

COMPREHENSIVE MOCK EXAM 4

Supplemental to: National Board Dental Hygiene Examination Review

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National Board Dental Hygiene Examination (NBDHE) — 350 questions, A-D single-best-answer format in this parent book; 200 discipline-based plus 150 case-based items, weighted to the current pre-October-2026 blueprint

Board-Review Questions

1. Which cranial nerve provides the principal sensory innervation to the teeth and most oral structures?
 - A. Facial nerve (CN VII)
 - B. Glossopharyngeal nerve (CN IX)
 - C. Trigeminal nerve (CN V)
 - D. Hypoglossal nerve (CN XII)

2. A local anesthetic deposited near the mandibular foramen is intended primarily to block which nerve before it enters the mandibular canal?
 - A. Long buccal nerve
 - B. Mental nerve
 - C. Inferior alveolar nerve
 - D. Mylohyoid nerve

3. Which muscle is the primary protruder of the mandible?
 - A. Medial pterygoid
 - B. Lateral pterygoid
 - C. Masseter
 - D. Temporalis

4. Which salivary gland contributes the greatest volume of stimulated saliva?
 - A. Sublingual gland
 - B. Parotid gland
 - C. Minor palatal glands
 - D. Submandibular gland

5. The orifice of Stensen duct is normally located opposite which tooth?
- A. Maxillary second molar
 - B. Maxillary canine
 - C. Mandibular first molar
 - D. Mandibular second premolar
6. The submandibular duct opens into the oral cavity at which landmark?
- A. Incisive papilla behind the maxillary incisors
 - B. Parotid papilla opposite the maxillary molars
 - C. Retromolar pad distal to the mandibular molars
 - D. Sublingual caruncle beside the lingual frenum
7. Which permanent tooth most commonly has two roots but only one buccal cusp and one lingual cusp?
- A. Mandibular first premolar
 - B. Maxillary first premolar
 - C. Maxillary second premolar
 - D. Mandibular second premolar
8. The oblique ridge is a characteristic feature of which permanent tooth?
- A. Mandibular first molar
 - B. Maxillary canine
 - C. Maxillary first molar
 - D. Mandibular second premolar
9. Which tooth normally has the longest root in the permanent dentition?
- A. Maxillary canine

- B. Maxillary central incisor**
- C. Mandibular canine**
- D. Maxillary first premolar**

10. Which structure separates the oral cavity from the nasal cavity anteriorly and is formed by the maxillary palatine processes and horizontal plates of the palatine bones?

- A. Hard palate**
- B. Soft palate**
- C. Nasal septum**
- D. Pterygomandibular raphe**

11. Which artery is the principal arterial supply to the maxillary teeth?

- A. Facial artery**
- B. Maxillary artery branches**
- C. Lingual artery**
- D. Superficial temporal artery**

12. Which lymph nodes commonly receive initial lymphatic drainage from the mandibular incisors?

- A. Deep cervical nodes first**
- B. Parotid nodes**
- C. Submental nodes**
- D. Occipital nodes**

13. A patient cannot protrude the tongue without deviation toward the right. Injury to which cranial nerve is most consistent with this finding?

- A. Left hypoglossal nerve**

- B. Right hypoglossal nerve**
- C. Right facial nerve**
- D. Left trigeminal nerve**

14. Which temporomandibular joint movement predominates during the initial phase of mouth opening?

- A. Translation in the upper compartment**
- B. Rotation in the lower joint compartment**
- C. Pure lateral excursion**
- D. Posterior displacement of the condyle**

15. Which papillae of the tongue are most numerous and generally lack taste buds?

- A. Fungiform papillae**
- B. Circumvallate papillae**
- C. Foliate papillae**
- D. Filiform papillae**

16. Enamel is derived embryologically from which tissue?

- A. Neural crest ectomesenchyme**
- B. Endoderm**
- C. Mesoderm**
- D. Oral ectoderm**

