a PHE is to allow for dental hygienists to work without the supervision of a dentist.

MOTION: Dr. Kinard made the motion to approve. Second by Dr. Soltani. Discussion: Dr. Guillen indicated that he would like to see a list of dentists that will help provide services. Dr. Pappas asked both Ms. Fellman and Ms. Failing to work with Board staff on the ownership issues. Ms. Fellman indicated that they will and that they will work to get a dentist on site, however, she further indicated that they need the program to be approved so that they can be approved for the grant money to be able to recruit a dentist for their program. All in favor.

***j. Approval of a Public Health Dental Hygiene Endorsement for licensees who have applied to work with the HOPES of Northern Nevada Program- NRS 631.287**

1. Melissa Fellman, RDH
2. Xuan-Thu T Failing, RDH

MOTION: Mrs. Villigan made the motion to approve. Second by Mrs. Wark. All in favor.

***k. Approval of a Public Health Dental Hygiene Endorsement for licensees who have applied to work with the St. Mary's Take Care A Van Program- NRS 631.287**

1. Catherine M Umscheid, RDH

MOTION: Mrs. Villigan made the motion to approve. Second by Mrs. Wark. All in favor.

Dr. Miller, who was present via teleconference, indicated that he needed to leave and noted to the Board for the record that he provided information on monitoring of children under the age of thirteen (13). He added that he also submitted information on anesthesia and would like to see language include an alternative to PALS/ACLS, which is a course being launched later in October.

*7. Resource Group Reports

***a. Legislative and Dental Practice**
(Chair: Dr. Guillen; Dr. Hellwinkel; Dr. Pappas; Dr. Miller; Mrs. Villigan; Mrs. Matthews; and Mrs. Wark)

Dr. Guillen indicated that there was a committee meeting on September 29th. He commented to the Board that a list will be sent to all the dentists. He further indicated that they will be picking a committee soon and hope to get the infection control committee in January.

*b. **Legal and Disciplinary Action**
(Chair: Dr. Hellwinkel; Mrs. Wark; Mrs. Villigan; Dr. Kinard; and Dr. Soltani)
1. Recommendations Regarding Use of "Institute"

Dr. Hellwinkel indicated that the committee, at a recent meeting, unanimously decided to recommend to the Board a regulation change to describe when the term "institute" may be used. Dr. Pappas indicated that the Board will schedule a workshop. Mr. Drizin indicated that he will draft language for the Board to consider at the first workshop for the regulation change. Mr. Hunt briefly described what transpired at the committee meeting for the Board.

*c. **Examinations**

(1) **Dental**
(Dr. Pappas; Dr. Kinard and Mrs. Matthews)

Dr. Pappas indicated that the Board is hosting an exam this weekend.

(2) **Dental Hygiene**
(Chair: Mrs. Matthews; Mrs. Villigan; Mr. McKernan; Dr. Sill)

No report.

*d. **Continuing Education**
(Chair: Dr. Guillen and Dr. Sill)

No report.

*e. **Dental Hygiene**
(Chair: Mrs. Matthews; Mrs. Villigan; Mr. McKernan; and Dr. Sill)

No report.

*f. **Specialty**
(Chair: Dr. Miller; and Dr. Sill)

No report.

*g. **Anesthesia/Infection Control**
(Chair: Dr. Guillen; Dr. Miller; Dr. Pappas; Mr. McKernan and Mrs. Villigan)

No report.

MOTION: Dr. Guillen made the motion to move to agenda item (3). Second by Mr. McKernan. All in

favor.

Recess: 9:43 am Return from recess: 10:02 am.

MOTION: Dr. Hellwinkel made the motion to move to agenda item (3). Second by Mrs. Wark. All in favor.

*3. **Notice of Workshop and Request for Comments Regarding Changes to Nevada Administrative Code 631.2211-631.2256 Authorizing the Administration of Conscious Sedation, Deep Sedation, and General Anesthesia. The General Topics Include: Permit Process; Inspection and Re-inspections; Evaluations and Re-Evaluations; Use of Monitoring Equipment for all Patients Under 13 years of Age Receiving Nitrous Oxide; Training for Emergencies and Use of Emergency Drugs**

Dr. Shampaine spoke on the administration of conscious sedation, deep sedation and general anesthesia. He indicated that the precision of the definitions in the ADA guidelines are critical because it narrows techniques. He indicated that the newest definition added, which was minimal sedation, or better described as less anxiety, but the ADA precisely says that anyone under minimal sedation must respond normally to verbal commands, and the maximum dosage that can be used is defined when administering minimal sedation. He indicated further that a dentist is trained to do moderate sedation in order to administer minimal sedation so that they are prepared for the inadvertent scenarios. He commented that this topic does not apply to anyone under the age of twelve (12). He commented that a new change is that dentists can no longer prescribe a sedative to be taken in the absence of clinical personnel; it now has to be administered with clinical help. He went on to discuss the training required to administer. He further indicated that there are very rigorous training guidelines and the areas of safety, which is the biggest area of discussion. He gave the scenario of when a patient is in the recovery area and is not ready for discharge that a dentist should not begin sedating another patient. Ms. Kelly indicated that at institutions, the current regulations indicate that they cannot sedate more than one person at a time or must have a permitted person per sedated patient. She inquired at what point one determines recovery where a dentist no longer has to be physically present until the patient is ready to be discharged. Dr. Shampaine indicated that it's a different question when trained medical personnel can monitor a patient and when a dentist can begin sedating another patient. Therefore, when a patient has met the requirements to be transferred to a recovery room then, by definition, trained medical personnel can monitor a patient, because the patient has reached a point of minimal sedation. Per Ms. Kelly's inquiry, Dr. Shampaine indicated that medically trained personnel are those who have had minimal sedation training in BLS training at healthcare provider level. In most states, in order for a facility to be permitted their personnel must know how to monitor, know where the equipment is, know locations of medications, emergency and non-emergency, know how to draw them up, and know how to take direction.

Dr. Guillen inquired if the Boards requirement of sixty (60) hours is sufficient training. Dr. Shampaine answered affirmatively and indicated that even if the Board did not, a training facility will abide by the ADA guidelines for sedation. Dr. Guillen inquired further if the new emergency course that the ADA is working on will be required or whether it should be added to the criteria once it becomes available. Dr. Shampaine indicated that it does not have to be, because in order to be permitted licensees are still required to take ACLS; however, the new course, once available, can be seen as a superior course to ACLS. Dr. Hellwinkel inquired if the Board would maybe consider changing the language to match the language of the ADA guidelines. Dr. Guillen expressed his agreement with changing the current Board language to reflect the language of the ADA guidelines for conscious sedation and general

anesthesia. Ms. Kelly indicated that currently the regulations addresses that licensees do not have to hold a permit if they administer oral medication so long as conscious sedation as defined in the statute is not met. Therefore, a licensee would not need a permit for such minimal sedation so long as they meet the criteria of the current regulations. Mr. Drizin indicated to the Board that he was directed to address procedural matters that proposed regulations do not address, as well as issues mentioned and presented by Dr. Shampaine. He indicated that originally there was no specific regulation that addressed site inspections, until 631.2236 passed in 1999 and became effective in 2000. He stated that there were a number of inconsistencies with language and the sequence of the regulations. He briefly described the three (3) documents that he was presenting to the Board. The first being proposed revision and seizure regulations first draft; the second version a red-line version that has highlights and red strike-outs; the third document is a summary that he created that explains the drafts section by section and highlights what the changes are. He indicated that the reason for the proposed changes was due to the lack of a mechanism for the immediate suspension of general anesthesia/conscious sedation permits; in the event that there is a fail there would a recommendation to the Board for suspension, the issue was that the Board does not meet as frequently and therefore, offices that potentially posed a risk to patients would still be allowed to administer until the next scheduled Board meeting for the Board to render a decision on the recommended suspension. He mentioned that there were a few complaints of inconsistencies with the regulations which allowed for temporary administrator permits but not for site permits. There were concerns about the re-evaluation process because there were times that dentists would have to wait up to sixty (60) days before they can administer because they had to wait for the re-evaluation to be scheduled. Therefore, he recommended that the Board revise the regulation to allow for a more efficient process to have the offices get re-evaluated. He also commented that there was some confusion on the terms "evaluation" and "inspection," which he noted are typically used interchangeably. He indicated that the definition of "evaluation" under 631.0051 means the screening and assessment of the proper administration of safe practice of conscious sedation, deep sedation, and general anesthesia, to ensure that anesthesia services meet the minimum standards of care. He indicated that the evaluations are regarding the administration of, and inspections are of the site, which he indicated are somewhat consistent with how the language is written and read. He mentioned that 631.2213 was revised to indicate that the permit issued to a dentist for the administration of general anesthesia, or deep sedation, or conscious sedation is known as an administrator permit; additionally, it also defines administrator permit and site permit. He indicated that there is a new section, 631.2214, which would permit the Executive Director to issue site permits. He indicated further that 631.2215 discussed renewal of an administrator permit. He went over the details of the regulation and indicated further that 631.2226 had been essentially eliminated; and that 631.2221 essentially became 631.2215; he went over other changes made as follows: 631.2221 was revised to include sections that talk about both the administrator and site permits and their differences; 631.2223 was revised to apply only to evaluations; 631.2225 revised to also apply to evaluations, and mentioned that with these revisions an attempt was made to make them gender neutral. He continued that 631.2226 is a new section created to specifically outline site inspections; 631.2227 was revised to talk to about site inspections, which the terms dentist office was replaced with the term facility; in 631.2233 the thirty (30) day requirement to issue a notice of fail of an evaluation/inspection was eliminated; 631.2235 authorizes the Executive Director to issue a temporary order of suspension of an administrator or site permit.

Dr. Guillen asked that the information presented and discussed by Mr. Drizin be disseminated to the Board to be used as preparation material for a workshop to be held in relevance to the regulation changes presented by Mr. Drizin. Dr. Orr indicated that the ADA documents presented were a great utilizing tool and expressed his personal support of the Board adopting the proposed regulation changes and hoped the Board would consider adoption thereof. Dr. Shampaine responded to Dr.

DiGrazia's inquiry and indicated that so long as a patient meets the discharge criteria a dentist can begin sedation on a new patient because the chances of an emergency arising with the discharged patient is minimal. Dr. Pappas read a statement on anesthesia from Dr. Miller (attached for the record). Dr. Pappas read a statement from Dr. William F Waggoner (attached for the record). Dr. Pappas indicated that Dr. Drongowski wanted it indicated for the record that there is a Succinyl choline shortage, which is an emergency drug for anesthesia and further mentioned that such information would be presented to the anesthesia committee.

MOTION: Dr. Guillen made the motion to close the workshop. Second by Mrs. Villigan. All in favor.

MOTION: Dr. Hellwinkel made the motion to move to item (5)(b). Second by Mr. McKernan. All in favor.

Recess: 11:03 am Return from recess: 11:15 am.

***5. Board Counsel's Report**

***b. Notice of Hearing**

1. John Vennochi, DMD

   a. Failure to fully satisfy all of the terms and conditions of the June 27, 2008 Order adopted by the Board ---consideration of additional disciplinary penalties

A court reporter was present for hearing. Transcripts from the hearing are available for purchase through court reporter. Dr. Guillen and Mrs. Matthews excused themselves from the remainder of the meeting.

Recess: 12:52 pm Return from recess: 12:55 pm.

Motion: to grant two (2) additional years; Roll call vote:

Dr. Tony Guillen----------excused
Dr. Jade Miller----------excused
Dr. Donna Hellwinkel----------yes
Dr. J Gordon Kinard----------abstain
Dr. William Pappas----------no
Dr. M Masih Soltani----------yes
Dr. J. Stephen Sill----------no
Mrs. Rosanne "Missy" Matthews----------excused
Mrs. Leslea Villigan----------no
Mr. James "Tuko" McKernan----------yes
Mrs. Lisa Wark----------yes

Motion is agreed to; grant two additional years to complete CE requirements per stipulation agreement.

**Note for the record: originally vote was thought to be a tie vote; a second motion was given to allow for an additional year to complete the required number of CE's; motion was made by Dr. Soltani and the second was

made by Mrs. Villigan there was discussion by Dr. Sill asking that the motion include that Dr. Vennochi be required to report monthly the status of courses being taken and failure to comply grant the Executive Director the authority to suspend his license. Mrs. Villigan withdrew her second to the amended motion as stated. The second was made by Mrs. Wark. The motion was agreed to. Later in the meeting Dr. Hellwinkel asked for a recount of the vote from the first motion which the court reporter indicated that there vote was as noted above; therefore, nullifying the second motion. Ms. Kelly indicated that she would notify Dr. Vennochi in letter form of what the new requirements are and of the correct vote.

*6. New Business

***a. Todd J Krempel, DDS- (Pursuant to NRS 241.030(a), the board may, by motion, enter into closed session)—Petition to seek approval of the Board for accomplishments so required in Order and Findings of Fact, Conclusions of Law, and Decision of the Board adopted October 30, 2008 and filed January 13, 2009.**

Mr. Hunt indicated that in 2009 Dr. Krempel's license was revoked for noncompliance of the stipulation agreement, which he refused to submit to drug testing; however, once in compliance Dr. Krempel could petition the Board to have his license reinstated, which is his reason for being present before the Board. Mr. Hunt asked that Dr. Krempel step forward and swore him in. Mr. Hunt asked if he was present voluntarily and if it is his will to be present without counsel, which he answered affirmatively. Dr. Krempel declined to go into closed session. Mr. Hunt asked Dr. Krempel a few questions regarding his activities while out of practice. Dr. Krempel indicated that he entered into a drug rehabilitation center, and indicated that he was not aware that he needed to check with the Board to see if it was an approved rehabilitation facility; furthermore, that he completed a twelve (12) step program and briefly described the process and his road to recovery during the program as well as what he continues to do now that he has completed the program. Mr. Hunt read a letter from the director of the rehabilitation facility. In response to Mr. Hunt's inquiry of how he has been financially sustaining himself, Dr. Krempel indicated that he has been doing substitute teaching with the Clark County school district. He commented to the Board that he has worked very hard to turn his life around. Mr. Hunt commented that rehab is for those who want it, not for those who need it.

MOTION: Dr. Sill made the motion to table the matter until more information is provided from Solutions rehabilitation facility, Clark County school district application information, and has signed release forms that would allow the Board to obtain such information. Second by Dr. Kinard. Ms. Kelly asked for clarification of the motion. Dr. Sill withdrew his motion and Dr. Kinard withdrew his second. MOTION: Dr. Sill made the motion to table the matter until the next Board meeting to allow the Board to evaluate further information about the rehab program. Second by Dr. Kinard. Roll call vote:

Dr. Tony Guillen----------excused
Dr. Jade Miller----------excused
Dr. Donna Hellwinkel----------yes
Dr. J Gordon Kinard----------yes
Dr. William Pappas----------yes
Dr. M Masih Soltani----------yes
Dr. J. Stephen Sill----------yes
Mrs. Rosanne "Missy" Matthews----------excused
Mrs. Leslea Villigan----------yes
Mr. James "Tuko" McKernan----------yes
Mrs. Lisa Wark----------yes

Motion is agreed to; table matter until next scheduled Board meeting. Discussion: Dr. Pappas commented to Dr. Krempel that he is to present himself voluntarily to Mr. Hunt's office to sign releases authorizing the Board access to his Clark County school district application and patient records from Solutions rehabilitation.

MOTION: Mrs. Villigan made the motion to return to agenda order. Second by Dr. Sill. All in favor.

8. **Comments from the Public:** No comments

9. **Announcements:** Dr. Pappas announced to those participating in the exam this weekend to report to the school at the end of the Board meeting. Dr. Hellwinkel voiced her concern and asked for a recount of the initial motion vote for Dr. Vennochi (refer to note regarding vote and motion).

10. **Adjournment:** Mrs. Wark made the motion to adjourn the meeting. Second by Mrs. Villigan. All in favor.

Meeting Adjourned at 2:07 pm.

Respectfully submitted by:

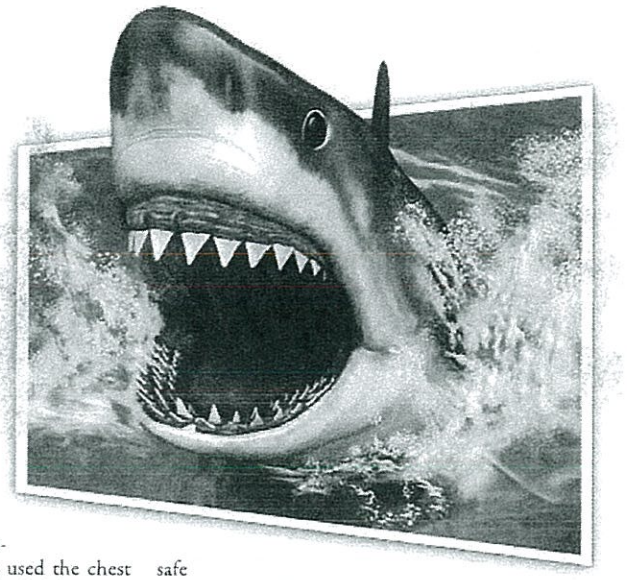
_____

Kathleen J. Kelly

COMMENTARY

Airway, Airway, Airway

The protection mantra in the dental surgery suite



The following is a modified, abridged version of an article originally published in the Nevada Dental Association Quarterly Journal *(Fall 2007;9:4-6). Reprinted with permission from the Nevada Dental Association.*

After recently receiving a certified overnight envelope from an attorney, I was reminded of my "most important slides" in lectures I had given to the American Dental Society of Anesthesiology and at the University of Nevada, Las Vegas School of Dental Medicine. The attorney who sent the missive wanted to know if negligence is involved when a patient ingests an endodontic file during treatment. The records he provided were sparse, but the bottom line was that a patient swallowed a file during endodontic therapy. The file passed through the gastrointestinal system over the course of a week or two, as documented by serial abdominal flat plates; a legal claim was being considered.

Absent further investigation my preliminary opinion was, first, that dentists have a duty to act reasonably in preventing foreign bodies from being inadvertently ingested or aspirated during treatment. Second, if reasonable airway protection measures are used, that is, direct supervision by the dentist, rubber dam, gauze pharyngeal screens, absorbent triangles etc., then there is likely no negligence. Third, however, if no airway protection measures are taken, negligence may be present. The chart did not indicate if any airway protection was used.

During my residency training in anesthesiology and oral and maxillofacial surgery (OMS) at Los Angeles County/University of Southern California Medical Center in the late 1970s, I was contacted by the Hygienic Company, which had been referred to me by a fellow OMS who had heard a talk I had given on aspirated foreign bodies. The Hygienic Company was subsequently provided with a chest radiograph that showed an aspirated endodontic file. The company used the chest x-ray in a rubber dam advertisement titled "Practice Protection."

My "most important slides" show a patient and the airway protection I typically place for mandibular procedures, such as removal of teeth (Figure 1). The protection includes a 3×3- or 4×4-inch gauze pharyngeal screen, a mouth prop and an absorbent triangle placed between the lingual surface of the posterior teeth and the tongue. With regard to mouth props, I usually place a child-size (not "infant"-size) prop even in adults, unless the patient's range of motion is greater than average (i.e., perhaps 40 mm) or unless one or both posterior arches are edentulous. When completing procedures in the maxillary arch, such as tooth removal, I usually do not use a mouth prop or triangle but place only gauze. I use the same protocol after anesthetic administration—no matter if the patient is being treated via general, sedation or local anesthesia—and whenever I place instruments, fluids or other foreign bodies intraorally.

Endodontic files do not really show up that well on abdominal or chest radiographs, so included here is a chest x-ray showing a prosthetically treated molar in the right main stem just off the midline (Figure 2).

Although sedation and general anesthesia administered by appropriately trained dentists have extremely safe records, the national dental community has been apprised of several pediatric deaths. It seems the common denominator in these cases is almost always airway compromise. Furthermore, papoose boards also often are involved. Although papoose boards are recognized as a valuable aid when used appropriately, their utilization requires even more vigilance as far as airway protection is concerned. The reason for this is that a significant part of a patient's own reflexive protective airway response is compromised by the use of this device.

Think of the last time a bit of food or drink inadvertently tickled your epiglottis, perhaps at a restaurant. One's reflexive response to this insult involves an animated reaction from the muscles of mastication as they try to correct the nonoptimal passage of the food bolus. But more than the medial and lateral pterygoids, masseters and temporalis are involved in mastication. Recall how a shark eats by propelling itself forward, throwing its head back, then striking, biting and aggressively activating whatever muscles are necessary to separate the morsel from its donor.

Similarly, choking individuals respond by using much more than the muscles that insert on the mandible directly. The muscles of the neck, respiration and beyond are recruited as the choker contorts in any way possible to get the foreign body out and clear the airway. The responses of feeding sharks and choking humans are explosive, intense and impressive, as survival is dependent on these reactions. Patients who are secured on a papoose board are not able to use these auxiliary muscles of mastication and airway protection. Thus, additional vigilance is required on the part of the dentist with regard to foreign bodies or materials, fluids, fatigued assistants leaning on a patient's chest or any other situation that may compromise the restrained patient's airway.

We'll end by informally relating a case report, with the permission of a local OMS. For years, this surgeon used airway protection when administering sedation or general anesthesia, but often deferred when using local anesthesia only. In the case discussed here, a patient needed a mandibular bridge sectioned in order to remove the molar abutment and pontic, while retaining the anterior premolar abutment. Local anesthetic was administered, the bridge was

see *dental* page 116

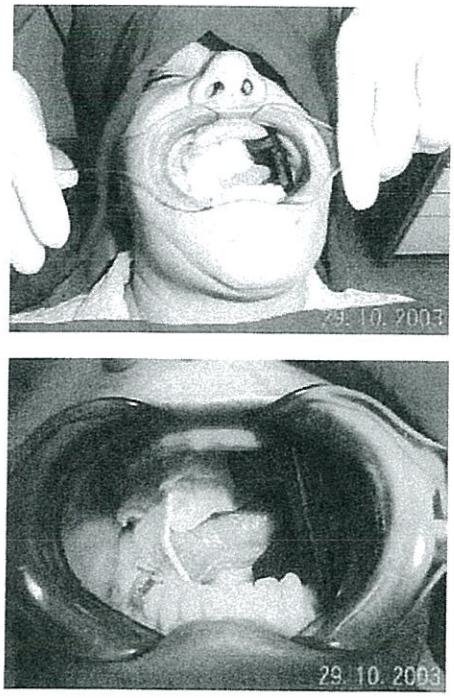


Figure 1. Protection of the airway for a mandibular procedure, such as removal of teeth.

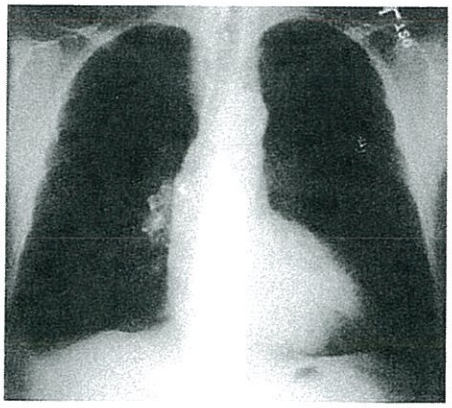


Figure 2. Chest x-ray of prosthetically treated molar in the right main stem just off the midline.

PRN

DENTAL CONTINUED FROM PAGE 14

sectioned, and guess what happened when the molar and abutment were being removed? Nothing at all happened; the tooth and abutment were successfully delivered.

However, the patient then mentioned that the premolar crown was a little rough. The OMS offered to smooth it off. While smoothing off the irregularity, the crown rattled loose and disappeared down the throat. There was no clinical evidence of coughing or distress of any type from the patient. Appropriately, the patient was informed that the crown's location was in question and advised that he obtain a diagnostic radiograph.

At the hospital later that day, the crown was seen to be in the right main stem bronchus. The patient was lined up for thoracoscopy and crown removal. To make a long story short, the thoracoscopy failed and the patient had to undergo a partial pneumonectomy to remove the crown. Kind of a bad day all around.

The surgeon involved is second to none as an individual and as a surgeon. This OMS also is teachable and a quick learner, and if asked about airway protection now, the OMS advises others that when the mail is dropped off at the office, the letter carrier gets a throat pack.

Keep those airways protected.

—Daniel L. Orr, II, DDS, PhD, JD, MD

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Guideline for Monitoring and Management of Pediatric Patients During and After Sedation for Diagnostic and Therapeutic Procedures

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Abstract

The safe sedation of children for procedures requires a systematic approach that includes the following: no administration of sedating medication without the safety net of medical supervision, careful presedation evaluation for underlying medical or surgical conditions that would place the child at increased risk from sedating medications, appropriate fasting for elective procedures and a balance between depth of sedation and risk for those who are unable to fast because of the urgent nature of the procedure, a focused airway examination for large tonsils or anatomic airway abnormalities that might increase the potential for airway obstruction, a clear understanding of the pharmacokinetic and pharmacodynamic effects of the medications used for sedation as well as an appreciation for drug interactions, appropriate training and skills in airway management to allow rescue of the patient, age- and size-appropriate equipment for airway management and venous access, appropriate medications and reversal agents, sufficient numbers of people to both carry out the procedure and monitor the patient, appropriate physiologic monitoring during and after the procedure, a properly equipped and staffed recovery area, recovery to presedation level of consciousness before discharge from medical supervision, and appropriate discharge instructions.

