LESSON PLAN

Course: Dental Hygiene Therapies and Practice, DNTH 310

Topic: Desensitization

Audience: Adult Learners (Junior Level Dental Hygiene Students)

Time: 80 minutes total

- Anticipatory set= 10 minutes
- Lesson content= 60 minutes
- Summary= 10 minutes

Materials: Computer, PowerPoint slides

Instructional Objectives:

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

1. Define dentinal hypersensitivity.
2. Explain the potential causes of dentinal hypersensitivity.
3. Determine other potential causes of sensitivity through differential diagnosis.
4. Distinguish treatment interventions and in-office desensitization procedures.
5. Demonstrate a willingness to educate patients about desensitization treatment options to help reduce discomfort.

References:

Boyd, L. D., Mallonee, L. F., Wyche, C. J., & Halaris, J. F. (2023). Dentinal hypersensitivity. In L. D. Boyd, L. F. Mallonee, C. J. Wyche, & J. F. Halaris (Eds.), Wilkins' clinical practice of the dental hygienist (14th ed., pp. 771-785). Jones & Bartlett Learning.

Gehrig, J. S., Shin, D. E., & Willmann, D. E. (2020). Dentinal hypersensitivity. In *Foundations of Periodontics for the Dental Hygienist, Enhanced* (5th ed., pp. 505–510). Jones & Bartlett Learning.

Walters, P. A. (2024). Dentinal Hypersensitivity: A Review. Dentalcare. https://assets.ctfassets.net/u2qv1tdtdbbu/1Fxhux8ZeBmDcN3OA0zPAZ/c2c87ca9adf29f4e0aa0b9407340b254/ce200_11-18-21.pdf

LESSON CONTENT	NOTES – MEDIA – Q/A
I. ANTICIPATORY SET A. Introduction Dentinal hypersensitivity is a common condition encountered in dental hygiene care. Sensitivity is frequently reported by patients during their care appointments. Because dental hygienists routinely perform procedures that may cause discomfort to these patients, it is essential to understand the mechanisms, causes, and management strategies associated with dentinal hypersensitivity.	PP Slide #1: Title slide: Desensitization PP Slide #2: Introduction
B. Gain Attention/Motivate Thinking about your clinic experiences, has anyone encountered a patient who has experienced tooth sensitivity? Does anyone experience tooth sensitivity themselves?	PP Slide #3: Using air
C. Activate Prior Knowledge Reflect on your first semester when you learned the importance of asking patients whether they experience sensitivity to air before using the air syringe. This is a practice you now incorporate into patient care. Consider the level of discomfort a patient might experience if air were directed onto a sensitive tooth surface without this precaution.	
D. Establish Rationale Dental hygienists play a significant role in identifying, managing, and educating patients about dentinal hypersensitivity. Proper assessment allows clinicians to distinguish hypersensitivity from other causes of dental pain and to select appropriate treatment strategies. In addition, patient education regarding preventive measures and desensitizing treatments can greatly improve comfort and reduce discomfort.	Note: By understanding differences in pain, you will be able to make more effective treatment recommendations.
E. Present Instructional Objectives After today's lecture, you should be able to: 1. Define dentinal hypersensitivity. 2. Explain the potential causes of dentinal hypersensitivity. 3. Determine other potential causes of sensitivity through differential diagnosis. 4. Distinguish treatment interventions and in-office desensitization procedures. 5. Demonstrate a willingness to educate patients about desensitization treatment options to help reduce discomfort.	PP Slide #4: Objectives

