

Course: DNA 113 Chairside Assisting I

Topic: Local Anesthesia, Pain Control, and Isolation Control

Audience: Adult Learners (Dental Assisting Students)

Time: Two hours (120 Minutes)

Materials: Computer, Projector, PowerPoint, Wireless Presentation Clicker

Instructional Objectives:

Upon completion of the lecture, the student should be able to:

1. Define anesthesia.
2. List the types of isolation used to decrease moisture during a dental procedure.
3. Summarize the different levels of pain control in dentistry.
4. Describe the dental dam and its role in isolation control.
5. Determine the composition and application of topical anesthetics.
6. Select the correct usage of inhalation sedation in dentistry.
7. Reflect on the importance of proper documentation for dental anesthetic procedures.

References:

American Dental Association. (n.d) *Guidelines on Local Anesthesia and Pain Management*.
<https://www.ada.org/resources/research/science/evidence-based-dental-research/pain-management-guideline>

Malamed, S. (2023). *Handbook of Local Anesthesia* (7th ed.). Elsevier.

Robinson, D. (2024). *Modern Dental Assisting* (14th ed.). Elsevier.

The Wand. (2015). *The Wand Computer Assisted Anesthesia System* [Video]. Youtube.
<https://www.youtube.com/watch?v=EiXcCFwnoUE>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
10 minutes	<p>ANTICIPATORY SET</p> <p><u>Introduction</u></p> <p>Anxiety and pain control are practices of various psychological, physical, and chemical approaches to present and treat preoperative, operative, and postoperative anxiety and pain.</p> <p>Water, Saliva, Gingival Crevicular Fluid, and Blood are common in dentistry but need to be well controlled during a procedure.</p> <p>B. <u>Gain Attention/Motivate</u> If this was your patient in your dental chair, would you be able to know the signs and symptoms of anxiety? Would you be able to recommend options that would ease her anxiety?</p> <p>C. <u>Activate Prior Knowledge</u> Has anyone had a doctor’s appointment, of any kind, and felt some anxiety or stress?</p> <p>D. <u>Establish Rationale</u> By attending today’s lecture, you hold a vital responsibility to both your patients and the dentist in recognizing and implementing effective anxiety and stress reduction techniques for patient comfort. Additionally, you are expected to maintain a stable and controlled working environment within the oral cavity throughout the treatment process.</p>	<p>Slide #1: Anesthesia and Pain Control. Moisture Control.</p> <p>Slide #2: Introduction</p> <p>Q: What is an example of a psychological method to help prevent and treat pain and anxiety before, during, and after a dental procedure.</p> <p>A: Talking with the patient in calm, gentle, and caring manner while addressing any questions about the anesthesia and procedure.</p> <p>Note: Moisture control is important to keep a clean oral environment.</p> <p>Slide #3: Picture of a lady looking scared of the provider with instruments in hand.</p> <p>Slide #4: Have you ever?</p> <p>Q: Were any options recommended to you to ease your anxiety or stress? Did you want someone to recommend options to you?</p> <p>A: Answers will vary.</p> <p>Slide #5: Attending’s Today’s Lecture</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
3 Minutes	<p data-bbox="358 233 768 260">E. <u>Present Instructional Objectives</u></p> <p data-bbox="358 268 881 296">After today’s lecture, you should be able to:</p> <ol data-bbox="358 342 992 800" style="list-style-type: none"> <li data-bbox="358 342 626 369">1. Define anesthesia. <li data-bbox="358 378 911 443">2. List the types of isolation used to decrease moisture during a dental procedure. <li data-bbox="358 451 980 516">3. Summarize the different levels of pain control in dentistry. <li data-bbox="358 525 976 590">4. Describe the dental dam and its role in isolation control. <li data-bbox="358 598 956 663">5. Determine the composition and application of topical anesthetics. <li data-bbox="358 672 987 737">6. Select the correct usage of inhalation sedation in dentistry. <li data-bbox="358 745 992 810">7. Reflect on the importance of proper documentation for dental anesthetic procedures. 	<p data-bbox="1032 268 1382 373">Slide #6: Learning Objectives: Assisting in a Medical Emergency</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
5 minutes	<p>I. Anxiety, Fear, and Phobias</p> <p>A. Triggers</p> <ul style="list-style-type: none"> a. Needles b. Drills c. “White Coat Syndrome” <p>B. Signs and Symptoms</p> <ul style="list-style-type: none"> a. Sweating b. Tachycardia or Palpitations c. Visible distress or Crying d. Withdrawal e. Humor or aggression <p>C. Causes</p> <ul style="list-style-type: none"> a. Trauma b. General anxiety c. Depression d. PTSD e. Personal Space f. Not in control g. Trust issues h. Agoraphobia i. Claustrophobia j. OCD 	<p>Slide #7: Anxiety, Fear, and Phobias</p> <p>Note: Humor and aggression can mask anxiety. Agoraphobia is an anxiety disorder characterized by intense fear and avoidance of situations where escape might be difficult, or help may not be available.</p>
5 Minutes	<p>II. Hints and Signs of Anxiety, Fear, and Phobias</p> <p>A. Hints</p> <ul style="list-style-type: none"> a. Fidgeting b. Repetitive Movements c. Awkwardly sitting d. Pacing e. Frequent changes in sitting positions f. Rapid turning of magazines g. Startled to office noises <p>B. Signs</p> <ul style="list-style-type: none"> a. One foot on the floor b. Constant movement c. Continuous turning away d. White knuckles e. Folding arms across chest f. Excessive chatter or silence g. Singing h. Sweating i. Increase in breathing 	<p>Slide #8: Hints and Signs</p> <p>Note: Personal Story – I had a patient I saw for a preventive cleaning. She was very short and stern with me while updating her medical history. While trying to lighten the environment, she told me to stop the small talk and continue my work. I asked her if everything was okay, and she told me she did not want to be here and would rather be anyway. I let her know I understood and should explain what I was doing or doing it. She reported just doing it. It will make me less nervous.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
5 minutes	<p>III. Psychological Methods</p> <ul style="list-style-type: none"> A. Patient Education <ul style="list-style-type: none"> a. About procedure B. Patient Control <ul style="list-style-type: none"> a. Holding the suction C. Modeling <ul style="list-style-type: none"> a. Show patient what you are doing D. Distraction <ul style="list-style-type: none"> a. Music, humming, shaking the cheek/lip 	<p>Slide #9: Psychological Methods</p> <p>Note: Go over each one of these psychological methods in detail.</p>
5 minutes	<ul style="list-style-type: none"> E. Relaxation <ul style="list-style-type: none"> a. Music, vibrations, massage chair, blanket F. Systematic Desensitization <ul style="list-style-type: none"> a. Happy Visits G. Biofeedback <ul style="list-style-type: none"> a. Box-breathing, tapping H. Hypnosis <ul style="list-style-type: none"> a. Pre-recording music <p>IV. Topical Anesthesia</p> <ul style="list-style-type: none"> A. Temporary numbness B. Supplied as: <ul style="list-style-type: none"> a. Ointments b. Liquids c. Sprays d. Patches 	<p>Slide #10: Topical Anesthesia</p> <p>Note: Most used topical anesthetic is a jellylike ointment, usually 20% benzocaine. 1-2 minutes application only, due to irritation of gingiva. Sprays are used for x-rays for gagging patients. Gauze is to be used to pat the area dry before the topical is placed.</p> <p>PHOTOS: Gauze, cotton tip applicator, Benzocaine, Cetacaine, and Perio Patch</p>
2 minutes		<p>Slide #11: ALL YOU NEED</p> <p>PHOTO: Gauze with appropriate amount of topical.</p> <p>Note: In the picture, is the appropriate amount of topical to apply to the tissue. Any more topical you could increase the rest of overdose because of ester topical.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
2 minutes	V. Local Anesthesia A. Pain Control B. Safe, Effective, and Dependable	Slide #12: Local Anesthesia
5 minutes	VI. Characteristics of Local Anesthetics A. Non-irritating B. Minimal Toxicity C. Rapid Onset D. Profound E. Duration of Action F. Reversible G. Sterile	Slide #13: Characteristics of Local Anesthetics Note: The perfect local anesthetic does not exist – yet.
2 minutes	VII. Chemical Composition of Anesthetic A. Chemical Groups B. Cartridge Contains	Slide #14: Chemical Composition of Anesthetic Note: Ester and Amides. Articaine/septocaine – Plasma and Liver
4 minutes	VIII. Method of Action – Local Anesthesia A. Temporarily blocks the nerve B. Induction Time	Slide #15: Method of Action – Local Anesthesia Note: Conduction with Schwann’s cells is like a frog jumping over the lily pads for faster movement. Will need to differentiate vibration, pressure, and noise from discomfort. Photos: Pig’s in the blanket to describe what Myelin Sheath looks like.
4 Minutes	IX. Local Anesthetic Required: A. Soft tissue B. Sensitive Teeth C. Surgery D. Scaling and root planning E. Excessive hemorrhage <p style="text-align: center;">LESSON CONTENT</p> X. Time Span of Local Anesthetics	Slide #16: Local Anesthetic Required Note: The dentist might ask you to get the dental hygienist to numb. You need to stay in the room just like you would for the dentist.

