STATE OF NEVADA

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DEPARTMENT OF BUSINESS AND INDUSTRY
OFFICE OF NEVADA BOARDS, COMMISSIONS AND COUNCILS STANDARDS
NEVADA STATE BOARD OF DENTAL EXAMINERS

PUBLIC MEETING NOTICE & CE COMMITTEE MEETING AGENDA

Meeting Date & Time
Thursday, April 24, 2025
6:00 p.m.

Meeting Location
Nevada State Board of Dental Examiners
2651 N. Green Valley Pkwy, Ste. 104
Henderson, NV 89014

Video Conferencing/ Teleconferencing Available

To access by phone, +1(646) 568-7788

To access by video webinar,

https://us06web.zoom.us/j/82956950762

Webinar/Meeting ID#: 829 5695 0762
Webinar/Meeting Passcode: 093352

PUBLIC NOTICE:

Public Comment by pre-submitted email/written form and Live Public Comment by teleconference is available after roll call (beginning of meeting and prior to adjournment (end of meeting). Live Public Comment is limited to three (3) minutes for each individual.

Members of the public may submit public comment in written form to: **Nevada State Board of Dental Examiners, 2651 N. Green Valley Pkwy, Ste. 104, Henderson, NV 89014; FAX number (702) 486-7046; e-mail address nsbde@dental.nv.gov.** Written submissions received by the Board on or before Tuesday, April 23, 2025, by 12:00 p.m. may be entered into the record during the meeting. Any other written public comment submissions received prior to the adjournment of the meeting will be included in the permanent record.

The Nevada State Board of Dental Examiners may: 1) address agenda items out of sequence to accommodate persons appearing before the Board or to aid the efficiency or effectiveness of the meeting; 2) combine items for consideration by the public body; 3) pull or remove items from the agenda at any time. The Board may convene in closed session to consider the character, alleged misconduct, professional competence or physical or mental health of a person. *See* NRS 241.030. Prior to the commencement and conclusion of a contested case or a quasi-judicial proceeding that may affect the due process rights of an individual the board may refuse to consider public comment. *See* NRS 233B.126.

Persons/facilities who want to be on the mailing list must submit a written request every six (6) months to the Nevada State Board of Dental Examiners at the address listed in the previous paragraph. With regard to any board meeting or telephone conference, it is possible that an amended agenda will be published adding new items to the original agenda. Amended Nevada notices will be posted in compliance with the Open Meeting Law.

We are pleased to make reasonable accommodations for members of the public who are disabled and wish to attend the

meeting. If special arrangements for the meeting are necessary, please notify the Board, at (702) 486-7044, no later than 48 hours prior to the meeting. Requests for special arrangements made after this time frame cannot be guaranteed.

Pursuant to NRS 241.020(2) you may contact at (702) 486-7044, to request supporting materials for the public body or you may download the supporting materials for the public body from the Board's website at http://dental.nv.gov In addition, the supporting materials for the public body are available at the Board's office located at 2651 N. Green Valley Pkwy, Ste. 104, Henderson, NV 89014.

Note: Asterisks (*) "**For Possible Action"** denotes items on which the Board may take action.

Note: Action by the Board on an item may be to approve, deny, amend, or table it.

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1. **Call to Order**

    a. Roll Call/Quorum

2. **Public Comment (Live public comment by teleconference and pre-submitted email/written form):**

    The public comment period is limited to matters specifically noticed on the agenda. No action may be taken upon the matter raised during the public comment unless the matter itself has been specifically included on the agenda as an action item. Comments by the public may be limited to three (3) minutes as a reasonable time, place and manner restriction, but may not be limited to based upon viewpoint. The Chairperson may allow additional time at his/her discretion.

    Members of the public may submit public comment via email to nsbde@dental.nv.gov, or by mailing/faxing messages to the Board office. Written submissions received by the Board on or before April 23, at 12:00 p.m. may be entered into the record during the meeting. Any other written public comment submissions received prior to the adjournment of the meeting will be included in the permanent record.

    The Chair may prohibit comment if the content of that comment is a topic that is not relevant to, or within the authority of, the Nevada State Board of Dental Examiners, or if the content is willfully disruptive of the meeting by being irrelevant, repetitious, slanderous, offensive, inflammatory, irrational, or amounting to personal attacks or interfering with the rights of other speakers.

3. **Chairperson's Report:** Lance Kim, DMD (For Possible Action)

    a. Request to Remove Agenda Item(s) (For Possible Action)

    b. Approve Agenda (For Possible Action)

4. **Old Business:** (For Possible Action)

    a. NA

5. **New Business:** (For Possible Action)

a. Review, Discussion and Possible Recommendation of the Continuing Education (CE) Committee Bylaws to the Board – NRS 631.190 (For Possible Action)

b. Discussion, Consideration, and Possible Approval/Rejection of the Continuing Education Provider Course Application – NRS 631.342; NRS 631.190; NAC 631.173 (For Possible Action)

- **i.** Course #19-016
- **ii.** Zest Education

6. **Public Comment (Live public comment by teleconference):**

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7. **Announcements:**

8. **Adjournment:** (For Possible Action)

Bylaws of the Continuing Education Committee
Board of Dental Examiners

Establishment

The Continuing Education Committee (the "Committee") is hereby established as a standing committee of the Board of Dental Examiners (the "Board"). The Committee shall operate in accordance with these bylaws and any applicable laws and regulations governing the Board.

Purpose

The Committee shall provide oversight and recommendations to the Board on matters related to continuing education (CE). The Committee's primary responsibilities include reviewing and recommending continuing education providers to the full Board and addressing continuing education matters to ensure competency, professionalism, and regulatory compliance.

Membership

1. The Committee shall be composed of at least 4 members, appointed by the Board, but no more than 5 members. At least 1 committee member must be a dental hygienist on the Board.
2. The Executive Director shall serve as an ex-officio, non-voting member and provide administrative support as needed.
3. The Board President appoints a Chair to the Committee at the 1st or 2nd board meeting of the calendar year.
4. The Board President appoints Committee Members to serve at the 1st or 2nd board meeting of the calendar year.
5. Any Committee Member may consult with the Board President to discuss the removal of any Committee Member from the Committee for actions that are unethical and/or result in unprofessional conduct.

Meetings

1. The Committee shall meet as determined by the receipt of a CE Provider Application requiring review or at the request of the Chairperson or the Board. The committee shall meet within 10 days of receipt of a CE Provider Application.
2. Meetings shall be conducted in accordance with applicable open meeting laws and Board procedures.
3. A majority of Committee members shall constitute a quorum for conducting business.
4. The Committee shall keep minutes of its meetings and submit them to the Board for review.

Authority and Responsibilities

The Committee shall have the authority to:

1. Review and make recommendations to the Board regarding applications for continuing education course approval.
2. Evaluate continuing education content for compliance with statutory and regulatory requirements.
3. Recommend changes to continuing education policies, standards, or regulations under the Board's jurisdiction.
4. Review and make recommendations to the Board regarding continuing education provider complaints or reported concerns.

Reporting and Recommendations

1. The Committee shall submit formal recommendations to the Board for consideration and approval.
2. The Committee does not have independent decision-making authority but serves in an advisory capacity to the Board.

Amendments

These bylaws may be amended by a majority vote of the Board, provided that notice of proposed amendments is given in advance.

Effective Date

These bylaws shall take effect immediately upon approval by the Board of Dental Examiners.

Nevada State Board of Dental Examiners

6010 S. Rainbow Blvd., Bldg. A, Ste.1 • Las Vegas, NV 89118 • (702) 486-7044 • (800) DDS-EXAM • Fax (702) 486-7046

March 4, 2019

[redacted]

Re: Provider Application for the Laser Proficiency Course: **Introduction to Lasers (6.0 units)**

Dear Ms. [redacted]r:

The Nevada State Board of Dental Examiners is in receipt of your application, application fee and synopsis for approval as a Board recognized Continuing Education Provider for the above listed course. Please be advised, pursuant to NAC 631.173(5 and 6) which states;

(5) To be approved as a provider of a course in continuing education, the instructor of the course must complete a form provided by the Board and submit it to the Board for review by a committee appointed by the Board not later than 45 days before the beginning date of the course. Upon receipt of the form, the committee shall, within 10 days after receiving the form, approve or disapprove the application and inform the applicant of its decision.

(6) Study by group may be approved for continuing education if the organizer of the group complies with the requirements of subsection 5 and furnishes the Board with a complete list of all members of the group, a synopsis of the subject to be studied, the time, place and duration of the meetings of the group, and the method by which attendance is recorded and authenticated.

The Board has received the required documents noted above and will be forwarded to the Continuing Education Committee for review. You will be notified in writing if your course is granted approval or if it is rejected.

Should you need further assistance, please do not hesitate to contact me at (702) 486-7045.

Sincerely,

Sandra Spilsbury
Site Inspection – CE Coordinator
Nevada State Board of Dental Examiners

cc: File

Nevada State Board of Dental Examiners
6010 S. Rainbow Blvd., Bldg. A, Ste. 1
Las Vegas, NV 89118
(702) 486-7044 • (800) DDS-EXAM • Fax (702) 486-7046

Received
MAR 0 4 2019
NSBDE

CONTINUING EDUCATION PROVIDER APPLICATION

Instructor Name: [redacted]
Business Address: [redacted]
City, State & Zip: [redacted]
Business Telephone: [redacted]
Course Title and Objectives [Must relate directly to the practice of dentistry and/or dental hygiene]:

Introduction to Lasers

6 hour lecture combined with hands on instruction of the use of lasers by the dental hygienist

Number of Participants: TBD
Hours of Actual Instruction: 6
Location/Facility Name and Address:

TBD

Date(s) of Course: TBD
Individual Submitting Request: [redacted] - Dedicated Dental Hygiene
Business Address: [redacted]
City, State & Zip: [redacted]
Business Telephone: [redacted]
Date of Request: 3/1/2019

[redacted]
Signature of Person Authorized to Represent Course Provider

PLEASE ATTACH NAMES AND BRIEF BIOGRAPHICAL SKETCHES OF INSTRUCTORS AND OUTLINE OF COURSE, INCLUDING METHOD OF PRESENTATION TO THIS FORM.

FOR OFFICE USE ONLY - DO NOT WRITE BELOW THIS LINE.

Approved by:

Number of Hours Approved:
Effective Date of Approval:
Disapproved [Explanation]:

c/c visa

[redacted] was born and raised in Phoenix, AZ. From a very young age [redacted] knew wholeheartedly that dentistry would be her passion. She began working for her childhood dentist in her teens. In order to pursue this perennial desire, [redacted] sought and obtained her degree in dental hygiene from Rio Salado College in Phoenix, AZ.

Immediately upon graduation [redacted] navigated the dental industry working with various doctors gaining insight and experience with cutting edge tools and processes. At her very first office in 2009 she was introduced to the Biolase Diolase Plus. She took her first laser standard proficiency course at that time. Sensing a need for personal growth and professional growth, [redacted] returned to school to earn her Bachelor's degree in Communication. She also served on the board of the Northern Nevada Hygiene Association, including a stint as President.

Now, after almost ten years as a clinical hygienist, four years on the Northern Nevada Hygiene board, and staying active in the dental community, [redacted] has pursued getting her Academy of General Dentistry PACE provider approval. Her goal is to provide high quality CE courses to the dental community, one of those being on the subject of lasers and laser training. [redacted] began her serious study of lasers in 2016 after taking her second standard proficiency course in Reno, NV with the Academy of Laser Dentistry. From there she has completed her advanced proficiency in both the diode and CO2 lasers. This advanced proficiency is awarded after rigorous testing in clinical applications. This process also involves treating patients and following their periodontal progress for a minimum of one year, five cases per laser. She will be presenting her reports next month in Dallas at the annual Academy of Laser Dentistry conference.

In addition to her professional pursuits, [redacted] spends time with her family hiking, scuba diving, and running throughout the Lake Tahoe and Reno Nevada areas.

Introduction to Lasers

[redacted]

PACE [redacted]

A standard course developed according to the guidelines established by the Academy of Laser Dentistry

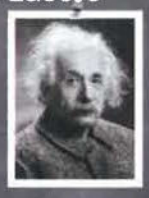
Course Outline

- History
- Physics
- Concepts
- Lasers
- Biology
- Technique
- Implementation
- Treatment Planning
- Cost
- Integrating into Practice
- Doctor Procedures
- Laser Safety & Regulation
- Conclusion

LIGHT
AMPLIFICATION
STIMULATED
EMISSION
of
RADIATION

Forefathers of Lasers

Neils Bohr



Einstein

T.H. Maiman

Neils Bohr

1885 b.-1962 d

-Was awarded Nobel Peace Prize in 1922

-He postulated that that energy is transferred only in certain well defined quantities.

- Electrons revolve in stable orbits around the [illegible] but can jump from one energy level (or orbit) to another

-This is known as Spontaneous Emission

Einstein

b. 1879 d. 1955

-Albert Einstein first broached the possibility of stimulated emission in a 1917 paper

-Suggested atoms & molecules could be stimulated by photons to emit more photons

-Awarded the 1921 [illegible]

T.H. Maiman

-b. 1927- d. 2007
-Scientist and engineer
-Twice nominated for the Nobel prize
-May 16th, 1960 fired the first laser
-Ruby laser worlds first laser

History of Lasers

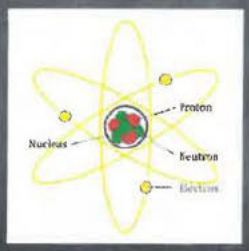
-1959 Race for the first laser begins

-1960 T.H. Maiman fires the first laser

-1987 FDA approves laser for soft tissue use

-1997 FDA clears laser for use on hard tissue

Atoms Explained



Spontaneous Emission

The atom absorbs new energy and there is another energy level created. Spontaneous emission occurs. The excited state decays to the lower energy state, emitting the excess energy as a photon or quantum of light.

Spontaneous Emission

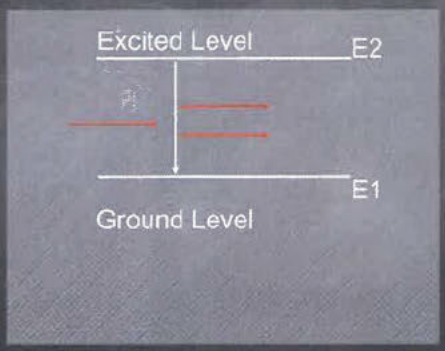
Stimulated Emission

When an atom already in an excited state due to absorption of a quanta of energy is stimulated to absorb another quanta of energy.

It decays returning to it's ground state giving off energy as ANOTHER TWO photons

The liberated energy transfers to the electromagnetic field, creating new photons all identical to the photons of the incident wave.