17. Dentin-producing odontoblasts differentiate from cells of which embryologic structure?

- A. Dental lamina**
- B. Outer enamel epithelium**
- C. Dental papilla**

D. Reduced enamel epithelium

18. Which tissue is normally acellular, highly mineralized, and incapable of true regeneration after eruption?

A. Cementum

B. Dentin

C. Enamel

D. Alveolar bone

19. Sharpey fibers are terminal portions of periodontal ligament fibers embedded in which tissues?

A. Cementum and alveolar bone

B. Enamel and dentin

C. Pulp and dentin

D. Gingival epithelium and enamel

20. The epithelial attachment to the tooth at the base of the gingival sulcus is formed by which epithelium?

A. Oral keratinized epithelium

B. Junctional epithelium

C. Sulcular epithelium

D. Reduced enamel epithelium after maturation

21. Which cells synthesize the organic matrix of bone?

A. Osteoclasts

B. Osteoblasts

C. Osteocytes

D. Chondrocytes

22. Primary dentin is produced primarily during which period?

A. During normal tooth development

B. after pulp injury

C. after tooth eruption is complete

D. after periodontal disease develops

23. Which salivary component contributes importantly to buffering acids in stimulated saliva?

A. Keratin

B. Bicarbonate

C. Collagen

D. Hemoglobin

24. Which mineral is stored predominantly in bone and teeth and is essential to hydroxyapatite formation?

A. Sodium

B. Potassium

C. Iron

D. Calcium

25. A deficiency of vitamin C most directly impairs which process relevant to periodontal tissues?

A. DNA transcription of amelogenin

B. Vitamin D activation

C. Acetylcholine degradation

D. Collagen synthesis

26. Which vitamin is required for normal synthesis of several coagulation factors?
- A. Vitamin A
 - B. Vitamin C
 - C. Vitamin K
 - D. Vitamin E
27. Which physiologic response is expected during acute sympathetic activation?
- A. Decreased heart rate and bronchoconstriction
 - B. Increased salivary watery flow with bradycardia
 - C. Increased heart rate and bronchodilation
 - D. Reduced cardiac output with miosis
28. Insulin lowers blood glucose primarily by promoting which effect?
- A. Hepatic glucose release
 - B. Glycogen breakdown
 - C. Glucagon secretion from alpha cells
 - D. Cellular glucose uptake and storage
29. Which microorganism is strongly associated with initiation of dental caries because of acid production and acid tolerance?
- A. Porphyromonas gingivalis
 - B. Treponema pallidum
 - C. Candida albicans
 - D. Streptococcus mutans
30. Which bacterial species is a major periodontal pathogen associated with the red complex?

- A. *Streptococcus salivarius*
- B. *Lactobacillus acidophilus*
- C. *Porphyromonas gingivalis*
- D. *Actinomyces viscosus*

31. Dental plaque biofilm differs from free-floating bacteria primarily because organisms in a biofilm are embedded in what?

- A. A mineralized enamel layer
- B. Extracellular polymer matrix
- C. Host bone matrix
- D. A fibrin-blood clot

32. Which immunoglobulin predominates in saliva and contributes to mucosal immune defense?

- A. IgE
- B. IgA
- C. IgM
- D. IgD

33. Neutrophils are especially important in periodontal defense because they primarily perform which function?

- A. Production of enamel matrix
- B. Secretion of parathyroid hormone
- C. Formation of dentinal tubules
- D. Phagocytosis of invading microorganisms

34. Which process describes acquisition of immunity after vaccination?

- A.** Passive natural immunity
- B.** Passive artificial immunity
- C.** Active acquired immunity
- D.** Innate immunity

35. Which virus is transmitted primarily through blood and body fluids and is preventable by an effective vaccine used in dental healthcare personnel?

- A.** Hepatitis B virus
- B.** Hepatitis C virus
- C.** Human immunodeficiency virus
- D.** Epstein-Barr virus

36. The most effective method for sterilizing heat-stable dental instruments in routine practice is which process?

- A.** Surface disinfection with alcohol
- B.** Immersion in mouthrinse
- C.** Steam under pressure in an autoclave
- D.** Ultraviolet light exposure

37. A white plaque that can be wiped away, leaving an erythematous surface, is most characteristic of which condition?

- A.** Leukoplakia
- B.** Linea alba
- C.** Candidiasis
- D.** Leukoedema

38. Which oral lesion is considered potentially malignant and requires evaluation when it cannot be clinically or pathologically characterized as another disease?