TIME		NOTES – MEDIA – Q/A
3 minutes	<ul style="list-style-type: none"> A. Induction to Completion B. Short-Acting C. Intermediate D. Long-Acting <ul style="list-style-type: none"> a. Bupivacaine b. Etidocaine 	<p>Slide #17: Emergency Responses</p> <p>Q: What is a dental procedure that might require a short-acting local anesthetic? What might require longer anesthesia?</p> <p>A: Short – One-Surface Filling, Long – Crown, RCT, ENDO</p> <p>Note: Short is 30 minutes, intermediate is 60 minutes, and long-acting is 90 minutes.</p>
3 minutes	<p>XI. Vasoconstrictors in Anesthetic</p> <ul style="list-style-type: none"> A. Indications for use B. Types <ul style="list-style-type: none"> a. Epinephrine b. Levonordefrin c. Neo-Cobefrin 	<p>Slide #18: Vasoconstrictors in Anesthetics</p> <p>Note: Epinephrine is one of the vasoconstrictors most added to local anesthetics used in dentistry.</p>
5 minutes	<p>XII. Contraindications to Vasoconstrictors</p> <ul style="list-style-type: none"> A. Unstable Angina B. Recent Myocardial Infarction C. Recent Coronary Artery Bypass D. Untreated or Uncontrolled Severe Hypertension E. Untreated or Uncontrolled Congestive Heart Failure 	<p>Slide #19: Contraindication</p> <p>Note: Healthy patients are present with high blood pressure due to discomfort. May require the use of less vasoconstrictor than normal.</p> <p>Slide #20: Commonly Used Dental Anesthetics with Vasoconstrictor</p> <p>Photo: Formulation, Brand Name, and Vasoconstrictor/Concentration</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
1 minute		<p>Slide #21: Question</p> <p>Q: What is added to a local anesthetic to prolong its effect?</p> <p>A: Vasoconstrictor</p>
5 minutes	<p>XIII. Injection Techniques</p> <ul style="list-style-type: none"> A. Maxillary Anesthesia B. Palatal Anesthesia C. Mandibular Anesthesia D. Periodontal Ligament Injection 	<p>Slide #22: Injection Techniques</p> <p>Q: Do you think it is easier to anesthetize maxillary or mandibular teeth?</p> <p>A: Easier to anesthetize maxillary teeth due to the porous nature of the alveolar bone.</p>
5 minutes	<p>XIV. Maxillary Anesthesia</p> <ul style="list-style-type: none"> A. ASA <ul style="list-style-type: none"> a. Canine to Central Incisors B. MSA <ul style="list-style-type: none"> a. Premolars to mesial buccal of 1st molar C. PSA <ul style="list-style-type: none"> a. Distal/Lingual root of 1st molar to 3rd molar D. NP <ul style="list-style-type: none"> a. Lingual canine to canine E. GP <ul style="list-style-type: none"> a. 1st premolar to 3rd molar lingual 	<p>Slide #23: Maxillary Anesthesia</p> <p>Photos: Maxillary injection photos and color-coded areas of specific injections</p> <p>Note: Some people may or may not have MSA present. MSA needs to be anesthetized as it is always present on patients.</p>
5 minutes	<p>XV. Mandibular Anesthesia</p> <ul style="list-style-type: none"> F. IA <ul style="list-style-type: none"> a. Buccal and lingual of anterior and premolars and lingual and pulpal tissue of molars G. Buccal <ul style="list-style-type: none"> a. Buccal tissue of molars H. Mental <ul style="list-style-type: none"> a. Premolar to anterior buccal tissue 	<p>Slide #24: Mandibular Anesthesia</p> <p>Photos: Mandibular injection photos and color-coded areas of specific injections.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
1 minute		<p>Slide #25: Palatal Anesthesia</p>
1 minute		<p>Photo: Picture of NP and GP</p> <p>Slide #26: Periodontal Ligament Injection</p> <p>Photo: Picture of periodontal ligament injection and Ligajet</p> <p>Note: The Ligajet is used during extractions to anesthetize the periodontal ligament.</p>
5 minute	<p>XVI. Local Anesthesia Setup</p> <ul style="list-style-type: none"> A. Threaded Tip B. Harpoon C. Piston Rod D. Barrel of Syringe E. Finger Grip F. Finger Bar G. Thumb Ring 	<p>Slide #27: Local Anesthesia Setup</p> <p>Photo: Picture of local anesthesia syringe with numbers identifying different parts.</p> <p>Note: Will discuss with students the different parts of the syringe.</p>
5 Minutes	<p>XVII. Anesthetic Cartridges</p> <ul style="list-style-type: none"> A. Rubber Diaphragm B. Aluminum Cap C. Glass Cartridge D. Type of Anesthesia Solution E. Color coded type of anesthetic F. Rubber Plunger 	<p>Slide #28: Local Anesthesia Setup</p> <p>Photo: Picture of local anesthesia cartridge with numbers identifying different parts.</p> <p>Note: Will discuss with students the different parts of the cartridge.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