LESSON CONTENT	NOTES – MEDIA – Q/A
I. Dentinal Hypersensitivity A. Dentinal hypersensitivity definition: Short, sharp, painful reaction occurring when areas of exposed dentin are stimulated. 1. Pain: a. Alleviated upon stimulus removal b. Arises from exposed dentin structures c. absence of other dental conditions	PP Slide #5: Dentinal hypersensitivity & anatomy review PP Slide #6: Dentinal hypersensitivity
B. Prevalence 1. Common issue in clinical practice 2. Reports range from 4-74% a. Range related to methods of diagnosis and population differences c. Higher among periodontal patients d. Higher in females 3. 20-50 year age range most affected a. Peak between 30-40 years 4. Canines and premolars most affected a. Buccal surface, cervical area most affected	PP Slide #7: Prevalence Note: Dental hypersensitivity decreases with age. The reasoning will be discussed later. Q: Why do you think dentinal hypersensitivity is more common in patients with periodontal disease? A: Due to gingival recession and attachment loss which can expose root surface
C. Anatomy of Tooth Structures 1. Dentin a. Covered by enamel on crown and cementum on root b. Composed of narrow, fluid filled tubules i. Branch from pulp to dentinoenamel or dentinocementum junction c. Ends closest to pulp are innervated with nerve fiber endings from pump chamber d. Sensitive areas are composed of wider tubercle openings i. Lumen	PP Slide #8: Dentin anatomy
2. Pulp and Nerves a. Pulp i. Highly innervated with nerve cell fiber endings b. Odontoblasts i. Located adjacent to pulp ii. Odontoblastic processes extend minorly into dentinal tubules- Tomes Fibers c. Nerve i. Nerve fiber endings wrap around the odontoblastic processes in the dentinal tubules	PP Slide #9: Image of patterns of arrangement of cementum to enamel PP Slide #10: Pulp and nerve anatomy Note: Not all dentinal tubules contain nerve fiber endings
D. Mechanism of Dentinal Hypersensitivity 1. Dentinal Hypersensitivity phases a. Phase 1: Dentin loses its protective cementum covering i. Lesion initiation	PP Slide #11: Dentinal hypersensitivity phases

b. Phase 2: Leads to exposure of dentinal tubules to the oral environment i. Lesion localization 2. Hydrodynamic Theory: Accepted explanation for transmission of stimuli from the outer surface of the dentin to the pulp a. Stimulus to the outside of the dentin layer causes movement of fluid within the dentinal tubules b. Movement of fluid creates pressure on nerve endings and transmits the pain to the pulpal nerves c. Hypersensitive teeth have more widened dentinal tubules than non-sensitive teeth	PP Slide #12: Hydrodynamic Theory
E. Causes of hypersensitivity 1. Tactile a. Contact with solid material i. Toothbrush, eating utensils, dental instruments 2. Thermal a. Temperature change i. Hot/cold 1. Cold is most common 3. Osmotic a. Change in pressure within dentinal tubules through a selective membrane 4. Evaporative a. Dehydration of oral fluids i. When using high volume evacuation ii. Application of air to dry teeth 5. Chemical a. Acid or acidic products in oral cavity i. Food or beverages ii. Acids produced by bacteria after exposure to carbohydrates b. Gastroesophageal reflux c. Whitening agents	PP Slide #13: Causes of hypersensitivity Q: What are some common acidic foods or beverages that could contribute to dentinal hypersensitivity? A: May vary; Citrus fruits and juices, pineapples, sour candies, energy drinks, and sodas. PP Slide #14: Etiology
II. Etiology of hypersensitivity: A. Mechanisms of dentin exposure 3. Recession a. Loss of gingival tissue resulting in exposure of the root surface b. Causes of recession: i. Aggressive oral care habits 1. Medium to hard bristle toothbrush ii. Laceration or abrasions iii. Metal oral piercings iv. Genetic or anatomical factors v. Orthodontic treatment	PP Slide #15: Recession Note: The presence of recession does not always mean that there will be sensitivity in that area.

vi. Surgical procedures vii. Restorative procedures that abrade gingival tissue 4. Loss or Damage to Tooth Structure a. Damage or loss of tooth structure can be multifactorial b. Enamel and cementum do not always meet c. Mechanical or chemical damage to tooth 5. Abfraction a. Mechanical tooth loss at the gingival margin b. Caused by flexing of the tooth at the weakest point c. Results in weakened tooth structure 6. Erosion a. Loss of tooth structure due to acid exposure in the oral cavity i. Results in immediate drops in pH levels b. pH should come back to neutral in a few minutes c. Repeated or prolonged acid exposure can have severe consequences i. Holding/swishing foods or beverages in your mouth, snacking or drinking throughout the day d. Gastric acid erosion is more likely seen on linguals of teeth 7. Abrasion a. Wear of enamel, dentin, or cementum due to mechanical habits b. Can be exacerbated by acid erosion 8. Attrition a. Wear of the enamel at the incisal or occlusal surface of the tooth b. Commonly the result of bruxism c. Exacerbated by acid erosion 9. Other factors a. Instrumentation b. Overuse of abrasive materials c. Whitening d. Root surface caries	PP Slide #16: Loss or Damage to Tooth Structure PP Slide #17: Abfraction and Erosion Note: Energy drinks contribute to erosion due to being high in sugars and having a lower, more acidic pH. PP Slide #18: Abrasion and attrition PP Slide #19: Other factors Note: Over instrumentation or overuse of prophy paste can remove cementum resulting in exposed dentinal tubules. PP Slide #20: Determining other causes of hypersensitivity PP Slide #21: Differential diagnosis Q: What questions do you think you should ask the patient? A: Sensitivity location, pain scale, description, when does it occur
III. Determining other causes of hypersensitivity: A. Differential Diagnosis 1. Ruling out other causes of pain to determine cause and treatment plan 2. Done through the use of interviewing techniques and diagnostic tests B. Patient interviewing techniques 1. Use open ended questions a. Questions should cover	