Stimulated Emission

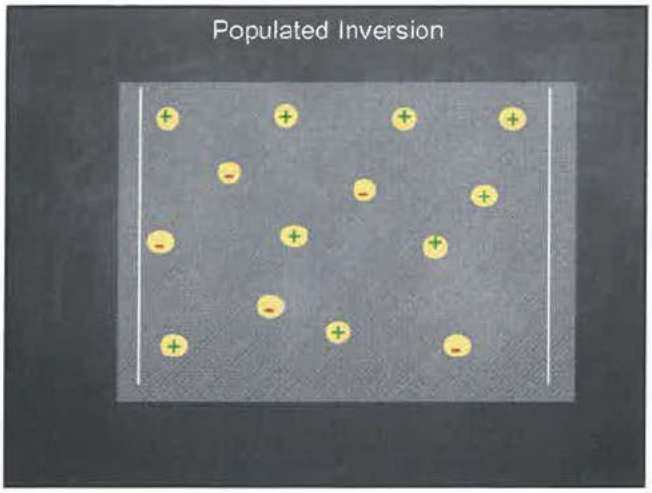


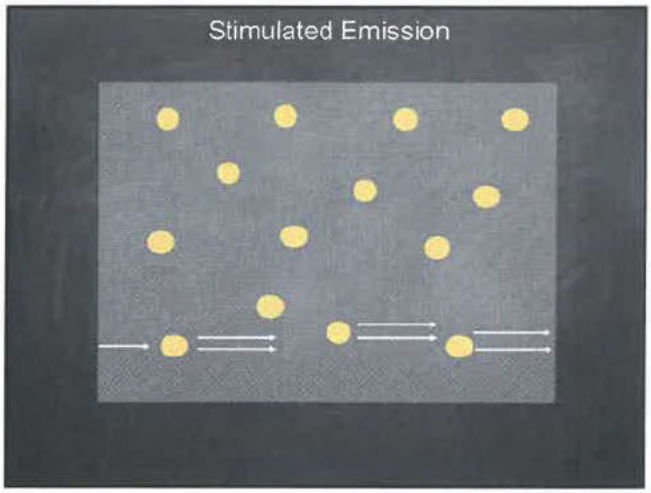
LASER

Light Amplification

Light Amplification

aser medium with external energy and using a mechan
se in photos of that particular wavelength produces am





Basics of Lasers

Chromophore

A substance or molecule exhibiting selective light absorbing qualities, often to specific wavelengths

Photon

✓Smallest packet of energy.
✓Responsible for electromagnetic phenomena
✓Travels at the speed of light
✓No Mass
✓Ceases to exist when it stops moving

Laser Fundamentals

Velocity: The speed of Light

Amplitude: Measurement of wave

Wavelength: Horizontal distance between point

Absorption

Absorption, in chemistry, is a process in which atoms, molecules, or ions enter some bulk phase - gas ,liquid or solid material.

Characteristics of Laser Light

Laser Light

Typically one color

Highly Focused

Directional

Organized

Efficient

Light

Made up of small particles, Photons

Small particles move in waves

Multiple Wavelengths

Non-Directional

Non-Focused

Lasers in Dentistry

Lasers have been used since the 1970's in medicine

In dentistry since 1989!

Laser Light Is

Coherent

MonoChromatic

Collimated

Collimated

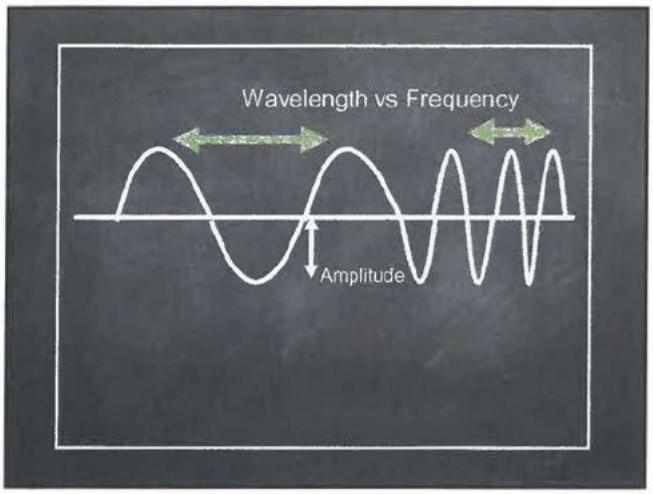
MonoChromatic

Coherent

Wavelength & Frequency

Wavelength and frequency are inversely proportional.

the lower the frequency, and the shorter the wavelen



Laser Terminology

Joule - unit of energy, ability to do work

Watt - Unit of Power, Rate of doing work

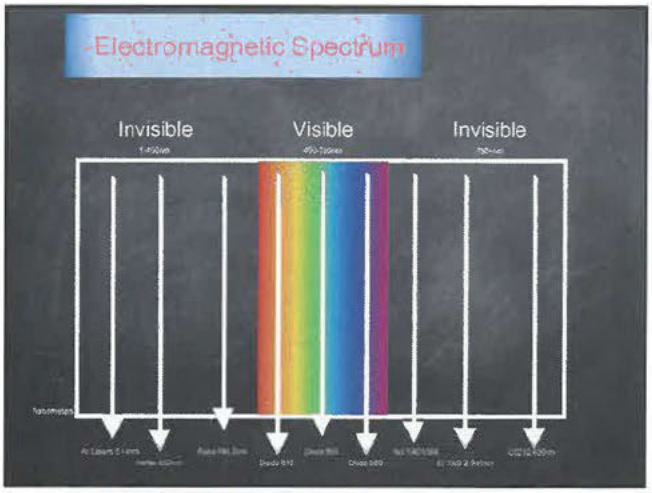
One Watt - One joule for one second

Hertz - Number of pulses per second of laser energy H

Pulse Width- The emission time of a single pulse

Electromagnetic Energy

ting through space, carrying electromagnetic radiant er



Electromagnetic Spectrum

Regions and boundaries relative to laser emission

Ultra Violet:1-400nm

Visible: 350 - 750nm

Infrared 750 +

Electromagnetic Spectrum

Short and Long Wavelengths

The short wavelengths are absorbed primarily in hemoglobin and melani

long Wavelength lasers are absorbed by water or carbonated hydroxyap

Laser Components

Active Medium: Core of the laser

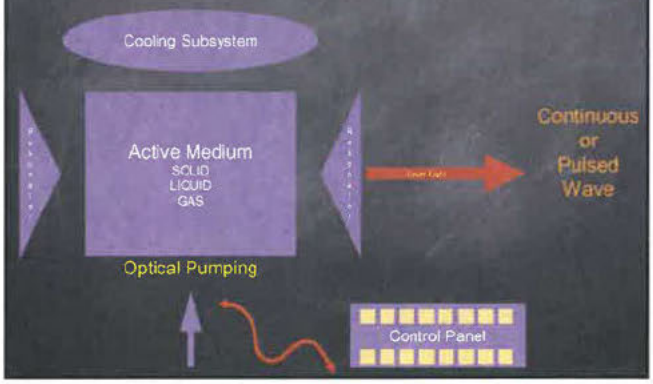
ing Mechanism: Responsible for POPULATION INVER

Optical Resonator: Amplify, Collimates Laser Beam

Cooling Subsystem: Cools the laser down

Controller Subsystem:

Laser Physics



Active Medium

Solid: ER:YAG, ND:YAG

Gas: CO2, He:Ne, Argon

Liquid: Excimer Dye

Semiconductor: Diode

Pumping Mechanism

-Population Inversion

-Electrical Dicharge

-Light from another Laser

-Chemical reactions

-Flashlamp

Optical Resonator

-Parallel Mirrors

-Fully Reflective/Partially Reflective

-Stimulated Emission

Delivery Systems

Fixed Lens and Mirror

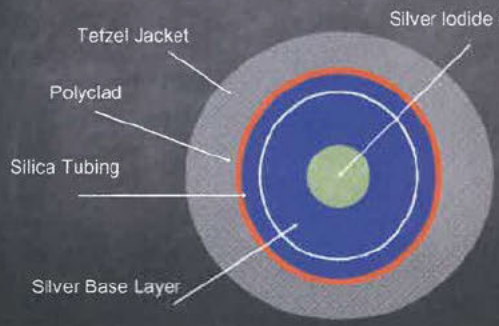
Articulated Arm

Waveguide

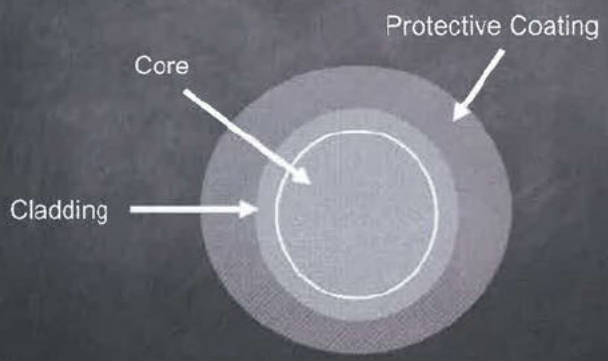
Optical Fiber

Fixed Lens and Mirror, Articulated Arm

Hollow Waveguide



Optic Fiber



Emissions Mode

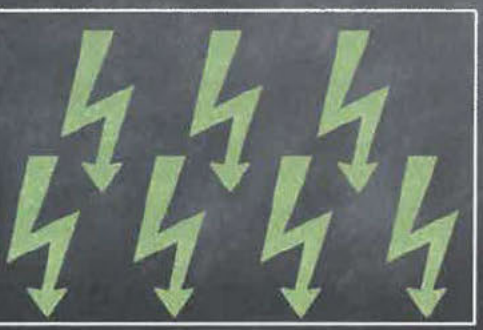
- Continuous Wave
- Chopped or Gated
- Pulsed
- Super Pulsed

Continuous Wave

Uninterrupted Energy

Chopped or Gated

Pulsed



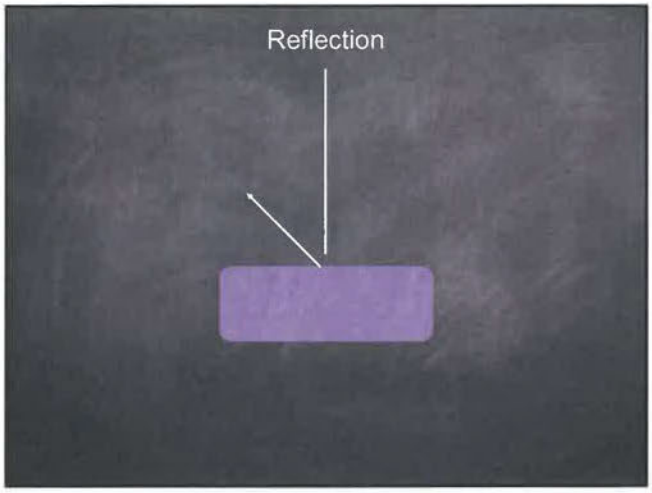
Lasers Have Four Different Tissue Interactions

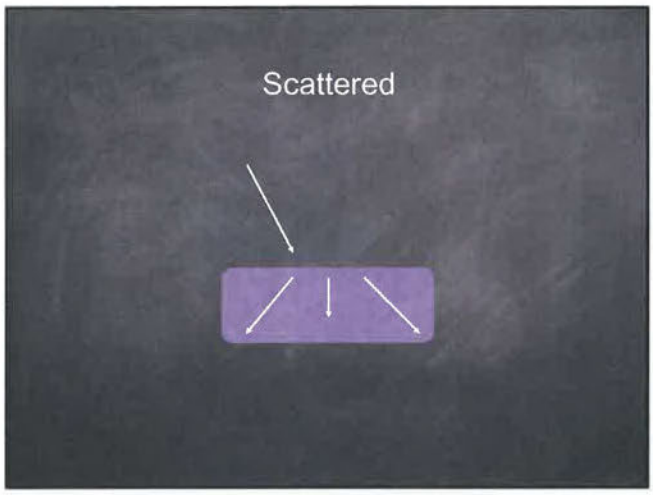
Transmission

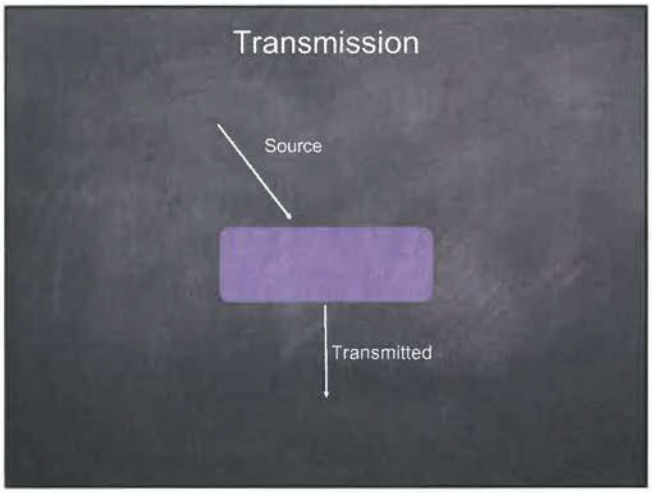
Absorption

Scatter

Reflection







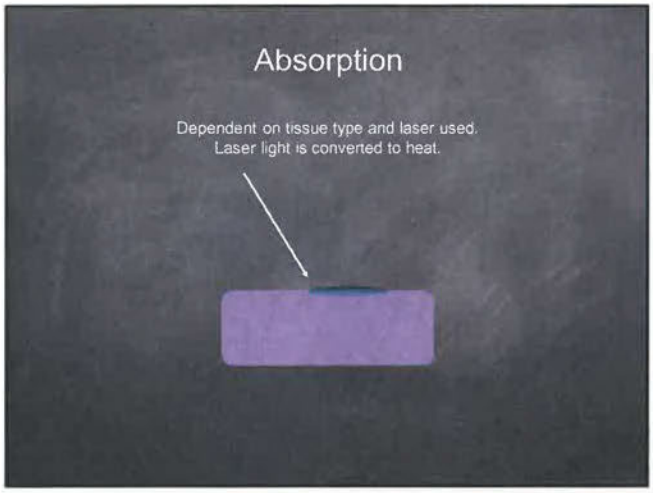


Photo Thermal Effects

Tissue Temperature (C)	Thermal Effect
37-50	Hyperthermia, Edema
51-60	Coagulation, Protein Denaturation
70-90	Welding, Dehydration
100-150	Vaporization, Ablation
Greater than 200	Carbonization

Photoacoustic Interaction

Ultrasonic Wave

Photochemical Interactions

Biostimulation, LLLT

-Stimulatory Effect

-Mitochondria

Photodynamic Therapy

Close to 53,000 Americans will be diagnosed with

It will cause over 9,750 deaths, killing roughly 1 pe

Human papillomavirus version 16

Reimbursement Code D0431

The American Dental Association (ADA) has assi

Photodynamic Tools

-VelScope

-Oral ID

-Vizilite

Velscope

Irregular, dark area visible under fluorescence
The photo on the hard palate was biopsy and conf

Laser Caries Detection

* 655nm visible red diode laser emission
* Compromised tooth structure reflects different wa
* After calibration, a numerical readout indicates "a
* Non invasive
* Simple, non-ionizing radiation

Laser Power

Power Calculations

Average Power: An expression of the average power emission over time, expressed in Watts

Energy per pulse x No. of Pulses

Energy: 100mj
No. of Pulses - 20
Av. Power - 2.0W

Power Calculations

Peak Power: Divide the energy per pulse by the pulse width (in time) and you will get the peak power

Energy: 100mj
Pulse Width - 100ms
Peak Power = 1000 W

Power Density

Power density is power per unit area which is usually expressed in terms of

W/cm2

BEAM DIAMETER

Power Density

The smaller the diameter of the fiber the more power per square centimeter

POWER

Duty Cycle = Emission

Expressed in Percent

Percent that laser is actually firing in relation to total laser activation time

Example: Duty Cycle may be 50%

Laser Fluency

This area is usually the spot size of the light device

The higher the fluency the more "cutting power" the laser has

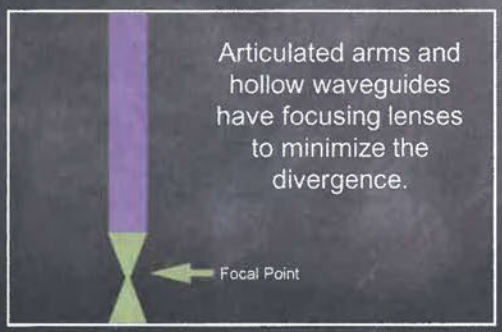
Beam Divergence

The light emitted by a laser is confined to a rather narrow cone. But, when the beam propagates outward, it slowly diverges or fans out. For an electromagnetic beam, beam divergence is the angular measure of the increase in the radius or diameter with distance from the optical aperture as the beam emerges.