- A.** Leukoplakia
- B.** Fordyce granules
- C.** Torus palatinus
- D.** Fissured tongue

39. A painful cluster of recurrent vesicles on the vermilion border is most consistent with which infection?

- A.** Primary syphilis
- B.** Recurrent herpes labialis
- C.** Oral candidiasis
- D.** Herpangina in an adult

40. Which finding is most characteristic of an aphthous ulcer?

- A.** Painless plaque on attached gingiva
- B.** Grouped vesicles on the hard palate
- C.** Painful shallow ulcer on nonkeratinized mucosa
- D.** Firm bony swelling of the midline palate

41. Which lesion represents a benign proliferation of capillary blood vessels and often blanches with pressure?

- A.** Hemangioma
- B.** Fibroma
- C.** Papilloma
- D.** Amalgam tattoo

- 42.** Which condition is characterized by bilateral white reticular striations of the buccal mucosa known as Wickham striae?
- A.** Reticular lichen planus
 - B.** Geographic tongue
 - C.** Nicotine stomatitis
 - D.** Angular cheilitis
- 43.** A radiolucency at the apex of a nonvital tooth is most consistent with which inflammatory lesion?
- A.** Dentigerous cyst around an unerupted crown
 - B.** Torus mandibularis
 - C.** Condensing osteitis in a vital tooth
 - D.** Periapical inflammatory lesion
- 44.** Which finding most strongly suggests oral squamous cell carcinoma and warrants prompt referral?
- A.** Transient traumatic ulcer healing in one week
 - B.** Symmetric linea alba
 - C.** Stable mandibular torus
 - D.** Persistent indurated oral ulcer
- 45.** Which condition commonly presents with depapillated erythematous patches on the dorsal tongue surrounded by a white border that changes location over time?
- A.** Hairy leukoplakia
 - B.** Geographic tongue
 - C.** Median rhomboid glossitis
 - D.** Erythroplakia

- 46.** A bluish fluctuant swelling of the lower lip after trauma is most consistent with which lesion?
- A.** Pleomorphic adenoma
 - B.** Traumatic mucocele
 - C.** Torus mandibularis
 - D.** Leukoplakia
- 47.** Which condition involves necrosis and inflammation of salivary gland tissue, may mimic malignancy clinically, and often heals spontaneously?
- A.** Necrotizing sialometaplasia
 - B.** Aphthous stomatitis
 - C.** Fordyce granules
 - D.** Melanotic macule
- 48.** Which drug class commonly causes gingival enlargement as an adverse effect?
- A.** Calcium channel blockers
 - B.** Proton pump inhibitors
 - C.** Thiazide diuretics
 - D.** Inhaled beta-2 agonists
- 49.** Which medication is most strongly associated with medication-related osteonecrosis of the jaw?
- A.** Acetaminophen therapy
 - B.** Antiresorptive bisphosphonate therapy
 - C.** Topical fluoride therapy
 - D.** Short-term penicillin therapy

50. Which analgesic has antipyretic and analgesic effects but minimal peripheral anti-inflammatory activity?

- A.** Acetaminophen
- B.** Ibuprofen NSAID
- C.** Naproxen
- D.** Aspirin

51. Which adverse effect is a major concern with excessive acetaminophen exposure?

- A.** Gingival hyperplasia
- B.** Hepatotoxicity
- C.** Bronchodilation
- D.** Hyperthyroidism

52. Nonsteroidal anti-inflammatory drugs reduce pain and inflammation primarily by inhibiting which enzyme pathway?

- A.** Cyclooxygenase inhibition
- B.** Monoamine oxidase metabolism
- C.** Acetylcholinesterase activity
- D.** DNA polymerase replication