i. Teeth affected ii. Onset of the pain iii. Impact of pain b. Some questions may be difficult for patients i. Describing the pain	PP Slide #22: Patient interviewing techniques
C. Assessment 1. Visualize a. Inspect the tooth and surrounding area 2. Palpate a. Inspect the soft tissue around the tooth 3. Explore a. Use the Shepard's hook to feel the exposed area 4. Check occlusion a. Use occlusal paper to check for heavy occlusal forces 5. Take a periapical radiograph 6. Test percussion response 7. Illuminate 8. Thermal testing a. Blowing air b. Endo ice	PP Slide #23: Assessment PP Slide #24: Assessment continued Note: Blowing air imitates cold and dehydration stimuli. Think about how you ask your patients if they are sensitive to air prior to using it in patient care.
D. Differentiating dentinal sensitivity from other tooth pain 1. Abscess a. Potential swelling, severe pain, possible tooth mobility, possible drainage b. Radiographic, visual, palpation exams 2. Caries a. Sweet sensitivity in addition to cold/hot b. Pulpal caries can cause severe pain when chewing c. Radiographic and clinical diagnosis 3. Fractured tooth a. Thermal sensitivity and pain on pressure b. Transillumination, occlusal examination 4. Occlusal Trauma a. Recent restorations placed that are "hitting high" b. Malocclusion resulting in mobility of teeth c. Occlusal examination with articulating paper 5. Pulpitis a. Severe, intermediate, throbbing pain b. Responds to thermal, electric pulp tests, and percussion 6. Sinus infections a. Non-descript tooth pain b. Commonly in maxillary posterior teeth c. Radiographic examination to rule out infection 7. Galvanic pain a. Sudden sharp stabbing pain on tooth-to-tooth contact with dissimilar metals	PP Slide #25: Differentiating dentinal sensitivity from other tooth pain PP Slide #26: Differentiating dentinal sensitivity from other tooth pain continued Q: How do these types of sensitivity differ from dentinal hypersensitivity? A: Short, sharp, painful reaction occurring when areas of exposed dentin are stimulated

8. PDL Inflammation
    a. Pain on chewing
    b. Clinical examination should include palpation for apical tenderness
    c. Responds to percussion tests

IV. Treatment interventions and in-office procedures:

A. Natural Desensitization

PP Slide #27: Natural Desensitization

1. Natural desensitization: hypersensitivity can decrease naturally overtime
    a. Sclerosis of dentin
        i. Occurs by mineral deposits within tubules due to traumatic stimuli
        ii. Creates mineralized layer of intratubular or peritubular dentin
        iii. Mechanism of action: Decreased Lumen Size

Note: Thinking back to the peak age range of sensitivity, 30-40, as we age sclerosis of the dentin and secondary dentin occur.

    b. Secondary dentin
        i. Accumulates overtime on the floor and roof of the pulp
        ii. Leads to smaller pulp chamber with less nerve endings

PP Slide #28: Natural Desensitization continued

    c. Smear layer
        i. Organic and inorganic debris
        ii. Mechanism of action: Occludes dental tubules
        iii. Creates a natural "bandage" that blocks stimuli
        iv. Builds up from scaling and root debridement, abrasive toothpaste particles, drilling, attrition, and abrasion
        v. Can be disrupted by mechanical effects and acid exposure

Q: If calculus is a natural desensitizer, what should we recommend to our patients prior to SRP?