Introduction

Invasive diagnostic and minor surgical procedures on pediatric patients outside the traditional operating room setting have increased in the last decade. As a consequence of this change and the increased awareness of the importance of providing analgesia and anxiolysis, the need for sedation for procedures in physician offices, dental offices, subspecialty procedure suites, imaging facilities, emergency departments, and ambulatory surgery centers also has markedly increased.[1-37] In recognition of this need for both elective and emergency use of sedation in nontraditional settings, the American Academy of Pediatrics (AAP) and American Academy of Pediatric Dentistry (AAPD) have published a series of guidelines for the monitoring and management of pediatric patients during and after sedation for a procedure.[38-42] The purpose of this updated statement is to unify the guidelines for sedation used by medical and dental practitioners, add clarifications regarding monitoring modalities, provide new information from medical and dental literature, and suggest methods for further improvement in safety and outcomes. With the revision of this document, the Joint Commission on Accreditation of Healthcare Organizations, the American Society of Anesthesiologists (ASA), the AAP, and the AAPD will use similar language to define sedation categories and the expected physiologic responses.[41-44]

This revised statement reflects the current understanding of appropriate monitoring needs both during and after sedation for a procedure.[4,5,12,19,21,22,26,45-53] The monitoring and care out-lined in this guideline may be exceeded at any time, based on the judgment of the responsible practitioner. Although intended to encourage high-quality patient care, adherence to this guideline cannot guarantee a specific patient outcome. How-ever, structured sedation protocols designed to incorporate the principles in this document have been widely implemented and shown to reduce morbidity.[29,32-34,37,54,55] This guideline is proffered with the awareness that, regardless of the intended level of sedation or route of administration, the sedation of a pediatric patient represents a continuum and may result in respiratory depression and the loss of the patient's protective reflexes.[43,57-60]

Sedation of pediatric patients has serious associated risks, such as hypoventilation, apnea, airway obstruction, laryngospasm, and cardiopulmonary impairment.[2,6,22,45,46,54,60-69] These adverse responses during and after sedation for a diagnostic or therapeutic procedure may be minimized, but not completely eliminated, by a careful preprocedure review of the patient's underlying medical conditions and consideration of how the sedation process might affect or be affected by these conditions.[54] Appropriate drug selection for the intended procedure as well as the presence of an individual with the skills needed to rescue a patient from an adverse response are essential. Appropriate physiologic monitoring and continuous observation by personnel not directly involved with the procedure allow for accurate and rapid diagnosis of complications and initiation of appropriate rescue interventions.[46,51,54]

The sedation of children is different from the sedation of adults. Sedation in children often is administered to control behavior to allow the safe completion of a procedure. A child's ability to control his or her own behavior to cooperate for a procedure depends both on his or her chronologic and developmental age. Often, children younger than 6 years and those with developmental delay require deep levels of sedation to gain control of their behavior.[57] Therefore, the need for deep sedation should be anticipated. Children in this age group are particularly vulnerable to the sedating medication's effects on respiratory drive, patency of the airway, and protective reflexes.[46] Studies have shown that it is common for children to pass from the intended level of sedation to a deeper, unintended level of sedation.[56,59,70] For older and cooperative children, other mo-dalities, such as parental presence, hypnosis, distraction, topical local anesthetics, and guided imagery, may reduce the need for or the needed depth of pharmacologic sedation.[31,71-81]

The concept of rescue is essential to safe sedation. Practitioners of sedation must have the skills to rescue the patient from a deeper level than that intended for the procedure. For example, if the intended level of sedation is "minimal," practitioners must be able to rescue from "moderate sedation"; if the intended level of sedation is "moderate," practitioners must have the skills to rescue from "deep sedation"; if the intended level of sedation is "deep," practitioners must have the skills to rescue from a state of "general anesthesia." The ability to rescue means that practitioners must be able to recognize the various levels of sedation and have the skills necessary to provide appropriate cardiopulmonary support if needed. Sedation and anesthesia in a nonhospital environment (private physician or dental office or freestanding imaging facility) may be associated with an increased incidence of "failure to rescue" the patient should an adverse event occur, because the only backup in this venue may be to activate emergency medical services (EMS).[46,82] Rescue therapies require specific training and skills.[46,54,83,84] Maintenance of the skills needed to perform successful bag-valve-mask ventilation is essential to successfully rescue a child who has become apneic or developed airway obstruction. Familiarity with emergency airway management procedure algorithms is essential.[83-87] Practitioners should have an in-depth knowledge of the agents they intend to use and their potential complications. A number of reviews and handbooks for sedating pediatric patients are available.[32,48,55,88-93] This guideline is intended for all venues in which sedation for a procedure might be performed (hospital, surgical center, freestanding imaging facility, dental facility, or private office).

There are other guidelines for specific situations and personnel that are beyond the scope of this document. Specifically, guidelines for the delivery of general anesthesia and monitored anesthesia care (sedation or analgesia), outside or within the operating room by anesthesiologists or other practitioners functioning within a department of anesthesiology, are addressed by policies developed by the ASA and by individual departments of anesthesiology.[94] Also, guidelines for the sedation of patients undergoing mechanical ventilation in a critical care environment or for providing analgesia for patients postoperatively, patients with chronic painful conditions, and hospice care are beyond the scope of this document.

Definitions of Terms for This Report

- "Pediatric patients": all patients through 21 years of age, as defined by the AAP.
- "Must" or "shall": an imperative need or duty that is essential, indispensable, or mandatory.
- "Should": the recommended need and/or duty.
- "May" or "could": freedom or liberty to follow a suggested or reasonable alternative.
- "Medical supervision" or "medical personnel": a current, licensed practitioner in medicine, surgery, or dentistry trained in the administration of medications used for procedural sedation and the management of complications associated with these medications.
- "Are encouraged": a suggested or reasonable action to be taken.
- "ASA Physical Status Classification": guidelines for classifying the baseline health status according to the ASA (see Appendix B).
- "Minimal sedation" (old terminology "anxiolysis"): a drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected.
- "Moderate sedation" (old terminology "conscious sedation"or "sedation/analgesia"): a drug-induced depression of consciousness during which patients respond purposefully to verbal commands (eg,"open your eyes" either alone or accompanied by light tactile stimulation—a light tap on the shoulder or face, not a sternal rub). For older patients, this level of sedation implies an interactive state; for younger patients, age-appropriate behaviors (eg, crying) occur and are expected. Reflex withdrawal, although a normal response to a painful stimulus, is not considered as the only age-appropriate purposeful response (eg, it must be accompanied by another response, such as pushing away the painful stimulus so as to confirm a higher cognitive function). With moderate sedation, no intervention is required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained. However, in the case of procedures that may themselves cause airway obstruction (eg, dental or endoscopic), the practitioner must recognize an obstruction and assist the patient in opening the airway. If the patient is not making spontaneous efforts to open his/her airway so as to relieve the obstruction, then the patient should be considered to be deeply sedated.
- "Deep sedation" ("deep sedation/analgesia"): a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully (see discussion of reflex withdrawal above) after repeated verbal or painful stimulation (eg, purposefully pushing away the noxious stimuli). The

ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained. A state of deep sedation may be accompanied by partial or complete loss of protective airway reflexes.

• "General anesthesia": a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive-pressure ventilation may be required because of depressed spontaneous ventilation or drug-induced depression of neuromuscular function. Cardiovascular function may be impaired.

Goals of Sedation

The goals of sedation in the pediatric patient for diagnostic and therapeutic procedures are: 1) to guard the patient's safety and welfare; 2) to minimize physical discomfort and pain; 3) to control anxiety, minimize psychological trauma, and maximize the potential for amnesia; 4) to control behavior and/or movement so as to allow the safe completion of the procedure; and 5) to return the patient to a state in which safe discharge from medical supervision, as determined by recognized criteria, is possible (Appendix A).

These goals can best be achieved by selecting the lowest dose of drug with the highest therapeutic index for the procedure. It is beyond the scope of this document to specify which drugs are appropriate for which procedures; however, the selection of the fewest number of drugs and matching drug selection to the type and goal of the procedure are essential for safe practice.[33,88,91-93,95-97] For example, analgesic medications such as opioids are indicated for painful procedures. For nonpainful procedures, such as computed tomography or magnetic resonance imaging (MRI), sedatives/hypnotics are preferred. When both sedation and analgesia are desirable (eg, fracture reduction), either single agents with analgesic/sedative properties or combination regimens commonly are used. Anxiolysis and amnesia are additional goals that should be considered in selection of agents for particular patients. However, the potential for an adverse outcome may be increased when 3 or more sedating medications are administered.[44,98] Knowledge of each drug's time of onset, peak response, and duration of action is essential. Although the concept of titration of drug to effect is critical, one must know whether the previous dose has taken full effect before administering additional drug. Such management will improve safety and outcomes. Drugs with long durations of action (eg, chloral hydrate, intramuscular pentobarbital, phenothiazines) will require longer periods of observation even after the child achieves currently used recovery and discharge criteria.[45,99,100] This concept is particularly important for infants and toddlers transported in car safety seats who are at risk of resedation after discharge because of residual prolonged drug effects with the potential for airway obstruction.[45,46]

General Guidelines

Candidates

Patients who are in ASA classes I and II are frequently considered appropriate candidates for minimal, moderate, or deep sedation (Appendix B). Children in ASA classes III and IV, children with special needs, and those with anatomic airway abnormalities or extreme tonsillar hypertrophy present issues that require additional and individual consideration, particularly for moderate and deep sedation.[51] Practitioners are encouraged to consult with appropriate subspecialists and/or an anesthesiologist for patients at increased risk of experiencing adverse sedation events because of their underlying medical/surgical conditions.

Responsible Person

The pediatric patient shall be accompanied to and from the treatment facility by a parent, legal guardian, or other responsible person. It is preferable to have 2 or more adults accompany children who are still in car safety seats if transportation to and from a treatment facility is provided by 1 of the adults.[101]

Facilities

The practitioner who uses sedation must have immediately available facilities, personnel, and equipment to manage emergency and rescue situations. The most common serious complications of sedation involve compromise of the airway or depressed respirations resulting in airway obstruction, hypoventilation, hypoxemia, and apnea. Hypotension and cardiopulmonary arrest may occur, usually from inadequate recognition and treatment of respiratory compromise. Other rare complications may also include seizures and allergic reactions. Facilities providing pediatric sedation should monitor for, and be prepared to treat, such complications.

Back-up Emergency Services

A protocol for access to back-up emergency services shall be clearly identified, with an outline of the procedures necessary for immediate use. For nonhospital facilities, a protocol for ready access to ambulance service and immediate activation of the EMS system for life-threatening complications must be established and maintained. It should be understood that the availability of EMS services does not replace the practitioner's responsibility to provide initial rescue in managing life-threatening complications.

On-Site Monitoring and Rescue Equipment

An emergency cart or kit must be immediately accessible. This cart or kit must contain equipment to provide the necessary age- and size-appropriate drugs and equipment to resuscitate a nonbreathing and unconscious child. The contents of the kit must allow for the provision of continuous life support while the patient is being transported to a medical facility or to another area within a medical facility. All equipment and drugs must be checked and maintained on a scheduled basis (see Appendices C and D for suggested drugs and emergency life support equipment to consider before the need for rescue

occurs). Monitoring devices, such as electrocardiography (ECG) machines, pulse oximeters (with size-appropriate oximeter probes), end-tidal carbon dioxide monitors, and defibrillators (with size-appropriate defibrillator paddles), must have a safety and function check on a regular basis as required by local or state regulation.

Documentation Before Sedation

Documentation shall include, but not be limited to, the guidelines that follow:

1. Informed consent. The patient record shall document that appropriate informed consent was obtained according to local, state, and institutional requirements.[102]
2. Instructions and information provided to the responsible person. The practitioner shall provide verbal and/or written instructions to the responsible person. Information shall include objectives of the sedation and anticipated changes in behavior during and after sedation. Special instructions shall be given to the adult responsible for infants and toddlers who will be transported home in a car safety seat regarding the need to carefully observe the child's head position so as to avoid airway obstruction. Transportation by car safety seat poses a particular risk for infants who have received medications known to have a long half-life, such as chloral hydrate, intramuscular pentobarbital, or phenothiazine.[45,46,100,103] Consideration for a longer period of observation shall be given if the responsible person's ability to observe the child is limited (eg, only 1 adult who also has to drive). Another indication for prolonged observation would be a child with an anatomic airway problem or a severe underlying medical condition. A 24-hour telephone number for the practitioner or his or her associates shall be provided to all patients and their families. Instructions shall include limitations of activities and appropriate dietary precautions.

Dietary Precautions

Agents used for sedation have the potential to impair protective airway reflexes, particularly during deep sedation. Although a rare occurrence, pulmonary aspiration may occur if the child regurgitates and cannot protect his or her airway. Therefore, it is prudent that before sedation, the practitioner evaluate preceding food and fluid intake. It is likely that the risk of aspiration during procedural sedation differs from that during general anesthesia involving tracheal intubation or other airway manipulation.[104,105] However, because the absolute risk of aspiration during procedural sedation is not yet known, guidelines for fasting periods before elective sedation generally should follow those used for elective general anesthesia. For emergency procedures in children who have not fasted, the risks of sedation and the possibility of aspiration must be balanced against the benefits of performing the procedure promptly (see below). Further re-search is needed to better elucidate the relationships between various fasting intervals and sedation complications.

Before Elective Sedation

Children receiving sedation for elective procedures should generally follow the same fasting guidelines as before general anesthesia (Table 1). It is permissible for routine necessary medications to be taken with a sip of water on the day of the procedure.

For the Emergency Patient

The practitioner must always balance the possible risks of sedating nonfasted patients with the benefits and necessity for completing the procedure. In this circumstance, the use of sedation must be preceded by an evaluation of food and fluid intake. There are few published studies with adequate statistical power to provide guidance to the practitioner regarding safety or risk of pulmonary aspiration of gastric contents during procedural sedation.[104-107] When protective airway reflexes are lost, gastric contents may be regurgitated into the airway. Therefore, patients with a history of recent oral intake or with other known risk factors, such as trauma, decreased level of consciousness, extreme obesity, pregnancy, or bowel motility dysfunction, require careful evaluation before administration of sedatives. When proper fasting has not been ensured, the increased risks of sedation must be carefully weighed against its benefits, and the lightest effective sedation should be used. The use of agents with less risk of depressing protective airway reflexes may be preferred.[110] Some emergency patients requiring deep sedation may require protection of the airway before sedation.

Use of Immobilization Devices

Immobilization devices, such as papoose boards, must be applied in such a way as to avoid airway obstruction or chest restriction. The child's head position and respiratory excursions should be checked frequently to ensure airway patency. If an immobilization device is used, a hand or foot should be kept exposed, and the child should never be left unattended. If sedating medications are administered in conjunction with an immobilization device, monitoring must be used at a level consistent with the level of sedation achieved.

Documentation at the Time of Sedation

1. Health evaluation. Before sedation, a health evaluation shall be performed by an appropriately-licensed practitioner and reviewed by the sedation team at the time of treatment for possible interval changes. The purpose of this evaluation is not only to document baseline status but also to determine whether patients present specific risk factors that may warrant additional consultation before sedation. This evaluation will also screen out patients whose sedation will require more advanced airway or cardiovascular management skills or alterations in the doses or types of medications used for procedural sedation.

   A new concern for the practitioner is the widespread use of medications that may interfere with drug absorption or metabolism and, therefore, enhance or shorten the effect time of sedating medications. Herbal medicines (eg, St. John's

wort, echinacea) may alter drug pharmacokinetics through inhibition of the cytochrome P450 system, resulting in prolonged drug effect and altered (increased or decreased) blood drug concentrations.[111-116] Kava may increase the effects of sedatives by potentiating gamma-aminobutyric acid inhibitory neurotransmission, and valerian may itself produce sedation that apparently is mediated through modulation of gamma-aminobutyric acid neurotransmission and receptor function.[117,118] Drugs such as erythromycin, cimetidine, and others also may inhibit the cytochrome P450 system, resulting in prolonged sedation with midazolam as well as other medications competing for the same enzyme systems.[119-122] Medications used to treat human immunodeficiency virus infection, some anticonvulsants, and some psychotropic medications also may produce clinically important drug-drug interactions.[123-125] Therefore, a careful drug history is a vital part of the safe sedation of children. The clinician should consult various sources (a pharmacist, textbooks, online services, or handheld databases) for specific information on drug interactions.[126]

The health evaluation should include:

- Age and weight
- Health history, including: 1) allergies and previous allergic or adverse drug reactions; 2) medication/drug history, including dosage, time, route, and site of administration for prescription, over-the-counter, herbal, or illicit drugs; 3) relevant diseases, physical abnormalities, and neurologic impairment that might increase the potential for airway obstruction, such as a history of snoring or obstructive sleep apnea;[127,128] 4) pregnancy status; 5) a summary of previous relevant hospitalizations; 6) history of sedation or general anesthesia and any complications or unexpected responses; and 7) relevant family history, particularly related to anesthesia
- Review of systems with a special focus on abnormalities of cardiac, pulmonary, renal, or hepatic function that might alter the child's expected responses to sedating/analgesic medications
- Vital signs, including heart rate, blood pressure, respiratory rate, and temperature (for some children who are very upset or noncooperative, this may not be possible and a note should be written to document this occurrence)
- Physical examination, including a focused evaluation of the airway (tonsillar hypertrophy, abnormal anatomy—eg, mandibular hypoplasia) to determine whether there is an increased risk of airway obstruction[54,129,130]
- Physical status evaluation (ASA classification [see Appendix B])
- Name, address, and telephone number of the child's medical home

For hospitalized patients, the current hospital record may suffice for adequate documentation of presedation health; however, a brief note shall be written documenting that the chart was reviewed, positive findings were noted, and a management plan was formulated. If the clinical or emergency condition of the patient precludes acquiring complete information before sedation, this health evaluation should be obtained as soon as feasible.

2. Prescriptions. When prescriptions are used for sedation, a copy of the prescription or a note describing the content of the prescription should be in the patient's chart along with a description of the instructions that were given to the responsible person. **Prescription medications intended to accomplish procedural sedation must not be administered without the benefit of direct supervision by trained medical personnel.** Administration of sedating medications at home poses an unacceptable risk, particularly for infants and preschool-aged children traveling in car safety seats.[46]

Documentation During Treatment

The patient's chart shall contain a time-based record that includes the name, route, site, time, dosage, and patient effect of administered drugs. Before sedation, a "time out" should be performed to confirm the patient's name, procedure to be performed, and site of the procedure.[43] During administration, the inspired concentrations of oxygen and inhalation sedation agents and the duration of their administration shall be documented. Before drug administrations, special attention must be paid to calculation of dosage (ie, mg/kg). The patient's chart shall contain documentation at the time of treatment that the patient's level of consciousness and responsiveness, heart rate, blood pressure, respiratory rate, and oxygen saturation were monitored until the patient attained predetermined discharge criteria (see Appendix A). A variety of sedation scoring systems are available and may aid this process.[70,100] Adverse events and their treatment shall be documented.

Documentation After Treatment

The time and condition of the child at discharge from the treatment area or facility shall be documented; this should include documentation that the child's level of consciousness and oxygen saturation in room air have returned to a state that is safe for discharge by recognized criteria (see Appendix A). Patients receiving supplemental oxygen before the procedure should have a similar oxygen need after the procedure. Because some sedation medications are known to have a long half-life and may delay a patient's complete return to baseline or pose the risk of resedation,[45,103,131,132] some patients might benefit from a longer period of less-intense observation (eg, a step-down observation area) before discharge from medical supervision.[133] Several scales to evaluate recovery have been devised and validated.[70,134,135] A recently described and simple evaluation tool may be the ability of the infant or child to remain awake for at least 20 minutes when placed in a quiet environment.[100]

Continuous Quality Improvement

The essence of medical error reduction is a careful examination of index events and root cause analysis of how the event could be avoided in the future.[137-141] Therefore, each facility should maintain records that track adverse events, such as desaturation, apnea, laryngospasm, the need for airway interventions including jaw thrust, positive pressure ventilation, prolonged sedation, unanticipated use of reversal agents, unintended or prolonged hospital admission, and unsatisfactory sedation/analgesia/anxiolysis. Such events can then be examined for assessment of risk reduction and improvement in patient satisfaction.

Preparation and Setting up for Sedation Procedures

Part of the safety net of sedation is to use a systematic approach so as to not overlook having an important drug, piece of equipment, or monitor immediately available at the time of a developing emergency. To avoid this problem, it is helpful to use an acronym that allows the same setup and checklist for every procedure. A commonly used acronym useful in planning and preparation for a procedure is SOAPME:

S = Size-appropriate **suction** catheters and a functioning **suction** apparatus (eg, Yankauer-type suction)
O = An adequate **oxygen** supply and functioning flow meters/other devices to allow its delivery
A = **Airway:** size-appropriate airway equipment (nasopharyngeal and oropharyngeal airways, laryngoscope blades [checked and functioning], endotracheal tubes, stylets, face mask, bag-valve-mask or equivalent device [functioning])
P = **Pharmacy:** all the basic drugs needed to support life during an emergency, including antagonists as indicated
M = **Monitors:** functioning pulse oximeter with size-appropriate oximeter probes[141,142] and other monitors as appropriate for the procedure (eg, noninvasive blood pressure, end-tidal carbon dioxide, ECG, stethoscope)
E = Special **equipment or drugs** for a particular case (eg, defibrillator)

Specific Guidelines for Intended Level of Sedation

Minimal Sedation

Minimal sedation (old terminology "anxiolysis") is a drug-induced state during which patients respond normally to verbal commands. Although cognitive function and coordination may be impaired, ventilatory and cardiovascular functions are unaffected. Children who have received minimal sedation generally will not require more than observation and intermittent assessment of their level of sedation. Some children will become moderately sedated despite the intended level of minimal sedation; should this occur, then the guidelines for moderate sedation apply.[57]

Moderate Sedation

"Moderate sedation" (old terminology "conscious sedation" or "sedation/analgesia") is a drug-induced depression of consciousness during which patients respond purposefully to verbal commands or following light tactile stimulation (see Definition of Terms for This Report). No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function usually is maintained. The caveat that loss of consciousness should be unlikely is a particularly important aspect of the definition of moderate sedation. The drugs and techniques used should carry a margin of safety wide enough to render unintended loss of consciousness highly unlikely. Because the patient who receives moderate sedation may progress into a state of deep sedation and obtundation, the practitioner should be prepared to increase the level of vigilance corresponding to what is necessary for deep sedation.[57]

Personnel

The Practitioner

The practitioner responsible for the treatment of the patient and/or the administration of drugs for sedation must be competent to use such techniques, to provide the level of monitoring provided in this guideline, and to manage complications of these techniques (ie, to be able to rescue the patient). Because the level of intended sedation may be exceeded, the practitioner must be sufficiently skilled to provide rescue should the child progress to a level of deep sedation. The practitioner must be trained in, and capable of providing, at the minimum, bag-valve-mask ventilation so as to be able to oxygenate a child who develops airway obstruction or apnea. Training in, and maintenance of, advanced pediatric airway skills is required; regular skills reinforcement is strongly encouraged.

Support Personnel

The use of moderate sedation shall include provision of a person, in addition to the practitioner, whose responsibility is to monitor appropriate physiologic parameters and to assist in any supportive or resuscitation measures, if required. This individual may also be responsible for assisting with interruptible patient-related tasks of short duration.[44] This individual must be trained in and capable of providing pediatric basic life support. The support person shall have specific assignments in the event of an emergency and current knowledge of the emergency cart inventory. The practitioner and all ancillary personnel should participate in periodic reviews and practice drills of the facility's emergency protocol to ensure proper function of the equipment and coordination of staff roles in such emergencies.

Monitoring and Documentation

Baseline

Before administration of sedative medications, a baseline determination of vital signs shall be documented. For some children who are very upset or noncooperative, this may not be possible and a note should be written to document this happenstance.

During the Procedure

The practitioner shall document the name, route, site, time of administration, and dosage of all drugs administered. There shall be continuous monitoring of oxygen saturation and heart

rate and intermittent recording of respiratory rate and blood pressure; these should be recorded in a time-based record. Restraining devices should be checked to prevent airway obstruction or chest restriction. If a restraint device is used, a hand or foot should be kept exposed. The child's head position should be checked frequently to ensure airway patency. A functioning suction apparatus must be present.

