

NEVADA STATE BOARD
of
DENTAL EXAMINERS

CONTINUING EDUCATION
RESOURCE GROUP
MEETING

JUNE 27, 2014

8:00 A.M.

PUBLIC BOOK

COMMUNITY COLLEGE OF SOUTHERN NEVADA
 Dental Hygiene Program
 Continuing Professional Education

Course: **CE DH 209 Local Anesthesia for Dental Professionals**
 Distance Education 20 hours, Clinical experience 20 hours

This **40 hour** course covers basic and current concepts in local anesthesia as used in the dental setting. Participants will learn to administer local anesthetics safely, effectively, with minimal discomfort. Topics covered will include armamentarium, history of local anesthesia, physical and psychological evaluation of patients, legalities, pharmacology, neurophysiology of respective nerves and musculature, anesthetics and dosages, emergency procedures, and management of local complications.

This course is being offered in a distance education format that will require the participant to have access to the internet. Upon registration, the participant will be given an access code and instruction on how to access the course. The didactic portion of this course will involve reading & video assignments, powerpoint presentations, self-assessments and an online competency examination. Due to the progressive nature of this course, the participant must be self-motivated and proactive in their distance learning. A course instructor will be available for online communication throughout the course. Upon successful completion of the online competency examination, participant will travel to the college to complete their local anesthesia clinical training. This course requires laboratory partner practice.

Course Objectives: Following the course, the student will be able to:

1. Recognize the need for pain control.
2. Understand the limitations of local anesthesia.
3. Review and evaluate the patient's medical history.
4. Take and record vital signs, recognizing safe parameters.
5. Provide minimal pain or discomfort when delivering local anesthetic.
6. Determine the safe minimum dose and type of anesthetic needed.
7. Perform nerve block, field block, and infiltration injections safely and effectively, on a lab partner.
8. Evaluate the possible interactions of local anesthesia with other medications.
9. Recognize medical emergencies and respond in a proper manner for the safe and well being of the patient.
10. Evaluate his/her own performance in accordance with accepted methods of pain control.

Dates & Times: Participants must attend all clinical sessions. ***Meals on your own ***

Fri.	11/17/06	5:30 pm – 9:30 pm
Sat.	11/18/06	8:00 am – 12:00 pm & 1:00 pm – 5:00 pm
Sun.	11/19/06	8:00 am – 12:00 pm & 1:00 pm – 5:00 pm

Place: This is a distance/clinical education course offered by:
 Community College of Southern Nevada
 Charleston Campus, Building A Room A-097
 6375 W. Charleston Blvd.
 Las Vegas, NV 89146

Tuition: \$900.00 (does not include textbook or DVD)

Registration Deadline: Oct. 30, 2006

CEU: The Nevada State Board of Dental Examiners has approved this course for 40 hours of clinical continuing education credit. [#05065]

Course Director: Shari Peterson RDH, M.Ed.

Supervising Dentist: Richard Kozal DDS

Clinical Hygiene Faculty:

Shari Peterson RDH, M.Ed.	MaryAnn Haag RDH, M.Ed.
Doreen Craig RDH, MA	Patty Gerber RDH, M.Ed.
Betty Pate RDH, M.Ed.	Missy Abel RDH, BSDH
Beth Ramsey RDH, BSDH	

Requirements: Each participant will be required to:

- Provide a PHOTOCOPY of current CPR certification
- Provide a PHOTOCOPY of a current ACTIVE dental or dental hygiene license
- Attend all lectures and labs to achieve course completion and receive CEU's
- Bring to each lab
 - Blood pressure cuff and stethoscope
 - 1 sterile mouth mirror
 - 2 sterile metal aspirating syringes
 - 1 sterile hemostat or needle holder
 - Eye protection
 - Lab jacket to wear over street clothes (slacks preferred)

Laboratory Practice: Lab experiences will consist of injection practice on a class partner. Each student will receive and administer local anesthetic injections. Participants with the following medical conditions will NOT receive injections during lab practice; however, the participant will be required to provide a suitable lab partner willing to receive injections.

- Rheumatic heart disease with valvular damage
- Organic heart murmur
- Prosthetic or hip joint replacement
- Uncontrolled hypertension
- Heart disease
- Anti-coagulant or steroid therapy
- Pregnancy

Text book: Malamed, S. *Handbook of Local Anesthesia* 5th Edition ISBN-13: 978-0-323-02449-5
Malamed, S. *Local Anesthesia Administration DVD* ISBN: 0-323-03352-0
Available at:
www.elsevierhealth.com
www.e-follett.com
www.amazon.com

Contact: Shari Peterson RDH, M.Ed. (702) 651-5853

The Program faculty reserve the right to cancel the course or modify dates if required. Participants will be notified.



Dental Studies Institute
7 Spielman Road
Fairfield, New Jersey 07004
973-808-1666
Established 1987

February 20, 2011

Dear Ms. Goldin,

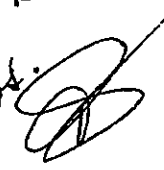
Enclosed is the outline for the nitrous program. In New Jersey this does not need to be a college course. It is considered continuing education. Enclosed is the information that was sent and approved by New Jersey Board of Dentistry. Our programs are ADA and CERP approved. I did place the school seal on the paperwork however we are not considered an Accredited Dental Hygiene School or University.

If you require anything additional please contact us.

Regards,

Sarah Gresko
Sarah Gresko, CDA, RDA

APR 18 2011
N.S.B.D.E.

9/8/11 @ Per TCW Lois
this course was 7 hours
of lecture and 7 hours
of clinical for a total
of 14 hrs. Only 7 hrs of CE
are awarded as that
is all the Board
allows. 

Title: Patient Monitoring For Nitrous Oxide Analgesia Delivery

Speaker: Dr. Burce Hirshorn

9:00 – 5:00 pm 7 CEU's

Clinical: 9:00 – 5:00 pm 7 CEU's

Topics To Be Covered:

- Planes of anesthesia and analgesia.
- Pharmacology of nitrous oxide.
- Demonstration of different types of equipment.
- Demonstration of nitrous oxide administration.
- Review of clinical research.
- Participation of registrants in pairs administering nitrous oxide.
- Assisting in the administration of nitrous oxide sedation.
- Review of sedation monitoring equipment.
- Consideration of occupational hazard issues.
- Recognition of emergency situations and what to do
- Vital sign monitoring

Objectives

Upon completion of the course, participants will be able to:

- Describe the signs and symptoms of the various planes of nitrous oxide conscious sedation.
- Describe the pharmacology of nitrous oxide.
- Describe the signs and symptoms of medical situations that may arise during the administration of nitrous oxide
- Able to take vital signs at appropriate times
- Understand the duties of the RDA and RDH when nitrous is administered by the dentist

APR 18 2011
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Truckee Meadows Community College
Dental Hygiene Program
Continuing Professional Education

CE#10-048
LA/N20

Course: **DHCE 102 Pain Management for Dental Professionals**
Theory- 10 hours, Clinical experience- 30 hours

This 40 hour course covers basic and current concepts in local anesthesia and nitrous oxide/oxygen analgesia sedation as used in the dental setting. Participants will learn to administer local anesthetics safely, effectively, with minimal discomfort, as well as learn to administer nitrous oxide/oxygen analgesia. Local anesthesia topics covered will include armamentarium, history of local anesthesia, physical and psychological evaluation of patients, legalities, pharmacology, neurophysiology of respective nerves and musculature, anesthetics and dosages, emergency procedures, and management of local complications. Nitrous oxide topics include recommendation and contraindications, sedation levels and patient symptoms, maintenance and control of nitrous oxide equipment and induction techniques.

This course is being offered through WEBCollege, a learning format that will require the participant to have access to the internet. The didactic portion of this course will involve reading & video assignments, powerpoint presentations, self-assessments and a theory competency examination.

The clinical portion of the course requires direct observation of technique by licensed and certified instructors under the supervision of a dentist per NAC 631.210 (3) and NRS 631.105. Due to the progressive nature of this course, the participant must be self-motivated and proactive in their learning. A course instructor will be available for online communication throughout the course.

Upon successful completion of the theory competency examination, participant will travel to the college to complete their local anesthesia clinical training. This course requires laboratory partner practice.