A: Topical or local anesthetics

Note: The goal of treatment interventions is to relieve pain and eliminate or reduce contributing factors

    d. Calculus
        i. Provides protective layer over exposed dentin; removal causes exposure

PP Slide #29: Treatment interventions

B. Treatment Interventions

1. Biofilm removal

PP Slide #30: Biofilm removal

    a. Biofilm presence increases size of dentinal tubules up to 3X
    b. Potential for increased sensitivity
    c. Biofilm control results in 20% reduction in lumen size
    d. Amount of biofilm does not equal amount of sensitivity

PP Slide #31: Toothbrushing status

2. Toothbrushing Status
    a. Electric vs Manual
    b. Toothbrushing technique
        i. Modified Stillman's for recession

Note: Recommend an electric toothbrush with pressure sensor

c. Bristles status and pressure 3. Traumatic Occlusion a. Assessment of bruxism and clenching i. Question the patient about habits and stress ii. Teeth should occlude only when eating and swallowing b. Potential treatment i. Occlusal adjustments ii. Orthodontic treatment iii. Occlusal Guard 4. Diet Modifications a. Nutritional counseling i. Evaluation of diet history is important b. Determining if erosion due to diet is a factor of the sensitivity c. Acid in foods includes: i. Citrus juices, fruit, carbonated drinks, wine, cider, energy drinks coffee, etc. d. Erosion is permanent enamel loss C. Desensitizing Agents 1. Potassium salts a. Move through/along the dentinal tubules i. Block the action of interdental nerve fibers b. Increase the threshold for stimulus reaction i. Essentially depolarizing the nerve c. Examples: Potassium citrate, potassium nitrate, potassium chloride, potassium oxalate 2. Fluoride a. Occludes tubules through smear layer formation b. Resistant to acidic foods and beverages c. Said to reduce sensitivity in 2 weeks d. Examples: Sodium Fluoride & Stannous Fluoride 3. Oxalates a. Occlude open tubules b. Decreases tubule opening c. Examples: potassium oxalate and ferric oxalate 4. Glutaraldehyde a. Decreases tubule opening b. Coagulation of proteins and amino acids within the tubule 5. Calcium Phosphate Technology a. Caries prevention through remineralization of tooth structures b. Remineralization lessens sensitivity by occluding tubules 6. Types of calcium phosphate technology a. Amorphous Calcium Phosphate (ACP)	Note: Recommend soft bristles that are not frayed and that they should be replaced every 3-4 months. PP Slide #32: Traumatic occlusion PP Slide #33: Diet modifications Q: What are some recommendations you could make to your patient who drinks acidic drinks, like energy drinks? A: Reducing intake, avoiding slipping over long periods, rinse with water PP Slide #34: Potassium salts PP Slide #35: Fluoride PP Slide #36: Oxalates and glutaraldehydes Note: Both work to make the opening of the tubule smaller. PP Slide #37: Arginine PP Slide #38: Review table

i. Blocks tubules with calcium and phosphate precipitate ii. Enhance fluoride delivery iii. Remineralization of eroded/abraded hard tissue b. Calcium Sodium Phosphosilicate (CSP) i. Contains sodium, silica, calcium, and phosphorous ii. Bioactive glass particles releases calcium and phosphate that crystallizes into protective hydroxyapatite layer c. Casein Phosphopeptide (CPP)-ACP i. Milk-derived protein ii. Useful during acidic food/beverage presence d. Tricalcium Phosphate (TCP) i. Developed to combine a calcium material that coexists with fluoride ii. Aims to provide greater effectiveness that fluoride alone	PP Slide #39: Calcium Phosphate Technology PP Slide #40: Amorphous Calcium Phosphate (ACP) and Calcium Sodium Phosphosilicate (CSP) PP Slide #41: Casein Phosphopeptide (CPP)-ACP and Tricalcium Phosphate (TCP) Q: What patients should you not recommend gum for? A: Young children or impaired adults who may swallow it and patients with TMJ issues.
7. Arginine a. Amino acid present in saliva b. Occludes dentinal tubules c. Remains after acid exposure d. Prophy paste: i. Can be used prior to dental treatment e. Over the counter options	PP Slide #42: Review slide Note: Using prophy paste prior to dental treatment can create a smear layer covering the exposed dentin and tubule openings.
D. Topical Agents 1. Dentifrices a. Over the counter i. Available in 5% potassium nitrate, sodium fluoride, or stannous fluoride b. Prescription i. Highly concentrated fluoride (5,000 ppm) ii. Combined with abrasive to reduce extrinsic staining iii. Examples: Clinpro & PreviDent	PP Slide #43: Dentifrices Note: Toothpaste can be used as a spot treatment for localized treatment in sensitive areas.
2. Gels a. Highly concentrated fluoride (5,000 ppm) b. Good for generalized or localized sensitivity i. Spot treatment c. No abrasive agents for biofilm removal or extrinsic stain control d. Require use of custom fluoride or bleaching trays e. Good option for patients with a history of radiation treatments for head and neck cancer	PP Slide #44: Gels PP Slide #45: Review slide PP Slide #46: In Office- procedures
E. In-Office Procedures 1. Varnish	PP Slide #47: Fluorides- Varnish