53. Which local anesthetic is classified as an amide?

- A.** Procaine
- B.** Benzocaine
- C.** Lidocaine
- D.** Tetracaine

54. Epinephrine is added to many local anesthetic solutions primarily to produce which effect?

- A. Immediate systemic vasodilation
- B. Direct reversal of allergy
- C. long-term nerve blockade
- D. Local vasoconstriction

55. Which medication is the first-line emergency drug for anaphylaxis?

- A. Oral diphenhydramine
- B. Intramuscular epinephrine
- C. Sublingual nitroglycerin
- D. Inhaled albuterol alone

56. Which drug is commonly used as a rescue medication for acute bronchospasm in asthma?

- A. Warfarin
- B. Metformin
- C. Atorvastatin
- D. Albuterol

57. Which medication is an oral anticoagulant that directly inhibits factor Xa?

- A. Clopidogrel
- B. Aspirin
- C. Heparin
- D. Apixaban

58. Which drug is an antiplatelet agent that inhibits the platelet P2Y₁₂ receptor?

- A. Clopidogrel

- B. Warfarin**
- C. Apixaban**
- D. Enoxaparin**

59. Which medication is commonly used as first-line pharmacologic therapy for type 2 diabetes when not contraindicated?

- A. Levothyroxine**
- B. Albuterol**
- C. Amoxicillin**
- D. Metformin**

60. Which antibiotic class includes amoxicillin?

- A. Penicillins**
- B. Macrolides**
- C. Tetracyclines**
- D. Fluoroquinolones**

61. Which antibiotic is in the macrolide class?

- A. Doxycycline**
- B. Cephalexin**
- C. Metronidazole**
- D. Azithromycin**

62. Before beginning dental hygiene treatment, which action is most important when a patient reports a newly diagnosed medical condition?

- A. Proceed because the prior history is already signed**

- B.** Update the health history and assess implications for care
- C.** Delay documentation until treatment is completed
- D.** Rely on the patient's medication list

63. A blood pressure reading of 128/78 mm Hg should be interpreted as which finding in an otherwise healthy adult?

- A.** Stage 2 hypertension
- B.** Hypertensive crisis
- C.** Severe isolated diastolic hypertension
- D.** Elevated blood pressure

64. Which pulse characteristic should be documented in addition to rate when palpating the radial pulse?

- A.** skin color
- B.** respiratory depth
- C.** Rhythm and quality
- D.** body temperature

65. Which finding is most consistent with cyanosis?

- A.** Bluish discoloration of skin or mucosa
- B.** Bright red petechiae
- C.** Yellow discoloration of sclera
- D.** Localized white keratotic plaque

66. When measuring periodontal probing depth, the probe is inserted from which reference point to which endpoint?

- A.** Gingival margin to base of the sulcus or pocket

- B. Cementoenamel junction to gingival margin**
- C. Occlusal surface to alveolar crest**
- D. Free gingival groove to mucogingival junction**

67. Clinical attachment loss is determined most directly by relating the base of the pocket to which fixed landmark?

- A. Gingival margin**
- B. Occlusal plane**
- C. Mucogingival junction**
- D. Cementoenamel junction**

68. Which finding most strongly indicates current gingival inflammation during periodontal assessment?

- A. Presence of a mandibular torus**
- B. Physiologic melanin pigmentation**
- C. A shallow vestibule**
- D. Bleeding on gentle probing**

69. Furcation involvement can be assessed most effectively with which instrument?

- A. Nabers furcation probe**
- B. Explorer**
- C. Cotton pliers**
- D. Straight sickle scaler**

70. Which statement best describes dental mobility assessment?

- A. Horizontal and vertical tooth displacement**
- B. It measures gingival recession**

- C. It replaces radiographic bone assessment
- D. It identifies caries depth directly

71. Which index is specifically intended to record the presence or absence of plaque on selected tooth surfaces?

- A. DMFT index
- B. Plaque control record
- C. Community Periodontal Index
- D. Dean fluorosis index

72. A patient reports sharp, brief pain when cold air contacts an exposed root surface, with no lingering pain. Which finding is most consistent with this complaint?