Course Objectives: Following the course, the student will be able to:

1. Evaluate the need for pain control.
2. Explain the limitations of local anesthesia.
3. Assess the patient's medical history and potential contraindications for pain control.
4. Take and record vital signs, recognizing safe parameters.
5. Effectively administer local anesthetic.
6. Determine the safe minimum dose and type of anesthetic required.
7. Administer nerve block, field block, and infiltration injections safely and effectively, on a lab partner.
8. Identify possible interactions of local anesthesia with other medications.
9. Recognize medical emergencies and respond in a proper manner for the safe and well being of the patient.
10. Evaluate his/her own performance in accordance with accepted methods of pain control.

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Dates & Times:

Theory- August 22 – Sept 7, 2010
Clinic- Dates to be determined

The Program faculty reserves the right to cancel the course or modify dates if there is low enrollment. There must be a minimum of 2 participants to offer this course. Participants will be notified.

Place: This is a distance learning/clinical education course offered by:
Truckee Meadows Community College
Dental Hygiene Professional Education / Workforce Development
Dandini Campus, Red Mountain Building Room 415-Clinic
7000 Dandini Blvd
Reno, NV 89436

Contact: Vickie Kimbrough-Walls RDH, MBA (775-674-7554) / vkimbrough@tmcc.edu

Tuition: \$1050.00 (does not include textbooks)

Text book: Paarmann, C. & Royer, R. *Pain Control For Dental Practitioners* 1st Edition ISBN-13: 978-0-7817-7914-2 Available at: www.amazon.com
Brunick, A (2008) *Nitrous Oxide Sedation for the Dental Hygienist*, 3rd edition, Mosby.

Additional References:

Malamed, S (2004). *Handbook of Local Anesthesia*, 5th Edition, w/ DVD Philadelphia: Mosby.
Bassett, K., DiMarco, A., & Naughton, D. (2010) *Local Anesthesia for Dental Professionals*
Pearson: New Jersey. ISBN-13: 978-0-13-158930-8

Registration Deadline: 5:00pm Friday, August 19, 2010

CEU: The Nevada State Board of Dental Examiners has approved this course for 40 hours of clinical continuing education credit. [#05065]

Course Director: Vickie Kimbrough-Walls, RDH, MBA

Supervising Dentist: David Lund, DDS

Requirements:

Each participant will be required to:

- Provide a PHOTOCOPY of current CPR certification
- Provide a PHOTOCOPY of a current ACTIVE dental or dental hygiene license
- Attend all lectures and labs to achieve course completion and receive CEU's
- Bring to each lab
 - Blood pressure cuff and stethoscope
 - 1 sterile mouth mirror
 - 2 sterile metal aspirating syringes
 - 1 sterile hemostat or needle holder
 - Eye protection
 - Lab jacket that covers from neck to wrist to wear over street clothes (slacks preferred)

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Laboratory Practice: Lab experiences will consist of injection practice on a class partner. Each student will receive and administer local anesthetic injections. Participants with the following medical conditions will NOT receive injections during lab practice; however, the participant will be required to provide a suitable clinic patient to receive injections.

- Rheumatic heart disease with valvular damage
- Organic heart murmur
- Prosthetic or hip joint replacement
- Uncontrolled hypertension
- Heart disease
- Anti-coagulant or steroid therapy
- Pregnancy

Pain Management for Dental Professionals – 2010 Course Schedule

Theory Schedule: View CD and Supplementary Clinical Manual- complete all chapter quizzes

- Section I Local Anesthetic Agents
- Section II Injections
- Section III Health History Evaluation and Potential Complications
- Section IV Risk Management
- Section V Nitrous Oxide/Oxygen Analgesia

Lab/Clinic Schedule: Bring Supplementary Clinic Manual with completed quizzes.

DAY & TIME: TBD

LOCATION

Course Introduction & Overview CSN infection control & emergency procedures
Theory Competency Exam-The participant must achieve a score of 80% or above to participate in the clinical lab sessions.

RDMT 415

Overview of Anatomy & Injections
Armamentarium & Lab activity
Lunch on own

1st session

Clinic

Supervising Dentist: David Lund, DDS
Instructor: Vickie Kimbrough-Walls RDH, MBA
Maxillary injections: R-side PSA, MSA, ASA
Maxillary injections: R-side GP, NP, AMSA, Infraorbital

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2nd session

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Clinic

Supervising Dentist: David Lund, DDS
Instructor: Vickie Kimbrough-Walls RDH, MBA
Maxillary injections: L-side PSA, MSA, ASA

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Maxillary injections: L-side GP, NP, AMSA, Infraorbital
Review Mandibular injection technique

3rd session

Clinic

Supervising Dentist: David Lund, DDS
Instructor: Vickie Kimbrough-Walls RDH, MBA
Mandibular injections: L-side IA, L, LB, mental/incisive, infiltrations.
Nitrous Oxide Administration

4th session

Clinic

Supervising Dentist: David Lund, DDS
Instructor: Vickie Kimbrough-Walls RDH, MBA
Mandibular injections: R-side IA, L, LB, mental/incisive, infiltrations.
Nitrous Oxide Administration

5th session

Clinic

Supervising Dentist: David Lund, DDS
Instructor: Vickie Kimbrough-Walls RDH, MBA
Maxillary & Mandibular injections: L-side
Nitrous Oxide Competency Examination

6th session

Clinic

Supervising Dentist: David Lund, DDS
Instructor: Vickie Kimbrough-Walls RDH, MBA
Maxillary & Mandibular injections: R-side
Open Session Clinical Practice

7th session

Clinic

Supervising Dentist: David Lund, DDS
Instructor: Vickie Kimbrough-Walls RDH, MBA
Open Session Clinical Practice
Local Anesthesia Competency Examination

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**DHCE 102 Local Anesthesia for the Dental Professional
Module 1 - The Drugs**

Learning Objectives

Upon completion of this module, the student will be able to:

1. Identify desirable properties of local anesthetics
2. Describe impulse generation and nerve transmission
3. Describe location and method of local anesthetic action
4. Discuss pharmacokinetics of local anesthetics
5. Describe modes of action and dilutions of vasoconstrictors
6. Differentiate between the selection of specific vasoconstrictors in terms of pharmacology
7. Compare duration and maximum dosages of various local anesthetics with or without vasoconstrictors
8. Describe general properties of various topical anesthetic
9. Calculate maximum dosages, given percent of anesthetic or vasoconstrictor, maximum mg per manufacturer, and patient's weight

Module 1 The Drugs

Outline

***Note to students:** *This outline highlights the topics that students should concentrate on. Areas that may be skimmed over may be mentioned. By making notes about the subjects in the outline from the reading assignment, the student should have all the information for quizzes and the final.*

I. Neurophysiology

- A. definition of local anesthesia
- B. desirable properties of local anesthesia
- C. impulse generation
- D. nerve transmission (understand and be able to explain)
 1. components of a nerve
 2. resting state, depolarization, repolarization
 3. impulse spread: unmyelinated nerves and myelinated nerves
- E. site of action of local anesthetics
- F. method of action of local anesthetics (skim through pages 16-19, read for understanding, but there will be no specific test questions)

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G. kinetics of local anesthesia onset and duration

1. barriers
2. diffusion
3. blocking
4. recovery
5. reinjection
6. duration

II. Pharmacology of Local Anesthetics

- A. uptake
- B. distribution
- C. metabolism
- D. excretion
- E. systemic actions of local anesthetics (know general actions for each body system, don't concentrate on details)

III. Pharmacology of Vasoconstrictors

- A. modes of action (know general modes, don't concentrate on details)
 - B. specific agents (know name, proprietary name, general mode of action, unusual properties compared to other agents, maximum dose for most common dilution and cardiac dose; concentrate on the following agents and skim the others)
 1. epinephrine
 - a. unusual properties: used for hemostasis and to manage medical emergencies
 - b. most common dilution: 1:100,000
 2. levonordefrin
 - a. most common dilution: 1:20,000
 3. phenylephrine hydrochloride
 - a. most common dilution: 1:20,000
- C. selection of a vasoconstrictor

IV. Clinical Action of Specific Agents

- A. duration (using table 4-1, be able to categorize the listed local anesthetics into short, intermediate, or long duration)
- B. given the manufacturer's recommended maximum, the patient's weight, the

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percentage of anesthetic in the cartridge, and knowing that there are 1.8 ml of solution in a dental cartridge, be able to calculate a maximum dosage

1. know that this is most applicable to children, as the maximum for a 150 pound adult is the maximum for all adults regardless of additional weight
2. know that debilitated or elderly patients will have a lower maximum that cannot be calculated
3. know that TMCC guidelines substantially lower the allowable number of cartridges in an appointment