After the procedure

The child who has received moderate sedation must be observed in a suitably equipped recovery facility [eg, the facility must have functioning suction apparatus as well as the capacity to deliver more than 90% oxygen and positive-pressure ventilation (eg, bag and mask with oxygen capacity as described previously)]. The patient's vital signs should be recorded at specific intervals. If the patient is not fully alert, oxygen saturation and heart rate monitoring shall be used continuously until appropriate discharge criteria are met (see Appendix A). Because sedation medications with a long half-life may delay the patient's complete return to baseline or pose the risk of resedation, some patients might benefit from a longer period of less-intense observation (eg, a step-down observation area where multiple patients can be observed simultaneously) before discharge from medical supervision (see also Documentation Before Sedation for instructions to families).[45,103,131,132] A recently described and simple evaluation tool may be the ability of the infant or child to remain awake for at least 20 minutes when placed in a quiet environment.[100] Patients who have received reversal agents, such as flumazenil or naloxone, will also require a longer period of observation, because the duration of the drugs administered may exceed the duration of the antagonist, which can lead to resedation.

Deep Sedation

Deep sedation is a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully after repeated verbal or painful stimulation (see Definition of Terms for this report). The state and risks of deep sedation may be indistinguishable from those of general anesthesia.

Personnel

There must be 1 person available whose only responsibility is to constantly observe the patient's vital signs, airway patency, and adequacy of ventilation and to either administer drugs or direct their administration. At least 1 individual must be present who is trained in, and capable of, providing advanced pediatric life support, and who is skilled in airway management and cardiopulmonary resuscitation; training in pediatric advanced life support is required.

Equipment

In addition to the equipment previously cited for moderate sedation, an electrocardiographic monitor and a defibrillator for use in pediatric patients should be readily available.

Vascular Access

Patients receiving deep sedation should have an intravenous line placed at the start of the procedure or have a person skilled in establishing vascular access in pediatric patients immediately available.

Monitoring and Documentation

A competent individual shall observe the patient continuously. The monitoring shall include all parameters described for moderate sedation. Vital signs, including oxygen saturation and heart rate, must be documented at least every 5 minutes in a time-based record. The use of a precordial stethoscope or capnograph for patients difficult to observe (eg, during MRI, in a darkened room) to aid in monitoring adequacy of ventilation is encouraged.[143] The practitioner shall document the name, route, site, time of administration, and dosage of all drugs administered. The inspired concentrations of inhalation sedation agents and oxy-gen and the duration of administration shall be documented.

Postsedation Care

The facility and procedures followed for postsedation care shall conform to those described under "Moderate Sedation."

Special Considerations

Local Anesthetic Agents

All local anesthetic agents are cardiac depressants and may cause central nervous system excitation or depression. Particular attention should be paid to dosage in small children.[64,66] To ensure that the patient will not receive an excessive dose, the maximum allowable safe dosage (ie, mg/kg) should be calculated before administration. There may be enhanced sedative effects when the highest recommended doses of local anesthetic drugs are used in combination with other sedatives or narcotics (see Tables 2 and 3 for limits and conversion tables of commonly used local anesthetics).[64,144-157] In general, when administering local anesthetic drugs, the practitioner should aspirate frequently so as to minimize the likelihood that the needle is in a blood vessel; lower doses should be used when injecting into vascular tissues.[158]

Pulse Oximetry

The new generation of pulse oximeters is less susceptible to motion artifacts and may be more useful than older oximeters that do not contain the updated software.[159-163] Oximeters that change tone with changes in hemoglobin saturation provide immediate aural warning to everyone within hearing distance. It is essential that any oximeter probe is positioned properly; clip-on devices are prone to easy displacement, which may produce artifactual data (eg, under- or overestimation of oxygen saturation).[141,142]

Capnography

Expired carbon dioxide monitoring is valuable to diagnose the simple presence or absence of respirations, airway obstruction, or respiratory depression, particularly in patients sedated in

less-accessible locations, such as magnetic resonance imaging or computerized axial tomography devices or darkened rooms.[47,49,50,143,164-173] The use of expired carbon dioxide monitoring devices is encouraged for sedated children, particularly in situations where other means of assessing the adequacy of ventilation are limited. Several manufacturers have produced nasal cannulae that allow simultaneous delivery of oxygen and measurement of expired carbon dioxide values.[164,165] Although these devices can have a high degree of false-positive alarms, they are also very accurate for the detection of complete airway obstruction or apnea.[166,168,173]

Adjuncts to Airway Management and Resuscitation

The vast majority of sedation complications can be managed with simple maneuvers, such as supplemental oxygen, opening the airway, suctioning, and bag-mask-valve ventilation. Occasionally, endotracheal intubation is required for more prolonged ventilatory support. In addition to standard endotracheal intubation techniques, a number of new devices are available for the management of patients with abnormal airway anatomy or airway obstruction. Examples include the laryngeal mask airway (LMA), the cuffed oropharyngeal airway, and a variety of kits to perform an emergency cricothyrotomy.

The largest clinical experience in pediatrics is with the LMA, which is available in a variety of sizes and can even be used in neonates. Use of the LMA is now being introduced into advanced airway training courses, and familiarity with insertion techniques can be life saving.[174,175] The LMA also can serve as a bridge to secure airway management in children with anatomic airway abnormalities.[176,177] Practitioners are encouraged to gain experience with these techniques as they become incorporated into pediatric advanced life support courses.

An additional emergency device with which to become familiar is the intraosseous needle. Intraosseous needles also are available in several sizes and can be life saving in the rare situation when rapid establishment of intravenous access is not possible. Familiarity with the use of these adjuncts for the management of emergencies can be obtained by keeping current with resuscitation courses, such as Pediatric Advanced Life Support and Advanced Pediatric Life Support or other approved programs.

Patient Simulators

Advances in technology, particularly patient simulators that allow a variety of programmed adverse events (eg, apnea, bronchospasm, laryngospasm), response to medical interventions, and printouts of physiologic parameters, are now available. The use of such devices is encouraged to better train medical professionals to respond more appropriately and effectively to rare events.[178-180]

Monitoring During MRI

The powerful magnetic field and the generation of radiofrequency emissions necessitate the use of special equipment to provide continuous patient monitoring throughout the MRI scanning procedure. Pulse oximeters capable of continuous function during scanning should be used in any sedated or restrained pediatric patient. Thermal injuries can result if appropriate precautions are not taken; avoid coiling the oximeter wire and place the probe as far from the magnetic coil as possible to diminish the possibility of injury. Electrocardiogram monitoring during magnetic resonance imaging has been associated with thermal injury; special MRI-compatible ECG pads are essential to allow safe monitoring.[181-184] Expired carbon dioxide monitoring is strongly encouraged in this setting.

Nitrous Oxide

Inhalation sedation/analgesia equipment that delivers nitrous oxide must have the capacity of delivering 100% and never less than 25% oxygen concentration at a flow rate appropriate to the size of the patient. Equipment that delivers variable ratios of nitrous oxide to oxygen and that has a delivery system that covers the mouth and nose must be used in conjunction with a calibrated and functional oxygen analyzer. All nitrous oxide-to-oxygen inhalation devices should be calibrated in accordance with appropriate state and local requirements. Consideration should be given to the National Institute of Occupational Safety and Health standards for the scavenging of waste gases.[185] Newly constructed or reconstructed treatment facilities, especially those with piped-in nitrous oxide and oxygen, must have appropriate state or local inspections to certify proper function of inhalation sedation/analgesia systems before any delivery of patient care.

Nitrous oxide in oxygen with varying concentrations has been successfully used for many years to provide analgesia for a variety of painful procedures in children.[15,186-210] The use of nitrous oxide for minimal sedation is defined as the administration of nitrous oxide (50% or less) with the balance as oxygen, without any other sedative, narcotic, or other depressant drug before or concurrent with the nitrous oxide to an otherwise healthy patient in ASA class I or II. The patient is able to maintain verbal communication throughout the procedure. It should be noted that although local anesthetics have sedative properties, for purposes of this guideline, they are not considered sedatives in this circumstance. If nitrous oxide in oxygen is combined with other sedating medications, such as chloral hydrate, midazolam, or an opioid, or if nitrous oxide is used in concentrations greater than 50%, the likelihood for moderate or deep sedation increases.[211,212] In this situation, the clinician must be prepared to institute the guidelines for moderate or deep sedation as indicated by the patient's response.[213]

Table 1. APPROPRIATE INTAKE OF FOOD AND LIQUIDS BEFORE ELECTIVE SEDATION*

Ingested Material	Minimum Fasting Period (h)
Clear liquids: water, fruit juices without pulp, carbonated beverages, clear tea, black coffee	2
Breast milk	4
Infant formula	6
Nonhuman milk: because nonhuman milk is similar to solids in gastric emptying time, the amount ingested must be considered when determining an appropriate fasting period	6
Light meal: a light meal typically consists of toast and clear liquids. Meals that include fried or fatty foods or meat may prolong gastric emptying time. Both the amount and type of foods ingested must be considered when determining an appropriate fasting period.	6

* American Society of Anesthesiologists. Practice Guidelines for Preoperative Fasting and the Use of Pharmacologic Agents to Reduce the Risk of Pulmonary Aspiration: Application to Healthy Patients Undergoing Elective Procedures. A Report of the American Society of Anesthesiologists. Available at: "http://www.asahq.org/publicationsAndServices/npoguide.html".

Table 2. COMMONLY USED LOCAL ANESTHETIC AGENTS: DOSES, DURATION, AND CALCULATIONS*

	Maximum Dose with Epinephrine (mg/kg)†		Duration of Action (min) ‡
Local Anesthetic	Medical	Dental	
Esters			
Procaine	10.0	6	60-90
Chloroprocaine	20.0	12	30-60
Tetracaine	1.5	1	180-600
Amides			
Lidocaine	7.0	4.4	90-200
Mepivacaine	7.0	4.4	120-240
Bupivacaine	3.0	1.3	180-600
Levobupivacaine	3.0	2	180-600
Ropivacaine	3.0	2	180-600
Articaine		7	60-230

* Maximum recommended doses and duration of action. Note that lower doses should be used in very vascular areas.

† These are maximum doses of local anesthetics combined with epinephrine; lower doses are recommended when used without epinephrine. Doses of amides should be decreased by 50% in infants younger than 6 months. When lidocaine is being administered intravascularly (eg, during intravenous regional anesthesia), the dose should be decreased to 3 to 5 mg/kg; long-acting local anesthetic agents should not be used for intravenous regional anesthesia.

‡ Duration of action is dependent on concentration, total dose, and site of administration; use of epinephrine; and the patient's age.

Table 3. LOCAL ANESTHETIC PERCENT CONCENTRATION: CONVERSION TO mg/mL

Concentration (%)	mg/mL
3.0	30.0
2.5	25.0
2.0	20.0
1.0	10.0
0.5	5.0
0.25	2.5
0.125	1.25

Appendix A. Recommended Discharge Criteria

1. Cardiovascular function and airway patency are satisfactory and stable.
2. The patient is easily arousable, and protective reflexes are intact.
3. The patient can talk (if age appropriate).
4. The patient can sit up unaided (if age appropriate).
5. For a very young or handicapped child incapable of the usually expected responses, the presedation level of responsiveness or a level as close as possible to the normal level for that child should be achieved.
6. The state of hydration is adequate.

Appendix B. ASA Physical Status Classification

Class I	A normally healthy patient.
Class II	A patient with mild systemic disease (eg, controlled reactive airway disease).
Class III	A patient with severe systemic disease (eg, a child who is actively wheezing).
Class IV	A patient with severe systemic disease that is a constant threat to life (eg, a child with status asthmaticus).
Class V	A moribund patient who is not expected to survive without the operation (eg, a patient with severe cardiomyopathy requiring heart transplantation).

Appendix C. Drugs* That May Be Needed to Rescue a Sedated Patient[44]

Albuterol for inhalation
Ammonia spirits
Atropine
Diphenhydramine
Diazepam
Epinephrine (1:1000, 1:10 000)
Flumazenil
Glucose (25% or 50%)
Lidocaine (cardiac lidocaine, local infiltration)
Lorazepam
Methylprednisolone
Naloxone
Oxygen
Fosphenytoin
Racemic epinephrine
Rocuronium
Sodium bicarbonate
Succinylcholine

* The choice of emergency drugs may vary according to individual or procedural needs.

Appendix D. Emergency Equipment† That May Be Needed to Rescue a Sedated Patient‡

Intravenous Equipment

- Assorted IV catheters (eg, 24-, 22-, 20-, 18-, 16-gauge)
- Tourniquets
- Alcohol wipes
- Adhesive tape
- Assorted syringes (eg, 1-, 3-, 5-, 10-mL)
- IV tubing
  - Pediatric drip (60 drops/mL)
  - Pediatric burette
  - Adult drip (10 drops/mL)
  - Extension tubing
  - 3-way stopcocks
- IV fluid
  - Lactated Ringer solution
  - Normal saline solution
  - D_5 0.25 normal saline solution
- Pediatric IV boards
- Assorted IV needles (eg, 25-, 22-, 20-, and 18-gauge)
- Intraosseous bone marrow needle
- Sterile gauze pads

Airway Management Equipment

- Face masks (infant, child, small adult, medium adult, large adult)
- Breathing bag and valve set
- Oropharyngeal airways (infant, child, small adult, medium adult, large adult)
- Nasopharyngeal airways (small, medium, large)
- Laryngeal mask airways (1, 1.5, 2, 2.5, 3, 4, and 5)
- Laryngoscope handles (with extra batteries)
- Laryngoscope blades (with extra light bulbs)
  - Straight (Miller) No. 1, 2, and 3
  - Curved (Macintosh) No. 2 and 3
- Endotracheal tubes (2.5, 3.0, 3.5, 4.0, 4.5, 5.0, 5.5, and 6.0 uncuffed and 6.0, 7.0, and 8.0 cuffed)
- Stylettes (appropriate sizes for endotracheal tubes)
- Surgical lubricant
- Suction catheters (appropriate sizes for endotracheal tubes)
- Yankauer-type suction
- Nasogastric tubes
- Nebulizer with medication kits
- Gloves (sterile and nonsterile, latex free)

† The choice of emergency equipment may vary according to individual or procedural needs.

‡ The practitioner is referred to the SOAPME acronym described in the text in preparation for sedating a child for a procedure.

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Knowing your patients

Stanley F. Malamed, DDS
Guest Editor

The prevention and treatment of dental disease, maintenance of masticatory function and improvement of cosmetic appearance are among the prominent goals of contemporary dentistry. Accomplishing these goals without difficulty or surprise is considered the norm. The occasional patient whose mouth is difficult to numb or who exhibits a behavioral management problem remains in the memory of many dentists. Standing out also are those rare, but inevitable, medical emergencies that may occur during the dental visit.

Medical emergencies can, and do, happen in the practice of dentistry. In a survey of 2,704 dentists throughout North America, [1] reported a total of 13,836 emergencies occurring within a 10-year period (Table 1). None of these emergencies were truly dental emergencies. They were potentially life-threatening medical problems that patients developed while they were in a dental office.

This supplement to The Journal of the American Dental Association is designed to aid the dentist and staff members in preventing, preparing for, recognizing and effectively managing such emergencies.

The other articles in this supplement explore important topics that aid the dentist in equipping the office and in preparing office staff members to quickly and efficiently manage medical emergencies. Dr. Daniel Haas[2] stresses the importance of preparing dental office staff members by developing a basic action plan. Another element of preparation—emergency drugs and equipment—is addressed by Dr. Morton Rosenberg.[3] Dr. Kenneth Reed[4] focuses on the basic management of medical emergencies and recognizing a patient's distress.

More gratifying than treating emergencies, however, is preventing them. Three-quarters of all of the medical emergencies reported in my survey potentially developed as sequelae of pain (for example, inadequate local anesthesia), the dentist's failure to recognize and treat a patient's fear of dental care, or both (Table 1[1]). Some medical emergencies that develop during dental care are unrelated to these two factors, such as allergy, postural hypotension and local anesthetic overdose (toxicity).

Preventing medical emergencies permits the dentist to carry out the planned dental treatment in an optimal environment. Therefore, dentists must obtain as much information as possible about their patients' medical status before starting any dental treatment.

COMPONENTS OF PHYSICAL EVALUATION

Four steps constitute the basic physical evaluation of potential dental patients.

Medical history questionnaire. Completion of the medical history questionnaire before the start of any dental treatment is usual practice. The questionnaire may be completed by the patient, his or her guardian or, in the case of a minor, his or her parent. In recent years, computerized medical history forms have become available and have simplified the history-taking process.[5]

Dialogue history. The dentist reviews the completed form with the patient and asks additional questions about any medical problems that the patient has reported. Through this dialogue, the dentist seeks to determine the significance of any reported medical disorder to the proposed dental treatment plan. For example, if a patient has had a myocardial infarction (MI), the dialogue history will include the following questions:

- When (month, year) did the MI occur?[6,7]
- What degree of damage occurred to the myocardium? Is the patient chronically short of breath? Does he or she tire easily? Does he or she experience chest pain?
- What medications is the patient taking?

Physical examination. A physical examination, including visual inspection of the patient and monitoring of his or her baseline vital signs, is the next step in the evaluation process. Vital signs provide valuable real-time information about the status of the patient's cardiovascular system. When possible, dentists should record baseline vital signs for all new patients as a routine part of their pretreatment evaluation.

Assessment of risk. After completion of the medical history questionnaire, dialogue history and physical examination, the dentist assigns the patient to a physical status category. For more than 40 years, hospitals worldwide have used the American Society of Anesthesiologists physical status (ASA PS) classification system[8,9] to predict perioperative adverse outcomes in patients receiving general anesthesia (Table 2,[8,10] page 5S).

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TABLE 1

Medical emergencies reported by 2,704 dentists.*

EMERGENCY SITUATION	NO. (%) OF EMERGENCIES REPORTED†
Syncope‡	4,161 (30.1)
Mild Allergic Reaction	2,583 (18.7)
Postural Hypotension	2,475 (17.9)
Hyperventilation‡	1,326 (9.6)
Insulin Shock (Hypoglycemia)	709 (5.1)
Angina Pectoris‡	644 (4.6)
Seizures‡	644 (4.6)
Asthmatic Attack (Bronchospasm)‡	385 (2.8)
Local Anesthetic Overdose	204 (1.5)
Myocardial Infarction	187 (1.4)
Anaphylactic Reaction	169 (1.2)
Cardiac Arrest	148 (1.1)

* Source: Malamed.[1]
† A few emergencies with low numbers were omitted from the table.
‡ Emergencies that potentially are stress related.

Khuri and colleagues[11] used this system in a study of patients' risks and outcomes. The system consists of six classifications—PS 1 to PS 6—that indicate the potential risk of an adverse medical event's developing while a patient is under general anesthesia. McCarthy and Malamed[10] adapted the ASA PS system for use in dentistry. The dentist assigns the ASA PS classification after considering all available medical history information, as described earlier.

PS 1. A patient in the PS 1 category is defined as normal and healthy.[9] After reviewing the available information, the dentist determines that the patient's heart, lungs, liver, kidneys and central nervous system are healthy and his or her blood pressure is below 140/90 millimeters of mercury. The patient is not unduly phobic and is younger than 60 years. A patient in the PS 1 category is an excellent candidate for elective surgical or dental care, with minimal risk of experiencing an adverse medical event during treatment.

PS 2. Patients in the PS 2 category have a mild systemic disease[9] or are healthy patients (PS 1) who demonstrate extreme anxiety and fear toward dentistry or are older than 60 years. Patients classified as PS 2 generally are somewhat less able to tolerate stress than are patients classified as PS 1; however, they still are at minimal risk during dental treatment. Elective dental care is warranted in a patient classified as PS 2, with minimal increased risk during treatment. However, the dentist should consider possible treatment modifications (see Stress Reduction Protocols below).

PS 3. A patient in the PS 3 category has severe systemic disease that limits activity but is not incapacitating.[9] At rest, a patient in the PS 3 category does not exhibit signs and symptoms of distress (such as undue fatigue, shortness of breath, chest pain); however, when stressed, either physiologically or psychologically, the patient does exhibit such signs and symptoms. An example is a patient with angina who is pain free while in the waiting room but develops chest pain when seated in the dental chair. Like PS 2, the PS 3 classification indicates that the dentist should proceed with caution. Elective dental care is not contraindicated, though the patient is at an increased risk during treatment. The dentist should give serious consideration to implementing treatment modifications.

PS 4. A patient in the PS 4 category has an incapacitating systemic disease that is a constant threat to life.[9] Patients with this classification have a medical problem or problems of greater significance than the planned dental treatment. The dentist should postpone elective dental care until the patient's physical condition has improved to at least a PS 3 classification. A patient in the PS 4 category exhibits clinical signs and symptoms of disease at rest. The risk in treating this patient is too great to permit elective care. In dental emergencies, such as cases of infection or pain, clinicians should treat patients conservatively in the dental office until their conditions improve. When possible, emergency treatment should be noninvasive, consisting of drugs such as analgesics for pain and antibiotics for infection. When the dentist believes that immediate intervention is required (for example, incision and drainage, extraction, pulpal extirpation), I suggest that the patient receive care in an acute care facility (that is, a hospital) whenever possible.

PS 5. A PS 5 classification indicates a moribund patient not expected to survive 24 hours without surgery.[9] Patients in this category almost always are hospitalized and terminally ill. In many institutions, these patients are not to be resuscitated if they experience respiratory or cardiac arrest. Elective dental treatment is contraindicated; however, emergency care, in the realm of palliative treatment (that is, relief of pain, infection or both) may be necessary. (PS 6 refers to a patient declared brain-dead and whose organs are being removed for donor purposes.[9])

The ASA PS classification system is not meant to be inflexible; rather, it is meant to function as a relative value system based on a dentist's clinical judgment and assessment of the available relevant clinical data.[10] When the dentist is unable to determine the clinical significance of one or more diseases, I recommend he or she consult with the patient's physician or other medical or dental colleagues. In all cases, however, the treating dentist makes the final decision regarding whether to treat or postpone treatment. The ultimate responsibility for the health and safety of a patient lies solely with the dentist who decides to treat or not treat the patient.

ABBREVIATION KEY. ASA PS: American Society of Anesthesiologists physical status. **BP:** Blood pressure. **CHF:** Congestive heart failure. **COPD:** chronic obstructive pulmonary disease. **CVA:** Cerebrovascular accident. **MI:** Myocardial infarction.

TABLE 2

American Society of Anesthesiologists physical status (ASA PS) classification system.*†

ASA PS*	DEFINITION*	EXAMPLE	TREATMENT RECOMMENDATIONS
1	Normal healthy patient	—	No special precautions
2	Patient with mild systemic disease	Pregnancy, well-controlled type 2 diabetes, epilepsy, asthma, thyroid dysfunction, BP‡ 140-159/90-94 mm Hg§	Elective care OK; consider treatment modification
3	Patient with severe systemic disease that limits activity but is not incapacitating	Stable angina pectoris, postmyocardial infarction > six months, post-CVA¶ > six months, exercise-induced asthma, type 1 diabetes (controlled), epilepsy (less well controlled), symptomatic thyroid dysfunction, BP 160-199/ 95-114 mm Hg	Elective care OK; serious consideration of treatment modification
4	Patient with an incapacitating systemic disease that is a constant threat to life	Unstable angina pectoris, postmyocardial infarction < six months, uncontrolled seizures, BP > 200/> 115 mm Hg	Elective care contraindicated; emergency care: noninvasive (for example, drugs) or in a controlled environment
5	Moribund patient not expected to survive 24 hours without surgery	End-stage cancer, end-stage infectious disease, end-stage cardiovascular disease, end-stage hepatic dysfunction	Palliative care

* The ASA physical status classification system is adapted with permission of the American Society of Anesthesiologists, 520 N. Northwest Highway, Park Ridge, Ill. 60068-2573.[9]
† Sources: American Society of Anesthesiologists[9]; McCarthy and Malamed.[10]
‡ BP: Blood pressure.
§ mm Hg: Millimeters of mercury
¶ CVA: Cerebrovascular accident.

STRESS REDUCTION PROTOCOLS

Dentists in private practice assign most patients (85 percent) to PS 1 or PS 2 status, about 14 percent to PS 3 and the remainder to PS 4.[12] All dental and surgical procedures potentially are stress inducing.[13] Such stress may be of a physiological (pain, strenuous exercise) or psychological (anxiety, fear) nature. One response of the body to stress is to increase the release of catecholamines (epinephrine and norepinephrine) from the adrenal medulla into the cardiovascular system. This results in an increased workload for the heart (that is, increased heart rate and strength of myocardial contraction and an increased myocardial oxygen requirement). Although patients classified as PS 1 may be quite able to tolerate such changes in cardiovascular activity, patients classified as PS 2, 3 or 4 are increasingly less able to tolerate these changes safely.

A patient with stable angina (PS 3) may respond with an episode of chest discomfort, and various dysrhythmias may develop. Pulmonary edema may develop in patients with heart failure. In addition, patients with noncardiovascular disorders may respond adversely when faced with increasing levels of stress. A patient with asthma may develop an acute episode of respiratory distress, and a patient with epilepsy may experience a seizure. Unusual degrees of stress in patients in the PS 1 category may be responsible for psychogenically induced emergency situations, such as hyperventilation or vasodepressor syncope.