- A. Irreversible pulpitis
- B. Acute apical abscess
- C. Necrotic pulp
- D. Dentinal hypersensitivity

73. Which extraoral examination finding requires prompt follow-up because it may indicate significant disease?

- A. Soft movable small node during a recent cold
- B. Symmetric masseter prominence
- C. Normal thyroid movement on swallowing
- D. Persistent hard fixed cervical lymph node

74. During intraoral examination, a red velvety patch on the floor of the mouth that has persisted for several weeks should be managed how?

- A. Refer promptly for definitive evaluation

- B.** Observe indefinitely without documentation
- C.** Attempt to scrape it away repeatedly
- D.** Treat with fluoride varnish

75. Which factor is most important when determining a patient's caries risk?

- A.** Overall caries risk profile
- B.** Age alone
- C.** Number of restorations alone
- D.** Tooth shade alone

76. Which assessment is most useful for identifying oral manifestations related to xerostomia?

- A.** Measure tooth mobility
- B.** Dryness and salivary findings
- C.** Assess tonsil size
- D.** Record occlusal contacts

77. A periodontal chart shows 6-mm probing depth and 2-mm gingival recession at the same site. What is the clinical attachment level?

- A.** 4 mm
- B.** 6 mm
- C.** 8 mm
- D.** 2 mm

78. A site has a 5-mm probing depth and the gingival margin is 2 mm coronal to the CEJ. What is the clinical attachment level?

- A.** 5 mm

B. 7 mm

C. 2 mm

D. 3 mm

79. Which documentation is most appropriate after detecting a suspicious oral lesion?

A. Complete lesion description and follow-up

B. Document that a lesion was seen

C. Wait to record it until a diagnosis is known

D. Record the patient's age and blood pressure

80. Which radiograph is generally best for detecting interproximal caries in posterior teeth when contacts are properly opened?

A. Occlusal radiograph

B. Lateral cephalogram

C. Panoramic radiograph

D. Bitewing radiograph

81. Which radiographic technique best minimizes dimensional distortion for periapical imaging?

A. Bisecting-angle technique in all situations

B. Parallelizing technique

C. Panoramic projection

D. Occlusal projection

82. An elongated image on a periapical radiograph most commonly results from which error in the bisecting technique?

A. Excessive vertical angulation

- B. Excessive horizontal angulation**
- C. Insufficient vertical angulation**
- D. Receptor overexposure**

83. Overlapped interproximal contacts on a bitewing most directly indicate an error in which factor?

- A. Exposure time**
- B. Vertical angulation**
- C. Horizontal angulation**
- D. Film speed**

84. Which processing or exposure error causes a uniformly light digital or film image when receptor placement is correct?

- A. Excessive x-ray exposure**
- B. Insufficient x-ray exposure**
- C. Excessive processing time**
- D. Developer contamination that darkens the image**

85. What is the primary purpose of rectangular collimation in intraoral radiography?

- A. Increase magnification**
- B. Reduce the volume of tissue exposed to radiation**
- C. Increase scatter to the receptor**
- D. Eliminate the need for receptor holders**

86. Which principle best describes ALARA in dental radiography?

- A. Keep radiation exposure as low as reasonably achievable**
- B. Use the maximum exposure for most patients**

- C. Take radiographs at standardized recall intervals
- D. Avoid all radiographs even when diagnostically necessary

87. Which radiographic appearance is most typical of early interproximal enamel caries?

- A. Uniform radiopacity beneath the contact
- B. Triangular enamel radiolucency
- C. Round radiopacity centered in dentin
- D. Horizontal radiopaque line at the CEJ

88. Which finding on a bitewing most directly helps estimate interproximal alveolar bone level?

- A. Width of the pulp chamber
- B. Crown height alone
- C. CEJ-to-crest distance
- D. Thickness of enamel at the cusp

89. Which error produces a cone-cut appearance on an intraoral radiograph?

- A. Receptor placed too far apically
- B. X-ray beam not centered on the receptor
- C. Exposure time slightly increased
- D. Patient closes too firmly on the holder

90. A panoramic radiograph shows the anterior teeth narrowed and blurred because the patient was positioned too far forward. This error reflects improper position relative to what?