4. know that the maximum for the vasoconstrictor is lower than for the local anesthetic, and so becomes the limiting factor

C. ester local anesthetics (know why these are not used intr-oral injection)

D. amide local anesthetics (know proprietary names, percents, typical vasoconstrictor and percents, metabolism and excretion, pregnancy category, category of onset of action: rapid or longer, any unusual medical issues with usage; all of the following are typically found in dental offices)

1. lidocaine (used at CCSN)
 - a. 2% with 1:100,000 epinephrine
2. mepivacaine (polocaine and carbocaine used at CCSN)
 - a. 3% plain; 2% with 1:20,000 levonordefrin
3. prilocaine (citanest used at CCSN)
 - a. 4% plain or with 1:200,000 epinephrine
4. articaine
 - a. 4% with 1:100,000 epinephrine
5. bupivacaine
 - a. (.5%) with 1:200,000 epinephrine

E. topical anesthetics (know general properties and considerations for the following common topicals)

1. benzocaine (most common in dental offices)
2. tetracaine
3. EMLA (becoming common in dental offices)
4. lidocaine
5. know that spray topicals are not legal in Nevada
6. know that patches are available, but are losing popularity due to time involved and amount of effect obtained
7. know that amount of topical used cannot be measured, so clinician must use caution in application

F. know how to choose an appropriate local anesthetic; students taking the Western Regional Examining Board (WREB) are tested on local anesthesia—both written and clinically and one of the questions is “ why did you choose the anesthetic you are using?”

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DHCE 10 Local Anesthesia for the Dental Professional
Module 2 - The Armamentarium

Learning Objectives

Upon successful completion of this module, the student will be able to:

1. Describe local anesthetic syringes in terms of:
 - A. types
 - B. desirable properties
 - C. care and handling
 - D. problems

2. Describe local anesthetic needles in terms of:
 - A. parts
 - B. gauge
 - C. length
 - D. care and handling
 - E. problems

3. Describe the local anesthetic cartridge in terms of:
 - A. components
 - B. contents
 - C. care and handling
 - D. problems

4. Discuss topical antiseptic and topical anesthetic application
5. Discuss use of a hemostat
6. Describe safe techniques of syringe loading
7. Describe safe techniques of needle recapping

**Module 2 The Armamentarium
Outline**

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***Note to students:** *This outline highlights the topics that students should concentrate on. Areas that may be skimmed over may be mentioned. By making notes about the subjects in the outline from the reading assignment, the student should have all the information for quizzes and the final.*

I. The Syringe

- A. properties, components, advantages and disadvantages of the breech-loading, cartridge-type, aspirating syringes

- B. know that self-aspirating syringes may be available in an office, but it is preferred that an aspirating syringe allows for control of the aspiration

- C. know that the pressure syringe and jet injector are not recommended for any dental or dental hygiene procedures—the technique required is damaging to the periodontium
- D. know that safety syringes are impractical for the dental hygienist as they allow only one injection and often multiple injections are required
- E. general properties and components of the computer-controlled delivery systems—they are acceptable alternatives in practice, but are costly and cumbersome
- F. care and handling
- G. problems
- H. recommendations

II. The Needle

- A. types
- B. parts
- C. gauges
 1. TMCC generally has 25, and 27 gauge; 30 gauge does not allow for accurate aspirations; 25 gauge is uncomfortable to the patient
 2. the rotational insertion technique is new and students may attempt this technique with instructor permission
- D. lengths
- E. care and handling
- F. problems
- G. recommendations

III. The Cartridge

- A. components
- B. contents (what is in the solution)
- C. care and handling
- D. problems
- E. recommendations

IV. Additional Armamentarium

- A. topical antiseptics
- C. applicator sticks (cotton tipped)
- D. cotton gauze (2 X 2)
- E. hemostat- / cotton pliers

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V. Preparation of the Armamentarium

- A. loading the syringe—note that the technique in figure 9-5
- B. recapping the needle—only passive recapping will be allowed—TMCC uses cardboard cards to hold the needle cap
- C. unloading the syringe—all needles and cartridges **MUST** be placed in a sharps container
- D. skim the remainder of page 126-134
- E. replacing a cartridge
- F. replacing the needle occurs if multiple injections have been administered due to potential barbs on the metal or dulling of the point

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Truckee Meadows Community College Dental Hygiene Program

DHCE 102 Local Anesthesia for the Dental Professional
Module 3 Techniques of Regional Anesthesia in Dentistry

Learning Objectives

Upon successful completion of this module, the student will be able to:

1. Identify concerns in a health history and physical examination relevant to determining
local anesthetic or nitrous oxide administration
2. Describe clinician steps leading up to giving a local anesthetic injection
3. Describe the trigeminal nerve and its branches in relation to dental local anesthetic injections
4. Describe maxillary and mandibular osteology, including foramens, in relation to dental local anesthetic injections
5. Describe the following injections: PSA, MSA, ASA, IO, GP, NP, AMSA, IA, Lingual, Long Buccal, and Mental in terms of:
 - A. area and nerve anesthetized
 - B. entry site
 - C. angulations used
 - D. possible fulcrums
 - E. deposition site
 - F. possible complications

Module 3 Techniques of Regional Anesthesia in Dentistry

Outline

***Note to students:** This outline highlights the topics that students should concentrate on. Areas that may be skimmed over may be mentioned. By filling in this outline along with the reading assignment, the student should have all the information that will be required on quizzes and the final.*

I. Physical and Psychological Evaluation

- A. must have patient's anesthesia history
- B. medical history questionnaire--this is a good review for all of you; key into the specifics that relate to local anesthesia; remember that any time you give local anesthesia, you **MUST** thoroughly update the patient's health history
- C. dialogue history--hopefully you already have a good understanding of the importance of verbalizing the health history with your patient
- D. physical examination--again this is a good review; try to key into the specifics that relate to local anesthesia

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- E. drug-drug interactions--do not try to memorize the details of the interactions, rather know when you see one of these interactions, that you need to look it up
- F. specific medical conditions--do not bog down in the details of these conditions; read them through, pick out the highlights and practice summarizing how these conditions relate to local anesthesia
- G. when examining your patient and taking or reviewing the health history, take special note of fears and anxieties the patient has, particularly related to pain and anesthesia--by addressing these issues with the patient you can create a compliant patient, for example: if the patient is afraid of needles, be sure he never sees the needle and use topical anesthetic or nitrous so he never has to feel the needle

II. Basic Injection Technique

- A. know the steps
- B. we do not warm anesthetic--it should be kept at room temperature
- C. we do not use topical antiseptic
- D. you will be taught techniques with and without topical anesthetic, then you may choose to use it or not
- E. please note the patient's face in figure 11-13--this patient needs some good communication before and WHILE you are injecting
- F. under documentation we also add the time given, and the amount of a cartridge (ex: 1 1/2 cartridge) in addition to the mg (dental people look for the amount of the cartridge, medical people such as paramedics in an emergency situation look for mg); you also need to add any complications, positive aspirations, etc.

III. Anatomical Considerations

- A. do not panic about this chapter--you need to know the particular nerve and bone structures that relate to local anesthesia--do not bog down in the rest of the anatomy; following is an outline of the structures to concentrate on:
- B. trigeminal nerve
 1. fifth cranial nerve
 2. largest cranial nerve
 3. majority of sensory innervation to teeth, bone, and soft tissues of oral cavity
 4. small motor root--muscles of mastication & other muscles
 5. large three branched sensory root--skin of face & mucous membrane of the cranial viscera and oral cavity, except pharynx and base of tongue
 6. sensory root
 7. ophthalmic division
 - a. travels anteriorly and exits skull through superior orbital fissure
 8. maxillary division
 - a. travels anteriorly and exits skull through foramen rotundum into upper pterygopalatine fossa

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C. mandibular division

1. travels downward to exit skull with motor root through foramen ovale and enters infratemporal fossa
2. maxillary division--three terminal branches
 - a. skin
 - b. mucous membrane
 - c. maxillary teeth and periodontal tissues

D. branches of maxillary division significant to pain control

1. branches within pterygopalatine fossa
 - a. pterygopalatine nerves
 - b. nasopalatine nerve
 - c. greater palatine nerve
 - d. posterior superior alveolar nerve

E. branches within infraorbital canal

1. middle superior alveolar nerve
2. anterior superior alveolar nerve

F. osteology of maxilla relevant to local anesthesia administration

1. maxillary bone more porous, palatal bone thicker
2. canine eminence
3. infraorbital foramen
4. maxillary nerve passes through groove superior to maxillary tuberosity
5. anterior palatine nerve passes through greater palatine foramen
6. premaxilla--suture line distal to canines
7. incisive foramen