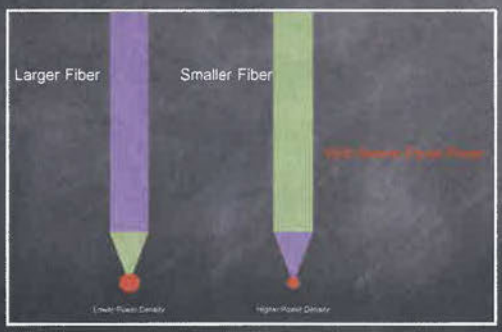
Beam Divergence

As the light exits the distal end of a delivery system fiber is spreads over a larger area.

Beam Divergence



Power Density Effect



Laser Tissue Interaction

Power Density + Duration of Exposure + Amount of Cooling + Wavelength + Emission Mode + Tissue Characteristics
= Biological Effect

Modes of Use

Contact Mode

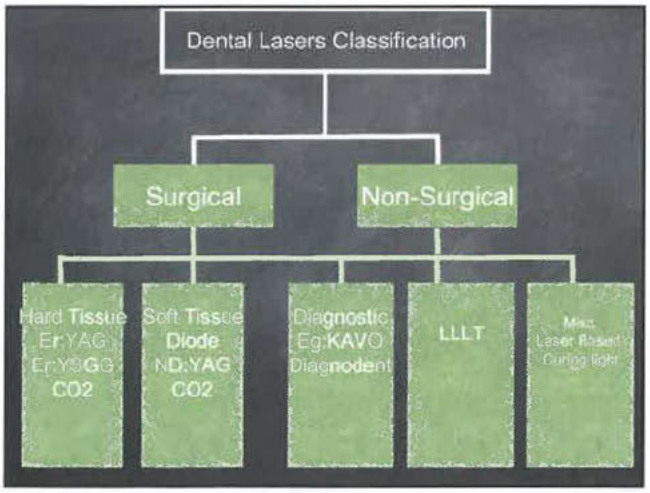
Non - Contact Mode

Changing Distance from Tissue

LASER Classifications

Class	Control Measures	Training	Laser Safety Office
1	NA	Not Required	NO
1M	NA	Application Dependent	NO
2	Caution	Not Required	NO
2M	Caution	Application Dependent	NO
3R	Danger	Not Required	NO
3B	Danger	Required	YES
4	Danger	Required	YES

Dental Lasers Classification



Laser Tissue Interactions

Photochemical Interaction
Photothermal Interaction
Photomechanical Interaction

Photochemical:

tions occur when photon energy causes a chemical rea

occur when the chromophores absorb the laser energy

otomechanical: Breaking apart of structures by laser lig

Review of Laser Types

Argon Lasers

- Active Medium GAS
- Photons reflected off mirrors
- Surgery, Resin Placement
- Attracted to Melanin, Hemoglobin

CO2 Laser

Active Medium Gas

Attracted to Water Hydroxyapetite

9.3-10.6 um

Diode Lasers

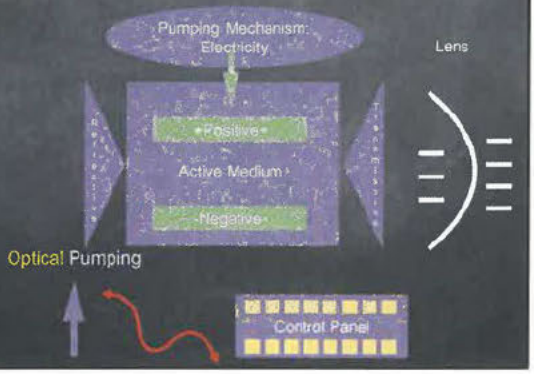
Active Medium Solid, Semiconductor Chip

Energy is released as Heat

810, 950, 980, 1064nm

Fiber Delivery

Laser Components - Diode



Erbium Laser

2790-2940nm

Absorbed by WATER and hydroxyapatite

Cuts Hard Tissue with micro explosions of water

Holmium Laser

2120 nm

Solid Medium

Garnet Crystal

Soft Tissue

Quartz Optic Fiber

Neodymium Lasers

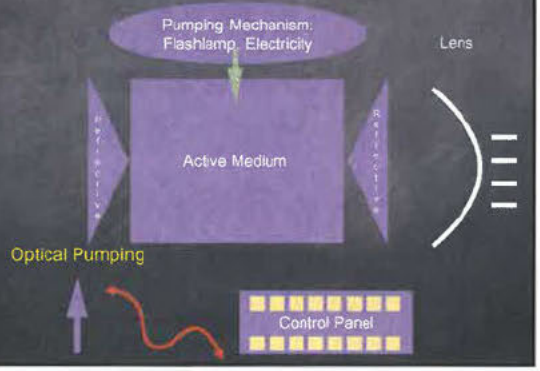
ND:YAG

1064 nm

YAG=Crystals

Absorbs: melanin, water, and dentin

Laser Components - ND-YAG



Solea

CO2

9.3 um

All Tissue Laser

No Anesthetic

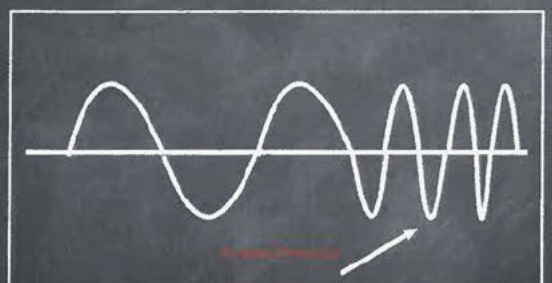
Bloodless Working Field

Vaporizes

LASER CHARACTERISTICS

Wavelength
Beam Diameter
Power
Energy Density
Repetition Rate
Exposure Duration
Total Energy

Wavelength



What does doubling the frequency do?
Halves the Wavelength!!

REPITITION RATE

Pulse energy = peak power x pulse width

ENERGY DENSITY

Fluence is joules/cm

Poorly cleaved Fiber

Check for Aiming Beam

Hard Tissue Applications for the DDS

Cavity Preparation

Bone removal

Hard Tissue Crown Lengthening

Orthodontics

Soft Tissue Applications for the RDH

Laser Decontamination

Laser Bacterial Reduction

Laser Safety

Regulatory Organizations

U.S. FDA Center for Devices & Radiological Health

American National Standards Institute

U.S. Occupational Safety and Health Administration

U.S. FDA Center for Devices & Radiological Health

Maintains awareness of new and existing radiation-emitting products

Studies the biological effects of radiation-emitting products

Assesses radiation emission levels

Provides direction and guidance to the general public

Oversees product manufacturer compliance

American National Standards Institute

Sets manufacturing and and safety guideline
Defines control measures

for the safe use of lasers and laser systems. Classifie

yers for establishing laser safety policies and procedu

U.S. Occupational Safety and Health Administration

Responsible for maintaining safe work place

No Comprehensive Laser Safety Standard

Relies on ANSI

Laser Safety Officer

One in Every Office
Keeper of the key
Sets Standard Operating Procedures
Knows the operational Characteristics of the laser
Knows Laser Limitations
Determines Control Area
Posts Warning Signs
Supervises Staff Education and Training
Ensures Laser Maintenance
Oversees PPE
Medical Reports and Incident Reporting
Potentail Hazards
OSHA and ANSI Regulations

Laser Safety Mechanisms

ON/OFF Key
Safety Interlock
Remote Interlock
Guarded Foot Pedal
Emergency Stop Button
Time-Out
Audible Noise
Visible Warning Sign

Eye Protection & Tissue Protection

Must be worn by all in the area

Reduce reflective surface

Class 5 optical density

Side shields

Wavelength Marked

First on Last off Protocol

Maximum Permissible Exposure (MPE). This is the minimum irra

*

flected or scattered radiation during operation exceeds the applica

*

tensity or the energy per surface unit becomes lower than the Ma

Laser Classifications Safety Considerations

Class III

Requires Special Training, Eye Protection

Dental Argon, Soft Tissue Lasers

Class IV

Potentially Hazardous

Specific Safety Measures

Dental and Medical

Surgical Laser Systems

Laser Operatory

NHZ and the NOHD is not WAVELENGTH SPECIFIC

DEVICE SPECIFIC

Consult with owners manual for the NHZ and NOHD

Laser Safety with Combustible Gases

Nitrous Oxide and Laser Use

tes that Nitrous Oxide can be used with proper scaven

etics alcohol moistened gauze should not be used to

Adverse Affects

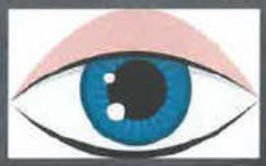
anage the patient, take necessary emergency measu

Contact Manufacturer

er investigation other organizations may become invol

Signs of Eye Exposure

- Headache
- Extreme Watering
- Gritty, Sandy
- Burning
- Popping Noise
- Floaters
- No Pain



Environment

- Remove excess cables
- Proper Warning Signs
- Limited Access

Environment

High Evacuation Present

Exterior Cooling System

Laser Infection Control

Identification of Biological Hazards

Plume Hazards

Sterilization of Instruments

Decontamination of Field

Disposal of used-up supplies

Chart Documentation

Laser Used

Fiber Size

Contact/Non-Contact Mode

Settings Used

Minutes Used

Vitamin E

Safety Goggles

Patient Management

Periodontal Evaluation

Consent

Tissue Protection

Discussion of Treatment Sequence

Treatment

Post-Operative Instructions

Pathology Reports

Healing Assessment

Soft Tissue Management

ft Tissue Management Purpose

Reduce Bateria

Reduce Pocket Depth

No Bleeding With Probing

Stop Bacterial Activity

Stop Migration of Epithelium

History of Periodontal Disease

-4th Century

Hippocrates

-Albucasis

-Paracelsus

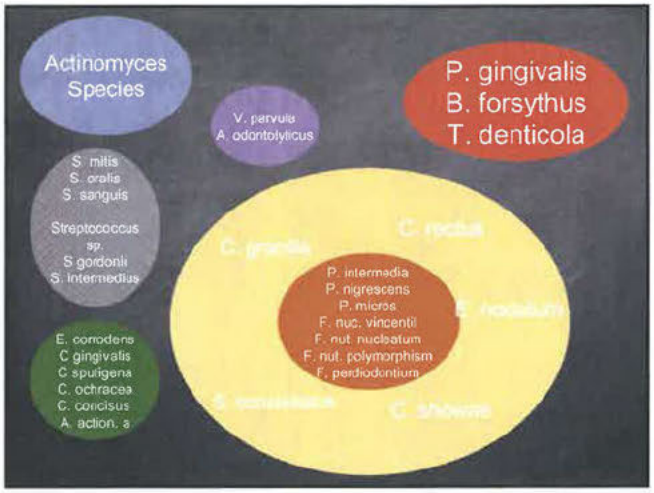
-Calculus

Inflammatory Process

2-4 Days Migration and Infiltration of WBC

14 Days Infiltration of lymphocytes, neutrophils

days Vibrios and Spirochetes are prevalent in older bio



Hard and Soft Tissue Composition

Enamel	12% Water 85% Hydroxyapatite
Soft Tissue	70-75% Water and Collagen
Bone	50% Hydroxyapatite 35% Collagen

Diode Antibacterial Properties

- AA: PI: PG

Moritz, 2006

Bleeding Index Decreased
AA reduced
More Comfortable Post Op
Faster Healing

- Kreisler (2001)

Safe to use in pockets at low power

- Horton (1992)

Up to 56 days repopulation

- Mortiz (2005)

Up to 90 days reduction of colony forming units

How Lasers Help

Promotion of Wound Healing

Stimulates mitochondria of cells to produce ATP

Decontamination

Allows fibroblasts to create attachment

Laser Assisted Periodontal Therapy LAPT

tering laser energy into periodontal pocket for decontai

References

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How to Cleave

- Strip cladding from fiber with special tool
- Laser may have more than one jacket
- Cleave fiber
- Some fibers are present and disposable

Conditioning of the Fiber

- Focuses laser energy
- Can be done with articulating paper or a marker
- Can become conditioned in periodontal pocket

Laser Settings Decontamination

Always start with lowest possible setting!!!

Diode: 810-980
1.5 W Pulsed
10-15 Seconds per site

CO2
380us 25 Hz

Laser Settings
Laser Bacterial Reduction

Always start with lowest possible setting!!!

Diode: 810-980
.5 W Continuous Wave
10-15 Seconds per site

CO2
450us 45 Hz

Fiber Technique

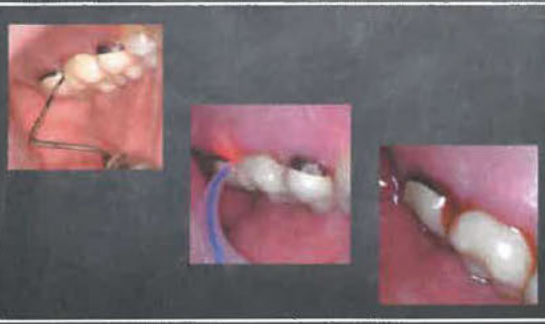
✓Calibrate Fiber length to Pocket Depth
✓Angle Away from Tooth
✓Angle towards tissue
✓Place fiber in pocket before activating
✓Keep Fiber Moving
✓Revisits calibrate fiber 2mm less than initial pocket depth

CO_2 Technique

✓Epithelial Dehydration
✓Angle Away from Tooth
✓Angle towards tissue
✓Place tip in pocket before activating during LBR
✓Keep Tip Moving

Laser Debri

Periodontal Therapy



Periodontal Therapy

How can a laser work for you?

Proper Training

Patient Education

Work within scope of Practice

Consult States Practice Act

[redacted]

Images used in Presentation are property of [redacted]

Commercial images used are used with permission

[redacted] is not endorsing the use of any brand of laser

[redacted]

[redacted]

Additional Resources for Lasers

Academy of Laser Dentistry

www.laserdentistry.org

Only unbiased international

organization

Nevada State Board of Dental Examiners
2651 N. Green Valley Parkway, Suite 104, Henderson, NV 89014
(702) 486-7044 • (800) DDS-EXAM • Fax (702) 486-7046
nsbde@dental.nv.gov

APPLICATION FOR CONTINUING EDUCATION CREDIT APPROVAL REQUEST
SUBMISSION GUIDELINES

Please comply with the following:

I certify that continuing education courses granted Board approval will be conducted as education programs and meet the following requirements:

1) Instruction shall be conducted on the same education standards of scholarship and teaching as that required of a true university discipline.

2) The course or topic of instruction shall conform to the purpose and method of higher education.

3) The provider of a course of study or topic of conversation shall be able to demonstrate to the Board that an opportunity to enroll in such courses of study is available to ALL dental and dental hygiene licensees.

Home study and/or correspondence courses **must** submit with this application all material (i.e., study manuals, worksheets, audio and video) used in the completion of the course. The Nevada State Board of Dental Examiners reserves the right to monitor any and all courses being conducted by an approved provider of continuing education.