- A. Occlusal plane
- B. Focal trough
- C. Frankfort plane

D. Thyroid collar

91. Which practice is most appropriate when deciding whether to obtain dental radiographs?

- A. Use the same interval for most adults**
- B. Obtain a full-mouth series at routine visits**
- C. Base selection on individual findings, history, and diagnostic need**
- D. Avoid reviewing prior images before prescribing new ones**

92. Which sequence best reflects the dental hygiene process of care?

- A. Planning, implementation, assessment, diagnosis, evaluation, documentation**
- B. Diagnosis, radiographs, dismissal, implementation, assessment, billing**
- C. Assessment, diagnosis, planning, implementation, evaluation, documentation**
- D. Assessment, implementation, documentation, diagnosis, planning, evaluation**

93. Which dental hygiene diagnosis best links a patient problem to evidence gathered during assessment?

- A. Problem statement supported by assessment findings**
- B. A medical diagnosis copied from the physician**
- C. A list of every instrument to be used**
- D. A billing code without clinical evidence**

94. When sequencing periodontal instrumentation, which approach is most appropriate for a patient with generalized heavy subgingival calculus?

- A. Attempt random isolated strokes without a sequence**
- B. Polish first and omit instrumentation**
- C. Systematic instrumentation with reevaluation**

D. Instrument areas that do not bleed

95. What is the primary objective of nonsurgical periodontal instrumentation?

A. Subgingival biofilm and calculus removal

B. Remove all cementum from every root

C. Produce intentional gingival laceration

D. Eliminate the periodontal ligament

96. Which instrument design is most appropriate for subgingival root instrumentation on posterior proximal surfaces?

A. Area-specific Gracey curet

B. Straight enamel hatchet

C. Large spoon excavator

D. Orthodontic distal-end cutter

97. For a Gracey curet, which feature distinguishes the lower cutting edge used for instrumentation?

A. Both cutting edges are used equally

B. the rounded toe cuts

C. The terminal shank itself is the cutting edge

D. The cutting edge on the lower side of the offset face

98. Which adaptation is most appropriate when inserting a curet subgingivally?

A. Open the face to 90 degrees before insertion

B. Closed-face insertion with lower-third adaptation

C. Use the toe as a point directed into tissue

D. Keep the blade away from the tooth surface

- 99.** Which angulation is generally effective for a calculus-removal stroke with a curet?
- A.** Approximately 0 to 10 degrees
 - B.** Exactly 180 degrees
 - C.** About 70 to 80 degrees
 - D.** Less than 20 degrees for every stroke
- 100.** Which stroke is characterized by light pressure and is primarily used to detect deposits and root irregularities?
- A.** Light assessment stroke
 - B.** Calculus-removal stroke
 - C.** Root-planing stroke with heavy pressure
 - D.** Lateral compression stroke
- 101.** What is the principal advantage of powered ultrasonic instrumentation in periodontal debridement?
- A.** complete elimination of all subgingival bacteria
 - B.** No need for clinician adaptation
 - C.** Complete absence of aerosol production
 - D.** Efficient biofilm disruption with lavage and deposit removal
- 102.** Which ultrasonic tip selection is most appropriate for light residual subgingival deposits in a deep narrow pocket?
- A.** Large heavy-calculus insert at maximum power
 - B.** Slim periodontal insert used at appropriate power
 - C.** Prophylaxis cup without paste
 - D.** Orthodontic wire cutter

- 103.** Why should a powered scaling tip generally be kept in continuous motion on the tooth surface?
- A.** To increase static pressure on the pulp
 - B.** To eliminate the need for water flow
 - C.** To reduce localized heat and root-surface damage
 - D.** To intentionally create grooves in cementum
- 104.** Which endpoint best indicates successful initial periodontal therapy?
- A.** Complete elimination of every periodontal pocket in all patients
 - B.** Tooth mobility alone without probing improvement
 - C.** Reduced inflammation with improved probing findings and patient plaque control
 - D.** Removal of all gingival tissue that bleeds
- 105.** When should periodontal reevaluation generally occur after completion of nonsurgical therapy?
- A.** Immediately before tissue can respond
 - B.** After a suitable tissue-healing interval
 - C.** after several years
 - D.** generally not if calculus was removed
- 106.** A patient has generalized 4- to 5-mm pockets with bleeding and residual subgingival calculus after initial therapy. What is the most appropriate next step?
- A.** Dismiss the patient for the long term
 - B.** Polish and defer residual-deposit treatment
 - C.** Focused re-instrumentation with self-care reinforcement
 - D.** Prescribe systemic antibiotics without evaluation
- 107.** Which factor most strongly supports a shorter periodontal maintenance interval?