G. anatomy of the mandible

1. mandibular division of the trigeminal nerve (V3)
2. largest branch of the trigeminal nerve
3. large sensory root and smaller motor root
 - a. large sensory root travels downward to exit skull with motor root through foramen ovale and enters infratemporal fossa
 - b. branches of the large sensory nerve divide again
 1. anterior division becomes the buccal nerve (buccinator nerve or long buccal nerve)
 2. posterior division includes the lingual nerve and the inferior alveolar nerve--enters mandibular canal at level of mandibular foramen
 3. inferior alveolar nerve terminates as the mental nerve and the incisive nerve at the mental foramen
4. osteology of the mandible
 - a. largest and strongest bone of the face; thickness

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IV. Techniques of Maxillary Anesthesia

A. general rules maxillary injections

1. needle parallel to long axis of tooth most of time; bevel toward bone (more comfortable for patient)
2. optional—topical anesthesia placed at insertion site (just a little bit)
3. aspirate--you can never aspirate too much. It is a safety check
4. always communicate with your patient for comfort
5. keep syringe out of patients sight
6. never leave an anesthetized patient unattended
7. 27 gauge short needle is best; you can use 27 gauge long, but it is harder to fulcrum
8. if possible, always have a fulcrum for stability and safety

B. TMCC dosages: some of these are slightly different than Malamed. TMCC faculty find these to generally be adequate for most patients:

1. Maxillary
 - a. PSA 1/2 cartridge
 - b. MSA 1/4 cartridge
 - c. ASA 1/4 cartridge
 - d. GP 1/4 cartridge
 - e. NP 1/4 cartridge
 - f. AMSA 3/4-1 cartridge
2. Mandibular
 - a. IA 1/2 cartridge
 - b. L 1/4 cartridge
 - c. LB 1/4 cartridge
 - d. M 1/4-1/3 cartridge
 - e. Infiltration 1/8-1/4 cartridge

C. posterior superior alveolar injection (PSA)

1. nerve anesthetized: posterior superior alveolar and its branches
2. areas anesthetized: pulps of maxillary 3rd molar, 2nd molar, and distal root of the maxillary 1st molar, buccal soft tissue and bone; will get some lingual anesthesia
3. high risk of hematoma
4. insertion point: height of the mucobuccal fold, over the distal root of the maxillary 2nd molar with the needle pointed inward, upward and backward
5. penetration depth is 16 mm or about 1/4-1/2 of the needle
6. when you reach your penetration depth, aspirate 2 times (rotate the needle 1/4 turn and aspirate again)
7. if aspirations are negative, then deposit approximately 1/2 of the cartridge slowly (about 30-60 seconds)
8. aspirate several times during this injection
9. slowly withdraw needle

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10. make needle safe
11. profound anesthesia within 3-5 minutes
12. over insertion raises the risk of a hematoma

D. middle superior alveolar injection (MSA)

1. areas anesthetized: pulps of the maxillary 1st and 2nd premolars and the mesial buccal root of the maxillary 1st molar, buccal soft tissue and bone
2. you will get some lingual anesthesia
3. insertion point: height of the mucobuccal fold about the maxillary 2nd premolar
4. insertion depth: $\frac{1}{4}$ of needle, above the apex of the 2nd premolar
5. aspirate
6. if aspiration is negative, slowly deposit $\frac{1}{4}$ - $\frac{1}{2}$ of cartridge (30-40 seconds)
7. withdraw syringe
8. make needle safe
9. profound anesthesia 3-5 minutes

E. anterior superior alveolar injection (ASA)

1. areas anesthetized: pulps of the canine, lateral, and central, buccal soft tissue and bone, some lingual anesthesia
2. insertion site: height of the mucobuccal fold over the canine
3. penetration depth: $\frac{1}{4}$ of needle above the apex of the canine
4. aspirate
5. if aspiration is negative, then slowly deposit $\frac{1}{4}$ of cartridge (30-40 seconds)
6. slowly withdraw syringe
7. make needle safe
8. profound anesthesia 3-5 minutes
9. if you go deeper with needle pointed at the infraorbital foramen, you will give an infraorbital injection: the eye, lateral aspect of the nose and upper lip will be anesthetized
10. apply direct pressure over the infra orbital foramen to diffuse the anesthesia for the ASA (about 1-2 minutes)

F. palatal injections

1. with palatal injections, if you use a cotton tip applicator to apply pressure at the injection site, then when you insert the needle, the patient will hardly feel the injection
2. tissue on the palate will blanch (turn white) as you inject the solution.

G. nasopalatine injection (NP)

1. areas anesthetized: anterior portion of the hard palate, hard and soft tissues from the right 1st premolar to the left 1st premolar
2. penetration site: just lateral to the incisive papilla
3. depth of penetration: just cover bevel into the incisive papilla
4. aspirate
5. if negative aspiration, slowly deposit $\frac{1}{8}$ - $\frac{1}{4}$ of the cartridge (15-30 seconds)

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6. withdraw syringe
7. make needle safe
8. profound anesthesia 2-3 minutes

H. greater palatine injection (GP)

1. areas anesthetized: posterior 2/3 of hard palate, the underlying bone and soft tissues
2. insertion point: just lateral of the greater palatine foreman.
3. angle of needle: 45-90 degrees to palate
4. depth of penetration: insert until you hit bone
5. aspirate
6. if negative aspiration, slowly inject 1/4-1/3 cartridge
7. tissue will blanch as you deposit solution
8. for patient comfort, use a cotton tip applicator to locate greater palatine foreman, apply pressure, insert needle just lateral to cotton tip applicator

I. anterior middle superior alveolar injection (AMSA)

1. areas anesthetized: pulpal anesthesia of the premolars to central incisors, buccal attached gingiva and palatal tissues from midline to free gingival margin of same teeth; no lip anesthesia
2. insertion site: an imaginary line between the 1st and 2nd premolars, half way between the midline (palatal suture) and the free gingival margin
3. depth of penetration: insert needle until you hit bone
4. aspirate
5. if aspiration negative, then slowly deposit 3/4-1 carpule (must inject this much solution to get profound anesthesia
6. tissue will blanch as you deposit solution
7. angle of needle: 45-90 degrees to palate
8. use cotton tip applicator at penetration site, apply pressure, and insert needle lateral to applicator--increases patient comfort

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V. Techniques of Mandibular Injections

A. general principles

1. 27 gauge long needle
2. topical anesthesia at penetration site (optional)
3. communication with patient for comfort

B. Mental Injection (M)

1. 27 gauge short needle recommended but can use long
2. areas anesthetized: buccal mucosa from 2nd premolar to midline and skin of lower lip and chin
3. penetration site: mucobuccal fold at or just anterior to the mental foreman,

usually between the premolars

4. if you have FMX, look on these to locate mental foreman
5. depth of penetration: approximately 1/8-1/4 of needle
6. aspirate
7. if negative aspirations, then slowly deposit 1/4 of a carpule
8. withdraw syringe
9. make needle safe
10. massage solution into the mental foreman
11. profound anesthesia 2-3 minutes

C. infiltration injection (I)

1. to anesthetize 1 or 2 teeth: pulpal and soft tissue anesthesia
2. penetration site: height of the mucobuccal fold just distal to or over the tooth you want to anesthetize, needle parallel to long axis of tooth
3. penetration depth: cover the bevel or 1/8 of needle
4. aspirate, deposit approximately 1/8 of carpule
5. withdraw syringe and make needle safe
6. profound anesthesia 2-3 minutes
7. another way to anesthetize the soft tissue of a particular tooth is to inject solution into the papilla
 - a. needle angle: 90 degrees to papilla
 - b. depth of penetration: cover bevel
 - c. aspirate
 - d. deposit a couple drops of solution
 - e. withdraw syringe
 - f. make needle safe

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D. inferior alveolar nerve block (IA)