Stress reduction protocols are procedures that minimize stress during treatment, thereby decreasing the risk to the patient.[10,12] These protocols are predicated on the belief that the prevention or reduction of stress should begin before treatment, continue throughout treatment and, if indicated, continue into the postoperative period.

Medical consultation. When the dentist is uncertain about the degree of risk to the patient, he or she may consider consulting a physician. Medical consultation is neither required nor recommended for all medically compromised patients. In all cases, clinicians must keep in mind that consultation is a request for information concerning a

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specific patient or disease process. The dentist is seeking information to aid in determining the degree of risk and which modifications in therapy might be beneficial.

Premedication. Many apprehensive patients report that their fear of dentistry or surgery is so great that they are unable to sleep well the night before their appointment. Fatigued the next day, they are less able to tolerate any stress placed on them during treatment. In a patient who is medically compromised, the risk of an acute exacerbation of his or her medical problem is increased. In a patient in the PS 1 category, such stress might provoke a psychogenically induced response.

When heightened anxiety exists, the dentist should determine whether it interferes with the patient's sleep. Restful sleep the night before an appointment is desired. One means of achieving this goal is to administer an oral sedative. The dentist may prescribe a sedative-hypnotic drug, such as diazepam, triazolam, flurazepam, zaleplon or zolpidem, for administration one hour before the patient goes to bed. As the appointment approaches, the patient's anxiety level heightens. The dentist can administer a sedative-hypnotic drug about one hour before the scheduled start of treatment to permit the attainment of a therapeutic blood level of the agent. Whenever possible, oral sedatives should be administered in the dental office.

Appointment scheduling. Apprehensive or medically compromised patients are better able to tolerate stress when rested. Consequently, for most of these patients, including children, the ideal time to schedule dental treatment is early in the day.

Minimize waiting time. Once in the dental office, an apprehensive patient should not have to wait in the reception area or dental chair for extended periods before treatment begins. Anticipation of a procedure can induce more fear than the actual procedure.[13]

Preoperative and postoperative vital signs. Before treating a medically compromised patient, the dentist or a staff member should monitor and record the patient's vital signs (blood pressure, heart rate and rhythm, and respiratory rate). Comparing these preoperative vital signs with the patient's baseline values recorded at an earlier visit serves as an indicator of the patient's physical and emotional status that day. Although especially relevant to patients with cardiovascular disease, preoperative and postoperative vital signs should be recorded for all medically compromised patients (that is, all patients classified as PS 3 or PS 4 and appropriate patients classified as PS 2).

Sedation during treatment. Should additional stress reduction procedures be required, the dentist may consider using any available sedation technique or general anesthesia. Nondrug techniques include iatrosedation (including music and video) and hypnosis; the more commonly used pharmacosedative procedures include oral, inhalational, intramuscular, intranasal and intravenous (minimum or moderate) sedation.[14,15] The primary goal of iatrosedative and pharmacosedative techniques is to decrease or eliminate stress. Used properly, these techniques achieve the goal without adding risk to the patient.

Pain control. For stress reduction to be successful, the patient's pain must be controlled. Successful pain management is of greater importance in medically compromised patients than it is in patients in the PS 1 category. The potential adverse actions of endogenously released catecholamines on cardiovascular function in a patient with significant cardiovascular disease (PS 3 and PS 4 classifications) warrant inclusion of vasoconstrictors in the local anesthetic solution.[16] In the absence of adequate pain control, stress reduction cannot be achieved, making it almost impossible for the dentist to sedate the patient.

Treatment duration. The duration of treatment is significant for medically compromised and anxious patients. In the absence of factors dictating a need for shorter appointments (that is, PS 3 and PS 4 classifications), the dentist determines the appointment length after considering the patient's desires. In many instances, a healthy but fearful patient may wish to have as few dental appointments as possible, regardless of their length. However, satisfying a patient's (or parents' or guardians') desire for longer appointments is inadvisable if the dentist believes there are appropriate reasons for shorter appointments.

A medically compromised patient should not undergo unduly long appointments. To subject a patient at higher risk to extended treatment may increase his or her risk unnecessarily. Dental appointments for patients in PS 3 and PS 4 categories should not exceed the patient's tolerance limit. Fatigue, restlessness, sweating and evident discomfort are signs that the patient has reached this limit. The dentist also can ask the patient if he or she would like to stop. The most prudent means of managing the care of the patient is to terminate the procedure as expeditiously as possible and reschedule.

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POSTOPERATIVE CONTROL OF PAIN

Postoperative management of pain and anxiety is equally as important as preoperative and perioperative management. This is especially relevant for a patient who has undergone a potentially traumatic procedure (that is, endodontics, periodontal or oral surgery, extensive oral reconstruction or restorative procedures). The dentist must consider carefully complications that might arise during the 24 hours after treatment, discuss these with the patient and take steps to assist him or her in managing them. These steps may include any or all of the following:

- availability of the dentist via telephone around the clock;
- pain control: a prescription for analgesic drugs, as needed;
- antibiotics: a prescription for antibiotics if the possibility of infection exists;
- antianxiety drugs if the dentist believes that the patient may require them;
- muscle relaxant drugs after prolonged therapy or if the patient has received multiple injections in one area (for example, inferior alveolar nerve block).

Should the possibility exist of posttreatment discomfort or pain, the patient should be forewarned and an analgesic drug (such as ibuprofen 800 mg three times a day or 600 mg four times a day) made available.[17,18]

The stress reduction protocols described above have made it possible to manage the dental health care needs of a broad spectrum of anxious and medically compromised patients with a low complication rate.

CONCLUSIONS

When medical emergencies occur in the dental office, they represent a possible threat to the patient's life and a hindrance to the delivery of dental care. Preventing medical emergencies is predicated on gathering information about any preexisting medical conditions, drugs and other medications the patient may be taking and the patient's level of dental care–related anxiety. The dentist obtains this information through a physical evaluation before the start of treatment. The four components of a physical evaluation are medical history questionnaire, dialogue history, physical examination (including monitoring and recording of vital signs and visual examination) and assessment of risk.

To assess risk, the dentist assigns an ASA PS classification to the patient (1 through 5). PS 1, 2 and 3 represent candidates for elective dental treatment, albeit with increasing degrees of medical compromise evident. Patients who are more medically compromised may require treatment modifications to enable them to tolerate the stresses involved in treatment. The stress reduction protocols described above are designed to minimize the stress associated with the delivery of dental care. ■

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Basic Management of Medical Emergencies : Recognizing a Patient's Distress
Kenneth L. Reed
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Basic management of medical emergencies

Recognizing a patient's distress

Kenneth L. Reed, DMD

Early recognition of medical emergencies begins at the first sign or symptom.[1] Familiarity with the patient's medical profile aids immensely in recognition; knowing what to expect and what to look for promotes a faster response. The dentist needs to focus on what is happening with a patient minute by minute because distractions slow response time.

By performing a simple visual inspection of the patient, the dentist can determine if he or she has various diseases such as obesity, a history of cerebrovascular accident (CVA) (stroke), Parkinson disease, jaundice, exophthalmos, breathing difficulties and heart failure (orthopnea).

When treatment is indicated, the dentist should proceed without hesitation. Often, management of medical emergencies in the dental office is limited to supporting patients' vital functions until emergency medical services (EMS) arrives. This is especially true in the case of major morbidity such as myocardial infarction or CVA. Treatment should consist minimally of basic life support and monitoring of vital signs.[2] The dentist never should administer poorly understood medications.

An emergency management plan, as described by Haas[3] in this supplement and by Peskin and Siegelman,[4] is of paramount importance. The dental team's ultimate goal

Background and Overview. Medical emergencies can happen in the dental office, possibly threatening a patient's life and hindering the delivery of dental care. Early recognition of medical emergencies begins at the first sign of symptoms. The basic algorithm for management of all medical emergencies is this: position (P), airway (A), breathing (B), circulation (C) and definitive treatment, differential diagnosis, drugs, defibrillation (D). The dentist places an unconscious patient in a supine position and comfortably positions a conscious patient. The dentist then assesses airway, breathing and circulation and, when necessary, supports the patient's vital functions. Drug therapy always is secondary to basic life support (that is, PABCD).

Conclusions and Clinical Implications. Prompt recognition and efficient management of medical emergencies by a well-prepared dental team can increase the likelihood of a satisfactory outcome. The basic algorithm for managing medical emergencies is designed to ensure that the patient's brain receives a constant supply of blood containing oxygen.

Key Words. Medical emergencies; basic life support; seizures; hypoglycemia; chest pain; angina pectoris; acute myocardial infarction; bronchospasm; syncope; allergy.
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is the prevention of life-threatening emergencies.

While the focus of this article is the recognition of patients in distress, I should point out that dentists initially should manage all medical emergencies in the same way by using what is known as the basic algorithm[5(p60)]:

- position (P) the patient;
- airway (A);
- breathing (B);
- circulation (C);
- definitive treatment, consisting of differential diagnosis, drugs and defibrillation (D).

Although many different medical emergencies may occur in the dental office, some are seen more often than others. I will not attempt to be exhaustive in this article; for a comprehensive review, readers should refer to one of the textbooks on the topic.[5,6] This article serves as a brief review of some of the commonly encountered medical emergencies in the dental office. I examine some of these medical emergencies and their most common manifestations and lightly touch on some potential treatments.

RESPIRATORY DISTRESS

Respiratory distress in a dental patient may take one of many forms. For example, the precipitating problem may be asthma, an allergic reaction, tachypnea (hyperventilation, a pulmonary embolus, acute congestive heart failure, diabetic ketoacidosis, hyperosmolar hyperglycemic nonketotic syndrome) or unconsciousness.

Clinicians can recognize respiratory distress in a patient through a variety of manifestations. Probably the most common cause of respiratory distress seen in dental patients is asthma, also known as acute bronchospasm.[7] Patients with this type of respiratory distress typically will want to sit upright (position). The dentist follows this with an evaluation of the patient's airway. Is it patent? By definition, conscious patients who can talk have a patent airway, are breathing and have sufficient cerebral blood flow and blood pressure to remain conscious. Definitive treatment includes administration of a bronchodilator. For conscious patients, this bronchodilator commonly is albuterol, administered via a metered-dose inhaler. If the patient loses consciousness or is uncooperative with administration of albuterol via inhalation or if bronchospasm is refractory to administration of albuterol, telephoning EMS (9-1-1) and administering epinephrine parenterally (intramuscularly) are indicated. Subcutaneous administration no longer is thought to be most efficacious.[8,9]

CHEST PAIN

Another potential medical emergency seen in dental offices is chest pain.[10] Many factors may precipitate chest pain, such as acute myocardial infarction (AMI), angina, paroxysmal supraventricular tachycardia, gastroesophageal reflux disease, anxiety and costochondritis.

When describing their chest pain, many patients do not describe the feeling as pain per se. They commonly use terms such as "squeezing," "tightness," "fullness," "constriction," "pressure" or "a heavy weight" on the chest. There are many potential causes of chest pain. I will examine two that the dentist can manage, or begin to treat, in the dental office. I will not address chest pain of noncardiac origin, although it certainly is valid and somewhat common in the population at large.

If a patient is experiencing chest pain, he or she will let the dentist know, so recognition of the problem will not be difficult. A conscious patient experiencing chest pain is free to be in any position that is comfortable. As stated earlier, these patients often will want to sit upright. Conscious patients who can talk have a patent airway, are breathing and have sufficient cerebral blood flow and blood pressure to retain consciousness. The difficulty for the dentist is the differential diagnosis of chest pain.[11]

Angina pectoris and AMI are the two most likely cardiac problems in a conscious patient who is exhibiting chest pain in the dental office. Other possibilities exist, but this article focuses on the recognition and early treatment of these two common entities. If the patient had experienced cardiac arrest, he or she would not be conscious.

Differential diagnosis. A differential diagnosis of chest pain involves looking at a number of signs and symptoms. One consideration is the patient's history. Has he or she ever experienced anginal chest pain? If so, it is likely that the current chest pain is angina pectoris. However, if this is the patient's first episode of chest pain, the dentist should treat him or her as if it were an AMI and have EMS transfer the patient as quickly as possible to a hospital.

ABBREVIATION KEY: AMI: Acute myocardial infarction. **CVA:** Cerebrovascular accident. **EMS:** Emergency medical services. **MONA:** Morphine, oxygen, nitroglycerin and aspirin. **PABCD:** Position, airway, breathing, circulation, definitive treatment.

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The differential diagnosis of chest pain in a conscious patient in the dental office also includes an evaluation of the quality of the pain. If the pain is significant but not severe, the chances are better that it is caused by angina pectoris, not AMI. Pain that radiates, commonly to the left side of the body—the left mandible, left arm, left shoulder—more likely is caused by AMI than by angina pectoris.[12(p690)] However, not all pain associated with AMI radiates, and some patients have atypical pain when experiencing an AMI. For example, patients with diabetes and women often experience an unusual shortness of breath, an unexplained elevation of blood sugar levels or both as a symptom of an AMI but often experience no chest pain at all (that is, silent myocardial infarction).[13]

Blood pressure. Blood pressure also might indicate whether the patient is experiencing angina pectoris or an AMI. If the patient's blood pressure is elevated during this episode of chest pain, angina more likely is the cause.[10] This elevation may be a response to the pain being experienced. If the blood pressure falls below the patient's baseline value or the immediate preoperative value, the dentist should consider an AMI; if the pump (the heart) has been injured, it is less efficient, resulting in a decreased cardiac output and subsequent drop in blood pressure.[12(p475)]

Definitive treatment. Definitive treatment for angina pectoris requires the administration of a nitrate, commonly nitroglycerin, via sublingual tablet or translingual or transmucosal spray. Prehospital treatment of a patient suspected of having AMI typically involves the administration of morphine, oxygen, nitroglycerin and aspirin (MONA), in addition to notifying EMS. Given that most dental offices do not have morphine, the dentist may substitute nitrous oxide/oxygen in a 50:50 concentration.[14]

ALTERED CONSCIOUSNESS

As with respiratory distress, altered consciousness or unconsciousness may occur owing to a variety of precipitating factors. Some of these include significant hypotension from any cause, hypoglycemia, CVA, illicit drug use, AMI and seizure.

Dizziness developing in the dental office may have many origins, but low blood pressure in the brain often is the ultimate cause. The easiest and least invasive way to increase blood flow to the brain is to place the patient in a supine position. Patients in whom dizziness is the only symptom are conscious and able to talk (airway, breathing and circulation have been assessed and ensured). Definitive treatment consists simply of placing the patient properly in a supine position. Once the patient is positioned, the dentist should determine the cause of the dizziness. Was it initiated by vasovagal syncope? Hypoglycemia? Hypovolemia?

Vasovagal syncope. Vasovagal syncope in the dental office often is caused by anxiety, which needs to be addressed properly. For some patients, this may mean that the dentist simply needs to take more time explaining the dental procedure to them, thus allaying their fears. Other patients may require pharmacological intervention (that is, sedation). Inhalation sedation (nitrous oxide/oxygen) may be ideal for some patients, while enteral sedation may be more appropriate for others. Some patients benefit most from parenteral (that is, intramuscular, intranasal) moderate sedation and others may require general anesthesia to properly address their anxiety.

Hypoglycemia. Dentists also should consider hypoglycemia in a differential diagnosis of dizziness. Frequently, the patient has a history of diabetes. Patients with type 1 diabetes (and some with type 2) self-administer insulin to lower a high glucose level (hyperglycemia) toward the upper limit of normal (120 milligrams/deciliter). Patients with diabetes must ingest food immediately after administering insulin to prevent the development of hypoglycemia as a result of the insulin injection. The most common cause of hypoglycemia in patients with type 1 diabetes is not eating after administering insulin.

Patients with clinically significant hypoglycemia may be recognizable because they commonly experience diaphoresis and tachycardia and feel faint. Subsequently, they may experience mental confusion and, ultimately, the loss of consciousness. As long as the patient retains consciousness, the clinician should allow him or her to remain in a comfortable position. Conscious patients with hypoglycemia have a patent airway, are breathing and have an adequate pulse. The treatment of choice for patients with hypoglycemia is administration of sugar. Unconscious patients with hypoglycemia require parenteral administration of sugar. Absent a proficiency in venipuncture, the dentist should activate EMS. Malamed[5(p263)] recommends that a dentist never

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place any drug or other substance in the mouth of an unconscious patient that is a liquid or might become a liquid at body temperature.

Fainting, or vasovagal syncope, is the most common medical emergency seen in the dental office.[15] The basic algorithm for dealing with it is the same as that for dizziness described earlier. The dentist or a team member should place the patient in a supine position. Most patients with syncope have a patent airway, are breathing and demonstrate an adequate pulse. Patients who faint typically respond to positional changes within 30 to 60 seconds. If the patient does not respond in this time frame, he or she did not simply faint, and the dentist must consider a more complete differential diagnosis of loss of consciousness. Although many possible explanations exist, the more common reasons a patient loses consciousness in the dental office (assuming no medications have been administered) are syncope, low glucose level, CVA and cardiac arrest.

In each of these examples of unconsciousness, the initial management of the emergency is the same. The dentist should place the patient in a supine position. If he or she has not responded within one minute, the clinician probably can rule out syncope. The dentist then should open the airway and assess breathing ("look, listen and feel"[16]). If the patient is breathing, the next step is to check his or her circulation. Does the patient have a palpable pulse at the carotid artery (brachial artery in infants)?

Patients who are breathing spontaneously and normally may be experiencing hypoglycemia or a CVA, but not cardiac arrest. In cardiac arrest, the patient does not breathe spontaneously (agonal breathing notwithstanding). A patient with apnea requires positive pressure ventilation with 100 percent oxygen.

Patients placed in a supine position who do not respond within 30 to 60 seconds but are breathing spontaneously likely are experiencing hypoglycemia or a CVA. If the patient's blood pressure is normal (that is, close to baseline values—part of assessing circulation), the problem probably is a low glucose level. If the patient's blood pressure is alarmingly high, the dentist must strongly consider the possibility that the event is a CVA.

SEIZURES

Seizures are rare in dental offices, especially in patients who never have had them. Patients who convulse in the dental office typically have a seizure history and often are characterized as having epilepsy.[17] The initial treatment for seizures is the same as that for any other medical emergency. The patient experiencing a generalized tonic-clonic seizure is unconscious and should be placed in a supine position. The dentist should perform a "head tilt and chin lift" to the extent possible. Patients who are seizing are breathing and have adequate cardiovascular function, which the dentist can verify by checking for and finding a strong pulse.

The dentist or a team member must remove all dental instruments and supplies from the patient's mouth and protect the patient from harm. No one should place anything in the mouth of a patient who is seizing. If someone familiar with the patient is present (such as a parent, spouse or professional caregiver), a team member should bring the person into the operatory and ask him or her to evaluate the patient. He or she may determine that this is a typical seizure for the patient, in which case simple monitoring is sufficient, or he or she may feel that this seizure is unusually severe and suggest that someone contact EMS.

ALLERGY-RELATED EMERGENCIES

Allergy-related emergencies are rare but possible in the dental office. The most common allergen in the dental environment today is latex.[18] An allergy can be mild or severe. If the patient has itching, hives, rash or a combination of these, the allergy may be considered mild (non–life threatening). However, if the patient experiences respiratory or cardiovascular compromise—that is, the loss of consciousness due to difficulty in breathing or inadequate blood pressure and blood flow to the brain—the dentist should treat the allergy as a life-threatening situation.

Mild allergy. If the allergy is mild (that is, itching, hives, rash or a combination of these) and the patient remains conscious, he or she should be made comfortable. The conscious patient who is talking has verified that the airway is patent, he or she is breathing and he or she has cardiovascular function adequate to maintain consciousness. In this case, the dentist should administer a histamine blocker, such as diphenhydramine, via intramuscular or intravenous injection.

Severe allergy. If the allergy is severe, the patient has lost, or soon will lose, consciousness. The dentist should place the patient in a supine position, open the airway and evaluate breathing.

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Often, breathing is spontaneous. If the patient is not breathing, the clinician must administer positive pressure oxygen via a bag-valve-mask device. If the patient has lost consciousness, his or her cerebral blood pressure is too low. To support circulation, as well as to dilate the bronchioles and minimize any potential swelling of laryngeal tissues, the dentist must administer epinephrine as soon as possible. Someone also must contact EMS, as the patient requires additional treatment in a hospital's emergency department.

BLEEDING

Dentists deal with bleeding every day, so it rarely constitutes a significant medical emergency. However, there are times when significant bleeding may turn into a medical emergency. If the greater palatine artery is inadvertently cut, for example, the dentist must control the bleeding quickly or the outcome may be poor. Patients who are hemorrhaging typically are conscious, so keeping them comfortable is a key component in managing the emergency. Placing the patient in a supine position will increase blood pressure in the head and generally is not indicated. Although it is important to verify that the airway is patent at all times, only the most severe and unrelenting cases of intraoral hemorrhage require placement of an advanced airway (that is, nasopharyngeal airway, laryngeal mask airway, supraglottic airway [King LT airway, King Systems, Noblesville, Ind.] or endotracheal tube).[19] These conscious, spontaneously ventilating patients who are bleeding profusely are treated most commonly with local measures only. Pressure to the affected site, with or without suturing, addresses the problem adequately in most cases.[20]

CONCLUSION

Medical emergencies can occur in the dental office, and it is important for the entire dental team to be prepared for them. Regardless of their specific type, they are best managed in basically the same way: position the patient; assess the airway, breathing and circulation; and provide definitive treatment. ■

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Preparing for medical emergencies

The essential drugs and equipment for the dental office

Morton Rosenberg, DMD

Every dentist can expect to be involved in the diagnosis and treatment of medical emergencies during the course of clinical practice. These emergencies may be related directly to dental therapy, or they may occur by chance in the dental office environment. Although just about any medical emergency can occur during the course of dental treatment, best practice dictates that dental personnel must be prepared to provide effective basic life support (BLS) and seek emergency medical services in a timely manner.[1]

Dentists also must be able to diagnose and treat common emergent problems (for example, syncope or hyperventilation syndrome), as well as respond effectively to certain less common, or even rare, but potentially life-threatening emergencies, especially those that may arise as a result of dental treatment (for example, anaphylactic reaction to an administered drug). Although many medical emergencies can be treated properly without drugs, every dental office must have a basic emergency kit that contains drugs and equipment appropriate to the training of the dentist, state requirements, the type of patients being treated (for example, geriatric, special-needs, pediatric or medically compromised patients), the procedures performed (for example, whether sedation or general anesthesia is induced) and the geographical location (for

Background. Acute medical emergencies can and do occur in the dental office. Preparing for them begins with a team approach by the dentist and staff members who have up-to-date certification in basic life support for health care providers. The ability to react immediately to the emergency at hand, including telephoning for help and having the equipment and drugs needed to respond to an emergency, can mean the difference between successful management and failure.

Overview. The purpose of this article is to provide a vision of the training, basic and critical drugs, and equipment necessary for staff members in general dental offices to manage the most common and anticipated medical emergencies.

Conclusions and Clinical Implications. Completion of annual continuing education courses and office medical emergency drills ensure a rapid response to emergency situations. It is the combination of a knowledgeable and skilled dental team with the equipment for basic airway rescue and oxygenation, monitoring equipment, an automated external defibrillator and a basic drug emergency kit that make the dental office a safer environment for patients and enhance dental professionals' capability to render competent and timely aid.

Key Words. Blood pressure; cardiac arrest; dental team; coronary heart disease; automated external defibrillator; dental office staff members; drug therapy; medical emergencies; epinephrine.

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example, an urban setting in which emergency help is close at hand versus a rural location in which there may be a significant delay until help arrives). Many factors determine the degree of preparedness needed for medical emergencies in a specific dental practice, but all dental offices must be ready at some minimum level. An overall emergency preparedness plan that includes equipment and a drug kit is essential for all dental practices (Box 1[2]).

Continuing education courses incorporating task training and high-fidelity human simulators (that is, computer-controlled simulated patients) that emphasize crisis management for life-like practice in managing medical emergencies are gaining popularity among dentists and clinical staff members. No drug can take the place of properly trained health care professionals in diagnosing conditions and treating patients in emergency situations. Nevertheless, having an appropriate emergency drug kit and equipment often plays an integral role in the course and outcome of emergency treatment.[3-7]

BOX 1

Emergency preparedness checklist.*

- All staff members have specific assigned duties.
- Contingency plans are in place in case a staff member is absent.
- All staff members have received appropriate training in the management of medical emergencies.
- All clinical staff members are trained in basic life support for health care providers.
- The dental office is equipped with emergency equipment and supplies that are appropriate for that practice.
- Unannounced emergency drills are conducted at least quarterly.
- Appropriate emergency telephone numbers are placed prominently near each telephone.
- Oxygen tanks and oxygen delivery systems are checked regularly. Other emergency respiratory support equipment is present, in good working order and located according to the emergency plan.
- All emergency medications are checked monthly and replacements are ordered for specific drugs before their expiration dates have passed.
- All emergency supplies are restocked immediately after use.
- One staff member is assigned the task of ensuring that the above procedures have been completed and to document this checklist review.