a. 5% sodium fluoride varnish provides prolonged exposure to tooth surface b. Tooth serves as a reservoir and releases fluoride ions in response to changes in oral acidity levels c. Occludes dentinal tubules 2. Silver Diamine Fluoride a. Directed for use as a desensitizing agent i. Used off label for arresting caries b. Silver functions as an antimicrobial agent c. 38% fluoride d. Mechanism of Action: i. Protein layer formation ii. Partially occludes dentinal tubules e. Considerations: turns carious lesions black 3. 5% Glutaraldehyde a. Applied with micro brush to specific sensitive site b. Isolate tooth as solution can irritate soft tissue c. Works by decreasing lumen size 4. Oxalates a. Burnished into a dried tooth surface b. Provides immediate/short-term relief c. Not intended for long term relief i. Will require adjunctive therapies for long-term sensitivity issues 5. Unfilled and Partially Filled Resins a. Covers dental tubules b. Requires acid etching prior to placement c. Removes the smear layer and can cause discomfort d. Tooth surface must be dry for placement e. Consider local anesthetic to manage discomfort 6. Dentin-Bonding Agents a. Seals dental tubule openings b. No acid or drying required c. May protect from erosion for 3-6 months 7. Glass Ionomer Cement & Restorative Materials a. Can be placed in the presence of moisture b. Blocks dental tubule opening c. Releases fluoride to tooth 8. Iontophoresis & Soft Tissue Grafting a. Iontophoresis i. Low voltage electrical currents ii. Drives negatively charged fluoride ions further into the dentinal tubules b. Soft Tissue Grafting i. Surgical placement of soft tissue over a sensitive area. ii. Need adequate bone to support graft iii. Expensive & time-consuming	PP Slide #48: Silver diamine fluoride (SDF) PP Slide #49: 5% Glutaraldehyde and oxalates Note: Both works to decrease lumen size. PP Slide #50: Unfilled and Partially Filled Resins Q: Reflecting on etiology of hypersensitivity, what condition may a composite resin help treat and why? A: Abfractions to help relieve sensitivity by blocking the tubules and restore structure to the tooth. PP Slide #51: Dentin-bonding agents PP Slide #52: Glass Ionomer Cement & Restorative Materials PP Slide #53: Iontophoresis & Soft Tissue Grafting

9. Lasers a. Nd:YAG obliterates dentinal tubules i. "Melting and resolidification" ii. Hygienists cannot use Nd:YAG b. Diode laser i. Mechanism of action not completely understood ii. Shown to be more effective than fluoride treatment alone in reducing sensitivity iii. Can use sodium fluoride varnish after procedure for increased effects	PP Slide #54: Lasers PP Slide #55: Review slide
V. Professional insight and commitment: A. Considerations 1. Fractures a. Difficult to diagnose on rads b. Potential for crown, endodontic treatment, or extraction 2. Tooth whitening a. Reversible pulpitis b. Sensitivity may decrease on its own over time c. Recommend desensitization products in combination with whitening 3. Scaling and Root Debridement a. Explain potential for sensitivity before starting treatment b. Local anesthetic, topical anesthetic, or nitrous oxide may help with patient comfort c. Post-procedure desensitizing and education on homecare 4. Diet- Nutritional Counseling a. Inquire about changes in dietary habits – especially energy drinks b. Make recommendations for changes or modifications B. Recommendations 1. One size does not fit all 2. Mix products a. In-office, OTC, and RX 3. Importance of home care 4. Gauge your patient C. Documentation 1. Identification of sensitive areas 2. Oral findings and habits 3. Differential diagnosis 4. Recommendations 5. Patient acceptance and implementation 6. Patient compliance and outcomes	PP Slide #56: Professional insight and commitment PP Slide #57: Considerations Q: What is one of the most important actions you can take to help a patient reduce dental hypersensitivity as a dental hygienist? A: Will vary; Interviewing, knowing options, educating patient PP Slide #58: Recommendations Note: Do not overwhelm your patients with options and stress the importance of home care in their success of reducing sensitivity. PP Slide #59: Documentation Note: Record of what methods have been done to relieve patient's dentinal hypersensitivity.