1. direct thrust method
 - a. areas anesthetized: mandibular teeth (pulp, soft tissue mesial to the 1st molar, and bone), body of the mandible, inferior portion of the ramus, anterior 2/3 of tongue and floor of mouth (from the lingual nerve), lingual soft tissues
 - b. insertion site: medial side of ramus, at the intersection of two lines: one horizontal, representing the height of the injection, and the other vertical, representing the anterior posterior plane of the injection
 - c. target area: the alveolar nerve as it passes down toward the mandibular foreman, but before it enters the foreman
 - d. locating insertion site: place your thumb on the coronoid notch and your index finger extraorally on the posterior border of the ramus and estimate the distance between these points, pull the tissue taut; the insertion point will be the deepest part of the pterygomandibular raphe as it ascends vertically toward the palate
 - e. 27 gauge long needle is used
 - f. barrel of syringe is over the premolar area on opposite arch
 - g. bone must be contacted by the time you have inserted 3/4 of the needle

- h. once you feel boney resistance, withdraw slightly
 - i. aspirate
 - j. if negative aspiration, slowly inject (about 3/4 of a carpule over a 60 second period)
 - k. aspirate numerous times as you inject due the high incidence of positive aspirations with this injection
 - l. slowly withdraw needle until 1/2 of needle remains in tissue, aspirate again
 - m. if negative aspiration, inject remaining solution to anesthetize the lingual nerve
 - n. withdraw the syringe
 - o. make needle safe
 - p. profound anesthesia within 3-5 minutes
 - q. trouble shooting
 - 1. if bone is contacted to soon (less than 1/2 of needle after insertion, it means the needle tip is too far anteriorly on the ramus; correct by withdrawing the needle slightly (leave it in tissue), bring syringe barrel around towards the front of the mouth over the canine or lateral; then insert needle to correct depth of approximately 3/4 of needle
 - 2. if bone is not contacted the needle is usually too far posterior; correct this by slightly withdrawing needle (leaving it in tissue) and reposition syringe barrel by moving is over the mandibular molars; insert needle to correct penetration depth of 3/4 of needle, barrel of needle at premolars on opposite arch, insert needle at the tissue fold distal to last molar present (the anterior portion of the pterygomandibular raphe)--you will hit bone immediately, aspirate, if negative aspiration, deposit 1/4 of a carpule (lingual nerve)
 - 2. anatomical method (both methods will be presented in lab)
 - a. insertion site as above but syringe is further back along premolars across the arch
 - b. lingual injection is first, then walk barrel of syringe to the canine/lateral area insert needle 1/2-3/4 of the way until the needle slips off bone
 - b. aspirate
 - c. if negative aspiration, slowly deposit solution 1/2-3/4 of a carpule
 - d. aspirate numerous times due to high rate of positive aspirations
- E. long buccal injection (LB)
- 1. area anesthetized: soft tissues and buccal bone of the buccal of mandibular molars
 - 2. insertion site: mucous membrane distal and buccal to the last molar in the oral cavity
 - 3. needle is parallel to occlusal plane
 - 4. depth of penetration: until you hit bone, which is usually 1/4 of needle
 - 5. aspirate
 - 6. if negative aspiration, slowly deposit 1/8-1/4 of a carpule
 - 7. withdraw syringe

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- 8. make needle safe
- 9. profound anesthesia in 1 minute

NOTE: We do not routinely give the Gow-Gates injection, however if an instructor is familiar with it and would like to walk you through it, this is acceptable; we will not be giving the Vazirani-Akinosi mandibular block; we will not be giving the incisive nerve block

VI. Supplemental Injection Techniques--you may skim this chapter for your own information, but we will not be using any of these techniques as they are considered risky and are not necessary for the dental hygienist to use

VII. Local Anesthetic Consideration in Dental Specialties

- A. skim most of this chapter
- B. you do need to understand the effects of inflammation on local anesthesia
- C. you should understand the ease of overdosing children as dentists may ask you to numb children for their procedures
- D. read the final section, Dental Hygiene, to get some appreciation for what you are learning--it is an invaluable tool

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Truckee Meadows Community College Dental Hygiene Program

DHCE 102: Local Anesthesia for the Dental Professional
Module 4 - Complications, Legal Considerations, Questions, and Future: Nitrous Oxide and Oxygen Sedation

Study Outline

***Note to students:** This outline highlights the topics that students should concentrate on. Areas that may be skimmed over may be mentioned. By filling in this outline along with the reading assignment, the student should have all the information that will be required on quizzes and the final.*

I. Local Complications

A. know the causes, problem, prevention, and management of each of the following local complications:

1. needle breakage
2. persistent anesthesia or paresthesia
3. facial nerve paralysis
4. trismus
5. soft-tissue injury
6. hematoma
7. pain on injection
8. burning on injection
9. infection
10. edema
11. sloughing of tissues
12. postanesthetic intraoral lesions

II. Systemic Complications (a lot of this chapter is review from Pharmacology)

- A. know the three principles of toxicology
B. know the classifications of adverse drug reactions

C. overdose

1. predisposing factors
 - a. patient factors
 1. age
 2. weight
 3. other medications
 4. sex
 5. presence of disease
 6. genetics
 7. mental attitude and environment
 - b. drug factors

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1. vasoactivity
2. concentration
3. dose
4. route of administration
5. rate of injection
6. vascularity of the injection site
7. presence of vasoconstrictors

2. causes
 - a. biotransformation and elimination
 - b. excessive total dose
 - c. rapid absorption into the circulation
 - d. intravascular injection

3. prevention
 - a. aspirating syringe
 - b. needle gauge
 - c. aspiration technique
 - d. slow injection
-

4. truth about local anesthetic overdosage in dentistry
 - a. too large a dosage
 - b. treatment plan
 - c. choice of local anesthetic
 - d. volume administered
 - e. number of quadrants
 - f. patient's body weight

5. clinical manifestations

6. Pathophysiology
 - a. CNS actions
 - b. cardiovascular actions

7. management
 - a. mild overdose
 - b. severe overdose

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8. epinephrine overdose
 - a. precipitating factors and prevention
 - b. clinical manifestations
 - c. management
 1. terminate procedure
 2. reassure patient
 3. monitor vital signs; evaluate for oxygen
 4. Recovery

D. allergy

1. predisposing factors
 - a. sodium bisulfite allergy
 - b. epinephrine allergy
 - c. latex allergy
 - d. topical anesthetic allergy
2. prevention
 - a. health history
 - b. verbal review of health history
 - c. consultation and allergy testing
3. dental management of local anesthetic allergy
 - a. elective care
 - b. emergency care
 - c. confirmed allergy
4. clinical manifestations
5. time of onset of symptoms
6. signs and symptoms
 - a. dermatological
 - b. respiratory
 - c. generalized anaphylaxis
7. management
 - a. dermatological
 - b. respiratory
 - c. anaphylaxis

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III. Legal Considerations

A. consent

B. HIPAA

1. privacy standards
2. patient's rights
3. administrative requirements

C. third parties

D. overdose

E. allergy

F. instruments

1. syringe
2. local anesthetic cartridge
3. local anesthetic needle

G. alternative delivery systems or techniques

H. local reactions

- lip chewing
- subcutaneous emphysema
- vascular penetration
- neural penetration
- chemical nerve injury
- drug interactions
- psychogenic reactions
 - Eroticism

P. postprocedure evaluation

Q. respondent superior

R. statute violation

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S. malpractice

IV. Future Trends in Pain Control--skim this chapter; you will likely see new anesthetics as you practice and will need to familiarize yourself with these; electronic units are not common, but you may well work in an office that uses them

V. Questions--this is a good review to use to test yourself before the final

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Truckee Meadows Community College Dental Hygiene Program

DHCE 102 Local Anesthesia for the Dental Professional
Module 5 – Nitrous Oxide Sedation

Outline

Nitrous Oxide and Oxygen Sedation

- A. practice guidelines
 - 1. general guidelines
 - 2. current practice guidelines
 - 3. use of nitrous oxide/oxygen

- B. history and evolution--this is interesting and you should read it and be familiar with the general sequence of events and some of the names such as Wells and Morton, but you will not be tested on this

- C. pain and anxiety management (again, a lot of review from pharmacology)
 - 1. mechanism of pain
 - 2. sedation levels
 - 3. Options

- D. comparison of methods
 - 1. comparing nitrous with other methods
 - 2. combining nitrous with other methods

- E. physical properties and pharmacokinetics of nitrous
 - 1. physical and chemical properties of nitrous oxide
 - 2. physical and chemical properties of oxygen
 - 3. pharmacokinetic properties of nitrous oxide
 - 4. potency of anesthetics
 - 5. Toxicity

- F. manufacture and distribution of nitrous oxide and oxygen gases--skim through this chapter; we will go over the specifics of TMCC equipment in lab
 - 1. be familiar with the various parts of the machines for lab and lab competency
 - 2. know the equipment safety features on page 66-69