* Adapted from Fast and colleagues.[2]

TABLE 1

Inspired oxygen concentration with different delivery systems.

DELIVERY SYSTEM	INSPIRED OXYGEN CONCENTRATION (%)
Spontaneous Breathing	
Nasal cannula	25-45
Simple face mask	40-60
Nonrebreathing mask with oxygen reservoir	90-100
Positive Pressure Ventilation	
Mouth-to-mouth	17
Mouth-to-mask (oxygen flow to mask, 10 liters/minute)	80
Bag-valve-mask device with room air	21
Bag-valve-mask device with supplemental oxygen reservoir	75-95
Manually triggered oxygen-powered breathing device	75-95

EQUIPMENT

Oxygen is of primary importance in any medical emergency and must be available in a portable E cylinder that can be transported easily to any office location in which an emergency may arise. A dental office should be equipped with a device for the administration of supplemental oxygen to a spontaneously breathing patient—such as nasal cannulae, nonrebreathing masks with an oxygen reservoir or a nitrous oxide-oxygen nasal hood.

Every office must have the ability to deliver oxygen under positive pressure for use in situations in which the patient is unconscious and not ventilating adequately. Although mouth-to-mask devices such as pocket masks are useful, the best and most efficient method of ventilating with high concentrations of inspired oxygen in apneic patients is with a bag-valve-mask device with an oxygen reservoir connected to an oxygen source or a manually triggered oxygen-powered device (Table 1).

Oropharyngeal airways come in several sizes (7, 8 and 9 centimeters for adults) and are a useful adjunct in overcoming airway soft-tissue obstruction in an unconscious patient. Magill forceps can be lifesaving in retrieving foreign objects lost in the hypopharynx during dental therapy.

The immediate availability of an automated external defibrillator (AED) adhering to the American Heart Association's (AHA) 2005 guidelines[8] is an evolving standard of care in all health care settings. The AHA has made early defibrillation an integral part of the BLS chain of survival for the treatment of patients in cardiac arrest.[9] Since January 1998, the AHA's BLS health care provider cardiopulmonary resuscitation courses have included a mandated module regarding AED use. Some states (Florida, Washington, Illinois) have mandated the presence of an AED in dental offices. The immediate availability of an AED has been demonstrated to increase the success of resuscitation.[10] Early defibrillation with these easy-to-operate devices will convert two of the most common lethal cardiac dysrhythmias—ventricular fibrillation and ventricular tachycardia—into a normal sinus rhythm and restore perfusion to vital organs.

Monitoring equipment that provides basic information for primary assessment should include a stethoscope and a sphygmomanometer with adult small, medium and large cuff sizes. An automated vital signs monitor can provide physiological data, including systolic, diastolic and mean blood pressure, along with the patient's oxygen saturation level, heart rate and temperature. A wall clock with a second hand is invaluable in assisting with the determination of heart rate and in documenting contemporaneous events and interventions (Box 2).

ABBREVIATION KEY. ACLS: Advanced cardiac life support. **AED:** Automated external defibrillator. **AHA:** American Heart Association. **BLS:** Basic life support. **PALS:** Pediatric advanced life support.

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BOX 2

Suggested basic emergency equipment for the dental office.

- Portable oxygen cylinder (E size) with regulator
- Supplemental oxygen delivery devices
  - Nasal cannula
  - Nonrebreathing mask with oxygen reservoir
  - Nasal hood
- Bag-valve-mask device with oxygen reservoir
- Oropharyngeal airways (adult sizes 7, 8, 9 centimeters)
- Magill forceps
- Automated external defibrillator
- Stethoscope
- Sphygmomanometer with adult small, medium and large cuff sizes
- Wall clock with second hand

EMERGENCY DRUG KITS

Practitioners can organize emergency kits themselves or purchase them. Many dentists are not comfortable choosing and purchasing individual drugs for their emergency kits, and a high-quality, commercially available emergency drug kit modified for dentistry can provide consistent drug availability (an automatic drug updating service often is included) in an organized fashion.[11] Emergency drugs generally are powerful, rapidly acting compounds. The correct approach to using drugs in any medical emergency essentially should be supportive and conservative.

BASIC EMERGENCY DRUGS

All dentists must keep a fresh supply of critical drugs in the office for immediate administration (Table 2). Dentists must know reflexively when, how and in what doses to administer these specific agents for life-threatening situations. The drugs described should be included in a basic medical emergency kit for the general dental practice. They consist of agents that are noninjectable or can be administered via subcutaneous, intramuscular or sublingual routes, and, for dentists with advanced training, via intravenous or intraosseous routes.

Oxygen. Oxygen is of primary importance in any medical emergency in which hypoxemia might be present. These emergencies include, but are not limited to, acute disturbances involving the cardiovascular system, respiratory system and central nervous system. In the hypoxemic patient, breathing enriched oxygen elevates the arterial oxygen tension, which, in turn, improves oxygenation of peripheral tissues. Because of the steepness of the oxyhemoglobin dissociation curve, a modest increase in oxygen tension can significantly alter hemoglobin saturation in the hypoxemic patient. Hypoxemia leads to anaerobic metabolism and metabolic acidosis, which often diminish the efficacy of pharmacological interventions in emergencies.

Epinephrine. Epinephrine is the single most important injectable drug in the emergency kit. Epinephrine is an endogenous catecholamine with both α- and β-adrenergic receptor–stimulating activity. It is the drug of choice for treating cardiovascular and respiratory manifestations of acute allergic reactions. The beneficial pharmacological actions of epinephrine, when administered in resuscitative dosages, include bronchodilatation and increased systemic vascular resistance, arterial blood pressure, heart rate, myocardial contractility, and myocardial and cerebral blood flow.[12]

For effective treatment of life-threatening signs and symptoms of an acute allergic reaction, the clinician must administer epinephrine immediately after recognizing the condition. He or she can inject the drug subcutaneously (0.3 to 0.5 milligram of a 1:1,000 solution) or intramuscularly for a more serious emergency (0.4 to 0.6 mg of the

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TABLE 2

Suggested basic emergency drugs for the general dental office.

INDICATION	DRUG	ACTION	ADMINISTRATION
Bronchospasm (Severe Allergic Reaction)	Epinephrine	α- and β-adrenergic receptor agonist	Autoinjectors or preloaded syringes, ampules; 1:1,000 solution subcutaneously, intramuscularly or sublingually; adults, 0.3 milligram; children, 0.15 mg
Mild Allergic Reaction	Diphenhydramine	Histamine blocker	50 mg intramuscularly; 25 to 50 mg orally every three to four hours
Angina	Nitroglycerin	Vasodilator	Sublingual tablet: one every five minutes up to three doses; translingual spray: one spray every five minutes up to three times
Bronchospasm (Mild Asthma)	Bronchodilator such as albuterol	Selective β_2- adrenergic receptor agonist	Two or three inhalations every one to two minutes, up to three times if needed
Bronchospasm (Severe Asthma)	Epinephrine	α- and β-adrenergic receptor agonist (bronchodilator)	Autoinjectors or preloaded syringes, ampules; 1:1,000 solution subcutaneously, intramuscularly or sublingually; adults, 0.3 mg; children, 0.15 mg
Hypoglycemia	Glucose, as in orange juice	Antihypoglycemic	If the patient is conscious, ingest
Myocardial Infarction	Aspirin	Antiplatelet	One full-strength tablet (165-325 mg) chewed and swallowed
Syncope	Aromatic ammonia	Respiratory stimulant	Inhalant crushed and held four to six inches under nose

same solution). Epinephrine should be available in preloaded syringes or autoinjectors for immediate use, as well as in ampules.[13] Because of its profound bronchodilating effects, epinephrine also is indicated for the treatment of acute asthmatic attacks that are unrelieved by sprays or aerosols of β_2-adrenergic receptor agonists.[14]

Diphenhydramine. Histamine blockers reverse the actions of histamine by occupying H_1 receptor sites on the effector cell and are effective in patients with mild or delayed-onset allergic reactions.

Nitroglycerin. Although nitroglycerin is available in many preparations—long-acting oral and transmucosal preparations, transcutaneous patches and intravenous solutions—the appropriate forms for the dental office are the sublingual tablet or translingual spray. Nitroglycerin is the treatment of choice for an episode of acute chest pain in a patient with a history of angina pectoris. It acts primarily by relaxing vascular smooth muscle, dilating systemic venous and arterial vascular beds, and leading to a reduction in venous return and systemic vascular resistance. These actions combine to reduce myocardial oxygen consumption.

If the patient does not bring his or her own nitroglycerin to the dental office, the clinician should administer one tablet or metered spray (0.4 mg). This dosage may be repeated twice at five-minute intervals for a total of three doses. Relief should occur within one to two minutes; if the discomfort is not relieved, the dentist must consider a diagnosis of evolving myocardial infarction. If the patient has never received a diagnosis of angina pectoris and develops symptoms of a possible acute myocardial infarction, such as chest pain or chest pressure, the clinician should consider administering 0.4 mg of sublingual nitroglycerin if the patient's systolic blood pressure is acceptable (> 90 to 100 millimeters of mercury) after first calling 9-1-1 and administering aspirin.

Contraindications to the administration of nitroglycerin are chest pain and hypotension or treatment with drugs prescribed for erectile dysfunction, such as sildenafil (Viagra, Pfizer, New York City), tadalafil (Cialis, Lilly USA, Indianapolis) or vardenafil (Levitra, Bayer HealthCare, Leverkusen, Germany). The combination of nitroglycerin and these compounds may lead to profound hypotension and unconsciousness.

Bronchodilator. Inhalation of a β_2-adrenergic receptor agonist such as metaproterenol or albuterol is used to treat acute bronchospasm that may be experienced during an asthmatic attack or anaphylaxis. This results in bronchial smooth muscle relaxation and the inhibition of chemical mediators released during hypersensitivity reactions. Albuterol is an excellent choice because it is associated with fewer cardiovascular adverse effects than are other bronchodilators.

Glucose. Clinicians use glucose preparations

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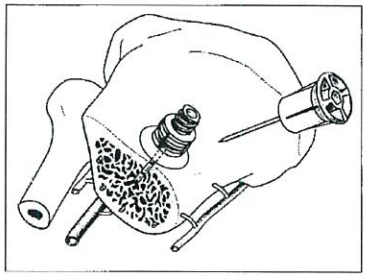

Figure. Intraosseous injection. Reproduced with permission of Vidacare, San Antonio.

to treat hypoglycemia resulting from fasting or an imbalance between insulin and carbohydrate in a patient with diabetes mellitus or in nondiabetic patients with hypoglycemia. If the patient is conscious, oral carbohydrates such as orange juice, a chocolate bar, cake icing or a cola drink act rapidly to restore circulating blood sugar. On the other hand, if the patient is unconscious and the dentist suspects acute hypoglycemia, he or she never should administer oral drugs because of the potential for airway obstruction and/or aspiration. There is no place for insulin in the vast majority of dental offices.

Aspirin. The antiplatelet properties of aspirin decrease myocardial mortality dramatically by preventing further clot formation when administered to patients during an evolving myocardial infarction.[15] There is no substitute for aspirin for this indication, and contraindications to its use include allergy to aspirin and severe bleeding disorders. Patients who exhibit chest pain suggestive of ischemia and an evolving myocardial infarction should chew the aspirin and then swallow it.

Aromatic ammonia. Aromatic ammonia is a commonly used respiratory stimulant in dentistry. It is a general arousal agent that clinicians administer to patients experiencing vasodepressor syncope after ascertaining the patency of the patient's airway, repositioning him or her and administering oxygen.

SUPPLEMENTAL INJECTABLE DRUGS AND EQUIPMENT

Dentists with advanced training may consider including drugs and equipment in addition to those described earlier. These might include the following injectable drugs:

- analgesics;
- anticholinergics;
- anticonvulsants;
- antihypertensives;
- antihypoglycemics;
- corticosteroids;
- vasopressors.

ADJUNCTIVE GENERAL ANESTHESIA DRUGS AND EQUIPMENT

Educationally qualified dentists[16] who use deep sedation and general anesthesia must have additional emergency drugs immediately available (for example, if they use depolarizing neuromuscular blocking agents, they must have dantrolene sodium, as well as other drugs specific to these practices, such as those for advanced cardiac life support [ACLS]), and additional equipment, such as advanced monitoring systems and airway rescue equipment.

REVERSAL DRUGS

If dentists administer opioids or benzodiazepines to induce moderate or deep sedation, general anesthesia or both, they must include antidotal drugs in the emergency kit. Naloxone is a specific opioid antagonist that reverses opioid-induced respiratory depression.[17] Flumazenil is a specific benzodiazepine antagonist that reverses sedation and respiratory depression resulting from benzodiazepine administration.[18]

INJECTABLE DRUG ACCESS

The injection of many emergency drugs into the vascular system is crucial to speed drug action. The intravenous route is rapid but requires skill in venipuncture. The intramuscular route, either into the vastus lateralis or mid-deltoid regions, results in slower uptake but perhaps easier access for many dentists, as does the sublingual approach. Establishing intravenous access may be difficult or impossible during medical emergencies. As advocated in the AHA's ACLS/PALS guidelines, intraosseous access often can save a significant amount of time, which can benefit patients in medical emergencies by decreasing the time needed to achieve access and administer medications and other fluids, especially in pediatric patients.[19-21] Establishing intraosseous access requires specialized equipment and training (Figure). All of these routes of adminis-

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tration require adequate circulation for the drugs to be effective.

ADVANCED CARDIAC LIFE SUPPORT

ACLS for adults and pediatric advanced life support (PALS) for children are the standards of care for comprehensive resuscitation by health care providers with advanced skills and training. Pharmacotherapy plays an important role in the treatment of these patients, with guidelines for specific drug therapies centering on the use of many antidysrhythmic and vasoactive drugs.[8,19]

ADVANCED AIRWAY DEVICES

Dentists with advanced training may wish to include advanced airway devices in their emergency kits. The indications for, the technique in using, and ensuring correct placement of these devices require training and clinical experience. Endotracheal intubation is accomplished with the use of a laryngoscope and an endotracheal tube. Gaining in popularity in airway rescue are supraglottic devices such as the laryngeal mask airway.[22]

CONCLUSION

Urgent and emergent medical emergencies can and do occur in the dental office. Early diagnosis, telephone calls for help and proper management will increase the likelihood of a successful response. Accomplishing this depends on the combination of training and preparation by the dentist and staff members and the immediate availability of basic and critical emergency drugs and equipment. ■

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Daniel A. Haas
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Preparing dental office staff members for emergencies

Developing a basic action plan

Daniel A. Haas, DDS, PhD

The dentist's role in managing any medical emergency begins with prevention. This requires that all staff members, including dentists, dental hygienists, dental assistants and receptionists, be prepared for such emergencies. A team approach should be used,[1] and each staff member can play an important role. Appropriate preparation makes this teamwork effective and should improve the patient's chance of achieving a good result.[2,3]

How does one develop a basic action plan for an unforeseen event? There are numerous potential medical emergencies and numerous protocols to follow. Ideally, the dentist and support staff members should be knowledgeable about all of them. However, when an emergency first develops, the precise diagnosis may not be clear. Without a diagnosis, how can one formulate a treatment plan? This problem can be circumvented by following a key principle: the most important objective of nearly all medical emergencies in the dental office is to prevent or correct insufficient oxygenation of the brain or heart.

On a simple level, if a patient has lost consciousness, it is a result of a lack of oxygenated blood in the brain. If a patient is experiencing an episode of acute angina pectoris, it is a result of a relative lack of oxygenated blood to specific sites in the cardiac muscle. The management of all medical emergencies in a dental office should include

Background and Overview. A medical emergency can occur in any dental office, and managing it successfully requires preparation. The dentist should develop a basic action plan that is understood by all staff members. The goal is to manage the patient's care until he or she recovers fully or until help arrives. The most important aspect of almost all medical emergencies in dentistry is to prevent or correct insufficient oxygenation of the brain or heart. The dentist or a staff member needs to position (P) the patient appropriately. He or she then needs to assess and, if needed, manage the airway (A), breathing (B) and circulation (C). The dentist and staff members then can consider "D," which stands for definitive treatment, differential diagnosis, drugs or defibrillation. A team approach should be used, with each staff member trained in basic life support and understanding the role expected of him or her ahead of time. Clear and effective communication is essential during any emergency.

Conclusions. All staff members should understand the basic action plan so that they can put it into effect should any emergency arise in the dental office.

Clinical Implications. Preparing staff members is integral to the successful management of a medical emergency in the dental office.

Key Words. Medical emergencies; basic life support.
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ensuring that oxygenated blood is being delivered to the brain and heart. If the dentist and team members remember this principle, then everything else should make sense. If this approach makes sense to each member of the office staff, knowing what to do becomes straightforward.

In fact, this principle is the basis of the training in basic life support (BLS), also known as cardiopulmonary resuscitation (CPR).[4] The goal of BLS is to keep the brain oxygenated and, therefore, protected until something more definitive can be done. Clinicians always should begin with the "PABC" approach, particularly if the diagnosis is not clear.[1] The dentist or a staff member needs to position (P) the patient appropriately. He or she then needs to assess and, if necessary, manage the airway (A), breathing (B) and circulation (C). After the dentist and staff members have addressed the PABCs, they can consider "D," which stands for definitive treatment, differential diagnosis, drugs or defibrillation. Therefore, all team members should be trained and competent in BLS/CPR.

BASIC ACTION FOR EVERY EMERGENCY

What should be done in every medical emergency? The goal is to manage the care of the patient until he or she recovers fully or help arrives. Team members should position the patient and initiate the ABCs. Assess and, if needed, manage each one of A, then B and then C. This orderly approach will help staff members avoid missing a step.

P: Position. If conscious, the patient should sit in any position that is comfortable. If unconscious, the patient should be supine with the legs elevated slightly to about 10° to 15° (Figure 1). This position facilitates blood flow to the brain, thus helping to correct any deficient oxygen delivery.

A: Airway. Practitioners must consider airway assessment. If the patient is conscious, this should not be an issue, and one typically can move quickly to breathing. If the patient is talking, then the airway is patent, but the clinician should look at the throat in cases of allergy to rule out airway compression from laryngeal edema, which is a sign of anaphylaxis. He or she should remove any foreign objects, such as cotton rolls, to eliminate the potential for airway blockage or aspiration.

If the patient is unconscious, assessing and managing the airway becomes crucial. Practitioners and staff members must ensure patency by tilting the patient's head and lifting his or her chin immediately (Figure 2). By itself, this maneuver may prevent brain damage, as it moves the tongue away from the back of the pharynx, thereby eliminating the obstruction (the tongue). In turn, this permits oxygenation. If the airway is not patent after this maneuver, the clinician should reposition the patient's head once more. If the airway still is not opened, the clinician should perform a jaw-thrust maneuver by placing his or her thumbs posterior to the angle of the patient's mandible and advancing them (and the mandible) anteriorly.

B: Breathing. The dentist and staff members should consider the second step—breathing—immediately after taking care of the patient's airway. If he or she is conscious, this usually is not a problem, and the team can move on quickly to circulation. If the patient is talking, then he or she is breathing, but in cases of asthma or allergy, the dentist must rule out wheezing (bronchospasm). He or she also needs to consider whether the patient is breathing too slowly or rapidly. Any team member can monitor the respiratory rate and adequacy of respiration. In adults, the normal respiratory rate is 12 to 15 breaths per minute. In children, the rate is higher, with an 8-year-old averaging 18 breaths per minute and a 3-year-old averaging 22 breaths per minute.[5]

Bradypnea is any respiratory rate significantly below the normal rate; it may result in hypoventilation and inadequate oxygenation. Tachypnea, often a sign of anxiety, is any respiratory rate significantly above the normal rate; it may lead to hyperventilation syndrome. For offices in which the clinician induces moderate or deep sedation or administers a general anesthetic, a pulse oximeter should be available and can be used to assess the adequacy of oxyhemoglobin saturation. Monitoring the adequacy of respiration also includes observing the color of the mucosa, skin and blood to rule out signs of cyanosis.

If the patient is unconscious, dealing with breathing becomes crucial. As taught in BLS, "look, listen and feel."[4] If the patient is not breathing, administer two slow deep breaths, with each breath lasting one second. The clinician

ABBREVIATION KEY. BLS: Basic life support. **BP:** Blood pressure. **BPM:** Beats per minute. **CPR:** Cardiopulmonary resuscitation. **D:** Definitive treatment. **EMS:** Emergency medical services. **PABC:** Position, airway, breathing, circulation.

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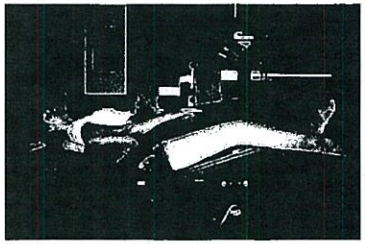

Figure 1. The correct position for an unconscious patient.

Figure 2. The head-tilt chin-lift maneuver.

or staff member should use a barrier device, such as a pocket mask or the mask from a bag-valve-mask device, if available. He or she should see the chest rise with each ventilation. However, he or she should not ventilate too rapidly or administer excessive volumes. The clinician should administer rescue breaths at a rate of 10 to 12 per minute for an adult. In children younger than the age of adolescence—defined as the age just before the onset of puberty, as determined by the presence of secondary sex characteristics—the rate should be 12 to 20 breaths per minute.[6]

C: Circulation. The dental team should assess the patient's circulation immediately after the breathing step. If the patient is conscious, a team member should check the pulse by using the radial, brachial or carotid artery. The team member can palpate the radial artery by placing the ends of two fingers on the lateral and ventral aspects of the patient's wrist. The brachial artery can be palpated on the medial aspect of the antecubital fossa. To locate the carotid pulse, the team member palpates the patient's thyroid cartilage and moves his or her fingers laterally into the groove formed by the sternocleidomastoid muscle (Figure 3).

Pulse. In an unconscious patient, the carotid is the best artery for assessing the pulse. BLS training for laypeople recommends skipping the pulse check, but that rule does not apply to health care providers, including those of us in dentistry. Health care professionals are expected to be able to detect a pulse. If no pulse can be palpated after 10 seconds, the dentist or a staff member should assume that the patient has experienced cardiac arrest and begin chest compressions at a rate of 100 per minute, consistent with current BLS training.[6]

Chest compressions. The health care professional should place his or her hands over the lower half of the patient's sternum between the nipples. He or she should push down by using the heel of one hand with the other hand on top. Each compression should depress the chest 1½ to 2 inches. It is important that the clinician push hard and fast and allow full chest recoil. The compression to ventilation ratio for adults is 30:2. For children older than 1 year but younger than the age of adolescence, the compressions should depress the chest by one-third to one-half its depth. The compression to ventilation ratio for one-person CPR in children is the same as that in adults, but for two-person CPR in children, the ratio should be 15:2.[6]

Heart rate. In addition to noting the presence or absence of a pulse, a team member should record the heart rate (in beats per minute [BPM]), its quality (weak or strong) and its rhythm (regular or irregular). A tachycardia is a rapid rate, defined in an adult as anything above 100 BPM. A bradycardia is a slow rate, defined as anything below 60 BPM. Not all bradycardias need management. For example, the well-trained athlete or the patient receiving treatment with a β-blocker could have a rate below 60 BPM and not require treatment. Only when a bradycardia is accompanied by symptoms such as lightheadedness, nausea or chest pain should health care professionals act to manage it. Heart rates typically are higher in children and decrease with increasing age. For example, the normal ranges are from 80 to 130 BPM in a 2-year-old and 70 to 110 BPM in a 10-year-old.[5,7] A full or bounding pulse often is associated with high blood pressure (BP). A weak and thready pulse is associated with hypotension. The team member should record an irregular rhythm as an abnormality.

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It is important to note that assessing circulation involves more than just a pulse check. Health care professionals should check BP for a better indication of the adequacy of the patient's circulation.

Measuring BP. Blood pressure can be measured in a number of ways; I describe the auscultatory method here. A standard BP cuff, also called a sphygmomanometer, can be used along with a stethoscope. Alternatively, a team member can use an automated device. Even if an automated device is in the office, a standard cuff and stethoscope should be available to confirm any readings that the dentist may question. An automated device also may not be as accurate as a standard cuff in the event of an irregular heart rate, such as that found in atrial fibrillation.