In accordance with Nevada Administrative Code (NAC) 631.177(2), each approved continuing education provider **must** furnish a certificate of completion to all Nevada dental and dental hygiene licensees who complete the course. The records concerning Nevada dental and dental hygiene licensees must be kept on file by the provider for a period of at least three (3) years.

FEE: $150.00 FOR THE FIRST CREDIT HOUR REQUESTED, $50.00 FOR EACH ADDITIONAL CREDIT HOUR. **THIS FEE IS FOR THE PROCESSING AND REVIEW OF YOUR REQUEST FOR PROVIDER APPROVAL AND MUST ACCOMPANY THIS FORM UPON SUBMISSION OF THE REQUEST.**

ALL PROVIDER APPROVAL REQUESTS MUST BE SUBMITTED TO THE BOARD FOR REVIEW NO LATER THAN 45 DAYS PRIOR TO THE BEGINNING DATE OF THE COURSE.

Nevada State Board of Dental Examiners
2651 N. Green Valley Parkway, Suite 104, Henderson, NV 89014
(702) 486-7044 • (800) DDS-EXAM • Fax (702) 486-7046
nsbde@dental.nv.gov

APPLICATION FOR CONTINUING EDUCATION CREDIT

Sponsor Information:

Name: [redacted] / [redacted] / [redacted]	
Business Address: [redacted]	
City: [redacted]	State: [redacted] Zip code: [redacted]
Business Telephone: [redacted]	
Email Address: [redacted]	
Number of Attendees: 30	
Hours of Actual Instruction: 13	
Facility Name: [redacted]	
Facility Address: [redacted]	
Date(s) of Course: 06/06/25 - 06/07/25	
Date of Request: 04/14/25	

[redacted]
Sponsor Signature (Digital)

Speaker(s) Information:

Biographical Sketch: Dr. [redacted] is in private practice in Tulsa, Okla, a Fellow of both the American and the International College of Dentists, a Regent of the International Academy for Dental Facial Esthetics, a member of the American Society of Dental Aesthetics, a Lifetime Member of the American Dental Association and is a honorary member of the American College of Prosthodontics.

Dr. [redacted] serves as the [redacted] for [redacted], is an Assistant Clinical Professor at Loma Linda University, a Clinical Instructor at University of Nevada – Las Vegas, and maintains a successful practice limited to prosthodontics and implant dentistry in California and Las Vegas.

Dr. [redacted] obtained his Doctorate of Dental Surgery from Creighton University in 1995. He runs a very successful fee for service comprehensive general dentistry practice in St. George, Utah. Surgery and technology have always been a passion of Dr. [redacted].

Course Title:	[redacted] - June 2025
Course Description:	Participants will attend a LIVE hands-on course which encompasses evidence and clinical based lecture theory with a hands-on workshop with full-arch dental implant diagnosis, treatment planning, and clinical procedures. This 2-day in-person program is designed for clinicians that would like to both treatment plan and treat implant retained removable and fixed prosthodontics. This course provides didactic and hands-on training for the successful treatment of the edentulous patient utilizing contemporary implant-retained, tissue supported treatment options. Many clinical
Learning Objectives:	1. Understand diagnosis, treatment planning, and prosthetic space requirements of implant options. 2. Acquire knowledge and confidence in utilizing standard diameter and narrow diameter implants and surgical kits 3. Acquire basic understanding of the surgical and prosthetic protocols of implant overdentures
Outline of Course:	Day 1: 8:30-9:00 – Check-in, breakfast, orientation 9:00-9:30 – Presentation: Introduction to course, patent assessment (Dr. [redacted]r) 9:30-10:00 – Presentation: Overview of overdenture systems (Professor Kanazawa) 10:00-12:00 – Hands-on: Overdenture fundamentals 12:00-1:00 – Lunch 1:00-2:00 – Presentation: Full-arch fixed dentistry (Dr. [redacted]) 2:00-2:15 – Coffee break 2:15-4:15 – Hands-on: Clinical techniques & hands-on (Dr. [redacted]lead, Dr. [redacted] assist) 4:15-4:30 – Q&A; course completion 6:30 – [redacted] dinner Day 2: 8:00-8:30 – Check-in, breakfast 8:30-9:30 – Presentation: Surgical anatomy review, treatment planning, basic and advanced surgical protocols (Dr. [redacted]) 9:30-9:45 – Coffee break – Q&A

FOR OFFICE USE ONLY – DO NOT WRITE BELOW THIS LINE

Approved by:
Number of Hours Approved:
Effective Date or Approval:
Disapproved [Explanation]:

[redacted] Mastership Certification Course

From the creators of LOCATOR® & LOCATOR FIXED®

[redacted]

FULL-ARCH EDUCATION

[redacted]

[redacted] -Guest Wifi code: [redacted]

1

2

Sign-In Sheet

Please use the QR Code below to sign-in to the course!

Still having trouble?
Email us a[redacted]

3

A Little About the Course

4

Disclosure Statements

[redacted] is an employee of [redacted]. He does not receive any direct financial compensation for participating in [redacted] courses.

[redacted] is a registered speaker for [redacted]. He has received a honorarium for participating in [redacted] courses. (additional disclosures on next slides)

[redacted] is a registered speaker for [redacted]. She has received a honorarium for participating in [redacted].

5

Disclosure

I have/had a relationship of some sort either financial or otherwise with the following companies. None have influenced me in any way or demanded a quid pro quo with my discussions on preferred methods or products I may recommend.

- AMD Lasers
- ASI Systems (Mobile Carts)
- Ankylos Implant System
- Astra Implants
- BienAir Medical Technologies
- Brasseler Corporation
- Bosworth Company
- Dentsply/Caulk
- Dentsply Prosthetics
- Clinical Innovations
- CMP Industries/Nobilium
- Colgate Oral Care Division
- Coltene/Whaledent Ltd.
- Danilov Dental Lab
- Degussa Corporation
- DMG Global/America
- Demetron Research Corp
- Various Dental Labs
- GC International Corp
- Glaxo Smith Kline
- Global Dental Impression Tray
- HealthFirst Corporation
- Heraeus-Kulzer Inc.
- Herman-Miller Cabinetry
- Ivoclar-Vivadent
- J Morita Corporation
- KaVo Dental Corporation
- Kerr Dental
- Komet USA
- Lang Dental Company
- Matsushita Corporation
- Midmark Dental Company
- WhipMix Corp Hanau/Denar
- Tulsa Dental Products
- Miltex Company
- Renfert Dental
- Sterngold Products
- Nobel Biocare Implants
- Philips Oral Care
- Procter & Gamble Inc.
- Oral B Oral Health Care
- The Vita Company
- 3I Implants Innovations
- 3M/ESPE Dental Divison
- Vident Corporation
- Zest Anchors Products
- Zimmer Dental
- Magna View Company

*I designed the thermoplastic Impression trays, Jaw Recorder device , Lip Ruler, Tooth Shells & digital exam software that may be discussed in my presentations.
* And if I inadvertently missed anything I do apologize

6

Conflict of Interest: None

- Consultant to many companies:
- [redacted] - provided hands-on materials for my workshop and my presentation has not been influence by any manufacturing company whatsoever.

- [redacted]

7

Disclaimer

The opinions expressed in this presentation are those of the speaker and not necessarily those of [redacted]

The opinions expressed in this course should not be construed as advise to care for specific patients.

8

Step 1: Online Education

GLOBAL EDUCATION CENTER

Step 2: In-Person Hands-On

9

FULL-ARCH EDUCATION

In-Person 2-Day Course:

Day 1

Morning – Fundamentals of overdentures, overdenture impressions, overdenture housing attachment

Afternoon – Full-Arch FIXED with LOCATOR, step-by-step clinical technique & hands-on

10

FULL-ARCH EDUCATION

In-Person 2-Day Course:

Day 2

Morning – Surgical anatomy review, treatment planning and protocols, surgical hands-on, clinical case reviews

Lunch – Mastership award ceremony

Afternoon – Choosing abutments, placing abutments, and managing angulation, clinical case reviews

11

FULL-ARCH EDUCATION

Connect with Masters On Social Media!!

Case Review

Technical Assistance

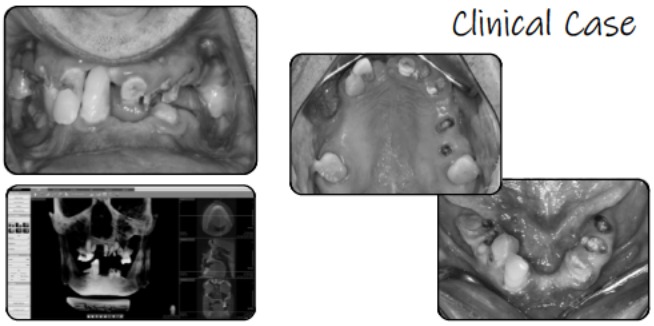
Additional Questions?

12

Fundamentals

13

Clinical Case

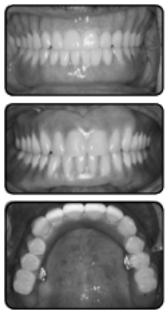


Overdenture Case

14

Treatment Options for Full-Arch

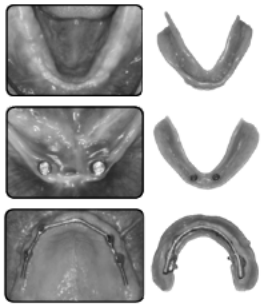
15



Complete Denture

Overdenture

Implant-Supported Overdenture



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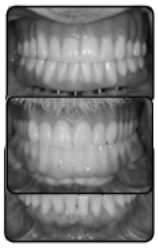
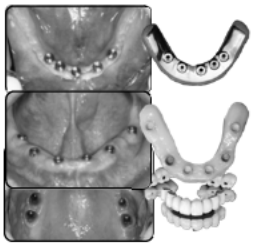


Screw-Retained AllonX Bridge

Snap-In Bridge

PFM/PFZ Crown & Bridge



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Good... Better... Best...?

Overdenture

Fixed

18

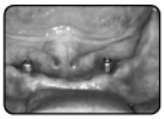
Attachment Systems

19

Knowing how the attachment system functions is as important as knowing the steps of how to make an overdenture!

Hader Bar | Dolder Bar | Locator





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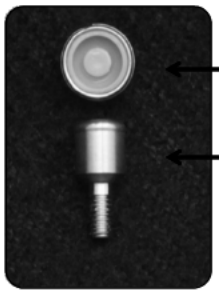
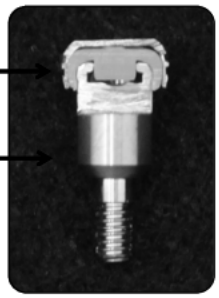


Patrix

Matrix



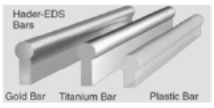
21

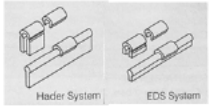
Hader Bar

Standard Ø 1.8 mm (13 gauge)

The clips are interchangeable, easily replaceable but not adjustable.

EDS bar height : 3.0 mm
Hader bar height : 8.3 mm





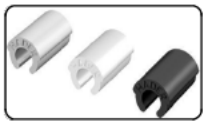
22

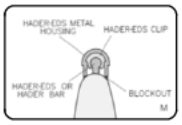
Hader Bar

Yellow = Standard Retention (800g)

White = Reduced Retention (600g)

Red = Increased Retention (1000g)





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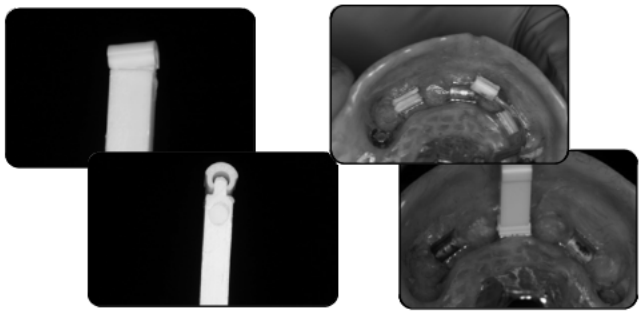

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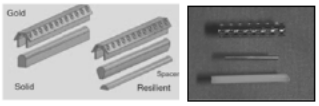
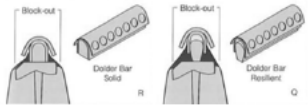
Dolder Bar

Oldest bar system in use today

Two configuration are available
1. The resilient allows for vertical and rotational resiliency
2. The solid may be processed with some vertical movements only





25

ERA

+ Retention?
+ Ease of Use
+ History of Use
+ Angled options
  - 5, 11, 17 degree options

- Space Requirement (high profile)
  - Standard = 4.85mm (discontinued)
  - Micro = 3.17mm
- Durability
- Retention?

26

27

ERA

White = Least Retention
Orange
Blue
Grey
Yellow
Red = Most Retention

28

Rhein 83 (OD Secure)

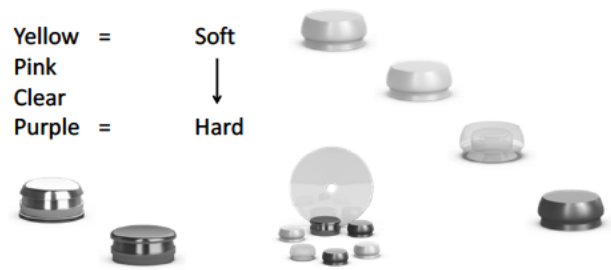
+ Small profile
+ Pink housing
+ Divergence correction

- Rigid insert & no resiliency
- Durability
- Retention?

29

Rhein 83 (OD Secure)

Yellow = Soft
Pink
Clear
Purple = Hard



30

Medentika (Novaloc)

+ Low profile
+ Retentive long-term
+ Angled version

- Abutment color confusion?
- More difficult to use
- Insert removal is more complex

31

Medentika (Novaloc)

Red = Extra Light
White
Yellow = Medium
Green
Blue
Black = Ultra-Strong

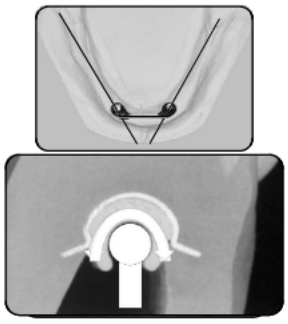
32

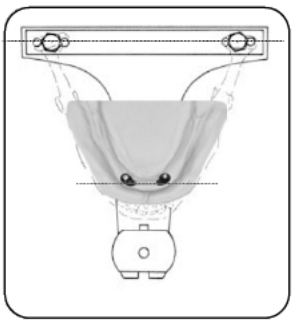
Bar & Clip

++ Retention
+ Stability
+ Off-Angled Implants

- Space Requirement
  - 12-15mm implant platform to incisal edge
- Cost
- Difficulty (Passive fit?)
- Maintenance
- Tissue Response (hypertrophy/hyperplasia)

33





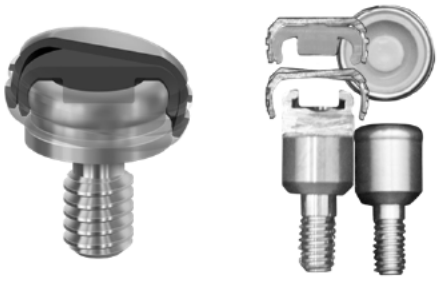
34

LOCATOR

+ Retention
+ Ease of Use
+ Durability
+ Self Aligning
+ Low Profile
  3.2mm height
  2.0mm attachment, 1.2mm housing

- Nylon Wear

35



36

LOCATOR

Normal Range:

Blue = Least Retention
Pink ⇩
Clear = Most Retention

Extended Range (Divergent Implants):

Red = Least Retention
Orange ⇩
Green = Most Retention

Special:

Grey (0.0lb) = Zero Retention
Purple (8.0lb) = What would I need this for?!