- G. economic benefits--skim this chapter

- H. anatomy and physiology of respiration and airway management
 - 1. respiratory system design and function
 - 2. anatomy of the upper airway
 - 3. anatomy of the lower airway

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4. anatomy of the respiratory zone
 5. physiology of the respiratory mechanism
 6. management of patients experiencing moderate sedation
- I. nitrous and its interaction with the body
 1. body systems and conditions--know main effect and any contraindications for each system
 2. drug interactions
 3. additional considerations
 - J. patient assessment
 - 1 and 2--these should be review
 3. preprocedural evaluation
 4. patient preparation
 5. patient monitoring
 6. emergency preparedness
 - K. titration--skim this for general information
 - L. signs and symptoms of nitrous oxide/oxygen sedation
 1. appropriate minimal sedation
 2. Oversedation
 - M. technique for administration--skim this for lab
 - N. recovery--skim this for lab
 - O. multidisciplinary application--skim this for general information
 - P. clinical application in pediatrics--you may be expected to administer nitrous to children in some offices
 1. child development
 2. use in pediatrics
 3. patient considerations
 4. administration to children
 5. safety
 - Q. potential biohazards for health personnel associated with chronic exposure
 - 1-4. skim
 5. scavenging
 6. recommendations and prevention
 - R. abuse issues--again, a lot of this is review from Pharmacology
 1. inhalant abuse

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- 2. nitrous abuse
 - 3. health hazards with chronic exposure
 - 4. sexual phenomena
 - 5. addictive nature
 - 6. legislation and regulation
- S. ethical and legal considerations
- 1. legal requirements
 - 2. appropriate education
 - 3. ethical responsibilities
 - 4. prudent practice
- T. common questions--good review
-

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UNIVERSITY OF ALBERTA
FACULTY OF MEDICINE & DENTISTRY
School of Dentistry

Local Anaesthesia Continuing Education
for registered dental hygienists

COURSE DESCRIPTION:

This Local Anaesthesia Continuing Education course has been **approved by the Council of the ADHA**. This self-study, interactive, and hands-on course, will teach participants to safely and effectively administer local anaesthetic agents. This course is **based on the textbook, "Handbook of Local Anaesthesia, 4th Ed., by Dr. Stanley F. Malamed** and will review head and neck anatomy related to the administration of local anaesthetics, demonstrate the various techniques involved in local anaesthesia and explain patient evaluation, complications and office emergencies. Successful completion of the course will enable the ADHA to issue a certificate recognizing that you have completed the course. **This ADHA certificate is required before you may administer local anaesthesia.**

COURSE STRUCTURE:

Theory Component:

- Registered participants will receive a mail out with the appropriate course materials (policies, cancellations, evaluations, self-tests, things to bring, etc.) and will need to **purchase the textbook** (available at the University of Alberta bookstore).
- **THIS COURSE BEGINS WITH A SELF-STUDY PERIOD** of approximately three months during which participants are to prepare for the clinical course by reviewing the textbook and course manual. The clinical course will contain some review lectures but will not be sufficient on it's own to prepare participants for the clinical course. Adequate study and preparation prior to attending the clinical course is expected of all participants.

Clinical Session:

- Four-day weekend clinical session (24 hours of continuing education credit is available)
- Comprised of a **brief review** of the textbook theory, clinical sessions with local anaesthetic administration to a partner, a written theory exam and a clinical examination.
- Participants will be required to bring some supplies, and each will receive a self-aspirating syringe and needle cap to take home with them.



Continuing Dental Education, School of Dentistry
Faculty of Medicine and Dentistry

4063 Dentistry/Pharmacy Centre · University of Alberta · Edmonton · Alberta · Canada · T6G 2N8
Phone (780) 492-5391 · Fax (780) 492-8973 · Email - cde@dentistry.ualberta.ca



June 27, 2011

To whom it may concern:

This is to outline the injections that were included in the course content covered during the Local Anaesthetic Module that Janalyn Reil attended and successfully completed through Continuing Dental Education at the School of Dentistry, Faculty of Medicine and Dentistry at the University of Alberta on January 30 – February 2, 2003. While participating in the course, the following injections were covered:

Maxillary injections:

- 1) Supraperiosteal
- 2) Infraorbital
- 3) Posterior Superior Alveolar
- 4) Greater Palatine
- 5) Nasopalatine

Mandibular injections:

- 1) Mental (with incisive)
- 2) Inferior Alveolar (with lingual)
- 3) Long Buccal

Please contact me at 780-492-1894 or cde@dentistry.ualberta.ca if you require any further information.

Sincerely,

Dr. James Yacyshyn, BSc, DDS, MASc.
Director, Continuing Dental Education
Faculty of Medicine and Dentistry
University of Alberta

JRY/sn

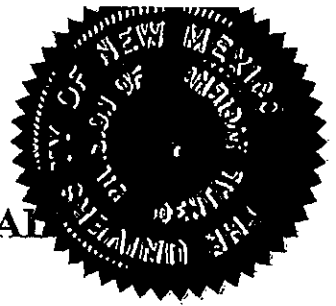
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O O

INFILTRATION AND REGIONAL DENTAL ANESTHESIOLOGY FOR PRACTICING DENTAL HYGIENISTS



PROFESSOR: Demetra Logothetis R.D.H., M.S.
Director, UNM Dental Hygiene Program

DATE OF COURSE: January 31- February 4

OFFICE PHONE: 272-6687
e-mail address Dlogothetis@salud.unm.edu

COURSE HOURS (CE): 35

REQUIRED TEXT: Handbook of Local Anesthesia, 4th Edition, Stanley F. Malamed, C.V. Mosby Co. 1991.

REFERENCE TEXTS: Manual of Local Anesthesia in Dentistry, Cook-Waite Laboratory, Inc., 4th Edition, 1996.

Sedation, a Guide to Patient Management, 3rd Edition, Stanley F. Malamed, C.v. Mosby Co. 1995.

Local Anesthesia of the Oral Cavity, J. Theodore Jastak, Saunders 1995.

Medical Emergencies in the Dental Office, 4th Edition, Stanley F. Malamed, C.V. Mosby Co. 1993.

COURSE DESCRIPTION:

This course is designed to give the dental hygienist a working knowledge of the theory and practice of local anesthesia as applied to the practice of dentistry/dental hygiene. This course will provide the dental hygienist with the knowledge and skills necessary to administer local anesthetics proficiently and safely. This course will prepare the dental hygienist to take the Western Regional Board Examination for Local Anesthesia administration. It is the responsibility of the student to contact WREB for all board applications and information.

This course consists of four days of didactic and clinical course work and one comprehensive examination. Clinical sessions will provide the dental hygienist with the opportunity to administer local anesthetics to fellow students.

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METHOD OF INSTRUCTION:

Lectures, slide presentations, group discussions and clinical practice.

COURSE REQUIREMENTS:

All students are expected to demonstrate satisfactory performance (75% or better) on written examinations. The dental hygienist must pass each injection to clinical competency. Additionally, students must prepare for all lectures and clinics by **studying** the required readings. Each dental hygienist must carry their own malpractice insurance, as the University of New Mexico will not be responsible for any malpractice of a licensed dental hygienist. Students who do not pass the written and clinical examinations may retake the exams at a later date as determined by the course professor. Students will be unable to take the regional board exam until all course requirements have been completed by the requirements stated above. Students must bring two sterile syringes to the clinical portion of the course. Students may use their board patient to take the anesthesia mock board exam. Any other clinical injections will be done on a fellow student.

COURSE OBJECTIVES:

Having attended all lectures and completed the reading assignment the student will be able to:

1. Demonstrate a thorough understanding of pain and its control.
2. Discuss the modalities of pain and mechanism of controlling it.
3. Evaluate patient medical history and physical status relative to administration of local anesthetics and vasoconstrictors.
4. Describe preparation of patient for administration of local anesthetics.
5. Summarize pharmacological aspects of local anesthetics and vasoconstrictors.
6. Describe maxillary and mandibular landmarks implicated in the administration of local anesthetics.
7. Select appropriate armamentarium for administration of local anesthesia.
8. Apply proper techniques in the administration of local anesthetics.
9. Prevent emergency situation from arising through proper techniques and patient evaluation.
10. Recognize signs and symptoms evident in emergency situations and the corrective measures, which must be applied.
11. Differentiate between various emergency equipment/supplies and the situations, which dictate their use.
12. Administer local anesthetics properly and proficiently.