5 minutes	<p>XVIII. Guidelines for Handling Anesthetic Cartridges</p> <ul style="list-style-type: none"> A. Storage B. Frozen or Warmed C. Cracked, chipped, or damaged D. Discolored, cloudy, or expired E. Preloaded Syringes F. Never re-use 	<p>Slide #29: Guidelines for Handling Anesthetic Cartridges</p> <p>Q: Where should used or unused damaged anesthetic cartridges, as well as needles, be deposited?</p> <p>A: Sharps Container</p> <p>Photo: Picture of Sharps Container</p> <p>Note: When restocking a treatment room, place older cartridges in such a way that they will be used before the newer ones.</p>
5 minutes	<p>XIX. Disposable Needles</p> <ul style="list-style-type: none"> A. 25 Gauge Long B. 27 Gauge Short C. 27 Gauge Long D. Ultra Short 30 Gauge E. 30 Gauge Short 	<p>Slide #30: Local Anesthesia Setup</p> <p>Photo: Different length and color needles.</p> <p>Note: The most frequently used gauge numbers are 25, 27, and 30.</p>
5 minutes	<p>XX. Disposable Needles</p> <ul style="list-style-type: none"> A. Cartridge end of needle B. Needle hub C. Injection end of needle D. Protective cap E. Seal on cap F. Needle guard 	<p>Slide #31: Disposable Needle</p> <p>Photo: Parts of Needle</p> <p>Note: Will discuss with students about the different parts of the needle.</p>
5 minutes	<p>XXI. Complications and Precautions</p> <ul style="list-style-type: none"> A. Blood Vessel B. Infected Areas C. Toxic Reaction (Localized and Systemic) D. Numbness E. Paresthesia 	<p>Slide #32: Complications and Precautions</p> <p>Q: How is the injection of local anesthesia into a blood vessel prevented?</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
1 minute		<p>A: Aspiration before depositing.</p> <p>Video: Aspirating Technique</p> <p>Slide #33: Question</p> <p>Q: What type of injection technique will the dentist frequently use to anesthetize teeth #2 through #4?</p> <p>A: MSA and PSA</p>
2 Minutes	<p>XXII. Alternative Methods of Local Anesthesia</p> <ul style="list-style-type: none"> A. Electronic Anesthesia B. Computer-controlled Anesthesia 	<p>Slide #34: Alternative Methods of Local Anesthesia</p> <p>Note: Electronic – TENS unit they use currents to block discomfort. Computer – THE WAND</p> <p>Slide #35: The WAND C-CLAD</p> <p>VIDEO: The WAND C-CLAD</p>
5 Minutes	<p>XXIII. How to Set-Up Syringe</p> <ul style="list-style-type: none"> A. Gather your Armamentarium B. Retract C. Cartridge D. Engage Harpoon E. Attach Needle F. Safety Card G. Solution Check H. Recap Needle I. Inform Dentist or Dental Hygienist 	<p>Slide #36: How to Set-Up Syringe</p> <p>Note: Demonstrate how to set up syringe.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
1 Minute	<p>XXIV. Break-Down the Syringe</p> <ul style="list-style-type: none"> A. Thumb on Cartridge B. Rotate Harpoon C. Remove Cartridge D. Twist off Needle E. Bend Needle F. Sharps Container G. Sterilization 	<p>Slide #37: Break-Down the Syringe</p> <p>Note: DEMONSTRATION of break-down of the syringe</p> <p>Slide #38: Inhalation Sedation: Nitrous Oxide “Laughing Gas”</p> <p>Photo: Funny picture of myself in Dental Hygiene school in Nitrous Lab</p>
2 minutes	<p>XXV. Inhalation Sedation</p> <ul style="list-style-type: none"> A. Nitrous Oxide Definition B. Effects 	<p>Slide #39: Inhalation of Sedation</p> <p>Note: Dental professionals and members of the public may easily become addicted to the feeling they experience when they inhale this gas. It can be abused by dentists, dental hygienists, and assistants.</p>
5 minutes	<p>XXVI. Advantages of Nitrous Oxide Use</p> <ul style="list-style-type: none"> A. Administration B. Safety Record C. Side Effects Minimal D. Patient Awake E. Rapid Recovery F. All ages <p>XXVII. Disadvantages of Nitrous Oxide Use</p> <ul style="list-style-type: none"> A. Nausea or Vertigo B. Behavioral Problems 	<p>Slide #40: Advantages of Nitrous Oxide Use</p> <p>Note: Patient needs to stay awake so proper titration of the gases according to the patient’s signs and symptoms.</p> <p>Slide #41: Disadvantages of Nitrous Oxide Use</p> <p>Note: Patient control. Patients feel too much, they can breathe through their mouths.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
5 minutes	XXVIII. Medical Considerations of Nitrous Oxide Use A. COPD B. Cardiac Pressure C. Pregnancy – 1 st Trimester D. Upper Respiratory Infections E. Psychiatric Disorders F. Middle Ear Disturbances – Pressure G. Critically Ill Patients	<p>Slide #42: Medical Considerations</p> <p>Note: Dental assistants should also be familiar with the unit because he or she may be required to deliver pure oxygen to a patient in an emergency.</p>