D. Reassessment 1. Evaluate treatment interventions 2. Allow 2-4 weeks before evaluating the effectiveness of treatment recommendations 3. If the patient persists, assist the patient with other options.	PP Slide #60: Reassessment

LESSON CONTENT	NOTES – MEDIA – Q/A
SUMMARY: Following this lesson, you should have developed a better understanding of dentinal hypersensitivity and its impact on patients. As a dental hygienist, you can apply this knowledge to recognize potential causes and distinguish it from other dental conditions. It's important to understand the mechanisms of sensitivity, implement appropriate in-office and at-home treatments, and educate patients about strategies to reduce discomfort. By doing so, you fulfill your professional responsibility to improve patient comfort, support oral health, and provide individualized care. Continuing to expand your knowledge in this area will strengthen your ability to manage hypersensitivity effectively and advocate for the well-being of your patients.	PP Slide #61: Summary PP Slide #62: Questions Q: Reflecting on today's lecture, does anyone have any questions? A: Answers will vary. Note: Thank the learners for their attention and participation.

LESSON CONTENT	NOTES – MEDIA – Q/A
Kahoot Activity https://play.kahoot.it/v2/?quizId=4970ac2b-05fb-453b-9b3a-cca7b759ab77&hostId=ff2ce7ee-15f8-47be-a63d-c1e502cfe134	PP Slide #63: Kahoot

Test Items

Objective #1: Define dentinal hypersensitivity.

Test Item #1: Which of the following statements **BEST** defines dentinal hypersensitivity?

A. A dull, persistent toothache caused by pulpal inflammation

B. A short, sharp pain arising from exposed dentin in response to stimuli

C. Pain caused by a bacterial infection within the pulp chamber

D. Sensitivity that occurs only when pressure is applied during chewing

Objective #2: Explain the potential causes of dentinal hypersensitivity.

Test Item #2: Which of the following theories is the **MOST** widely accepted theory to explain dentinal hypersensitivity?

A. Direct Stimulation Theory

B. Odontoblastic Transducer Mechanism Theory

C. Hydrodynamic Theory

D. Modulation-Vibration Theory

Objective #3: Determine other potential causes of sensitivity through differential diagnosis.

Test Item #3: Which clinical symptom is more indicative of dental caries than dentinal hypersensitivity?

A. Cold sensitivity

B. Mobility

C. Air sensitivity

D. Sweet sensitivity

Objective #4: Distinguish treatment interventions and in-office desensitization procedures.

Test Item #4: In 3-4 sentences, explain one in-office treatment or procedure for dentinal hypersensitivity and its mechanism of action.

Objective #5: Demonstrate a willingness to educate patients about desensitization treatment options to help reduce discomfort.

Test Item #5: A Patient frequently drinks energy drinks throughout the day and reports sensitivity. In 4–5 sentences, describe how you would educate this patient to help reduce dentinal hypersensitivity.

Correct Answer Key:

1. B

2. C

3. D

4. Answers will vary. One in-office treatment for dentinal hypersensitivity is the application of fluoride varnish. Fluoride varnish works by occluding dentinal tubules and promoting remineralization of the tooth surface. This reduces fluid movement within the tubules, which decreases stimulation of the pulpal nerves. As a result, the patient experiences reduced sensitivity.

5. I would educate the patient on reducing the frequency of their energy drink consumption, as frequent acid exposure contributes to enamel erosion and sensitivity. I would recommend drinking these beverages in one sitting rather than sipping throughout the day. The patient should rinse with water after drinking the energy drink to dilute and wash acid away from the oral cavity. I would also suggest using a desensitizing toothpaste.