37

LOCATOR R-Tx

+ Retention
+ Ease of Use
+ Durability
+ Self Aligning
+ Low Profile
3.2mm height
2.0mm attachment, 1.2mm housing

- Nylon Wear

38

LOCATOR R-Tx

Standard R-Tx Inserts

Blue = Least Retention
Pink ⇩
Clear = Most Retention

Special:

Grey = Zero Retention

Limited Range:

Aqua = Least Retention
Magenta ⇩
Gold = Most Retention

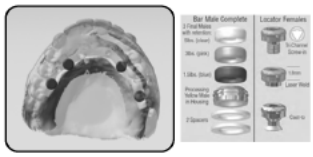
39

LOCATOR Bar

Combination of resilient LOCATOR & rigid bar connections

Ultimate control of angulation correction

Available in a screw-in, cast-to, or laser-weld



40

LOCATOR Bar

Biggest challenge is prosthetic space!

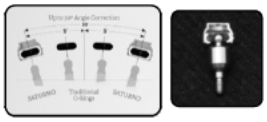
Typically advocated because of:
1. Maxillary Overdentures
2. Angulations excessive of 40°
3. Clinicians wishing for rigid design
4. Increased implant support, less tissue support

41

Ball/O-Ring

+ Ease of Use
+ Off-axis use (with SATURNO®)
+ Traditional Mini-Implant Design

- Retention
- Only one level of retention
- Wear
- Durability
- Space Requirement (high profile)
~6.0 mm on hexed implant



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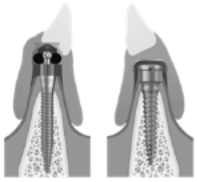
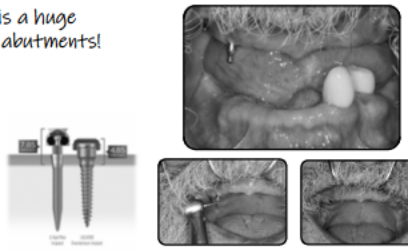
Ball/O-Ring

Prosthetic space is a huge concern with O-Ring abutments!





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Q: Which attachment should I use?

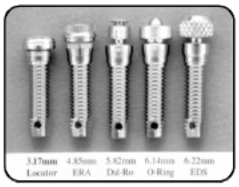
What are you comfortable with?

How much retention?

Patient preference?

Cost?

How much restorative space do you have?



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Hands-On

45

Meet Our Patient

43 Year Old Healthy Female Patient

Currently wearing maxillary and mandibular overdentures

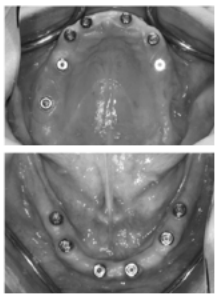
Interested in "fixed teeth"

46

Meet Our Patient

47

Meet Our Patient



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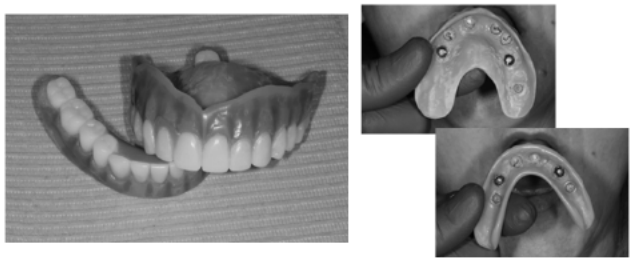
Meet Our Patient

49

Meet Our Patient



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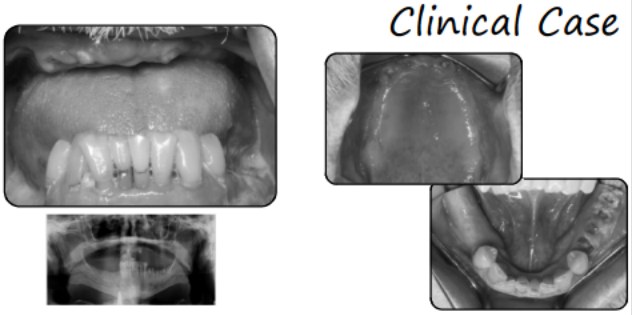
Clinical Case



"Doctor, I need some help..."

51

Initial Scan

Optical Scanning

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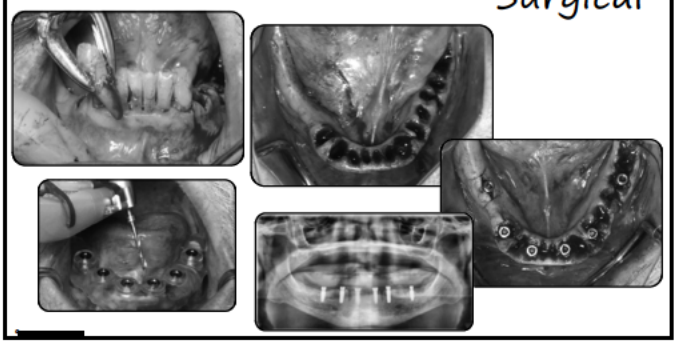
Laboratory

Implant Planning

53

Surgical



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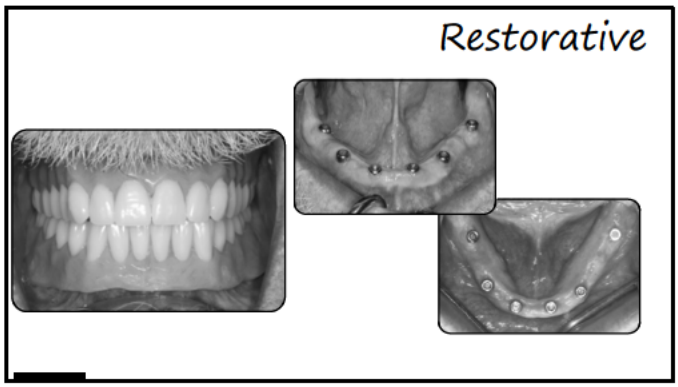

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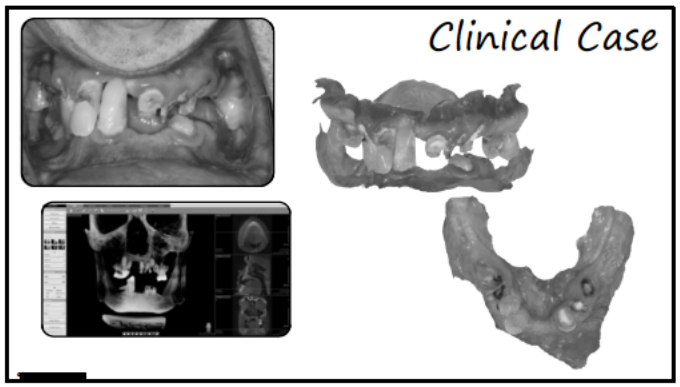

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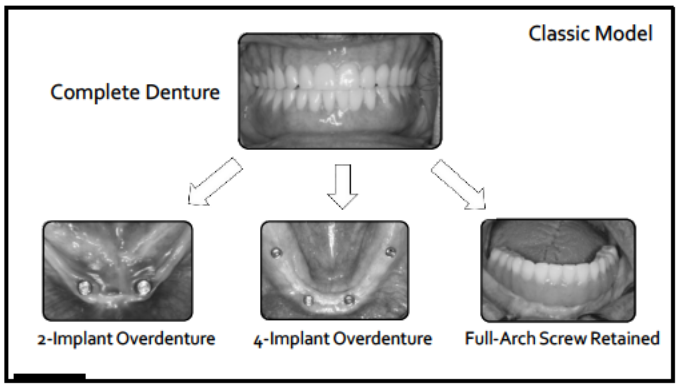

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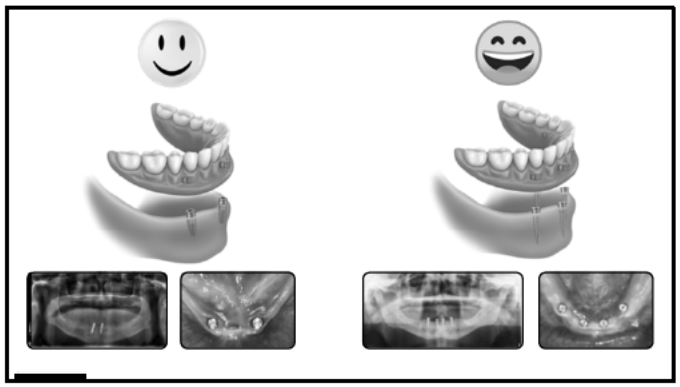

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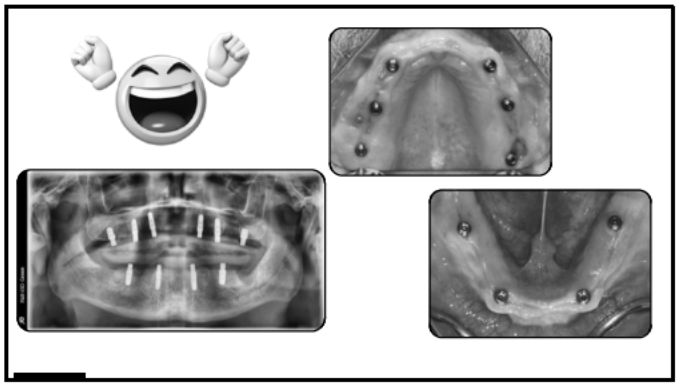

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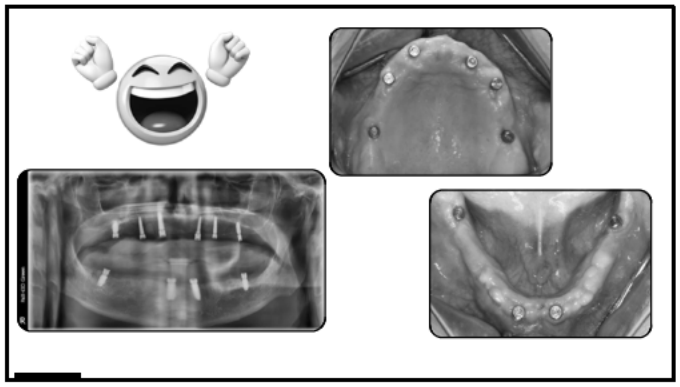
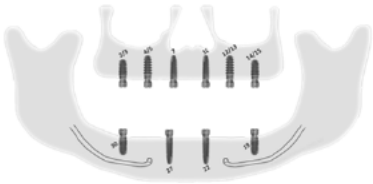


60

Overdenture Today – Fixed Option Tomorrow?



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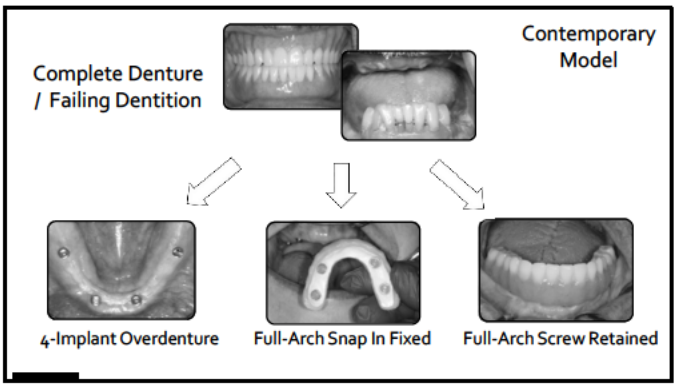

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Clinical Workflows

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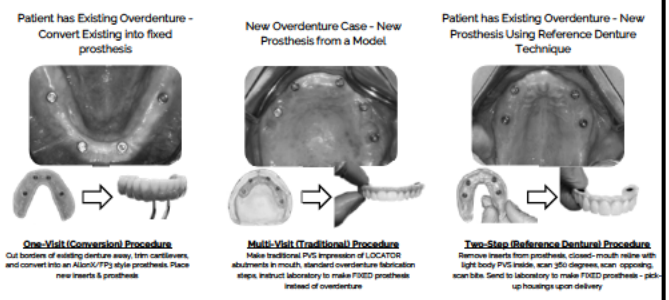
Common Clinical Routes & Workflows



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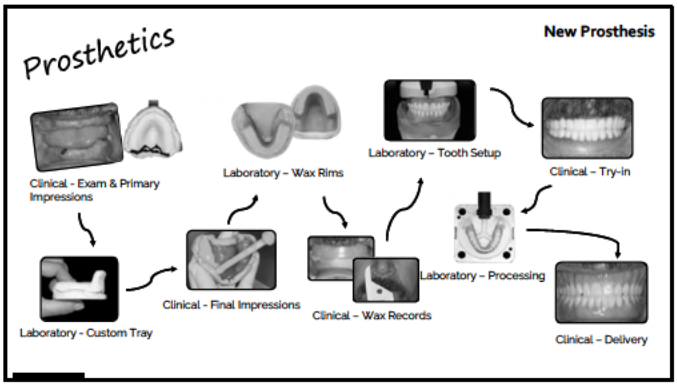
Prosthetics



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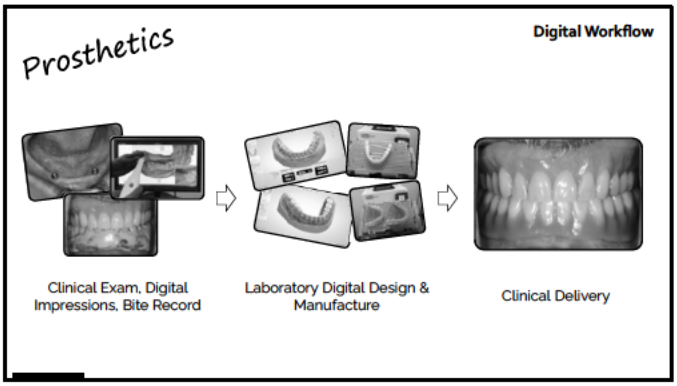
Prosthetics



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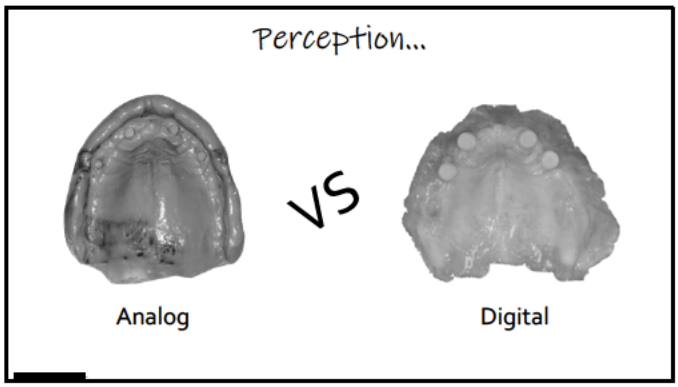

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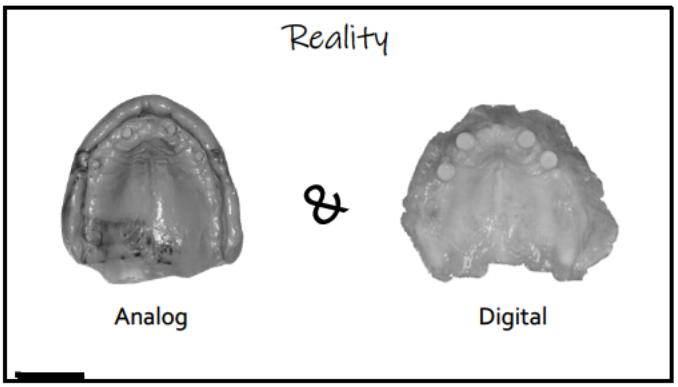