5 Minutes	XXIX. Equipment for Nitrous Oxide System A. Cylinders a. Oxygen and Nitrous B. Portable or Part of Dental Unit.	<p>Slide #43: Equipment of Nitrous Oxide System.</p> <p>Q: From our medical emergency lecture a few weeks ago, Oxygen is what color and Nitrous Oxide is what color?</p> <p>A: Oxygen is green. Nitrous Oxide is blue.</p> <p>Note: Before use, both cylinders should be checked for adequate remaining gas levels. All equipment needs to be checked.</p>
2 Minutes		<p>Slide #44: Nitrous Oxide Unit</p> <p>Note: A. Mobile Unit. B. Color-coded Outlets. Show students the reservoir bag and tubing.</p>
2 minutes	XXX. Equipment for Nitrous Oxide System A. Gas Hose B. Masks	<p>Slide #45: Nitrous Oxide System</p> <p>Note: Large amount of facial hair may interfere with an adequate seal of the nose piece.</p> <p>Photo: Different color and style of masks.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
2 Minutes	XXXI. Patient Assessment and Monitoring A. Patient’s Medical History B. Vital Signs	<p>Slide #46: Assessment and Monitoring</p> <p>Q: What vital signs are obtained prior to the administration of nitrous oxide?</p> <p>A: Blood pressure, pulse, respiration, and oxygen.</p> <p>Note: Oxygen is taken through pulse ox.</p> <p>Photo: Pulse ox.</p>
5 Minutes	XXXII. Patient Education for Inhalation Sedation A. Describe Procedure B. Use of mask C. Nasal Breathing D. Sensations E. Reassure the Patient	<p>Slide #47: Patient Education</p> <p>Note: Discuss what the patient may or should expect, as well as addressing other questions or concerns. Will help avoid or alleviate any unwarranted anxiety during the procedure.</p>
5 minutes	XXXIII. Administration A. Pure Oxygen B. Titrate Nitrous and Oxygen C. No talking D. No mouth breathing E. End 5 minutes oxygen F. Postoperative vital signs	<p>Slide #48: Administration</p> <p>Q: What does inhaling 100% oxygen at the end of the procedure help prevent?</p> <p>A: Diffusion Hypoxia</p> <p>Note: 6 to 8 is normal for tidal volume.</p>
2 minutes	XXXIV. Administration A. Only Patient Treatment B. Reducing Nitrous Oxide dental personnel	<p>Slide #49: Patient Education</p> <p>Note: Schedule in place for routine inspection of nitrous oxide equipment.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
2 minutes		<p>Slide #50: Question</p> <p>Q: Why is it important to discuss with patients the steps in the administration of nitrous oxide, as well as what they may expect from the dental procedure itself, before beginning a procedure?</p> <p>A: It is important to discuss so they know exactly what to expect going into the procedure. They should know that they will be breathing the nitrous in and afterwards they will return to normal.</p>
5 minutes	<p>XXXV. Antianxiety Agents</p> <ul style="list-style-type: none"> A. Sedatives B. Criteria for Use 	<p>Slide #51: Antianxiety Agents</p> <p>Note: Antianxiety medications are used as an adjunct to dental treatment. Extreme dental fear.</p>
5 minutes	<p>XXXVI. Intravenous (IV) Sedation</p> <ul style="list-style-type: none"> A. Physiological Measurements 	<p>Slide #52: Intravenous Sedation</p> <p>Note: Conscious IV sedation is frequently used by an oral surgeon during such procedures as extraction of third molars, difficult cases, and surgical removal of bone.</p>
5 minutes	<p>XXXVII. General Anesthesia</p> <ul style="list-style-type: none"> A. Unconsciousness B. Pharmacologic Makeup 	<p>Slide #53: General Anesthesia</p> <p>Note: General anesthesia is indicated for severely medically compromised or mentally disabled individuals who cannot be adequately treated in a regular dental setting. Patient is intubated.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
1 minute	<p>XXXVIII. Four Stages of Anesthesia</p> <ul style="list-style-type: none"> A. Stage I: Analgesia B. Stage II: Excitement C. Stage III: General Anesthesia D. Stage IV: Respiratory failure or cardiac arrest 	<p>Slide #54: General Anesthesia</p> <p>Q: What is an example of a stage I anesthetic agent?</p> <p>A: Nitrous Oxide/Oxygen</p> <p>Note: Although the patient is thought to feel no pain, local anesthesia is usually administered to control bleeding throughout the procedure, as well as at or near the end to help with post-op pain control.</p>