N.S.B.D.E.
OCT 12 2007

Community College of Southern Nevada

Nitrous Oxide Analgesia Sedation

Course Syllabus

CE DH 213

CEU - 12 Online didactic course (8 hrs) – Oct. 30, 2006 – Nov. 17, 2006;

Lab (4 hrs.)- Nov. 17, 2006 – Nov. 19, 2006

Didactic Instructor: Shari G. Peterson RDH, M.Ed.

Supervising Dentist: Richard Kozal DDS

Clinical Instructor: Maryann Haag, RDH, M.Ed.

Phone: 651-5853 Fax: 651-5969 e-mail: sharon_peterson@ccsn.edu

Telephone Support:

If you are having problems logging into your course, timing out of your course, using your course web site tools, or other technical problems, please contact the Distance Education Help Desk by calling: (702)651-7340 or 1(800)492-5728 Extension 7340 (toll free call) or email: de_techsupport@ccsn.edu. If your problem is a computer or WebCT problem the Distance Education personnel will be able to help you more efficiently than the DH faculty.

Course Information: Three modules will be completed from Oct. 30 – Nov. 17, 2006. The course is self-paced with periodic self-assessment quizzes. An online final examination must be completed prior to the lab experience on Nov. 17, 2006. Failure to complete and pass this examination with a score of 80% will disqualify the student for participation in the remainder of the course with no refund of course fees. The laboratory portion of the class will include 3 nitrous oxide experiences.

Course Description:

This course will include instruction, demonstration, and practice on the administration of Nitrous Oxide analgesia sedation. It will describe the history and evolution of Nitrous Oxide and Oxygen sedation, pain & anxiety management, physical properties & pharmacology, respiratory anatomy & physiology, patient assessment, Sign & symptoms of sedation, technique & recovery as well as management of related medical emergencies.

General Course Objectives for Nitrous Oxide/Oxygen Analgesia:

The student will be able to:

1. describe the development of analgesia
2. define and differentiate the indications and contra-indications for inhalation analgesia
3. define the relationship of the dentist to the dental hygienist in terms of patient evaluation, indication for use of nitrous oxide/oxygen, and supervision
4. describe the related aspects of nitrous oxide/oxygen to respiratory physiology
5. list and define the gas laws related to the administration of nitrous oxide/oxygen
6. describe the utilization of the fail-safe type of machines
7. list the components of nitrous oxide/oxygen delivery and scavenger systems
8. demonstrate proficiency in the use and maintenance of nitrous oxide/oxygen delivery equipment
9. recognize adverse reactions and implement appropriate actions
10. administer nitrous oxide/oxygen to produce a relative state of analgesia and return the patient to pre-administration status
- ~~11. show clinical competency in setting up nitrous oxide equipment~~

Prerequisites:

Students must have a current valid card in CPR for the Health Care Provider.

Required Textbooks:

Clark, Morris S., and Brunick, Ann L., 2003, Handbook of Nitrous Oxide and Oxygen Sedation, 2nd edition, Mosby.

Academic Dishonesty: The individual registered for the course must complete the online learning modules and quizzes. Cheating is defined as the giving or receiving of information from any source other than yourself during any testing situation or individual assignment. Any improprieties will be grounds for dismissal from this course as well as a formal report sent to the Board of Dentistry where the registrant is licensed.

Appearance: The student should wear casual attire or scrubs (no shorts or open toed shoes) and provide a clinic jacket that covers from the collarbone to the wrist. You will also need to bring eyewear (magnification loupes or safety glasses).

NOTE: Cell phones and pagers must be turned off during lab sessions.

Confidentiality: During the course of instruction, students may obtain information regarding the personal medical and dental history of fellow students. No information may be shared regarding this confidential information either with family, friends, or anyone outside this setting. Information may not be shared with the student's family without the expressed permission of that student. Any discussion of events in the laboratory setting is included in this confidentiality. Any breach of this ethical standard is

viewed as a serious offense and the student will be subject to dismissal from the course. HIPAA laws include severe legal penalties for sharing of patient identifying information.

Ethical Behavior: Students are expected to operate within the ethical boundaries of their chosen profession. The philosophy of "do no harm" is expected when dealing with those entrusted into your care. Students are expected to function in such a manner that the good of their patients is the primary concern, even above their own personal needs or requirements.

Expectations: Students are expected to prepare for courses in a professional manner; this includes: reading the syllabus, the textbooks, and all resources available on WebCt. The syllabus is subject to revision with advanced notice to students.

Clinical Expectations: Students are expected to complete all online material before attending labs. The giving or receiving of local anesthesia and nitrous oxide can be particularly stressful events for particular students. The faculty make every attempt to be sensitive to these stressors, while working students through their fears. To be a successful practitioner these skills need to be mastered, and being on the receiving side creates empathy for future patients.

General Safety Procedures: Students MUST be familiar with general safety procedures. Specific safety considerations will be introduced in the class. A concise guide for all College policies entitled "Emergency Procedures" West Charleston Campus is found posted in each classroom and throughout the building. Please refer to this guide in an emergency. Anytime a student feels unsafe, security should be contacted at 651-5613. In an emergency, call 303-0651.

Course Completion: All online and laboratory competencies must be successfully passed to complete the course and receive a Nitrous Oxide Analgesia Sedation Certificate from the college.

Course Content

Attendance, Participation, and Professionalism P/F

Online Self-assessment quizzes P/F (80%)

Online Final Exam P/F (80%)

Nitrous Oxide Equipment Set-up Competency P/F (80%)

Clinical Competency Examination P/F (80%)

Attendance, Participation, and Professionalism: Tardiness; absence; leaving early; wasting valuable learning time; showing disrespect to any faculty, staff, or student; presenting with a negative attitude; failing to help others when the opportunity presents itself is not acceptable. Fear of nitrous is not unprofessional. Refusal to work towards alleviating the fear is unprofessional. Since this is graded as Pass/Fail, a student will receive an initial warning. Further infractions may result in dismissal from the course with no refund of fees.

Self-assessment Quizzes: Short online quizzes will accompany each module. Prepare for the quizzes in a way which prevents the necessity of looking up the answers in the textbook. If you truly test yourself, the final will not be too difficult.

Online Final Exam: The online final exam must take place before the beginning of the first lab session. Students must pass the online final with an 80% to be allowed to progress to lab experiences in the clinic.

Nitrous Oxide Equipment Set-up Competency: One of the clinical competencies will be setting up the nitrous oxide equipment. This competency must be passed at 80%.

Clinical Competency Experiences: Students will complete 3 clinical competency experiences in the lab session. This competency must be passed at 80%. Any student not passing this test will receive remediation and may arrange to repeat the competency later that day. If a student does not successfully pass all 3 clinical competency testings, they fail the course and are given the option to sign up for the next available course at half-price.

The instructor reserves the right to change the syllabus with notification to the students through Web mail postings.

Truckee Meadows Community College
Dental Hygiene Program
Professional Continuing Education

CE# 10-049

Course: **DHCE 102 Local Anesthesia for Dental Professionals**
Nitrous Oxide Analgesia Sedation
Distance Education 8 hours, Clinical experience 4 hours

This 12-hour course covers essential concepts in nitrous oxide administration as used in the dental setting. Course content will include instruction, demonstration, and practice on the administration of Nitrous Oxide analgesia sedation. It will describe the history and evolution of Nitrous Oxide and Oxygen sedation, pain & anxiety management, physical properties & pharmacology, respiratory anatomy & physiology, patient assessment, Sign & symptoms of sedation, technique & recovery as well as management of related medical emergencies. This course includes laboratory, partner practice.

Course Objectives

Following the course, the student will be able to:

1. Define inhalation sedation, comparing it to other forms of sedation.
2. Recognize the advantages and limitations of inhalation sedation.
3. Perform a physical and emotional evaluation prior to considering administration of nitrous oxide to a dental patient.
4. Identify high-risk patients for the administration of nitrous oxide sedation.
5. Understand the absorption, distribution, biotransformation, and excretion of nitrous oxide in the human body.
6. Know the biochemical and physiological effects of nitrous oxide and its mechanism of action.
7. Recognize possible complications and side effects, as well as the proper response for the safety and well being of the patient.
8. Utilize nitrous oxide sedation equipment.
9. Administer nitrous oxide/oxygen sedation within safe and effective parameters, to a lab partner.
10. At the completion of nitrous oxide administration, return the patient to a safe ambulatory state.