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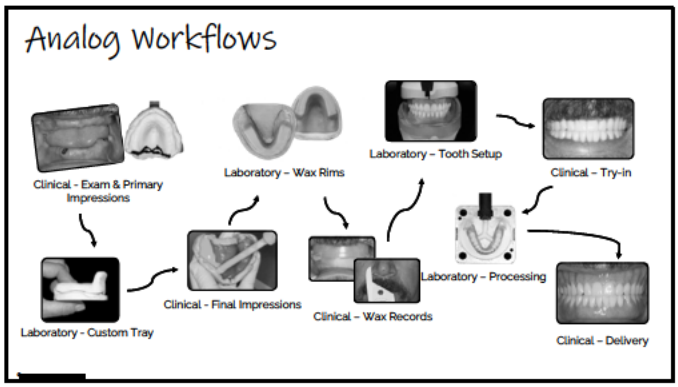

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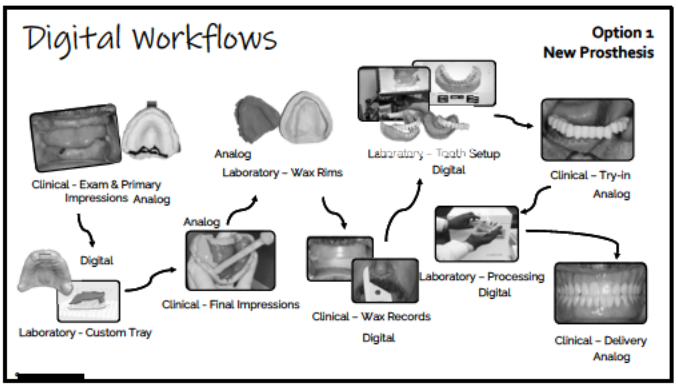

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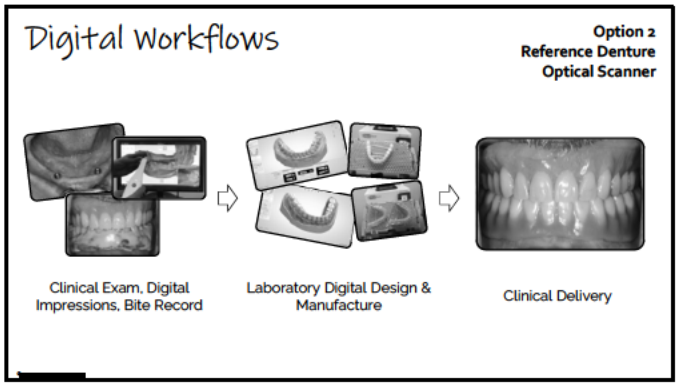

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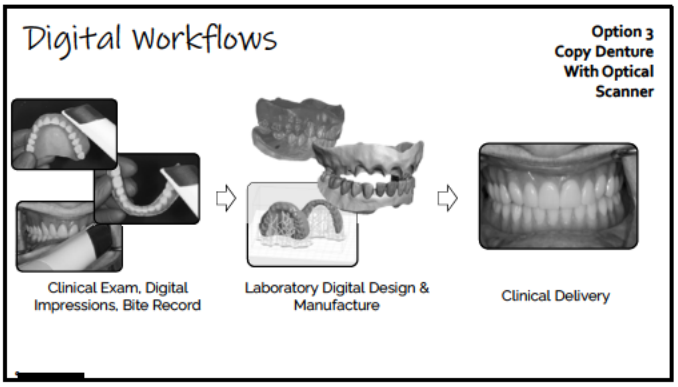

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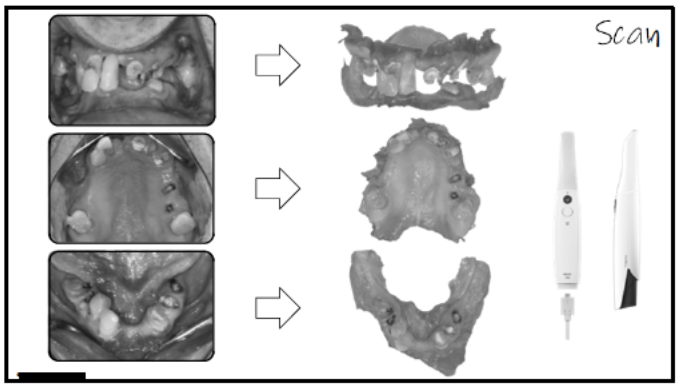

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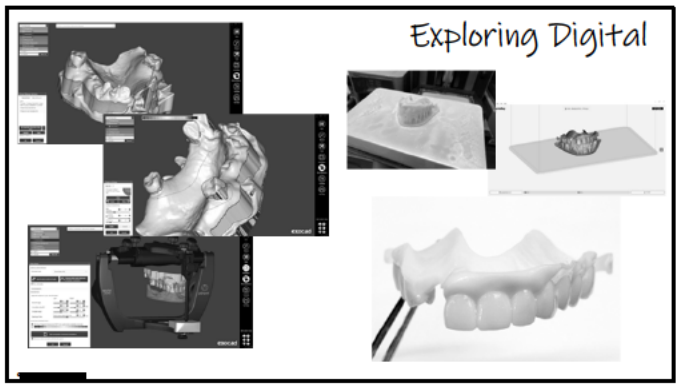

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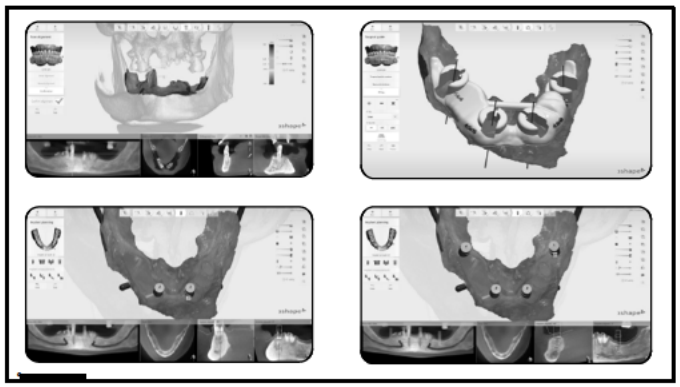

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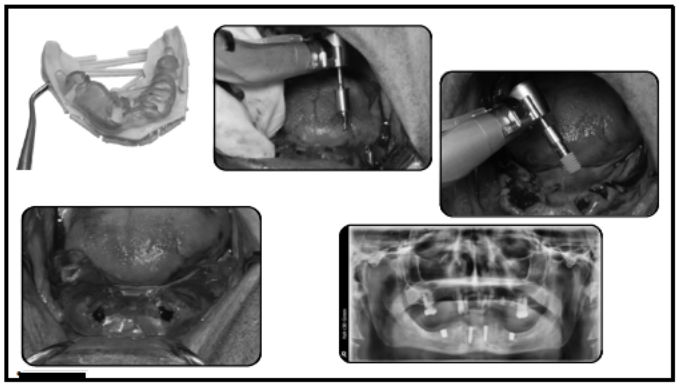

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Case Selection for Your First Case!

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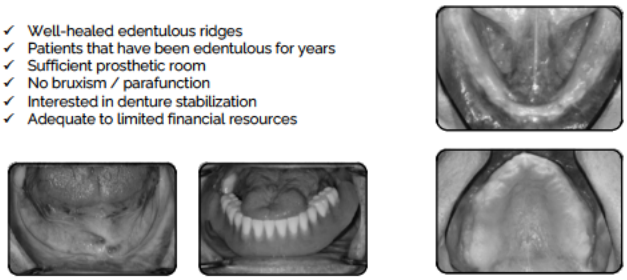
Ideal Cases

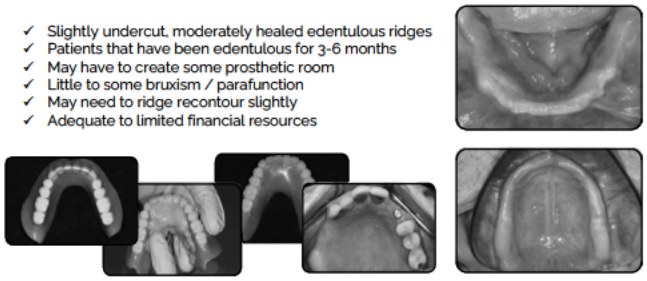
- ✓ Well-healed edentulous ridges
- ✓ Patients that have been edentulous for years
- ✓ Sufficient prosthetic room
- ✓ No bruxism / parafunction
- ✓ Interested in denture stabilization
- ✓ Adequate to limited financial resources



80

Middle of the Road Cases

- ✓ Slightly undercut, moderately healed edentulous ridges
- ✓ Patients that have been edentulous for 3-6 months
- ✓ May have to create some prosthetic room
- ✓ Little to some bruxism / parafunction
- ✓ May need to ridge recontour slightly
- ✓ Adequate to limited financial resources



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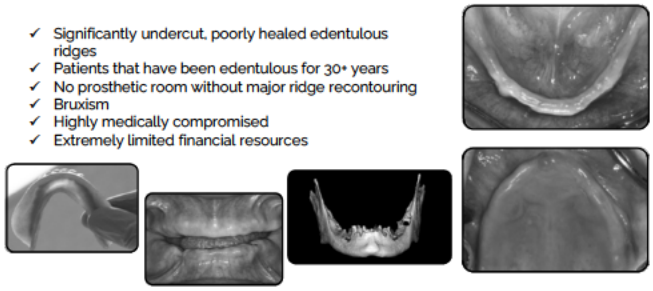
Challenging Cases

- ✓ Significantly undercut, poorly healed edentulous ridges
- ✓ Patients that have been edentulous for 30+ years
- ✓ No prosthetic room without major ridge recontouring
- ✓ Bruxism
- ✓ Highly medically compromised
- ✓ Extremely limited financial resources



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Clinical Case Review

83

Number of Implants

84

Consensus on Implant Number

Mandibular Overdenture:	2-4 implants / arch
Maxillary Overdenture:	4-6 implants / arch
LOCATOR FIXED:	4-6 implants / arch

Parameters that increase the need for additional implants:

- ✓ Dentate opposing arch
- ✓ Implants <8 mm in length
- ✓ Implants <3.5 mm in width
- ✓ Sensitive mucosa
- ✓ High muscle attachments
- ✓ Sharp mylohyoid projections
- ✓ Large V-shaped ridges
- ✓ Patients with high retention needs

Sadowsky SJ. J Prosthet Dent. 2001

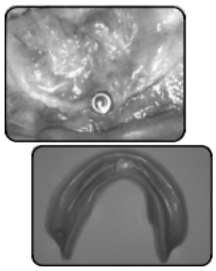
85

1 Implant Mandibular Midline

- ✓ Geriatric patients
- ✓ Limited funds
- ✓ Limited surgical capabilities
- ✓ Dexterity concerns

Limited information regarding attachment choice

Ball/Cap design most often used
Locator/ERA/O-Ring not advocated



Courtesy Dr. Charlie Goodacre | ACP (Prosthopedia)

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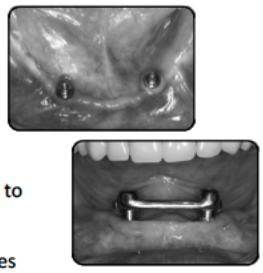
2 Implants Inter-foraminal

- ✓ Universal application
- ✓ Safe
- ✓ Proven
- ✓ Cost-effective

Non-splinted and splinted are both proven to be highly effective

Historically have been placed at the canines



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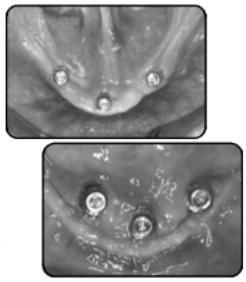
3 Implants Inter-foraminal

- ✓ Thought to reduce A-P rocking
- ✓ Safe
- ✓ Proven
- ✓ Cost-effective?

Implant distribution important

Proximity issues

Functions like an 'wobbly chair'



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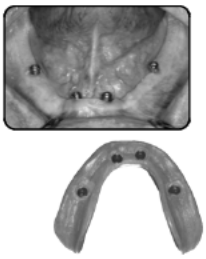
4+ Implants

- ✓ Best stability
- ✓ Very retentive - Too retentive?

Implant distribution important

Parallelism critical !!

Fixed vs. Removable prosthesis?



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Little evidence to support implant number as a factor of patient satisfaction

Sadowsky SJ. JPD 2001
Meijer HJ. COIR 2009
Roccuzzo M. COIR 2012

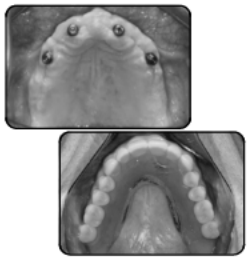
Evidence does show that ***simple*** rather than complex designs that allow for ease of maintenance and cleaning are preferred by patients

Wismeijer D. JOMS 1997
Carlsson J. Oral Rehab 2010
Burns DR. JPD 2011

90

Maxillary Overdentures

- ✓ Most advocate for at least 4 implants
- ✓ Typically performed to eliminate palatal coverage
- ✓ Often chosen because patient wishes for a removable prosthesis for cleansibility or for prosthetic/lip support



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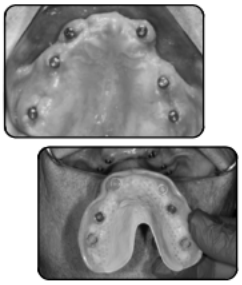
Maxillary Overdentures

- ✓ Clinicians routinely place 6 implants in case of an implant losing integration
- ✓ If less than 4 implants, palate coverage highly recommended
- ✓ Some patients choose implant retention for A-P stability, not retention



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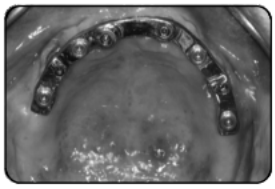
Maxillary Overdentures



Many advocate a bar for maxillary overdentures

Rationale:

- ✓ Low bone density
- ✓ Shorter implant length
- ✓ Moderate-extreme angulation
- ✓ Minimizing occlusal forces via splinting
- ✓ Reduction in bone loss?
- ✓ Retention?

Sadowsky JPD 2007

93

There is no conclusive evidence indicating the "ideal" number of implants for overdentures

Roccuzzo COIR 2012

Empirical evidence indicates that treatment with ≥2 implants is ideal for the mandibular arch and ≥4 implants is ideal for the maxillary arch

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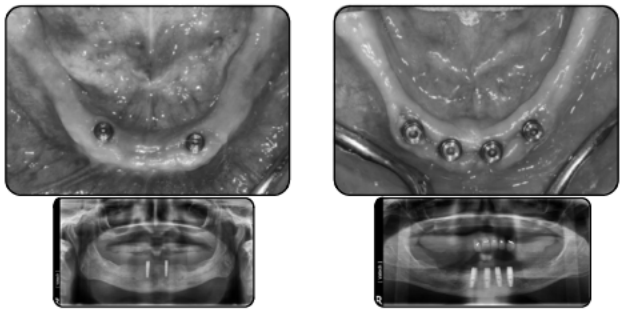

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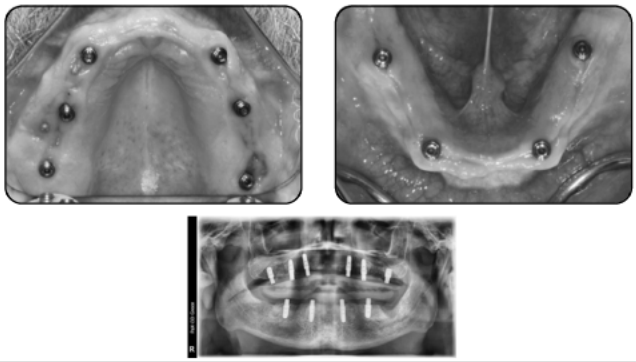

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Live Patient Demo


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Surgical Procedures

98

Surgical Overdenture & Full-Arch Procedures

99

Checklist for Surgical Appointment

1. Medical history is current & relevant
2. Diagnostic imaging is current – CBCT/PAN
3. Surgical template prepared & provided
4. Appropriate restoration is prepared – standard denture or immediate denture
5. Surgical time is determined
6. Pre-op medication
7. Coordinate with care-giver or liaison

100

Surgical Appointment Timeframe

First time you do surgery, block the whole afternoon!