5 minutes	<p>XXXIX. Patient Preparation</p> <ul style="list-style-type: none"> A. Preoperative physical examination B. Laboratory Test C. Consent Form 	<p>Slide #56: Patient Preparation</p> <p>Q: What does NPO stand for?</p> <p>A: Latin for Nothing by mouth.</p> <p>Note: Most patients are treated with surgeries on the same day. While others may have to remain in the hospital for observation.</p>
5 Minutes	<p>XL. Patient Education</p> <ul style="list-style-type: none"> A. Procedure and Risk education B. Food and Drink 	<p>Slide #56: Patient Education</p> <p>Q: Why are most surgical procedures scheduled in the early morning?</p> <p>A: The patient must not eat or drink for 8 to 12 hours before receiving general anesthetic.</p> <p>Note: If patients do eat, they could vomit food during the procedure and can be aspirated into the lungs.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
4 minutes	<p>XLI. Patient Recovery</p> <ul style="list-style-type: none"> A. Monitored closely B. Always monitored 	<p>Slide #57: Patient Recovery</p> <p>Q: How is it determined that normal reflexes have returned?</p> <p>A: The patient should respond to their name and be able to move all limbs.</p> <p>Note: If patients do eat, they could vomit food during the procedure and can be aspirated into the lungs.</p> <p>Slide #58: Question</p> <p>Q: Is the patient conscious during general anesthesia?</p> <p>A: No</p>
2 Minutes	<p>XLII. Mind-Body Medicine</p> <ul style="list-style-type: none"> A. Nonpharmacologic Techniques <ul style="list-style-type: none"> a. Distraction b. Relaxation Techniques 	<p>Slide #59: Mind-Body Medicine</p> <p>Q: What is biofeedback?</p> <p>A: Teaches you how to relax and alter your behaviors, thoughts, and feelings of pain and anxiety.</p> <p>Note: Patients are instructors to train their mind to focus on their body and not what is unpleasant to them.</p>
5 minutes	<p>XLIII. Documentation</p> <ul style="list-style-type: none"> A. Patient medical history B. Pre- and post- operative vital signs C. Tidal Volume D. Times pre- and post- operative E. Adverse events and complaints 	<p>Slide #60: Documentation</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
5 minutes	<p>XLIV. Local Anesthetic</p> <ul style="list-style-type: none"> A. Date B. Amount C. Type D. Injection E. Reaction F. Dental Practitioner 	<p>Slide #61: Documentation of Local Anesthetic</p> <p>Note: Students will learn more information about this in Dental Therapeutics with Ms. Bettis in the Fall Semester.</p>
5 minutes	<p>XLV. Isolation of Teeth</p> <ul style="list-style-type: none"> A. Application B. Protection C. Comfortable D. Visualization E. Prevention F. Isolation 	<p>Slide #65: Isolation of Teeth</p> <p>Q: Why is isolation so important?</p> <p>A: Area of tooth being treated should be kept free from contaminants such as saliva, blood, and debris to help prevent infection from a failed restoration.</p> <p>Note: Keep the area being treated dry and isolated from its normal environment.</p>
5 minutes	<p>XLVI. Cotton Roll Isolation</p> <ul style="list-style-type: none"> A. Advantages B. Disadvantages 	<p>Slide #66: Cotton Roll Isolation</p> <p>Q: What is the best way to place or remove a cotton roll from the patient's mouth?</p> <p>A: With the use of cotton pliers or forceps.</p> <p>Note: Cotton rolls are positioned to absorb the saliva flow and excess water. Remove cotton rolls, spray them with</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
1 minute	XLVII. Cotton Roll Holders A. Left and Right	<p>water so it doesn't stick to gingiva.</p> <p>Slide #67: Cotton Roll Holders</p> <p>Q: Can you think of a time when cotton-roll holders would be needed most?</p> <p>A: When the operator is working alone.</p> <p>Note: I use these with sealant procedures to help isolate the areas without making mistakes.</p>
5 minutes	XLVIII. Dry-Angle Isolation A. Posterior B. Maxillary and Mandibular C. Block flow of Saliva	<p>Slide #68: Dry-Angle Isolation</p> <p>Q: What duct is the dry angle placed in front of?</p> <p>A: Stensen's Duct</p> <p>Note: Instead of placing a cotton roll, you can place a dry angle.</p> <p>Slide #69: Question</p> <p>Q: Why is it important to wet a cotton roll before removing it from the mouth?</p> <p>A: If not wet, a dry cotton roll or dry angle may stick to the oral mucosa and cause irritation.</p>