To measure BP, a team member wraps the deflated BP cuff evenly and firmly around the patient's upper arm, about one inch above the antecubital fossa with the artery indicator resting on the patient's brachial artery, which should be palpated. With the earpieces of the stethoscope facing forward, the team member places the diaphragm firmly over the brachial artery, being careful not to touch the BP cuff. With the other hand, he or she closes the valve on the inflating bulb of the BP cuff by turning it fully clockwise. He or she inflates the cuff to about 20 to 30 millimeters of mercury above the point at which pulsations disappear from the palpated radial pulse. The staff member then reduces the pressure slowly at a rate of 2 to 3 mm Hg per second by turning the valve on the inflating BP cuff counterclockwise until he or she hears the first sound through the stethoscope. This first sound indicates the systolic BP produced by turbulent blood flow through the partially collapsed underlying artery. These are known as "Korotkoff sounds." The team member continues to deflate the cuff slowly until the sounds become muffled and disappear; this is the diastolic BP. The blood flow through the artery returns to a smooth (laminar) flow and, thus, no sounds are produced. At this stage, the staff member deflates the cuff fully and records the measurements obtained.

The accuracy of BP readings can depend on a few factors. Proper BP cuff size is important. The cuff's bladder should extend at least halfway around the arm, with the width of the cuff being at least 25 percent greater than the diameter of the arm. Another means of determining the appropriate size is that the bladder length is 80 percent of the arm's circumference and the width is 40 percent of the circumference.[8] A cuff that is too narrow may result in a large overestimation of systolic BP. Conversely, a cuff that is too wide may lead to underestimation of systolic BP. Firm placement is important because a cuff that is too loose results in falsely elevated readings.

Figure 3. Palpation of the carotid artery. Reprinted with permission of Elsevier from Malamed.[5] Copyright © 2007 Elsevier.

The accuracy of BP readings can be affected by what is known as the "auscultatory gap." This is defined as Korotkoff sounds that cannot be heard through part of the range from systolic to diastolic pressure.[8] It is most common in patients with hypertension and can lead to an inaccurate diastolic measurement. Fear and anxiety also can cause transient elevations in BP, primarily with systolic BP. Normal BP in an adult approximates 120/80 mm Hg. Blood pressures typically are lower in children and increase with age. These approximate from 100/60 mm Hg in a 4-year-old to 110/60 mm Hg in a 10-year-old.[5,7]

One sign of circulation adequacy is the color of the mucosa, with pink and red indicating good peripheral circulation and pale or blue (cyanosis) indicating inadequate circulation. Capillary filling is another indicator, which can be determined by depressing the nail bed and noting whether or not it blanches and then quickly regains color. To assess central perfusion, the dentist or a staff member notes the patient's orientation to person, place and time.

TEAM MEMBERS' ROLES

The dental office should have a written plan that describes the expected roles of team members. These roles should be reviewed regularly during staff meetings. The dentist should arrange emergency simulations or drills to enable team members to practice their roles periodically. The emergency medical services (EMS) telephone number should be posted if it is other than 9-1-1.

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BOX 1

Emergency duties of a four-member dental team.*

TEAM MEMBER 1: LEADER

- Directs team members
- Positions the patient and stays with him or her
- Performs "ABCs"† of cardiopulmonary resuscitation (CPR)
- Takes command and appears calm
- States instructions directly and clearly
- Requests acknowledgment from team members that instructions are understood
- Fosters open exchange among team members
- Concentrates on what is right for the patient, not who is right‡

TEAM MEMBER 2

- Brings emergency kit
- Brings oxygen tank and attaches appropriate delivery system
- Brings automated external defibrillator
- Assists with ABCs of CPR, including monitoring vital signs
- Checks oxygen tank regularly
- Checks emergency kit regularly
- Prepares drugs for administration

TEAM MEMBER 3

- Telephones emergency medical services (9-1-1)
- Meets paramedics at building entrance
- Keeps chronological log of events
- Assists with ABCs of CPR

TEAM MEMBER 4

- Assists with ABCs of CPR
- Assists with other duties as needed

* Source: Malamed.[5]
† ABC: Airway, breathing, circulation. Source: American Heart Association.[4]
‡ Source: Gaba and colleagues.[3]

The specific roles of team members will depend, in part, on the number of people on the team. Most dental offices have at least three team members: a dentist, a dental assistant and a receptionist. As the size of the staff increases, duties can be shared among more members. Team member 1 is the leader, but the other roles often are interchangeable. Box 1 provides suggestions for the roles of a four-member team.[1,3,4]

Leader. Team member 1 is the leader and usually is the patient's dentist. However, depending on individual circumstances, another team member may be the leader. The leader's role is to be in charge and lead the management of the crisis. The leader decides when to announce an emergency situation. If in doubt, it is better to call an emergency early rather than late; however, bear in mind that calling for help unnecessarily too often may be detrimental when help truly is needed. The leader assigns a team member to telephone for outside assistance, positions the patient and initiates the ABCs until assistance arrives. The leader should remain with the patient throughout the emergency until he or she has recovered or until EMS has arrived and takes the patient to a hospital.

Being the leader requires leadership skills that include knowing how to prioritize actions by determining what is most important at any time relative to the actions that can be deferred. Leadership skills include the ability to appear calm and in control. Although the leader may be worried about the events unfolding, a calm demeanor must prevail. Panic can be infectious. If team members see the leader panicking, they may follow suit. Remaining calm and collected will help the leader and team members think and act rationally during a stressful time.

Team member 2. Team member 2 knows the location of the emergency kit, portable oxygen and automated external defibrillator and brings them as instructed. He or she also can be assigned to check the emergency kit on a regular basis to ensure that all contents are present and within the expiration date. This team member ensures that sufficient oxygen remains in the tank and assists the team leader with BLS, including monitoring vital signs. He or she also can prepare emergency drugs for administration.

Team member 3. Team member 3, or team member 4 if present, can fulfill various functions, including telephoning EMS (9-1-1) and walking to the building's main entrance to meet the paramedics and lead them to the patient. One of these team members keeps a written chronological record of all events, including the patient's vital signs, timing and amount of drug administered, and the patient's response to treatment.

Additional team members may be other dentists or support staff in the office. All of them should be able to relieve other team members as required.

TEAM COMMUNICATION

In addition to understanding each other's roles, members of an effective team need to communicate effectively. The team leader should consider using a "closed-loop" approach.[2,3] This means that when the leader sends a message, the team member acknowledges receiving the instruction, thereby confirming that he or she heard and understood the message. Pilots and air traffic controllers use this model successfully, and many gourmet coffee shops use it as customers place their orders. Consequently, this model should work easily in a dental office.

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The team leader should state clearly the next task to be assigned only after he or she has received a clear response from the team member that the first task was understood. This approach reduces the likelihood of key steps being missed through oversight, such as shouting "call 9-1-1" to no one in particular; everyone assumes that someone else has made the telephone call, when in fact no one has acted on this command.

An example of a correct scenario is as follows. The leader states, "Mary, call 9-1-1." Mary then replies, "I am going to call 9-1-1." The team leader then listens for confirmation that the task has been performed. Mary returns and says, "I've called 9-1-1 and the paramedics are on their way." In another example of a correct scenario, the leader states, "John, bring the oxygen tank." John acknowledges having received the instruction by replying, "I am going to get the oxygen tank." When he returns, John says, "Oxygen tank is here." The team leader responds, "Good. Now attach the bag-valve-mask device." This communication continues in a similar way with all team members.

Effective communication requires each team member to speak clearly and directly. Good eye contact should be maintained when giving instructions. It is not appropriate to let the stress of the situation result in yelling or shouting. If any instruction is unclear, the recipient should ask for clarification. The best teams are composed of members who respect each other and work together in a supportive and collegial way.[2] There should be an open exchange such that any team member can speak freely to any other team member without fear or embarrassment. No one should feel patronized and any perceived dental office hierarchy should be ignored for this purpose. For example, any team member should feel comfortable making a suggestion to the team leader, in particular if he or she believes that something important has been missed or is being performed incorrectly. The team leader should welcome any comment that might benefit the patient. The team must concentrate on what is right for the patient, not who is right, during management of the medical emergency.[3]

It is useful to have a planned protocol regarding what to say when calling EMS (9-1-1).[1] Box 2 summarizes the information that should be communicated clearly when talking with the dispatcher.[1] This protocol should be documented in writing, and team members should review it periodically.

BOX 2

Information to provide when calling emergency medical services (9-1-1).*

- Preliminary diagnosis (for example, "possible myocardial infarction")
- Information about the patient (for example, "58-year-old man with chest pain; conscious; blood pressure of 152 over 90; heart rate of 84 beats per minute")
- What is being done for the patient (for example, "The patient is being given 6 liters of oxygen per minute by face mask")
- Provide exact street address with office number and names of cross streets, if possible (for example, "Dr. Jones's dental office at 123 Main St., Suite 202, one block east of the intersection at Pine and Oak streets")
- Telephone number from which the call is being made

* Source: Malamed.[1]

CONCLUSION

Each team member should understand the basic action plan described above to permit its effective implementation in emergencies that may arise in the dental office. Differences exist in the level of training that dentists receive in the management of medical emergencies.[9] The final decision regarding the exact roles of each team member will be determined by a number of factors, including the dentist's and staff members' training and ability. Clearly, dentists need to do what they can to prevent emergencies in the dental office but, unfortunately, they still may arise despite dentists' best efforts. However, taking the time to prepare staff members and develop a basic action plan for all emergencies may save a life. ■

Disclosure. Dr. Haas did not report any disclosures.

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Sandra Spilsbury

Subject: FW: FW: UPDATED Material for Anesthesia Committee Mtg - 7/18/12

From
Sent: Tuesday, July 17, 2012 1:54 PM
To: Sandra Spilsbury
Subject: Re: FW: UPDATED Material for Anesthesia Committee Mtg - 7/18/12

Sandra,

I am going to try to get to the meeting tomorrow but I would like you to show the following document which should be adopted by our state being that NAC 631.2213 states that a licensee can take a course to perform conscious sedation but does not specify Adults or children. With the story from 20/20 we as a board need to address the issue of dentists sedating children without the proper training. With the way 631.2213 is written someone can do a course seeing 20 patients and they can be all adults with no experience seeing children. I think this is an important subject and we need to look into.

The following adopted by State of California:

Licensed Dentists

ORAL CONSCIOUS SEDATION FOR MINOR PATIENTS PERMITS

Business and Professions Code, Section 1647.10, defines Oral Conscious Sedation for Minor Patients as, "...a minimally depressed level of consciousness produced by oral medication that retains the patient's ability to maintain independently and continuously an airway, and respond appropriately to physical stimulation or verbal command." This permit applies to dental patients under the age of 13 years.
Business and Professions Code Sections 1647.10 to 1647.17 and 1680(z), as well as Title 16, California Code of Regulations, Section 1044, provide specific information regarding Oral Conscious for Minor Patients Permits.

Applying for an Oral Conscious Sedation for Minor Patients Permit

The primary requirements for a certificate to administer oral conscious sedation for a minor patient include, but may not be limited to:

- A completed application form with fee, ensuring that any office setting where oral conscious sedation is administered to minor patients complies with the requirements set in regulations adopted by the Board (Title 16, California Code of Regulations, Section 1044.5).
- A completed application form
- A current, active license to practice dentistry in this state, or a current permit issued pursuant to Business and Professions Code, Section 1638 or 1640.
- Provide documentation of one of the following:
  - Successful completion of a postgraduate program in oral and maxillofacial surgery, pediatric dentistry, or periodontics approved by the Commission on Dental Accreditation or a comparable organization approved by the Board.
  - Successful completion of a periodontics or general practice residency or other advanced education in a general dentistry program approved by the Board.
  - Successful completion of a Board-approved educational program on oral medications and sedation. Applicant must provide a copy of their certificate or diploma.

- If qualification method is a general residency or other advanced education in a general dentistry program, you must also have your educational institution complete the Certification of Oral Conscious Sedation for Minors Training (OCSM-2) form.
- Non-refundable application fee: $200

BOARD-APPROVED PROGRAMS

The Board has approved courses in minor patient oral conscious sedation offered by the following providers:

- LLU, Dept. of Continuing Dental Education (909-558-4685)
- UCLA, Dept. of Continuing Dental Education (310-206-8388)
- CME Associates, Orange (714-998-2208)
- UCSF, Continuing Dental Education (415-476-1101)
- USC, Continuing Oral Health Professional Education (213-821-2127) or e-mailcedental@usc.edu
- DOCS Education (866-592-9618) DOCS Education **Part of the 20/20 show may want to reconsider**

RENEWING YOUR PERMIT

Oral Conscious Sedation Certificates for Minor Patients expire when the qualifying license expires and must be renewed every two years. The fee for renewal is $75. The Continuing Education requirement for renewal is seven units of approved courses related to oral conscious sedation of minors.

For more information, contact David Wolf 916-263-2356 or at David.Wolf@dca.ca.gov.

Thanks,

Dr. Saxe

234 CMR 6.00: ADMINISTRATION OF ANESTHESIA AND SEDATION

Section

6.01: Scope
6.02: Definitions
6.03: Facility Permit: Anesthesia Permits Required for Facilities
6.04: Facility Permit: D-A: Facility Requirements for Administration of General Anesthesia and Deep Sedation
6.05: Facility Permit D-B1: Facility Requirements for Administration of Moderate Sedation including Nitrous Oxide-oxygen in Conjunction with any Anesthetic or Enteral Sedative Agents Dispensed or Administered in the Dental Facility
6.06: Facility Permit D-B2: Facility Requirements for Administration of Minimal Sedation and/or Nitrous Oxide-oxygen in Conjunction with an Enteral Agent Dispensed or Administered in a Dental Facility
6.07: Facility Permit D-C: Administration of Nitrous Oxide-oxygen Sedation Only
6.08: Mobile Facility Permit D-H: Facility Requirements for Dental Offices Using Mobile and/or Portable Anesthesia Services
6.09: Facility Permit D-P: Requirements for the Use and Provision of Portable and/or Mobile Anesthesia Services
6.10: Requirements for Individual Anesthesia Permits for the Administration of General Anesthesia, Deep Sedation, Moderate Sedation, Minimal Sedation, Nitrous Oxide-oxygen, and Local Anesthesia
6.11: Individual Permit A: Administration of General Anesthesia and/or Deep Sedation
6.12: Individual Permit B-1: Administration of Moderate Sedation and Nitrous Oxide-oxygen in Conjunction with any Other Anesthetic or Enteral Sedative Agents Dispensed or Administered in a Dental Facility
6.13: Individual Permit B-2: Facility Requirements for Administration of Minimal Sedation and/or Nitrous Oxide-oxygen in Conjunction with an Enteral Agent Dispensed or Administered in a Dental Facility
6.14: Individual Permit C: Administration of Nitrous Oxide-oxygen Alone or in Conjunction with Local Anesthesia
6.15: Administration of Local Anesthesia Only
6.16: Permit L: Administration of Local Anesthesia by a Dental Hygienist
6.17: Reporting of Adverse Occurrences
6.18: Penalty for Non-compliance

6.01: Scope

In order to ensure the protection and safety of patients, every dental facility must be properly equipped, supplied and permitted for the administration of specific types of anesthesia and levels of sedation, and every dentist and/or dental hygienist must be properly educated, trained, and permitted for the specific type of anesthesia or sedation being administered. To guarantee a wide margin of safety for the patient, the qualifications and requirements for permits for anesthesia administration shall be based on a continuum of types of procedures, equipment, drugs, qualifications and training of personnel necessary and appropriate for each type of anesthesia or sedation to be administered at the site.

The following standards are based on the *ADA Guidelines for The Use of Sedation and General Anesthesia by Dentists* 2007 and the *Guidelines for Office Anesthesia On-site Evaluation of the Massachusetts Society of Oral and Maxillofacial Surgeons, 2006*, and shall be applied in determining the adequacy of the facility and competence of the personnel administering anesthesia and/or sedation.

(1) A dentist licensed to practice dentistry in the Commonwealth pursuant to M.G.L. c. 112, §§ 45 and 45A, may administer local anesthesia in a facility that complies with the requirements of 234 CMR 6.15.

(2) Facility Permits. A dental facility where general anesthesia or deep sedation, moderate sedation, minimal sedation and/or nitrous oxide-oxygen are administered shall have a Facility Permit D issued by the Board for the type of anesthesia to be administered, unless the facility is exempt from permitting requirements pursuant to 234 CMR 6.03(1)(e).

6.01: continued

(3) A Facility Permit D is not required for the administration of local anesthesia only.

(4) Individual Anesthesia Permits for a Qualified Dentist. A qualified licensee pursuant to M.G.L. c. 112, § 45 is required to obtain an Individual Anesthesia Permit issued by the Board for the type of anesthesia to be administered before he or she may administer general anesthesia, deep sedation, moderate sedation, minimal sedation, or nitrous oxide-oxygen in a dental facility having a Facility D Permit for the type of anesthesia the dentist will be administering.

(5) Individual Anesthesia Permit for Qualified Dental Hygienist. A qualified dental hygienist is required to obtain a Permit L issued by the Board for the administration of local anesthesia under the direct supervision of a licensed dentist.

(6) A dentist issued an individual anesthesia permit may administer anesthesia or sedation of the type authorized by his/her individual anesthesia permit only at those sites which have a Facility Permit issued by the Board for the type of anesthesia being administered by said dentist, unless the facility is exempt from these standards under 234 CMR 6.03(1)(c).

(7) Anesthesia Administration Evaluations. The Board may conduct anesthesia administration evaluations as deemed necessary by the Board to ensure compliance with the requirements in 234 CMR 6.00. Such an evaluation may include observing the administration of anesthesia appropriate to the permit sought by the licensee. Every applicant shall be given notice by the Board of all deficiencies reported as a result of the evaluation. The Board may provide the applicant with a reasonable period of time in which any deficiencies must be corrected. If the results of the evaluation are deemed unsatisfactory, the Board may conduct a second evaluation, within a reasonable time, or upon written request of the applicant.

(8) Inspections. The Board may require an on-site inspection of any facility, medications, equipment and qualifications of personnel utilized in the administration of general anesthesia, deep sedation, moderate sedation or nitrous oxide-oxygen sedation.

(9) Refusal to permit an anesthesia evaluation or inspection shall constitute a valid ground for denial, suspension or revocation of an anesthesia permit.

6.02: Definitions

ADA Sedation Guidelines means the *American Dental Association Policy Statement: The Use of Sedation and General Anesthesia by Dentists*; *The Guidelines for Teaching Pain Control Sedation to Dentists and Dental Students 2007;* and *The Guidelines for the Use of Sedation and General Anesthesia by Dentists*.

AHA/ACLS Guidelines means the *2005 American Heart Association Guidelines for Cardiopulmonary Resuscitation and Emergency Cardiovascular Care*.

Analgesia means the diminution or elimination of pain. An analgesic (colloquially known as a "painkiller") is any member of the diverse group of drugs used to control pain.

Anesthesia means an artificially induced insensibility to pain usually achieved by the administration of gases or the use of drugs.

ASA I, II, III, and IV are classifications of patient physical status as determined by the American Society of Anesthesiologists (ASA).

Conscious Sedation means sedation in which protective reflexes are normal or minimally altered. The patient remains conscious and maintains the ability to independently maintain an airway and respond appropriately to verbal command. Conscious sedation also includes the use of other sedative agents and/or pre-medication in combination with nitrous oxide-oxygen.

6.02: continued

Continual means repeated regularly and frequently in a steady succession.

Continuous means prolonged without any interruption at any time.

Deep Sedation means a drug-induced depression of consciousness during which patients cannot be easily aroused but respond purposefully following repeated or painful stimulation. The ability to independently maintain ventilatory function may be impaired. Patients may require assistance in maintaining a patent airway, and spontaneous ventilation may be inadequate. Cardiovascular function is usually maintained. (American Society of Anesthesiologists, adopted October 2009)

Enteral means any technique of administration in which the agent is absorbed through the gastrointestinal (GI) tract or oral mucosa (*i.e.*, oral, rectal, sublingual).

Facility Permits are issued by the Board before a qualified dentist licensed pursuant to M.G.L. c. 45 or a medical anesthesiologist licensed by the Massachusetts Board of Registration in Medicine may administer general anesthesia and/or deep sedation, moderate sedation, minimal sedation or nitrous oxide-oxygen in a dental office. A dentist owning or operating a dental facility or practice must obtain a Facility Permit in order to allow the administration of these categories of anesthesia services to be provided on the premises. The types of Facility Permits issued by the Board are:

(a) Facility Permit D-A authorizes the administration of general anesthesia, deep, moderate, minimal sedation, and nitrous oxide-oxygen sedation at the site named on the Permit, as performed by a qualified dentist licensed to practice under M.G.L. c. 112, § 45 or by a medically licensed anesthesiologist.

(b) Facility Permit D-B1 authorizes the administration of moderate, minimal and nitrous oxide-oxygen sedation at the site named on the Permit, as performed by a qualified dentist licensed to practice under M.G.L. c. 112, § 45 or by a medically licensed anesthesiologist.

(c) Facility Permit D-B2 authorizes the administration of minimal sedation at the site named on the Permit, as performed by a qualified dentist licensed to practice under M.G.L. c. 112, § 45, or by a medically licensed anesthesiologist.

(d) Facility Permit D-C authorizes the administration of nitrous oxide-oxygen sedation on the premises named on the permit by a qualified dentist licensed to practice dentistry in the Commonwealth under M.G.L. c. 112, § 45, or by a medically licensed anesthesiologist.

(e) Facility Permit D-H authorizes the dental facility or practice site named on the Permit to contract for or host a mobile or portable anesthesia service offered by a qualified dentist licensed under M.G.L. c. 112, § 45 who holds a Facility Permit D-P, or offered by a medically licensed anesthesiologist.

(f) Facility Permit D-P authorizes a qualified dentist to use his/her portable or mobile anesthesia equipment, drugs and personnel for the administration of general anesthesia, deep sedation, moderate sedation; minimal sedation, or nitrous oxide-oxygen sedation at a dental facility or dental practice that possesses a Facility Permit D-H.

General Anesthesia means a drug-induced loss of consciousness during which patients are not arousable, even by painful stimulation. The ability to independently maintain ventilatory function is often impaired. Patients often require assistance in maintaining a patent airway, and positive pressure ventilation may be required because of depressed spontaneous ventilation or drug induced depression of neuromuscular function. Cardiovascular function may be impaired. (American Society of Anesthesiologists, adopted October 2009)

Immediately Available means physically located in the facility and ready for immediate response or utilization.

Incremental Dosing means administration of multiple doses of a drug until a desired effect is reached, but not to exceed the maximum recommended dose.

6.02: continued

Individual Anesthesia Permits are permits authorizing qualified dentists to administer deep sedation and general anesthesia, moderate sedation, minimal sedation, and/or nitrous oxide-oxygen sedation that may be issued by the Board to a dentist licensed to practice pursuant to M.G.L. c. 112, § 45 who meets the qualifications specified in 234 CMR 6.10, 6.11, 6.12, 6.13, and/or 6.14. The following individual anesthesia permits may be issued:

(a) Individual Permit A authorizes a qualified dentist to administer general anesthesia, deep sedation, moderate sedation, minimal sedation, and nitrous oxide-oxygen in a dental facility that has the required Facility Permit for the type of anesthesia being administered by said dentist.

(b) Individual Permit B-1 authorizes a qualified dentist to administer moderate sedation and nitrous oxide-oxygen in conjunction with any other anesthetic or enteral sedative agents dispensed or administered in the dental facility that has the required Facility Permit for the type of anesthesia being administered by said dentist.

(c) Individual Permit B-2 authorizes a qualified dentist to administer minimal sedation and/or nitrous oxide-oxygen in conjunction with an enteral agent dispensed or administered in the dental facility that has the required Facility Permit for the type of anesthesia being administered by said dentist.

(d) Individual Permit C authorizes a qualified dentist to administer nitrous oxide-oxygen alone, or in conjunction with a local anesthetic in a dental facility that has the required Facility Permit for the type of anesthesia being administered by said dentist.

Inhalation means a technique of administration in which a gaseous or volatile agent is introduced into the lungs and whose primary effect is due to absorption through the gas/blood interface.

Local Anesthesia means the elimination of sensation, especially pain, in one part of the body by the topical application or regional injection of a drug. Administration of local anesthesia requires awareness of the maximum, safe dosage limits for each patient.

Maximum Recommended Dose means the maximum FDA-recommended dose of a drug as printed in FDA approved labeling for unmonitored home use.

Minimal Sedation (Anxiolysis) is a drug-induced state during which patients respond normally to verbal commands. Although cognitive function and physical coordination may be impaired, airway reflexes, and ventilatory and cardiovascular functions are unaffected. (American Society of Anesthesiologists, adopted October 2009).

Mobile Anesthesia Permit P means a permit issued by the Board to a qualified dentist anesthesiologist who travels to a dental office(s) bringing equipment, supplies, drugs and qualified staff for the purpose of providing mobile or portable anesthesia or sedation services at a dental office which has the required Facility Permit D-H to contract or host an anesthesia service that uses portable or mobile dental anesthesia equipment, drugs, and personnel.

Moderate Sedation is a drug-induced depression of consciousness during which patients respond purposefully to verbal commands, either alone or accompanied by light tactile stimulation. No interventions are required to maintain a patent airway, and spontaneous ventilation is adequate. Cardiovascular function is usually maintained. *American Society of Anesthesiologists*, adopted October 2009. Administration of moderate sedation includes parenteral, enteral and/or combination inhalation-enteral conscious sedation.