Experienced clinicians – delayed loading:

1-3 implants = 45-60 min
4+ implants = 60-90 min

Experienced clinicians – immediate loading:

1-3 implants = 90 min
4+ implants = 120 min

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Surgical Appointment Timeframe

Traditional 2 implant overdenture placement = 60 min
(no immediate loading)

1. 10 min – seat patient, prepare comfort features, review medical history, chlorhexidine rinse, place topical
2. 10 min – anesthetic placement and "calming down" period
3. 5 min – flap elevation and preparation of site
4. 15 min – osteotomy preparation & implant placement
5. 5-10 min – suturing
6. 5-10 min – finishing, post-op instructions, review home medication

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Surgical Appointment Timeframe

4 implant overdenture placement = 90 min
(with immediate loading)

1. 10 min – seat patient, prepare comfort features, review medical history, chlorhexidine rinse, place topical
2. 10 min – anesthetic placement and "calming down" period
3. 5 min – flap elevation and preparation of site
4. 15 min – osteotomy preparation & implant placement
5. 5-10 min – suturing
6. 5-10 min – finishing, cool-down period
7. 2 min – bite registration
8. 3 min – adjust bite registration
9. 5 min – size recesses for attachment housings
10. 5 min – attachment processing
11. 5 min – adjusting/cleaning denture/placing nylon inserts
12. 5-7 min – patient instructions & demonstration
13. 5 min – review home-instructions & Rx

103

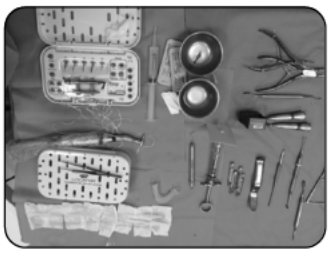
Recommend Surgical Tray Contents

Sterile

- ✓ Implant Drilling Kit (Manufacturer Specific)
- ✓ ≥2 stainless steel bowls
- ✓ 10-15x 2x2 gauze pads
- ✓ Topical anesthetic
- ✓ ≥ 4 carpules local anesthetic
- ✓ 1x pack suture
- ✓ Caliper
- ✓ Sterile Pencil
- ✓ Minnesota retractor
- ✓ 15 blade w/ handle
- ✓ 12 blade w/ handle
- ✓ Dental mirror
- ✓ Periodontal probe
- ✓ Periodontal elevator
- ✓ Cotton pliers
- ✓ Rongeur
- ✓ Bone file
- ✓ Bite-block
- ✓ Monoject syringe
- ✓ Sterile water
- ✓ Contraangle surgical handpiece
- ✓ Straight surgical handpiece
- ✓ Any extraction forceps

104

Recommend Surgical Tray Contents



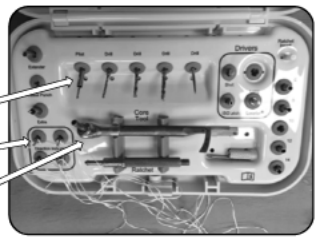
Some clinicians utilize two implant surgical kits to enhance systems and encourage 4-handed assisted implant surgical procedures

105

Recommend Surgical Tray Contents

Assistants should prep as much as can to enhance efficiency

- ✓ Drill stops sized & loaded on drills to be used
- ✓ Sterile floss tied on directional indicators
- ✓ Torque wrench assembled with drivers pre-loaded



106

Sterility & Patient Prep

107

Sterility & Patient Prep

Some practitioners prefer "hospital-grade" sterility for implant surgical procedures

- ✓ Mobile stand with sterile blue wraps
- ✓ Patient body & head wraps with towel clamps holding wraps
- ✓ Head & eye cover for patients
- ✓ Plastic covering for surgical tubing

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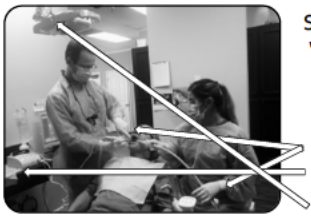
Sterility & Patient Prep



Simple sterile surgical setups with "clean-disinfected" surfaces is as effective as hospital-level sterile surgical setups

- ✓ Sterile latex/nitrile gloves
- ✓ Blue paper wrap for surgical kits for opening sterile and holding instruments
- ✓ Sterile aluminum foil wrap for handles

Cardenti C. Clin Implant Dent Relat Res. 2009

109

Implant Motors

Use an implant-specific surgical motor system

Traditional operative dental handpieces are insufficient in implant surgical applications

Controlling water flow during implant surgical procedures is critical

110

Local Anesthesia

Mandibular overdentures

- ✓ IAN Block
- ✓ Long-Buccal & Infiltration Anesthesia
- ✓ Mental Block

Maxillary overdentures

- ✓ Regional Anesthesia via Infiltration
- ✓ Palatal Injections
  - ✓ Consider Palatal Regional Anesthesia

111

Anatomy Review

112

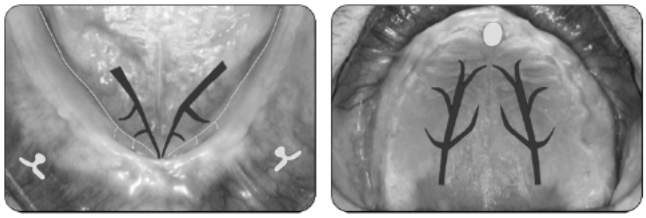
The "Big Four"

1. Nerves
2. Blood vessels
3. Undercuts
4. Sinuses

113

1. Nerves 2. Blood vessels 3. Undercuts 4. Sinuses

114



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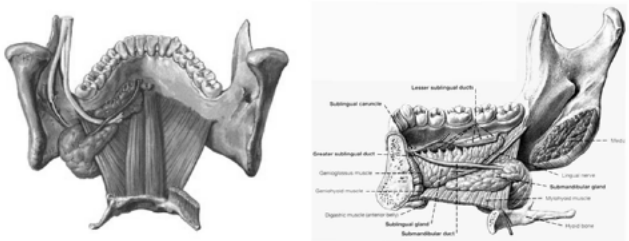

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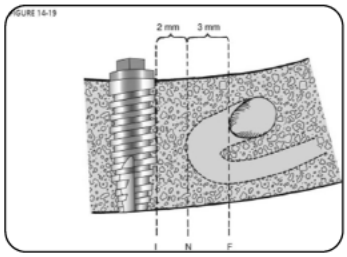
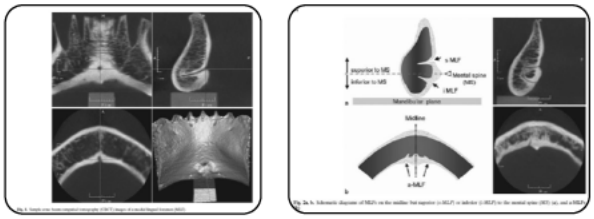
Safety zone



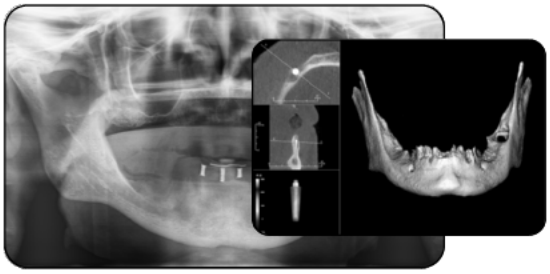
117

Cross-sectional



Kawai. Oral Radiol 2007

118



3. Undercuts

119

D1

Primarily dense cortical bone

Anterior mandible 6%

D2

Dense cortical bone on crest
Coarse trabecular bone inside

Anterior mandible 66%
Posterior mandible 50%

120

D3

Thin porous cortical crest
Fine trabecular bone inside

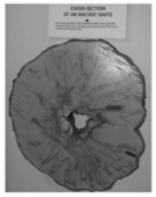
Posterior mandible	*46%*
Anterior maxilla	*65%*
Posterior maxilla	*50%*

D4

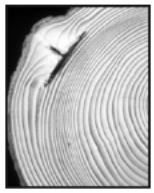
Little cortical crest
Porous trabecular bone inside

Posterior maxilla 40%

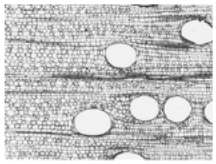
121



Maple (anterior mandible)



Spruce (Post mandible)



Balsa (Maxilla)

Courtesy L Zoller, PhD

122

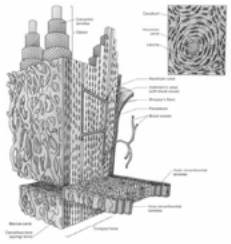
Cortical Bone

- ✓ Dense
- ✓ Lamellar + composite
- ✓ Mandible is a "curved tube of compact bone"
- ✓ Mandibular cortical bone cortex diameter and thickness is dictated by loading history
  - ✓ Mass is more related to peak strain than repetitive loading
  - ✓ E.g., thick compact in chronic bruxers and habitual clinchers
    - ✓ Occurs via slow appositional growth resulting in an increase in layers of circumferential lamellae

Courtesy W. Davenport, PhD

123

Bone vascularity



- ✓Highly vascular
- ✓No osteocyte is more than 300 microns from a blood vessel
- ✓"Diffusability" of bone is ~ 100 microns
- ✓Periosteum is the vital layer of bone providing blood supply and it is also important in implantology

Courtesy W. Davenport, PhD

124

Resorption affects treatment planning

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Predictable Implant Locations

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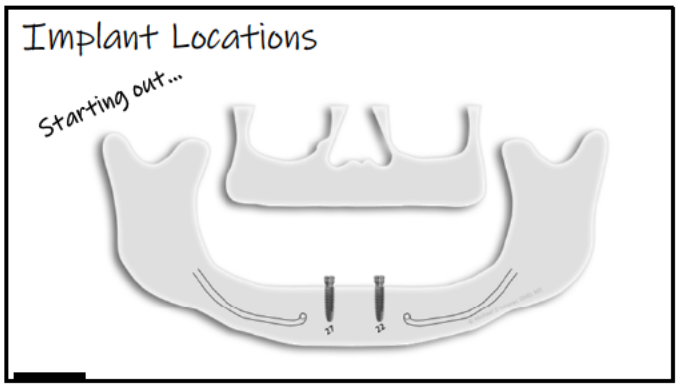

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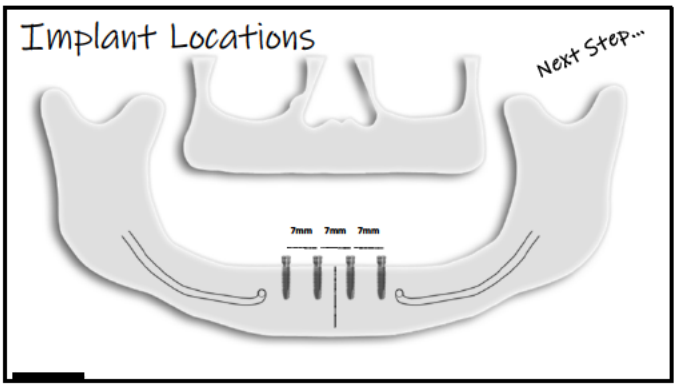

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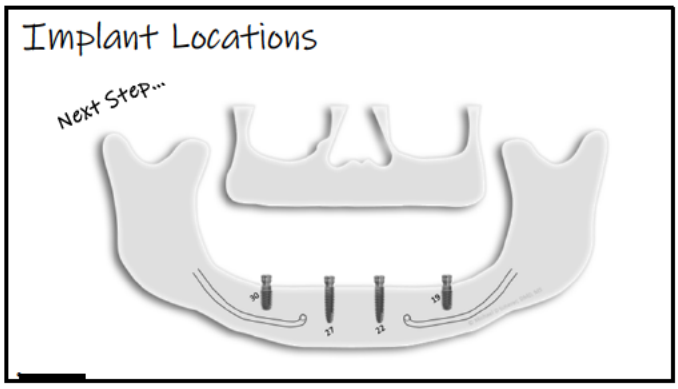

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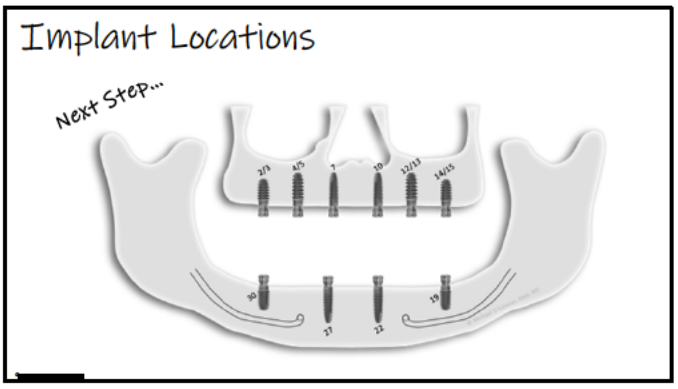

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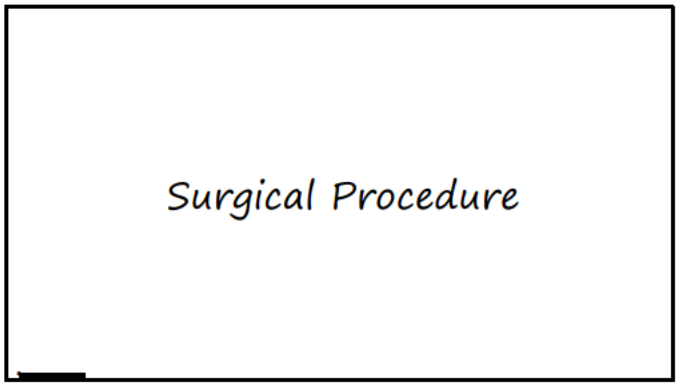

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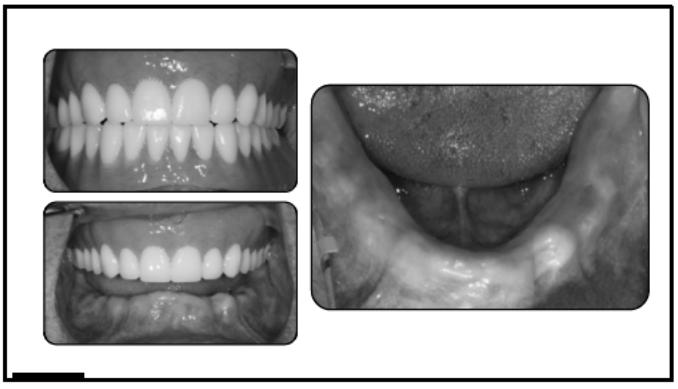