Course Director: Vickie Kimbrough-Walls RDH, MBA
Supervising Dentist: David Lund DDS
Clinical Hygiene Faculty: Vickie Kimbrough-Walls RDH, MBA / David Lund, DDS

Date & Time: *to be determined*

Place: This is a distance/clinical education course offered by:
Truckee Meadows Community College Dental Hygiene Program
7000 Danini Blvd RDMT 415
Dental Hygiene Clinic
Reno, NV 89512

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CEU: This course has been approved by the Nevada State Board of Dental Examiners for 12 continuing education units. The course is approved by the California Dental Board, Committee on Dental Auxiliaries.

Tuition: \$250.00 (does not include textbook)

Registration Deadline:

Requirements Each participant will be required to:

- Present PHOTOCOPY of current CPR card
- Present PHOTOCOPY of current dental or dental hygiene license
- Proof of liability insurance
- Participate in two partner practice experiences
- Attend entire 12 hours to receive certificate of completion

Textbook: Clark & Brunick's *Handbook of Nitrous Oxide and Oxygen Sedation* 2nd Ed.
ISBN-13: 978-0-323-01977-4

Available at:

www.elsevierhealth.com

www.e-follett.com

www.amazon.com

Contact: Vickie Kimbrough-Walls RDH, MBA 775-674-7554 (vkimbrough@tmcc.edu)

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TMCC Dental Hygiene Program
DH 102 – Local Anesthesia for the Dental Professional

**Nitrous Oxide Analgesia/Sedation
Course Syllabus**

CEU - 12 Online didactic course (8 hrs)
 Lab (4 hrs)

Didactic Instructor: Vickie Kimbrough-Walls RDH, MBA

Supervising Dentist: David Lund

Clinical Instructor: Vickie Kimbrough-Walls RDH, MBA

Phone: 775-674-7554 Fax: 775-673-8242 e-mail: vkimbrough@tmcc.edu

Course Information: Three modules should be completed from prior to scheduling lab. The course is self-paced with periodic self-assessment quizzes. An online final examination must be completed prior to the lab experience. Failure to complete and pass this examination with a score of 80% will disqualify the student for participation in the remainder of the course with no refund of course fees. The laboratory portion of the class will include 3 nitrous oxide experiences.

Course Description:

This course will include instruction, demonstration, and practice on the administration of Nitrous Oxide analgesia sedation. It will describe the history and evolution of Nitrous Oxide and Oxygen sedation, pain & anxiety management, physical properties & pharmacology, respiratory anatomy & physiology, patient assessment, Sign & symptoms of sedation, technique & recovery as well as management of related medical emergencies.

General Course Objectives for Nitrous Oxide/Oxygen Analgesia:

Upon successful completion of this module the student will be able to:

1. describe the development of analgesia
2. define and differentiate the indications and contra-indications for inhalation analgesia
3. define the relationship of the dentist to the dental hygienist in terms of patient evaluation, indication for use of nitrous oxide/oxygen, and supervision
4. describe the related aspects of nitrous oxide/oxygen to respiratory physiology
5. list and define the gas laws related to the administration of nitrous oxide/oxygen
6. describe the utilization of the fail-safe type of machines
7. list the components of nitrous oxide/oxygen delivery and scavenger systems
8. demonstrate proficiency in the use and maintenance of nitrous oxide/oxygen

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delivery equipment

9. recognize adverse reactions and implement appropriate actions
10. administer nitrous oxide/oxygen to produce a relative state of analgesia and return the patient to pre-administration status
11. show clinical competency in setting up nitrous oxide equipment

Prerequisites:

Students must have a current valid card in CPR for the Health Care Provider.

Required Textbooks:

Clark, Morris S., and Brunick, Ann L., (latest edition), Handbook of Nitrous Oxide and Oxygen Sedation, Mosby.

Academic Dishonesty: The individual registered for the course must complete the online learning modules and quizzes. Cheating is defined as the giving or receiving of information from any source other than yourself during any testing situation or individual assignment. Any improprieties will be grounds for dismissal from this course as well as a formal report sent to the Board of Dentistry where the registrant is licensed.

Appearance: The student should wear casual attire or scrubs (no shorts or open toed shoes) and provide a clinic jacket that covers from the collarbone to the wrist. You will also need to bring eyewear (magnification loupes or safety glasses).

NOTE: Cell phones and pagers must be turned off during lab sessions.

Confidentiality: During the course of instruction, students may obtain information regarding the personal medical and dental history of fellow students. No information may be shared regarding this confidential information either with family, friends, or anyone outside this setting. Information may not be shared with the student's family without the expressed permission of that student. Any discussion of events in the laboratory setting is included in this confidentiality. Any breach of this ethical standard is viewed as a serious offense and the student will be subject to dismissal from the course. HIPAA laws include severe legal penalties for sharing of patient identifying information.

Ethical Behavior: Students are expected to operate within the ethical boundaries of their chosen profession. The philosophy of "do no harm" is expected when dealing with those entrusted into your care. Students are expected to function in such a manner that the good of their patients is the primary concern, even above their own personal needs or requirements.

Expectations: Students are expected to prepare for courses in a professional manner; this includes: reading the syllabus, the textbooks, and all resources available on ANGEL. The syllabus is subject to revision with advanced notice to students.

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Clinical Expectations: Students are expected to complete all online material **before** attending labs. The giving or receiving of local anesthesia and nitrous oxide can be particularly stressful events for particular students. Faculty makes every attempt to be sensitive to these stressors, while working students through their fears. To be a successful practitioner these skills need to be mastered and being on the receiving side creates empathy for future patients.

General Safety Procedures: Students **MUST** be familiar with general safety procedures. Specific safety considerations will be introduced in the class. A concise guide for all College policies entitled "Emergency Procedures" TMCC Dandini Campus is found posted in each classroom and throughout the building. Please refer to this guide in an emergency.

Course Completion: All online and laboratory competencies must be successfully passed to complete the course and receive a Nitrous Oxide Analgesia Sedation Certificate from the college.

Course Content

Attendance, Participation, and Professionalism	P/F
Online Self-assessment quizzes	P/F (80%)
Online Final Exam	P/F (80%)
Nitrous Oxide Equipment Set-up Competency	P/F (80%)
Clinical Competency Examination	P/F (80%)

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Nitrous Oxide Equipment Set-up Competency: One of the clinical competencies will be setting up the nitrous oxide equipment. **This competency must be passed at 80%.**

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Course Schedule - On Campus

Nitrous Oxide Certification - Part 1

Contact for available dates

Overview

This two-part presentation is designed to serve as either a review course for those having had training in the use of Nitrous Oxide Sedation or as a licensure required course for those wishing to learn the sedation technique. This two-day program will qualify for the 14 hours training necessary for certification.

Part 2: See Saturday, February 20, 2010

Objectives:

All aspects of the technique will be covered and will include:

- Pain Concepts
- Methods of Pain Control
- Anxiety and Its Relevance to Dentistry
 - Physical Evaluation
 - Importance of Stress Reduction
- The Role of N2O/O2 Sedation in Modern Practice

Time 8:30 a.m. - 4:30 p.m.

Dates 1/23/2010

Location Edward J. Forrest CDE Center, 2148 Salk Hall

Tuition \$250

Credit 7 hours

Course 46110

Hotel Holiday Inn University Center BLOCK NAME: CDE
Information Wyndham Garden University Place BLOCK NAME:
CDE

Univ of Pittsburgh
SODM

Pittsburgh PA
15261

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ADA CER.P is a service of the American Dental Association to assist dental professionals in identifying quality providers of continuing dental education. ADA CER.P does not approve or endorse individual courses or instructors, nor does it imply acceptance of credit hours by boards of dentistry. The University of Pittsburgh designates this activity for the number of continuing education credits listed with each course summary.

Course Schedule - On Campus

[View other courses offered at On Campus site\(s\)](#)

Nitrous Oxide Certification Part 2

Contact for available dates.

Overview:

This is the second session of our 14 hour offering in Nitrous Oxide Sedation

Topics Include:

- Indications/Contraindications for Nitrous Oxide Use
 - Myths Surrounding N2O/O2 Sedation
 - Pharmacology
 - Administration/Dismissal Techniques
- Presentation of the Latest Equipment
- Hands-On Administration Techniques
 - Question and Answer Period

Time 8:30 a.m. - 4:30 p.m.

Dates 2/20/2010

Location Edward J. Forrest CDE Center, 2148 Salk Hall

Tuition \$300

Credit 7 hours

Course 46210

Hotel Wyndham Garden University Place BLOCK NAME:

Information CDE

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