Nitrous Oxide-oxygen Sedation means conscious sedation accomplished solely by the use of nitrous oxide-oxygen.

Operating Dentist means a dentist licensed pursuant to M.G.L. c. 112, § 45 to practice dentistry in the Commonwealth who provides treatment to the patient.

Parenteral means a technique of administration in which drugs bypass the gastrointestinal (GI) tract, *e.g.* through intramuscular (IM), intravenous (IV), intranasal (IN), sub mucosal (SM), subcutaneous (SC), or intraosseous (IO) administration.

6.02: continued

Pediatric Advanced Life Support (PALS) Certification means that an individual has successfully completed a pediatric advanced life support course offered by the American Heart Association or other entity approved by the Board.

Permit L means a permit issued by the Board to a dental hygienist who is qualified to administer local anesthesia under the direct supervision of a dentist licensed to practice pursuant to M.G.L. c. 112, § 45.

Qualified Dentist means a dentist licensed pursuant to M.G.L. c. 112, § 45 to practice dentistry in the Commonwealth who has completed the appropriate education and training and holds a current permit to administer deep sedation and general anesthesia, moderate sedation, minimal sedation, and/or nitrous oxide-oxygen pursuant to 234 CMR 6.00.

Routes of Administration include parenteral, enteral, and inhalation-enteral methods.

Supplemental Dosing means the administration of a single additional dose of the initial drug administered during sedation.

Time-oriented Anesthesia Record means documentation of drugs, doses, and physiologic data obtained during patient monitoring at appropriate time intervals.

Titration means the administration of incremental doses of a drug until the desired effect is reached, and applies to achieving moderate and deeper levels of sedation.

Transdermal means a technique of administration in which a drug is administered by patch or iontophoresis through the skin.

Transmucosal means a technique of administration in which the drug is administered across mucosa such as intranasal, sublingual, or rectal.

6.03: Facility Permit: Anesthesia Permits Required for Facilities

(1) General Requirements.

(a) Prior to the administration of general anesthesia and/or deep sedation, moderate sedation, minimal sedation, or nitrous oxide-oxygen in a dental office by a qualified dentist as described in 234 CMR 6.02, or a medical anesthesiologist licensed by the Massachusetts Board of Medicine, a dental facility must obtain a Facility Permit issued by the Board to allow the administration of these anesthesia services on the premises.

(b) The Board may issue a Facility Permit for a specific office site in the name of a dentist who is qualified and licensed pursuant to M.G.L. c. 112, § 45.

(c) Exemption: A Facility Permit is not required for the administration of anesthesia at those hospital and/or dental school settings that have been approved by the Joint Commission on Accreditation of Hospitals or the Commission on Accreditation of the Council on Education of the American Dental Association, or for hospitals and clinics licensed pursuant to M.G.L. c. 111, §§ 51 through 56. A private dental office of a licensed dentist that is located within a hospital or dental school facility, however, is subject to 234 CMR 6.00.

(d) A Facility Permit issued by the Board shall be posted in each office in a public area.

(e) A Facility Permit issued by the Board is not transferable to another person, site, location, facility or entity.

(2) Initial Application and Renewal of a Facility Permit.

(a) Initial Application for a Facility Permit shall be submitted on forms provided by the Board and shall be accompanied by:

1. The permit fee, to be determined annually by the Executive Office of Administration and Finance; and
2. Documentation demonstrating compliance with any and all requirements for the permit for the type(s) of anesthesia to be administered at the site(s) named in the application.

6.03: continued

(b) Renewal of a Facility Permit shall be biennial, at the same time the applicant's license to practice dentistry is renewed, and shall be made on forms provided by the Board and accompanied by the permit fee, to be determined annually by the Executive Office of Administration and Finance.

6.04: Facility Permit D-A: Facility Requirements for the Administration of General Anesthesia and Deep Sedation

(1) Application. An applicant shall submit an accurate and complete application on form(s) provided by the Board and accompanied by the permit fee to be determined annually by the Executive Office of Administration and Finance. The application shall, at a minimum, include the following:

(a) Applicant name and Massachusetts dental license number;

(b) Name(s) of dental establishment(s), owner(s) of said establishment(s), and address(es) of the site(s) where anesthesia will be administered;

(c) Documentation of provision and maintenance of equipment, materials, and drugs required for the administration of general anesthesia and deep, moderate, minimal and nitrous oxide-oxygen sedation; and either

1. A written request for an on-site inspection conducted by the Board; or
2. A certificate of successful completion of an on-site inspection conducted by the Massachusetts Society of Oral and Maxillofacial Surgeons, if eligible by membership in that organization.

(2) Equipment Required for Facility Permit D-A. The following equipment shall be required to be provided and maintained on-site:

(a) Alternative light source for use during power failure;
(b) Ambu-bag or portable bag-mask ventilator;
(c) Automated or manual external defibrillator;
(d) Current certifications in Advanced Cardiac Life Support (ACLS);
(e) Disposable CPR masks, pediatric and adult;
(f) Disposable syringes (assorted sizes);
(g) Endotracheal tubes with inflatable cuffs and other equipment designed to maintain patient airway including:
1. Pediatric endotracheal tubes, assorted sizes;
2. Adult endotracheal tubes, assorted sizes;
3. Connectors from tubes to gas delivery machines;
4. Syringe for cuff inflation; and
5. Stylet.
(h) Endotracheal tube forceps;
(i) Equipment for emergency crico-thyroidotomy and/or tracheostomy with appropriate connectors to deliver 100% oxygen and establish an emergency airway;
(j) Equipment for the insertion and maintenance of an intravenous infusion
(k) Equipment suitable for proper positioning of the patient for administration of cardio-pulmonary resuscitation, including a back board;
(l) Equipment for continuous monitoring during anesthesia;
(m) Gas delivery system capable of positive pressure ventilation, which must include:
1. Oxygen;
2. Safety-keyed hose attachments;
3. Capability to administer 100% oxygen in all rooms (operatory, recovery, examination, and reception);
4. Gas storage in compliance with safety codes;
5. Adequate waste gas scavenging system; and
6. Nasal hood or cannula.
(n) Laryngoscope (straight and/or curved blades, assorted sizes; extra batteries and bulbs);
(o) Latex free tourniquet;
(p) List of emergency telephone numbers clearly visible;
(q) Magill forceps or other suitable instruments;
(r) Means of monitoring blood pressure (pediatric and adult);

6.04: continued

(s) Means of monitoring heart rate and rhythm, with battery pack back-up;
(t) Means of monitoring respirations;
(u) Means of monitoring temperature;
(v) Means of transporting patients;
(w) Method to accurately record elapsed time;
(x) Nasopharyngeal airways (pediatric and adult);
(y) Oropharyngeal airways (pediatric and adult);
(z) Oxygen (portable Cylinder E tank) pediatric and adult masks capable of giving positive pressure ventilation including bag-valve-mask system;
(aa) Scavenger system, if inhalation agents are used;
(bb) Sphygmomanometer and stethoscope (pediatric and adult);
(cc) Suction:
1. Suction catheter for endotracheal tube;
2. Tonsillar suction tip;
3. Suction equipment for use during power failure; and
4. Capability of suction in all operatories and recovery rooms.
(dd) Schedule and log for checking and recording dates when anesthesia accessories and supply of emergency drugs have been checked;
(ee) If nitrous oxide and oxygen delivery equipment capable of delivering less than 25% oxygen is used, an in-line oxygen analyzer must be used; and
(ff) Any other equipment as may be required by the Board.

(3) Drugs Required for Facility Permit D-A. The following drugs and/or categories of drugs shall be provided and maintained in accordance with the AHA/ACLS Guidelines (234 CMR 6.02) or as determined by the Board for emergency use. All drugs shall be current and not expired.
(a) Acetylsalicylic acid (rapidly absorbable form);
(b) Ammonia inhalants;
(c) Anticonvulsant;
(d) Antihistamine;
(e) Antihypolglycemic agent;
(f) Antihypertensive medications;
(g) Antiemetic;
(h) Atropine;
(i) Bronchodilator;
(j) Corticosteroid;
(k) Dantrolene Sodium (required if a halogenated anesthesia agent *e.g.* halothane, enflurane, isoflurane is used or depolorizing skeletal muscle relaxants *e.g.* succinylcholine are administered);
(l) Epinephrine pre-loaded syringes and ampules (pediatric and adult);
(m) Lidocaine;
(n) Intravenous antihypoglycemic agent (dextrose 50% or glucagon);
(o) Medication to treat supraventricular tachycardia (*e.g.* adenosine, verapamil, *etc.*);
(p) Muscle relaxants;
(q) Narcotic antagonist and reversing agents;
(r) Oxygen;
(s) Sodium bicarbonate;
(t) Succinylcholine;
(u) Vasodilator;
(v) Vasopressor; and
(w) And any other drugs or categories of drugs as may be required by the Board.

6.05: Facility Permit D-B1: Facility Requirements for Administration of Moderate Sedation including Nitrous Oxide-oxygen in Conjunction with any Anesthetic or Enteral Sedative Agents Dispensed or Administered in the Dental Facility

(1) Application. An applicant shall submit an accurate and complete application on form(s) provided by the Board and accompanied by the permit fee to be determined annually by the Executive Office of Administration and Finance. The application shall, at a minimum, include the following:
(a) Applicant name and Massachusetts dental license number;
(b) Name(s) of dental establishment(s), owner(s) of said establishment, and address(es) of the site(s) where anesthesia will be administered;
(c) Documentation of provision and maintenance of equipment, materials, and drugs required for the administration of moderate, minimal and nitrous oxide-oxygen sedation;
(d) A written request for an on-site inspection conducted by the Board; and
(e) Other information as may be requested by the Board.

(2) Equipment Required for a Facility Permit D-B1. The following equipment shall be required to be provided and maintained on-site:
(a) Alternative light source for use during power failure;
(b) Automated or manual external defibrillator;
(c) Disposable syringes, assorted sizes;
(d) Disposable CPR masks (pediatric and adult);
(e) Equipment suitable for proper positioning of the patient for administration of cardio-pulmonary resuscitation, including a back board;
(f) Equipment and maintenance of an intravenous infusion (if IV medications are to be administered by a qualified dentist who is educated and trained commensurate with the *ADA Guidelines of Teaching Pain Control Sedation to Dentists and Dental Students 2007*;
(g) Gas delivery system capable of positive pressure ventilation, which must include:
1. Oxygen;
2. Safety-keyed hose attachments;
3. Capability to administer 100% oxygen in all rooms (operatory, recovery, examination, and reception);
4. Gas storage in compliance with safety codes;
5. Adequate waste gas scavenging system; and
6. Nasal hood or cannula.
(h) Latex free tourniquet;
(i) Means of monitoring vital signs (pediatric and adult);
(j) Oxygen (portable Cylinder E tank) pediatric and adult masks capable of giving positive pressure ventilation (including bag-valve-mask system);
(k) Pulse oximeter with battery pack;
(l) Sphygmomanometer and stethoscope (pediatric and adult);
(m) Suction;
(n) Supervised area for recovery; and
(o) Any other equipment as may be required by the Board.

(3) Drugs Required for a Facility Permit D-B1 Permit. The following drugs and/or categories of drugs shall be provided and maintained in accordance with the AHA/ACLS Guidelines (234 CMR 6.02) or as determined by the Board for emergency use. All drugs shall be current and not expired.
(a) Acetylsalicylic acid (readily absorbable form);
(b) Ammonia inhalants;
(c) Anticonvulsant;
(d) Antihistamine;
(e) Antihypoglycemic agent;
(f) Bronchodilator;
(g) Corticosteroid;
(h) Epinephrine preloaded syringes (pediatric and adult);
(i) Two epinephrine ampules;
(j) Oxygen;
(k) Vasodilator;

6.05: continued

(l) Vasopressor;
(m) Reversal agents; and
(n) Any other drug or category of drugs as may be required by the Board.

6.06: Facility Permit D-B2: Facility Requirements for Administration of Minimal Sedation and/or Nitrous Oxide-oxygen in Conjunction with an Enteral Agent Dispensed or Administered in a Dental Facility

(1) Application. An applicant shall submit an accurate and complete application on form(s) provided by the Board and accompanied by the permit fee to be determined annually by the Executive Office of Administration and Finance. The application shall, at a minimum, include the following:
(a) Applicant name and Massachusetts dental license number;
(b) Name(s) of dental establishment(s), owner(s) of said establishment, and address(es) of the site(s) where anesthesia will be administered;
(c) Documentation of provision and maintenance of equipment, materials, and drugs required for the administration of minimal and nitrous oxide-oxygen sedation;
(d) A written request for an on-site inspection conducted by the Board; and
(e) Any other information as may be requested by the Board.

(2) Equipment Required for a Facility Permit D-B2. The following equipment shall be required to be provided and maintained on-site;
(a) Alternative light source for use during power failure;
(b) Automated or manual external defibrillator;
(c) Disposable CPR masks (pediatric and adult);
(d) Disposable syringes, assorted sizes
(e) Equipment suitable for proper positioning of the patient for administration of cardio-pulmonary resuscitation, including a back board;
(f) Gas delivery system capable of positive pressure ventilation, which must include:
1. Oxygen;
2. Safety-keyed hose attachments;
3. Capability to administer 100% oxygen in all rooms (operatory, recovery, examination, and reception);
4. Gas storage in compliance with safety codes;
5. Adequate waste gas scavenging; and
6. Nasal hood or cannula.
(g) Latex free tourniquet;
(h) Means of monitoring vital signs (pediatric and adult);
(i) Oxygen (portable Cylinder E tank) pediatric and adult masks capable of giving positive pressure ventilation (including bag-valve-mask system);
(j) Pulse oximeter with battery pack;
(k) Sphygmomanometer and stethoscope (pediatric and adult);
(l) Suction;
(m) Supervised area for recovery; and
(n) Any other equipment as may be required by the Board.

(3) Drugs Required for a Facility Permit D B-2. The following drugs and/or categories of drugs shall be provided and maintained in accordance with the AHA/ACLS Guidelines (234 CMR 6.02) or as determined by the Board for emergency use. All drugs shall be current and not expired.
(a) Acetylsalicylic acid (readily absorbable form);
(b) Ammonia inhalants;
(c) Anticonvulsant;
(d) Antihistamine;
(e) Antihypoglycemic agent;
(f) Bronchodilator;
(g) Corticosteroid;
(h) Epinephrine-preloaded syringes (pediatric and adult);
(i) Oxygen;

6.06: continued

(j) Reversal agents;
(k) Two epinephrine ampules;
(l) Vasodilator;
(m) Vasopressor; and
(n) Any other drugs or categories of drugs as may be required by the Board.

6.07: Facility Permit D-C: Administration of Nitrous Oxide-oxygen Sedation Only

(1) Application. An applicant shall submit an accurate and complete application on form(s) provided by the Board and accompanied by the permit fee to be determined annually by the Executive Office of Administration and Finance. The application shall, at a minimum, include the following:
(a) Applicant name and Massachusetts dental license number;
(b) Name(s) of dental establishment(s), owner(s) of said establishment(s), and address(es) of the site(s) where anesthesia will be administered; and
(c) Documentation of the provision and maintenance of equipment, materials, and drugs required for emergency response and the administration of nitrous oxide-oxygen sedation.

(2) Equipment Required for a Facility Permit D-C.
(a) Alternative light source for use during power failure;
(b) Automated or manual external defibrillator, except that the manual defibrillator shall only be operated by an individual certified in ACLS or PALS;
(c) Disposable CPR masks (pediatric and adult);
(d) Disposable syringes (assorted sizes);
(e) Gas delivery system capable of positive pressure, which must include:
1. An oxygen fail-safe system;
2. Safety-keyed hose attachments;
3. Capability to administer 100% oxygen in all rooms (operatory, recovery, examination, and reception);
4. Gas storage in compliance with safety codes;
5. Adequate waste gas scavenging; and
6. Nasal hood or cannula.
(f) Pulse oximeter;
(g) Sphygmomanometer and stethoscope (pediatric and adult);
(h) Suction; and
(i) Any other equipment as may be required by the Board.

(3) Drugs Required for a Facility Permit D-C. The following drugs and/or categories of drugs shall be provided and maintained in accordance with the AHA/ACLS Guidelines (234 CMR 6.02) or as determined by the Board for emergency use. All drugs shall be current and not expired.
(a) Acetylsalicylic acid (readily absorbable form);
(b) Ammonia inhalants;
(c) Antihistamine;
(d) Antihypoglycemic agent;
(e) Bronchodilator;
(f) Epinephrine preloaded syringes (pediatric and adult);
(g) Two epinephrine ampules;
(h) Oxygen;
(i) Vasodilator; and
(j) Any other drugs or categories of drugs as may be required by the Board.

6.08: Mobile Facility Permit D-H: Facility Requirements for Dental Offices Using Mobile and/or Portable Anesthesia Services

Each dental facility or practice site utilizing mobile or portable anesthesia services is required to have a Facility Permit D-H. The operating dentist shall be responsible for ensuring that the qualified dental anesthesiologist has the proper individual anesthesia permit issued by the Board, and that the portable anesthesia service is appropriately permitted and equipped in accordance with 234 CMR 6.00 for the level of pain control and/or sedation to be provided.

(1) Application. An applicant shall submit an accurate and complete application on form(s) provided by the Board and accompanied by the permit fee to be determined annually by the Executive Office of Administration and Finance. The application shall, at a minimum, include the following:

(a) Applicant name and Massachusetts dental license number;
(b) Name(s) of dental establishment(s), owner(s) of said establishment(s), and address(es) of the site(s) where anesthesia will be administered; and
(c) Documentation of the provision and maintenance of equipment, materials, and drugs and emergency response protocols required by the Board pursuant to 234 CMR 6.08(2).

(2) Equipment and Drugs Required for Facility Permit D-H: Equipment and Drugs Required for Facility Permit D-H. A facility that hosts a mobile or portable dental anesthesia service will be required, at a minimum, to have the following equipment supplies and drugs:

(a) Equipment and Supplies:
1. Alternative light source for use during power failure;
2. Automated or manual external defibrillator, except that the manual defibrillator shall only be operated by an individual certified in ACLS or PALS;
3. Disposable CPR masks (pediatric and adult);
4. Disposable syringes, assorted sizes;
5. Latex-free tourniquet;
6. Oxygen (portable Cylinder E tank) pediatric and adult masks capable of giving positive pressure ventilation (including bag-valve-mask system);
7. Sphygmomanometer and stethoscope (pediatric and adult);
8. Suction; and
9. Any other equipment as may be required by the Board.

(b) Drugs. The following drugs and/or categories of drugs shall be provided and maintained in accordance with the AHA/ACLS Guidelines (234 CMR 6.02) or as determined by the Board for emergency use. All drugs shall be current and not expired
1. Acetylsalicylic acid (readily absorbable form);
2. Ammonia inhalants;
3. Antihistamine;
4. Antihypoglycemic agent;
5. Bronchodilator;
6. Epinephrine preloaded syringes (pediatric and adult);
7. Two epinephrine ampules;
8. Oxygen;
9. Vasodilator; and
10. Any other drugs or categories of drugs as may be required by the Board.

(3) The operating dentist shall be responsible for ensuring that the qualified dental anesthesiologist has the proper anesthesia permit and that the portable anesthesia service is appropriately permitted for the level of pain control and/or sedation to be provided.

6.09: Facility Permit D-P: Requirements for the Use and Provision of Portable and/or Mobile Anesthesia Services

(1) A qualified dentist anesthesiologist who travels to dental facilities or practice sites for the purpose of delivering anesthesia services or sedation services at the site must hold a Mobile Facility D-P Permit for the use of portable and/or mobile anesthesia equipment, supplies and personnel.

6.09: continued

(2) Application. Each applicant shall submit an accurate and complete application on form(s) provided by the Board and accompanied by the permit fee to be determined annually by the Executive Office of Administration and Finance. The application shall, at a minimum, include the following:

(a) Applicant name and Massachusetts dental license number, and copy of current Individual Anesthesia Permit number or copy of a permit application pending approval by the Board;
(b) Name(s) of dental establishment(s), owner(s) of said establishment(s), and address(es) of the site(s) where mobile or portable anesthesia will be administered;
(c) Documentation of provision and maintenance of equipment, materials, and drugs required for the administration of the type of anesthesia to be administered;
(d) Request for an on-site inspection by the Board of the applicant's equipment, supplies, anesthesia administration protocols, and site(s) where anesthesia will be administered;
(e) Names and qualifications of staff who will assist the applicant in the administration of anesthesia;
(f) Copies of the following:
1. Proof of current ACLS (BLS for auxiliaries) certification for the applicant and other dental professionals, as applicable for the type of anesthesia or sedation to be administered by the applicant;
2. Medical history form to be utilized by the applicant;
3. Anesthesia chart;
4. Schedule of drug and equipment checks;
5. Written protocol for management of emergencies;
6. Schedule of emergency drills; and
7. List of drugs and equipment that the applicant will provide at each site.
(g) Other information as may be requested by the Board.

(3) The holder of a Facility Permit D-P shall comply with requirements of 234 CMR 6.00 pertaining to the category of anesthesia/sedation to be administered including:

(a) Equipment and drugs;
(b) Auxiliary personnel;
(c) Patient evaluation;
(d) Pre-operative preparation;
(e) Patient monitoring and documentation;
(f) Management of recovery and discharge of patients;
(g) Management of pediatric and special needs patients; and
(h) Emergency management.

(4) The holder of a Facility Permit D-P shall:

(a) Comply with requirements of the Board pursuant to 234 CMR 5.05 and the reporting of adverse occurrences, pursuant to 234 CMR 6.17;
(b) Employ and provide immediate supervision of at least one dental or clinical auxiliary who is trained and qualified to assist in anesthesia administration and who is fully familiar with the procedures and protocols of the permit holder at each site where anesthesia is being administered by said permit holder;
(c) Schedule and perform maintenance checks of all equipment conducted by a certified equipment vendor at least once per year, and retain maintenance records for a minimum of three years;
(d) Conduct annual emergency drills for all staff involved in the administration of anesthesia, and retain records that describe the dates of the training activities, content of the training, and the attendance roster for a minimum of three years; and
(e) Place a copy of the anesthesia chart in the patient's dental record at the site where the anesthesia was administered.

(5) The Facility Permit D-P, or a copy thereof, shall be prominently displayed in the facility by the qualified dental anesthesiologist whenever and wherever he/she is providing anesthesia services.

(6) The operating dentist shall be responsible for verifying that the qualified dental anesthesiologist has the proper anesthesia permit and that the portable anesthesia service is appropriately permitted for the level of pain control and/or sedation to be provided.

6.09: continued

(7) The qualified dental anesthesiologist shall be responsible for verifying that the operating dentist and his/her clinical staff maintain current certification in ACLS or BLS for Healthcare Providers, as applicable given the type of anesthesia being administered.

(8) There shall be a written and signed agreement between the Facility Permit D-P applicant and the operating dentist for each site where anesthesia is to be administered by the Facility Permit D-P holder which, at a minimum describes how emergency response training and protocols will be developed and practiced, procedures for verifying qualifications of personnel who assist in the care and monitoring of the patient, responsibilities for pre- and post- operative patient assessment and monitoring, responsibilities for obtaining informed consent, and how compliance with applicable board statutes and regulations will be achieved and maintained at the site.

6.10: Requirements for Individual Anesthesia Permits for the Administration of General Anesthesia, Deep Sedation, Moderate Sedation, Minimal Sedation Nitrous Oxide-oxygen, and Local Anesthesia

(1) The Board may issue an anesthesia permit to administer deep sedation and general anesthesia, moderate sedation, minimal sedation, and nitrous oxide-oxygen sedation to a dentist licensed under the provisions of M.G.L. c. 112, § 45 who meets the qualifications described in 234 CMR 6.00.

(2) The Board may issue a dental hygienist licensed to practice pursuant to M. G. L. c. 112, § 51 a Permit L to administer local anesthesia under the direct supervision of a licensed dentist.

(3) Renewal of Individual Anesthesia Permits. An Individual Anesthesia Permit shall be renewed biennially by March 31st of even-numbered years. (234 CMR 4.10). The application for renewal of an Individual Anesthesia Permit shall be accompanied by the permit fee to be determined annually by the Executive Office of Administration and Finance.

Exemption: A dentist holding an Individual Anesthesia Permit issued on or before August 20, 2010 shall be exempt from the educational requirements contained in 234 CMR 6.00.