5 minutes	XLIX. Dental Dam A. Definition B. Selected teeth are visible through the dam.	<p>Slide #70: The Dental Dam</p> <p>Note: Use caution when using the dam on a patient who is allergic to latex; make sure that the dam is latex-free. Dam is placed after local admin.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
15 minutes	L. Dental Dam Indications for Use A. Infection Barrier B. Safeguard C. Protection D. Moisture Control E. Tools	<p>Slide #71: Dental Dam Indications for Use</p> <p>Note: Placed in about two minutes. Keeps debris from the preparation or treatment area away from the rest of the mouth.</p>
5 minutes	LI. Dental Dam Material and Size A. Latex or Latex-Free B. Pre-Cut Sizes C. Wide range of color D. Scents and Flavors E. Thicknesses	<p>Slide #72: Dental Dam Material and Size</p> <p>Note: Thin – Endodontics. Medium – Operative and is easy to handle.</p>
5 minutes	LII. Dental Dam Material and Size A. Latex or Latex-Free B. Pre-Cut Sizes C. Wide range of color D. Scents and Flavors E. Thicknesses	<p>Slide #73: Dental Dam Frame</p> <p>Note: The plastic U-Shaped frame is radiolucent so it's not necessary to remove it before radiograph exposure.</p>
5 minutes	LIII. Dental Dam Materials and Accessories A. Dental Dam Napkin B. Lubricants C. Dental Dam Punch D. Dental Dam Stamp and Plate	<p>Slide #73: Dental Dam Materials and Accessories</p> <p>Photo: Dental Dam Napkin</p> <p>Q: Can you think of another advantage to using a dental dam napkin?</p> <p>A: Keeps the patient's face from meeting the dental dam material, which could cause skin irritation.</p>
5 minutes	LIV. Size of holes on Punch Plate A. Large B. Medium C. Small D. Smallest	<p>Slide #75: Size of holes on punch plate</p> <p>Photo: Punch Plate and size</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
1 minute		<p>Slide #76: Dental Dam Stamp and Template</p>
1 minute		<p>Photo: Dam stamp and Template</p>
1 minute		<p>Slide #77: Dental Dam Forceps</p>
5 Minutes	<p>LV. Dental Dam Stabilizing Methods</p>	<p>Photo: Dam Forceps</p>
5 Minutes	<p>A. Dental Dam Clamp</p>	<p>Slide #78: Dental Dam Stabilizing Methods</p>
5 Minutes	<p>B. Parts of the Clamp</p>	<p>Photo: Dam Clamp</p>
5 Minutes	<p>a. Bow</p>	<p>Note: The jaws are designed to fit the cervical area, or collar, of the tooth.</p>
5 Minutes	<p>b. Jaws</p>	<p>Slide #79: Dental Dam Application</p>
5 Minutes	<p>c. Stabilizing Cord</p>	
5 Minutes	<p>LVI. Dental Dam Application</p>	
5 Minutes	<p>A. Maxillary and Mandibular arch</p>	
5 Minutes	<p>B. Shape of arch</p>	
5 Minutes	<p>C. Irregularities</p>	
5 Minutes	<p>D. Isolated</p>	
5 Minutes	<p>E. Identification</p>	
5 Minutes	<p>F. Size and Spacing</p>	
5 Minutes	<p>LVII. Dental Dam Placement and Removal</p>	<p>Slide #80: Dental Dam Placement and Removal</p>
5 Minutes	<p>A. Anterior Teeth</p>	<p>Note: Cervical or anterior rubber damp clamps are shaped differently than posterior rubber dam clamps.</p>
5 Minutes	<p>B. Stabilizing the cervical clamp</p>	<p>Slide #81: Question</p>
5 Minutes	<p>C. Fixed Bridge</p>	<p>Q: What is used to stabilize and stretch the dam away from the tooth?</p>
5 Minutes		<p>A: Dental Dam Frame</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
2 minutes	<p>SUMMARY:</p> <p>Dental assistants play a vital role in ensuring patient comfort and procedural success. Many patients are hesitant to discuss their fears about dental care, making strong communication and rapport essential. By educating patients on various pain and anxiety control measures such as topical anesthetics, inhalation sedation, and the role of vasoconstrictors in anesthesia; dental assistants can help them feel more informed and confident. Proper documentation of anesthesia and pain management techniques further enhances patient care and safety.</p> <p>In addition to pain management, effective moisture control is crucial for successful dental procedures. The dental assistants oversee moisture control by utilizing various isolation techniques, including dental dams, dry angles, and cotton rolls. Maintaining a dry field improves procedural outcomes and ensures patient comfort. Understanding and applying these essential skills allows dental assistants to contribute to efficient, high-quality care while creating a reassuring and positive patient experience.</p>	<p>Slide #82: Question</p> <p>Q: Why is it important for dental assistants to have strong communication skills and understand both pain management and moisture control techniques?</p> <p>A: Answers may vary.</p> <p>Note: By knowing these skills, dental assistants will provide high-quality patient care.</p>