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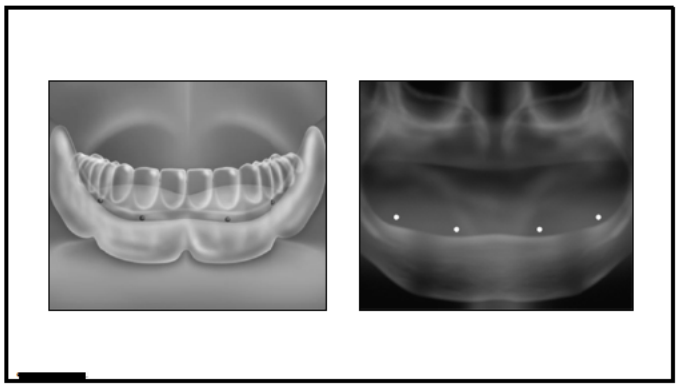

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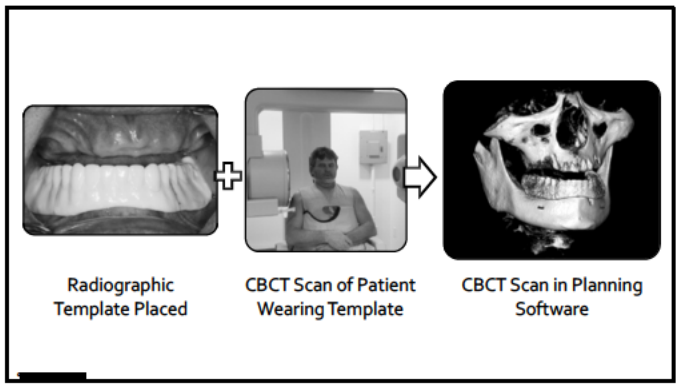

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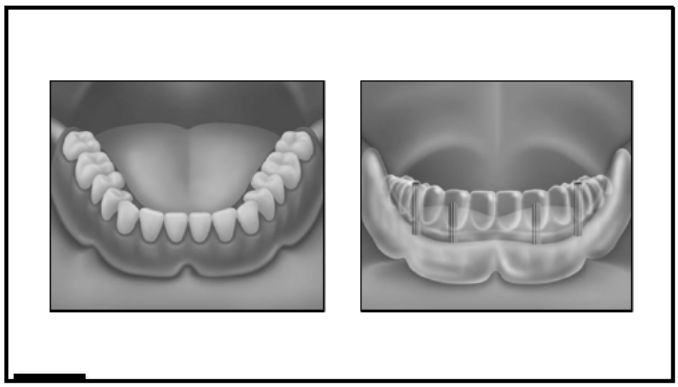

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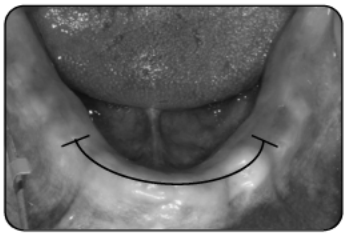
Incision & Flap Design



Crestal incision advocated w/ full-thickness flap

Small-moderate sized releasing incisions in the posterior region

136

Incision & Flap Design

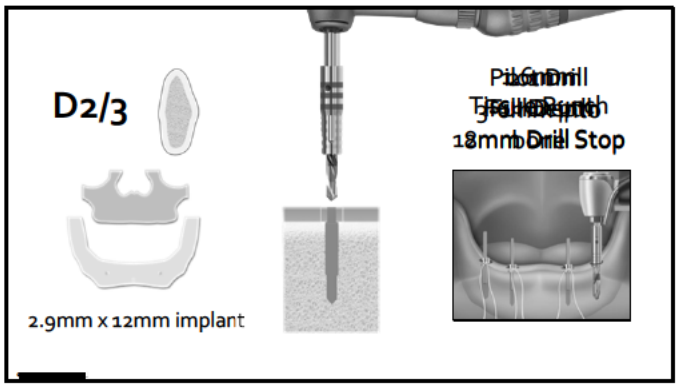
#15 blade or #12 blade

137

Incision & Flap Design

Periosteal Elevator

138



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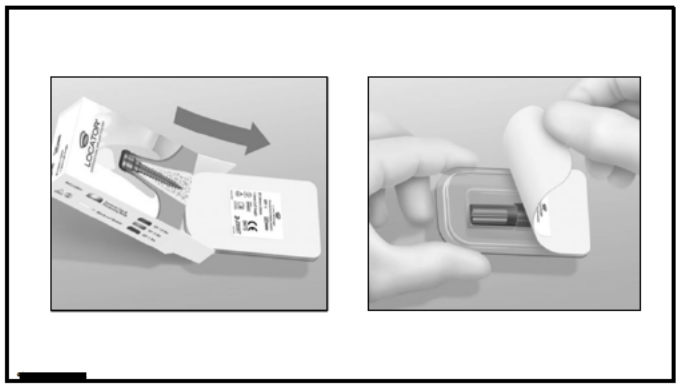

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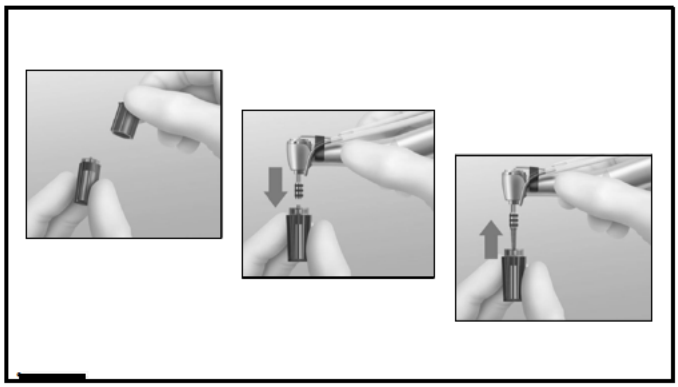

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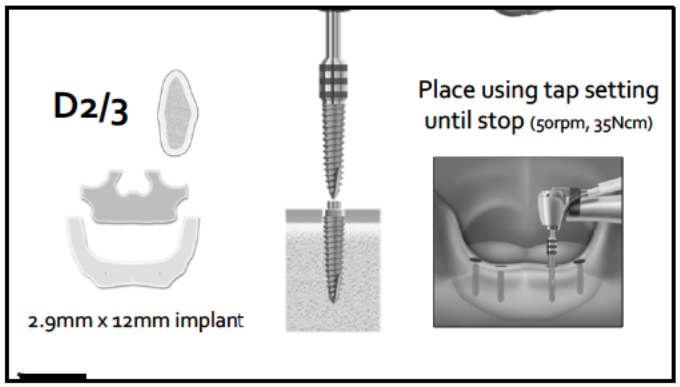

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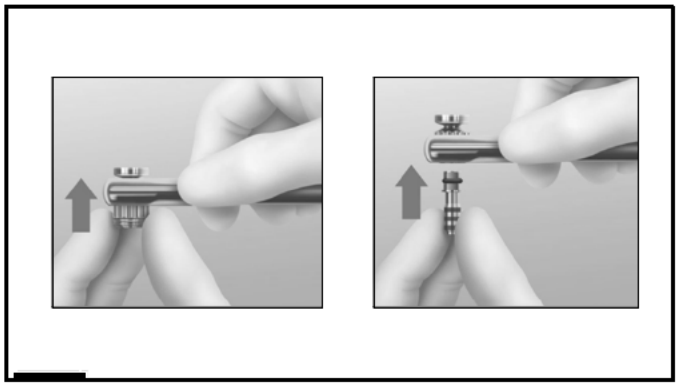

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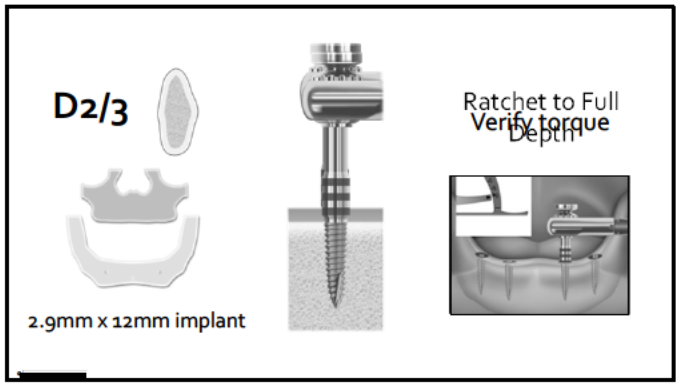
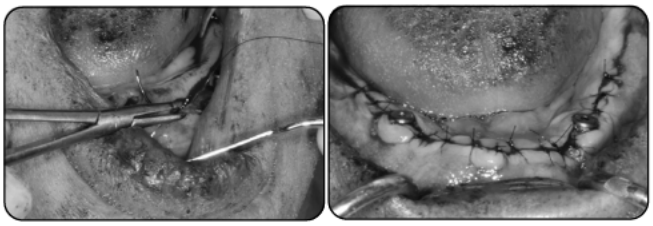


144

Flap Closure & Suturing



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Suture Options

Silk

Chromic Gut

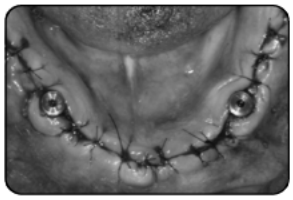
PGA

PTFE

Vicryl

146

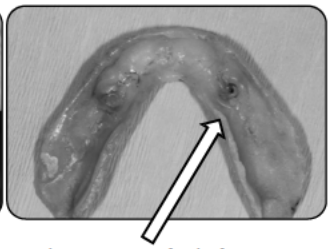
Flap Closure & Suturing



Panoramic or PA radiograph to confirm depth/angulation

147

Soft-Liner Applied to Denture



Thompson stick helps mark any areas of relief

148

Soft-Liners

Coe-Soft

- ✓ Acrylic based
- ✓ Fully set in 5 min
- ✓ Ideal for large flaps
- ✓ Moderate flavor

Visco-Gel

- ✓ Acrylic based
- ✓ Partially set in 5 min
- ✓ Ideal for small flaps
- ✓ Worst flavor

Chairside Soft

- ✓ Silicone based
- ✓ Fully set in 5 min
- ✓ Ideal for any cases
- ✓ Flavorless

149

Post-Op Strategies

While patient is in office

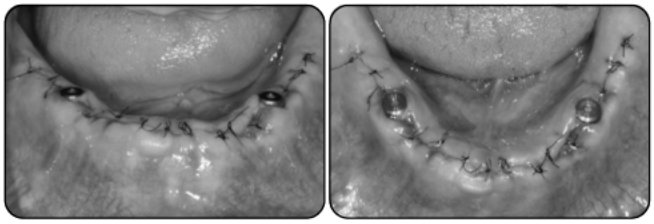
- ✓ 2x2 Gauze placed to help achieve hemostasis
- ✓ Panoramic radiograph
- ✓ Ice-packs
- ✓ Rx: pain med of your choosing

At home care

- ✓ Keep denture in for first 24 hours to help with bleeding
- ✓ Ice on/off 20-30 min
- ✓ Soft food diet for minimum 1 week
- ✓ Anticipate bruising
- ✓ Plenty of rest

150

1-Week Follow-Up



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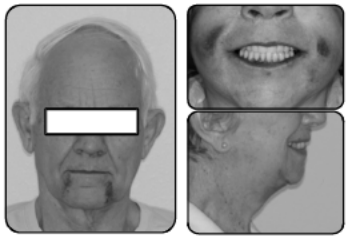
1-Week Follow-Up



Bruising is a normal part of overdenture surgery

Inform patients they should *expect* some bruising and swelling

Expect higher rates of submental swelling/bruising in older female patients

152

3-Week Follow-Up

Non-resorbable sutures can be removed at 2-3 weeks

153

Healing Strategies

Mandibular Cases

- ✓ High-torque implants: 6-8 weeks recall & PAN/PA
- ✓ Low-torque implants: 8-12 weeks recall & PAN/PA

Maxillary Cases

- ✓ High-torque implants: 8-12 weeks recall & PAN/PA
- ✓ Low-torque implants: 4-6 months recall & PAN/PA

154

Follow-Up Recall & PAN

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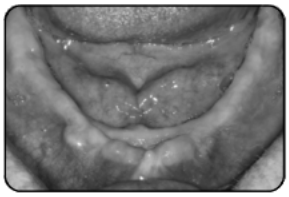
Restorative Clearance

Healing Abutments
Ready for Restorative Procedures



Cover Screws & Flap Closure
Requires Surgical Uncovery

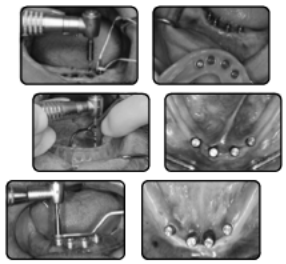
156

Essential Surgical Procedures for Implant Overdentures

157

Overdenture Surgery Options

1. Free-Hand with Panoramic X-ray
2. Free-Hand with CBCT & "denture duplicate pilot guide"
3. Guided Surgery with CBCT & "computerized guide"



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Free-Hand with Panoramic X-Ray

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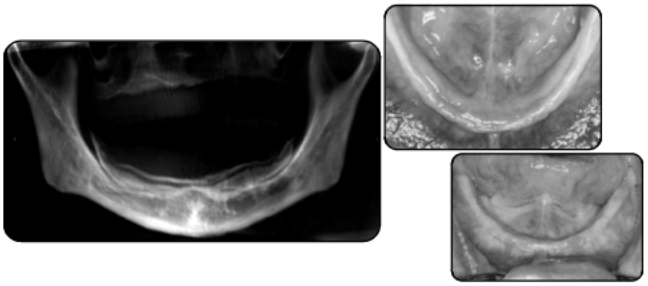

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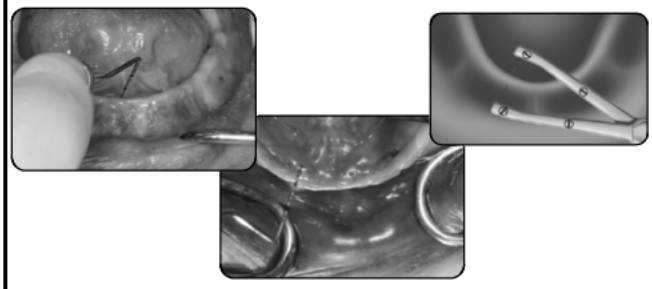

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Surgical Hands-on

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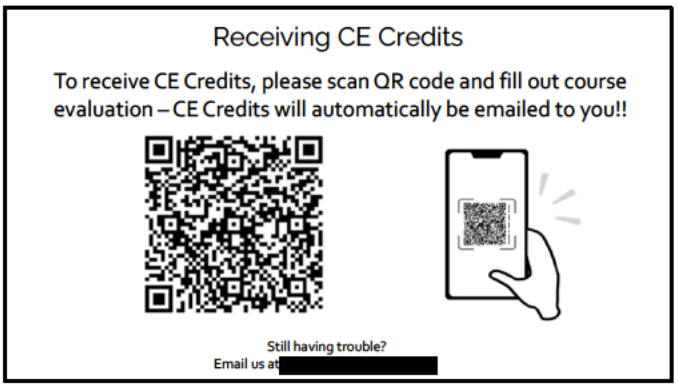
Receiving CE Credits
To receive CE Credits, please scan QR code and fill out course evaluation – CE Credits will automatically be emailed to you!!
Still having trouble?
Email us at [redacted]

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Thank you for your kind attention!
[redacted]
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