6.11: Individual Permit A: Administration of General Anesthesia and/or Deep Sedation

(1) Initial Application Requirements. An applicant shall submit an accurate and complete application on forms provided by the Board and accompanied by a fee established annually by the Executive Office of Administration and Finance, and includes documentation that demonstrates proof that the applicant:

(a) Is a dentist licensed under M.G.L. c. 112, § 45 to practice in the Commonwealth;
(b) Has current certification in ACLS or PALS;
(c) Has successfully completed an education program accredited by the ADA Commission on Dental Accreditation that provides comprehensive and appropriate training necessary to administer and manage deep sedation or general anesthesia, commensurate with Part III C of the *ADA Guidelines for the Use of Sedation and General Anesthesia*, 2007 at the time training was commenced; or
(d) Is certified by the American Board of Oral and Maxillofacial Surgery (ABOMS); or
(e) Is certified as a Fellow and/or has Board certification in Anesthesia issued by the American Dental Board of Anesthesiology.

(2) Auxiliary Personnel Required. A qualified dentist administering deep sedation and general anesthesia must have a minimum of three individuals present during the procedure:

(a) A dentist qualified in accordance with 234 CMR 6.11; and
(b) Two additional individuals who have been appropriately trained to assist in anesthesia administration and have current certification in BLS for the Healthcare Provider.
(c) When the same individual administering the deep sedation or general anesthesia is performing the dental procedure, one of the additional appropriately trained auxiliaries must be designated specifically for patient monitoring.

6.11: continued

(3) Patient Evaluation Required. Patients considered for deep sedation or general anesthesia must be suitably evaluated prior to the start of any sedative procedure. For healthy or medically stable patients (ASA I, II), this must consist of a review of their current medical history and medication use and NPO status. For patients with a significant medical history (ASA III, IV), consultation with their primary care physician or consulting medical specialist may be required.

(4) Pre-operative Preparation Required. Pre-operative preparation for the administration of deep sedation or general anesthesia shall include:

(a) The patient shall be advised regarding the procedure associated with the delivery of any sedative or anesthetic agents and a signed informed consent (234 CMR 5.15(3)(f)) for the proposed sedation/anesthesia shall be obtained prior to the administration of general anesthesia or deep sedation;
(b) Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed;
(c) Baseline vital signs, including blood pressure, respiration, and heart rate, must be obtained and documented in the patient record. If the patient's behavior or condition prohibits such determination, this must be documented in the patient record. The temperature of pediatric patients administered general anesthesia/deep sedation must be monitored;
(d) A medical history must be completed and problem-focused physical evaluation must be performed where deemed appropriate;
(e) Specific dietary instructions must be provided to the patient based upon the type of sedative/anesthetic technique prescribed and patient's physical status;
(f) Pre-operative verbal and written instructions must be given to the patient; and
(g) An intravenous line, which is secured throughout the procedure, must be established except as provided for pediatric and/or special needs patients (*see* 234 CMR 6.11(7)).

(5) Patient Monitoring and Documentation Required.

(a) A qualified dentist administering deep sedation or general anesthesia must remain in the room with the patient to monitor the patient continuously until the patient meets the criteria for recovery and must not leave the facility until the patient meets the criteria for discharge and is discharged from the facility.
(b) Monitoring and documentation of patient administered deep sedation or general anesthesia shall include, but not be limited to, continuous monitoring and evaluation of:

1. Color of mucosa, skin or blood (monitoring only);
2. Oxygenation saturation by pulse oximetry;
3. For intubated patient, end-tidal CO2;
4. For non-intubated patient, breath sounds via auscultation and/or end-tidal CO2;
5. Respiration rate;
6. Heart rate and rhythm via ECG and pulse oximetry;
7. Blood pressure (unless the patient is unable to tolerate such monitoring which must be specifically noted in the patient record);
8. A device capable of measuring body temperature must be readily available; and
9. Body temperature whenever triggering agents associated with malignant hyperthermia are administered.

(c) Anesthesia Chart. The Anesthesia Chart shall contain documentation of all events related to the administration of the sedative or anesthetic agents, including but not limited to the following:

1. Time-oriented anesthesia record including the names of all drugs administered, including local anesthetics, and date, dosage and method of administration;
2. Pulse oximetry and end-tidal CO2 measurements (if taken), heart rate, respiratory rate and blood pressure recorded at specific intervals during the procedure;
3. The duration of the procedure; and
4. The individuals present during the procedure.

(6) Requirements for Management of Recovery and Discharge of Patients. The recovery and discharge procedures for a patient administered deep sedation or general anesthesia, shall include, but not be limited to:

6.11: continued

(a) Immediate availability of oxygen and suction equipment;
(b) Continuous monitoring and documentation of the patient's blood pressure, heart rate, oxygenation and level of consciousness;
(c) Determination and documentation that the level of consciousness, oxygenation, ventilation, and circulation are satisfactory for discharge; and
(d) Documentation that post-operative verbal and written instructions have been provided to patient and responsible person.

(7) Requirements for Management of Pediatric and Special Needs Patients. The Board adopts the *American Academy of Pediatrics/American Academy of Pediatric Dentistry's Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation of Diagnostic and Therapeutic Procedures*, and the American Dental Association's guidance on pediatric and special needs patients as contained in its *Policy Statement on The Use of Sedation and General Anesthesia by Dentists* (2007).

(8) Requirements for Emergency Management. The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of sedation and providing and maintaining the equipment, drugs and protocol for patient rescue. If a patient enters a deeper level of sedation than the qualified dentist is permitted to provide, the dentist must stop the dental procedure until the patient returns to the intended level of sedation.

6.12: Individual Permit B-1: Administration of Moderate Sedation and Nitrous Oxide-oxygen in Conjunction with any Other Anesthetic or Enteral Sedative Agents Dispensed or Administered in a Dental Facility

(1) Initial Application Requirements. An applicant shall submit an accurate and complete application on forms provided by the Board and accompanied by a fee established annually by the Executive Office of Administration and Finance, and includes documentation that demonstrates proof the applicant:
(a) Is a dentist licensed under M.G.L. c. 112, § 45 to practice in the Commonwealth;
(b) Has current certification in ACLS or PALS;
(c) Has successfully completed an education program accredited by the ADA Commission on Dental Accreditation that provides comprehensive and appropriate training necessary to administer and manage moderate sedation commensurate with the *ADA Guidelines for Teaching Pain Control Sedation to Dentists and Dental Students*, 2007, at the time training was commenced; or
(d) Is certified by the American Board of Oral and Maxillofacial Surgery (ABOMS); or
(e) Is certified as a Fellow and/or has Board certification in Anesthesia issued by the American Dental Board of Anesthesiology.

(2) Auxiliary Personnel Required. A qualified dentist inducing moderate sedation must have at least two additional individuals trained in BLS present during the administration of the anesthesia.

(3) Patient Evaluation Required. Patients considered for moderate sedation must be suitably evaluated prior to the start of any sedative procedure. For healthy or medically stable patients (ASA I, II), this must consist of a review of their current medical history and medication use. For patients with a significant medical history (ASA III, IV), consultation with their primary care physician or consulting medical specialist may be required.

(4) Pre-operative Preparation Required. Pre-operative preparation for the administration of moderate sedation shall include:
(a) The patient or legal representative shall be advised regarding the procedure associated with the delivery of any sedative or anesthetic agents and a signed informed consent shall be obtained pursuant to 234 CMR 5.15(3)(f) for the proposed sedation/anesthesia obtained prior to the administration of the anesthesia or sedative agent(s);

6.12: continued

(b) Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed;
(c) Baseline vital signs, including blood pressure, respiration, and heart rate, must be obtained and documented in the patient record. If the patient's behavior prohibits such determination, this must be documented in the patient record;
(d) A medical history must be completed and problem focused physical evaluation must be performed where deemed appropriate;
(e) Specific dietary instructions must be provided to the patient based upon the type of sedative/anesthetic technique prescribed and patient's physical status; and
(f) Pre-operative verbal and written instructions must be given to the patient and responsible person.

(5) Patient Monitoring and Documentation Required.
(a) A qualified dentist administering moderate sedation anesthesia must remain in the room with the patient to monitor the patient continuously until the patient meets the criteria for recovery and must not leave the facility until the patient meets the criteria for discharge and is discharged from the facility.
(b) Monitoring and documentation of patient administered moderate sedation anesthesia shall include, but not be limited to continuous monitoring and evaluation of:
1. Color of mucosa, skin or blood (monitoring only);
2. Oxygenation saturation by pulse oximetry;
3. Level of consciousness (*e.g.* responsiveness to verbal command);
4. Chest excursions;
5. Ventilation either by auscultation of breath sounds, monitoring end-tidal CO2 or by verbal communication with the patient; and
6. ECG for patients with significant cardiovascular disease (may be considered).
(c) Anesthesia Chart. The Anesthesia Chart shall contain documentation of all events related to the administration of the sedative or anesthetic agents, including but not limited to the following:
1. Time-oriented anesthetic record including the names of all drugs administered, including local anesthetics, dosages, and monitored physiologic parameters;
2. Pulse oximetry, heart rate, respiratory rate, and blood pressure;
3. The duration of the procedure; and
4. The individuals present during the procedure.

(6) Requirements for Management of Recovery and Discharge of Patients.
(a) The recovery and discharge procedures for a patient administered moderate sedation anesthesia shall include, but not be limited to:
1. Immediate availability of oxygen and suction equipment;
2. Continuous monitoring and documentation of the patient's blood pressure, heart rate, oxygenation, and level of consciousness;
3. Determination and documentation that the level of consciousness, oxygenation, ventilation, and circulation are satisfactory for discharge; and
4. Post-operative verbal and written instructions provided.
(b) If a reversal agent is administered before discharge criteria have been met, the patient must be monitored until recovery is assured.

(7) Requirements for Management of Pediatric and Special Needs Patients. The Board adopts the American Academy of Pediatrics/American Academy of Pediatric Dentistry's *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation of Diagnostic and Therapeutic Procedures* and the American Dental Association's guidance on pediatric and special needs patients as contained in its policy statement on *The Use of Sedation and General Anesthesia by Dentists* (2007).

6.12: continued

(8) Requirements for Emergency Management. The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of sedation, providing and maintaining the equipment, drugs and protocol for patient rescue and conducting and documenting emergency drills. If a patient enters a deeper level of sedation than the qualified dentist is permitted to provide, the dentist must stop the dental procedure until the patient returns to the intended level of sedation.

6.13: Individual Permit B-2: Administration of Minimal Sedation and/or Nitrous Oxide-oxygen in Conjunction with an Enteral Agent Dispensed or Administered in a Dental Facility

(1) Initial Application Requirements. An applicant shall submit an accurate and complete application on forms provided by the Board and accompanied by a fee established annually by the Executive Office of Administration and Finance, and includes documentation that demonstrates proof that the applicant:

(a) Is a dentist licensed under M.G.L. c. 112, § 45 to practice in the Commonwealth;
(b) Has current certification in ACLS or PALS;
(c) Has successfully completed an education program that complies at a minimum with the *ADA Guidelines for Teaching Pain Control Sedation to Dentists and Dental Students, 2007*, at the time training was commenced; or
(d) Is certified by the American Board of Oral and Maxillofacial Surgery (ABOMS); or
(e) Is certified as a Fellow and/or has Board certification in Anesthesia issued by the American Dental Board of Anesthesiology.

(2) Auxiliary Personnel Required. A qualified dentist inducing minimum sedation must have at least one additional individual trained in BLS present during the administration of the anesthesia.

(3) Patient Evaluation Required. Patients considered for minimum sedation must be suitably evaluated prior to the start of any sedative procedure. For healthy or medically stable patients (ASA I, II), this must consist of a review of their current medical history and medication use. For patients with a significant medical history (ASA III, IV), consultation with their primary care physician or consulting medical specialist may be required.

(4) Pre-operative Preparation Required. Pre-operative preparation for the administration of minimum sedation shall include:

(a) The patient or legal representative shall be advised regarding the procedure associated with the delivery of any sedative or anesthetic agents and a signed informed consent shall be obtained pursuant to 234 CMR 5.15(3)(f) for the proposed sedation/anesthesia obtained prior to the administration of the anesthesia or sedative agent(s);
(b) Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed;
(c) Baseline vital signs, including blood pressure, respiration, and heart rate, must be obtained and documented in the patient record. If the patient's behavior prohibits such determination, this must be documented in the patient record;
(d) A medical history must be completed and problem focused physical evaluation must be performed where deemed appropriate;
(e) Specific dietary instructions must be provided to the patient based upon the type of sedative/anesthetic technique prescribed and patient's physical status; and
(f) Pre-operative verbal and written instructions must be given to the patient and responsible person.

(5) Patient Monitoring and Documentation Required.

(a) A qualified dentist administering minimum sedation anesthesia must remain in the room with the patient to monitor the patient continuously until the patient meets the criteria for recovery and must not leave the facility until the patient meets the criteria for discharge and is discharged from the facility.
(b) Monitoring and documentation of patient administered Minimum sedation anesthesia shall include, but not be limited to continuous monitoring and evaluation of:

6.13: continued

1. Color of mucosa, skin or blood (monitoring only);
2. Oxygenation saturation by pulse oximetry;
3. Level of consciousness (*e.g.* responsiveness to verbal command);
4. Chest excursions;
5. Ventilation either by auscultation of breath sounds, monitoring end-tidal CO2 or by verbal communication with the patient; and
6. ECG for patients with significant cardiovascular disease (may be considered).

(c) Anesthesia Chart. The Anesthesia Chart shall contain documentation of all events related to the administration of the sedative or anesthetic agents, including but not limited to the following:

1. Time-oriented anesthetic record including the names of all drugs administered, including local anesthetics, dosages, and monitored physiologic parameters;
2. Pulse oximetry, heart rate, respiratory rate, and blood pressure;
3. The duration of the procedure; and
4. The individuals present during the procedure.

(6) Requirements for Management of Recovery and Discharge of Patients. The recovery and discharge procedures for a patient administered Minimum sedation anesthesia shall include, but not be limited to:

(a) Immediate availability of oxygen and suction equipment;
(b) Continuous monitoring and documentation of the patient's blood pressure, heart rate, oxygenation, and level of consciousness;
(c) Determination and documentation that the level of consciousness, oxygenation, ventilation, and circulation are satisfactory for discharge;
(d) Post-operative verbal and written instructions provided; and
(e) If a reversal agent is administered before discharge criteria have been met, the patient must be monitored until recovery is assured.

(7) Requirements for Management of Pediatric and Special Needs Patients. The Board adopts the American Academy of Pediatrics/American Academy of Pediatric Dentistry's *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation of Diagnostic and Therapeutic Procedures*, as may be amended and republished and the American Dental Association's guidance on pediatric and special needs patients as contained in its *Policy Statement on The Use of Sedation and General Anesthesia by Dentists* (234 CMR 6.02).

(8) Requirements for Emergency Management. The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of sedation, providing and maintaining the equipment, drugs and protocol for patient rescue, and conducting and documenting emergency drills. If a patient enters a deeper level of sedation than the qualified dentist is permitted to provide, the dentist must stop the dental procedure until the patient returns to the intended level of sedation.

6.14: Individual Permit C: Administration of Nitrous Oxide-oxygen Alone or in Conjunction with Local Anesthesia

(1) Initial Application Requirements. An applicant shall submit an accurate and complete application on forms provided by the Board and accompanied by a fee established annually by the Executive Office of Administration and Finance, and includes documentation that demonstrates proof that the applicant:

(a) Is a dentist licensed under M.G.L. c. 112, § 45 to practice in the Commonwealth;
(b) Has current certification in BLS, ACLS or PALS;
(c) Has successfully completed between 14 hours of didactic and clinical training in the administration of nitrous oxide-oxygen only; or
(d) An advanced education program accredited by the ADA Commission on Dental Accreditation that affords comprehensive and appropriate training necessary to administer and manage nitrous oxide-oxygen only.

6.14: continued

(2) Patient Evaluation Required. Patients considered for nitrous oxide-oxygen sedation must be suitably evaluated prior to the start of any sedative procedure. In healthy or medically stable individuals (ASA I, II) this shall consist of at least a review of their current medical history and medication use. For patients with significant medical considerations (*e.g.*, ASA III, IV) may require consultation with their primary care physician or consulting medical specialist.

(3) Pre-operative Preparation for Patients Required. Pre-operative preparation for the administration of nitrous oxide-oxygen sedation shall include the following:

(a) The patient or legal representative shall be advised regarding the procedure associated with the delivery of any sedative or anesthetic agents and signed informed consent pursuant to 234 CMR 5.15(3)(f) for the proposed sedation/anesthesia shall be obtained prior to the administration of nitrous oxide-oxygen;

(b) Determination of adequate oxygen supply and equipment necessary to deliver oxygen under positive pressure must be completed;

(c) Baseline vital signs must be obtained and documented in the patient record. If the patient's behavior prohibits such determination, this must be documented in the patient record;

(d) A focused physical evaluation must be performed as deemed appropriate;

(e) Specific dietary instructions must be provided to the patient based upon the type of sedative/anesthetic technique prescribed and patient's physical status; and

(f) Pre-operative verbal and written instructions must be given to the patient.

(4) Requirements for Patient Monitoring and Documentation.

(a) A qualified dentist, or at the qualified dentist's direction, an appropriately trained dental auxiliary, must remain in the operatory during active dental treatment to monitor the patient continuously until the patient meets the criteria for discharge to the recovery area. The appropriately trained dental auxiliary must be familiar with monitoring techniques and equipment.

(b) Anesthesia Chart. The Anesthesia Chart shall contain documentation of all events related to the administration of the sedative or anesthetic agents, including but not limited to the following:

1. The color of mucosa, skin or blood (monitoring only);
2. The qualified dentist and/or appropriately trained dental auxiliary must observe chest excursions continually;
3. Blood pressure, respirations, and heart rate should be evaluated pre-operatively, post-operatively and intra-operatively as necessary. If the patient is uncooperative or cannot tolerate such monitoring, this must be documented in the patient record.

(5) Requirements for Recovery and Discharge.

(a) Oxygen and suction equipment must be immediately available;

(b) The qualified dentist or appropriately trained dental auxiliary must monitor the patient during recovery until the patient is ready for discharge;

(c) The qualified dentist must determine and document that level of consciousness, oxygenation, ventilation and circulation are satisfactory for discharge;

(d) Post-operative verbal and written instructions must be given to the patient and responsible person.

(6) Requirements for Management of Pediatric Patients. The Board adopts the American Academy of Pediatrics/American Academy of Pediatric Dentistry's *Guidelines for Monitoring and Management of Pediatric Patients During and After Sedation of Diagnostic and Therapeutic Procedures*, and the American Dental Association's guidance on pediatric and special needs patients as contained in its *Policy Statement on The Use of Sedation and General Anesthesia by Dentists* (2007).

6.14: continued

(7) Requirements for Emergency Management for Patients. The qualified dentist is responsible for the sedative management, adequacy of the facility and staff, diagnosis and treatment of emergencies related to the administration of sedation and providing and maintenance of the equipment, drugs and protocol for patient rescue. If a patient enters a deeper level of sedation than the qualified dentist is permitted to provide, the dentist must stop the dental procedure until the patient returns to the intended level of sedation.

6.15: Administration of Local Anesthesia Only

(1) Scope of Practice.

(a) A dentist licensed to practice dentistry may administer local anesthesia under the authority of his/her dental license.

(b) The Board may issue qualified dental hygienists, licensed pursuant to M.G.L. c. 112, § 51, a Permit L which authorizes the holder to administer local anesthesia under the direct supervision of a licensed dentist.

(2) Equipment and Supplies Required. The following equipment and drugs are required where local anesthesia is administered:

(a) Alternative light source for use during power failure;
(b) Automated External Defribillator (AED);
(c) Disposable CPR masks (pediatric and adult);
(d) Disposable syringes, assorted sizes;
(e) Disposable pediatric and adult face masks or positive pressure ventilation with supplemental oxygen;
(f) Oxygen (portable Cylinder E tank) pediatric and adult masks capable of giving positive pressure ventilation (including bag-valve-mask system);
(g) Sphygmomanometer and stethoscope for pediatric and adult patients;
(h) Suction; and
(i) And any other equipment as may be required by the Board.

(3) Drugs Required. The following drugs and/or categories of drugs shall be provided and maintained in accordance with the *AHA/ACLS Guidelines* (234 CMR 6.02) or as determined by the Board for emergency use. All drugs shall be current and not expired

(a) Acetylsalicylic acid (readily absorbable form);
(b) Ammonia inhalants;
(c) Antihistamine;
(d) Antihypoglycemic agent;
(e) Bronchodilator;
(f) Epinephrine preloaded syringes (pediatric and adult);
(g) Two epinephrine ampules;
(h) Oxygen;
(i) Vasodilator; and
(j) Any other drugs or categories of drugs as may be required by the Board.

6.16: Permit L: Administration of Local Anesthesia by a Dental Hygienist

(1) No licensed dental hygienist shall administer local anesthesia unless he/she has been issued a Permit L by the Board. A dental hygienist who has been issued a Permit L may only administer local anesthesia under the direct supervision of a licensed dentist.

(2) Application for Permit L by Examination. Application for a Permit L shall be on forms provided by the Board and shall be accompanied by the permit fee, to be determined annually by the Secretary of Administration and Finance, and documentation demonstrating proof of:

(a) Licensure as a dental hygienist in the Commonwealth;
(b) Current Basic Life Support (BLS) certification;

6.16: continued

(c) Successful completion of a training program or course of study, no more than two years prior to application for the permit, in a formal program in the administration of local anesthesia, which shall be a minimum of 35 hours of instruction, including no less than 12 hours of clinical training, and be conducted by an educational institution accredited by the Commission on Dental Accreditation of the American Dental Association; and

(d) Successful completion of a written examination in the administration of local anesthesia administered by the Northeast Regional Board of Dental Examiners (NERB) or any successor agency approved by the Board.

(3) Application for Permit L by Credentials. Application for local anesthesia permit by a dental hygienist qualified in another jurisdiction by virtue of successful completion of an examination to administer local anesthesia shall, at a minimum, be accompanied by the permit fee, to be determined annually by the Secretary of Administration and Finance and documentation demonstrating proof of:

(a) Licensure as a dental hygienist in the Commonwealth;

(b) Current BLS certification;

(c) Documentation of successful completion of a training program or course of study in a formal program in the administration of local anesthesia accredited by the American Dental Association and equivalent to the course of study described in 234 CMR 6.14(4); and

(d) A letter from a dentist who directly supervised the hygienist attesting to the hygienist's experience in administering local anesthesia within the previous two years.

(4) Requirements for Course of Study for Permit L.

(a) An applicant for a Permit L-Administration of Local Anesthesia shall have completed a minimum of 35 hours of instruction, which must include, but is not limited to:

1. Medical history evaluation procedures;
2. Physical evaluation of the dental patient;
3. Pharmacology of local anesthesia and vasoconstrictors; and
4. Local anesthesia, didactic and clinical courses, including the following:
   a. Anatomy of head, neck, and oral cavity as it relates to administering local anesthetic agents;
   b. Indications and contraindications for administration of local anesthesia;
   c. Selection and preparation of the armamentaria and record-keeping for administering various local agents;
   d. Medical and legal management of complication;
   e. Recognition and management of post-injection complications;
   f. Proper infection control techniques with regard to local anesthesia and proper disposal of sharps;
   g. Methods of administering local anesthetic agents with emphasis on technique and minimum effective dosage; and
   h. Management of diagnosis, prevention and treatment of medical emergencies.

(b) Instructors preparing students for certification to administer local anesthesia in Massachusetts shall be licensed to practice dentistry or dental hygiene in the Commonwealth.

(5) Renewal of Permit L. A permit to administer Local Anesthesia shall be renewed biennially at the same time the applicant's license to practice dental hygiene is renewed. The application for renewal of Permit L shall be accompanied by the permit fee, to be determined annually by the Executive Office of Administration and Finance; and an attestation confirming current BLS certification.

(6) Recording of Anesthesia Required.

(a) The dental hygienist shall obtain the local anesthesia only from the licensed dentist who is exercising direct supervision of the dental hygienist administering the local anesthesia.

(b) The dental hygienist shall sign and document in the patient record the date, type and amount of local anesthesia obtained from the supervising dentist.

(c) Upon completion of the treatment, any unused portion of the local anesthesia and armamentarium shall be returned to the supervising dentist and disposed of in accordance with M.G.L. c. 94C.

6.17: Reporting of Adverse Occurrences

A qualified dentist who holds an anesthesia administration permit issued pursuant to 234 CMR 6.00 shall report to the Board any anesthesia, deep sedation and general anesthesia, moderate sedation, minimal sedation, nitrous oxide-oxygen only and local anesthetic related mortality which occurs during or as a result of treatment provided by the administration permit holder within 24 hours of the occurrence of any such mortality. Any morbidity which may result in permanent physical or mental injury as a result of the administration of general anesthetic agents, sedative agents or nitrous oxide-oxygen analgesia shall be reported to the Board by the anesthesia permit holder providing such treatment within 30 days of the occurrence of any such morbidity.

6.18: Penalty for Non-compliance

Non compliance with 234 CMR 6.00 shall subject a licensee's administration permit, facility permit and/or dental license to disciplinary action by the Board.

REGULATORY AUTHORITY

234 CMR 6.00: M.G.L. c. 112, §§ 43 through 53 and 61.