TIME	LESSON CONTENT	NOTES – MEDIA – Q/A
10 Minutes	<p style="text-align: center;">CRITICAL THINKING ACTIVITY:</p> <p>1. You are assisting in a restorative procedure. The dentist will be placing a permanent restoration in tooth #14. The dentist has indicated that a short-acting anesthetic agent is indicated. What is the time frame for a short-acting anesthetic agent?</p> <p>2. Describe where the topical anesthetic is placed for tooth #14 and what type of injection the dentist will give for this procedure.</p> <p>3. The dentist has completed giving the local anesthetic and transferring the syringe back to you. What is wrong with this scenario, and how do you handle it with the patient in the chair?</p> <p>4. A 5-year-old child is scheduled to have a tooth restored with a stainless-steel crown. The patient record notes that there is pulpal damage, which means the tooth will require a more invasive procedure. The mother tells you that the child is very apprehensive about the visit. Describe additional anxiety and pain control measures that the dentist could prescribe in combination with local anesthesia.</p> <p>5. A patient is scheduled to have her third molar extracted. What type of pain control might the surgeon select to prolong the anesthesia and decrease bleeding around the surgical site?</p> <p>6. You are assisting in a procedure that includes monitoring of N2O/O2 sedation. You check all the equipment and review the procedure with the patient. In the updated medical history, it is noted that the patient has been bothered with seasonal allergies. How will this affect the administration of N2O?</p> <p><i>Moisture Control</i></p> <p>1. The dentist has requested that you place sealants on teeth #19 and #30. What isolation technique could you use for this procedure and why?</p> <p>2. The dentist is preparing tooth #4 for a disto-occlusal amalgam. Where will you place the HVE tip during this procedure?</p> <p>3. The dentist is halfway through preparing tooth #4 and pulls the handpiece out of the mouth to examine the extent of the remaining decay with the mirror and explorer. What would you do at this moment?</p> <p>4. You will be assisting in a composite procedure on tooth #24. How will you punch the dental dam for this procedure?</p> <p>5. What hole sizes would be punched for the isolation of teeth #18 through #22, with the anchor tooth being #18?</p>	<p>Answers:</p> <ol style="list-style-type: none"> 1. 30 MINUTES 2. #14 - TOPICAL PLACED - 2ND MOLAR AND BETWEEN PREMOLARS. MSA AND PSA 3. SHOW HIM WHERE THE CAP IS. MAKE SURE TO HAVE SAFETY CARD OR RUBBER STOPPER 4. NITROUS OXIDE OR ANTI-ANXIETY MEDICATION 5. EPINEPHRINE 6. WILL NOT BE ABLE TO BREATHE THROUGH THE NOSE PROPERLY. <ol style="list-style-type: none"> 1. Cotton roll holders 2. 2 and 3 areas by the occlusal surface 3. Limited - area rising 4. Dental Dam Stamp around #24, select an anterior clamp. 5. Largest hole for #18 and 19, medium hole for premolars, and smallest for #22.

Test Items

Objective #1: Define anesthesia.

Test Item #1: Anesthesia is defined as which of the following?

- a. the passage of a substance into the interior of another by solution or penetration.
- b. a substance for killing microorganisms on the skin.
- c. the temporary loss of feeling or sensation.
- d. the act of inhalation, or ingestion, as of a foreign object.

Objective #2: List the types of isolation used to decrease moisture during a dental procedure.

Test Item #2: The three most common methods used to isolate a specific area of the mouth include which of the following?

- a. mouth prop, index and middle fingers, and gauze square.
- b. cotton rolls, dry angles, and the dental dam.
- c. cotton roll, dental dam, and index and middle fingers.
- d. mouth prop, gauze squares, and cotton rolls.

Objective #3: Summarize the different levels of pain control in dentistry.

Test Item #3: The different levels of consciousness and unconsciousness are referred to as stages of anesthesia; these stages include all EXCEPT which of the following?

- a. I (analgesia).
- b. II (excitement).
- c. III (cardiac arrest).
- d. Both I (analgesia) and III (cardiac arrest).

Objective #4: Describe the dental dam and its role in isolation control.

Test Item #4: The isolation of anterior teeth with a dental dam is usually which of the following?

- a. From canine to canine.
- b. Only on the tooth being restored.
- c. On the tooth being restored and one tooth on each side.
- d. On the quadrant in which the tooth to be restored is located.

Objective #5: Determine the composition and application of topical anesthetics.

Test Item #5: The agents that provide a temporary numbing effect on nerve endings located on the surface of the oral mucosa is which of the following?

- a. Local anesthetics.
- b. General anesthetics.
- c. Antiseptics.
- d. Topical anesthetics.

Objective #6: Select the correct usage of inhalation sedation in dentistry.

Test Item #6: Your patient, 20-year-old female, with severe dental anxiety arrives for a scheduled for a single filling. By establishing rapport with the patient during medical history, she states that she does have severe dental anxiety. In 2-3 sentences, describe what type of sedation you would recommend for this patient and how you would describe the procedure to her.

Objective #7: Reflect on the importance of proper documentation for dental anesthetic procedures.

Test Item #7: Your patient, 25-year-old male, comes in for his extraction procedure. He does have nitrous oxide and local anesthesia delivered during his procedure. After dismissing the patient, the dentist asks you to write up the note. In a short essay (3-4 sentences), write the details that should be documented for both nitrous oxide and local anesthetics.

Correct Answer Key:

1. C

2. B

3. C

4. A

5. D

6. As a dental assistant, I would recommend nitrous oxide sedation for the patient, as she is experiencing dental anxiety but only requires a single filling. I would explain to her that inhaling nitrous oxide will induce relaxation and that its effects will wear off quickly, allowing her to return to normal by the end of the procedure.

5. As a dental assistant, I would document for nitrous oxide the pre- and post- operative vital signs, tidal volume, nose piece size, times began and ended, and adverse effects. I would document for local anesthesia the amount, type of vasoconstrictor and anesthetic, type of injection, adverse reaction, and the dental practitioner anesthetizing the patient. Once my documentation is complete, I will have the dentist review the note for accuracy and include any additional notations before finalizing and signing the record.