- A. Excellent plaque control and stable shallow probing
- B. No history of periodontitis
- C. Low caries risk alone
- D. Persistent inflammatory disease risk

108. Which statement best describes periodontal maintenance after active therapy?

- A. It is a routine polishing appointment
- B. It is unnecessary once pockets improve
- C. It consists solely of taking annual radiographs
- D. Ongoing risk-based periodontal maintenance

109. For a patient with localized gingival recession and cervical sensitivity, which intervention is most appropriate initially?

- A. Control traumatic factors and use a desensitizing approach
- B. Aggressively instrument intact root structure
- C. Recommend acidic rinses several times daily
- D. Discontinue all fluoride exposure

110. Which polishing approach is most appropriate when only localized extrinsic stain is present?

- A. Routine aggressive polishing of all accessible surfaces
- B. Use the coarsest abrasive on exposed roots
- C. Polish active carious lesions
- D. Selective polishing of stained surfaces

111. Air polishing with sodium bicarbonate powder should be used cautiously in which patient?

- A. Patient with healthy enamel and no restrictions

- B.** Patient with stable orthodontic retainers
- C.** Patient requiring sodium restriction
- D.** Patient with a healed aphthous ulcer

112. Which action best reduces tissue trauma during subgingival instrumentation?

- A.** Use the point of the instrument against soft tissue
- B.** Apply maximum pressure throughout every stroke
- C.** Use an open blade during insertion
- D.** Maintain correct adaptation and controlled lateral pressure

113. When instrumenting a deep periodontal pocket, which grasp provides the best tactile sensitivity and control?

- A.** Palm grasp
- B.** Modified pen grasp
- C.** Fist grasp
- D.** Two-handed pinch without a fulcrum

114. What is the primary purpose of a stable intraoral fulcrum during instrumentation?

- A.** Provide control, leverage, and stroke stability
- B.** Increase patient gag reflex
- C.** Eliminate need for adaptation
- D.** Force the wrist into extreme flexion

115. Which ergonomic modification best reduces cumulative musculoskeletal strain during instrumentation?

- A.** Keep shoulders elevated throughout treatment

- B.** Use sustained wrist flexion for leverage
- C.** Maintain neutral posture and alternate positioning as needed
- D.** Avoid adjusting the patient chair

116. Which finding is most appropriate to document at periodontal reevaluation?

- A.** the brand of toothpaste used
- B.** Probing, bleeding, plaque, and tissue changes
- C.** the patient's appointment time
- D.** the clinician's preferred instruments

117. Standard Precautions are based on the assumption that which materials may contain transmissible infectious agents?

- A.** visibly bloody saliva
- B.** fluids from patients with known infection
- C.** materials from hospitalized patients
- D.** Blood and other potentially infectious materials

118. Which item is classified as critical and therefore must be heat sterilized after use?

- A.** Blood pressure cuff
- B.** Protective eyewear frame
- C.** Subgingival periodontal curet
- D.** Waiting-room chair

119. What is the preferred method for monitoring whether a sterilizer can kill highly resistant microorganisms?

- A.** Visual inspection of the pouch

- B.** Biological spore testing
- C.** Checking instrument shine
- D.** Using surface disinfectant after sterilization

120. Chemical indicators on or inside instrument packages primarily show what?

- A.** Exposure to selected sterilization process parameters
- B.** complete sterility of every instrument
- C.** Absence of all packaging defects
- D.** Patient-specific infection risk

121. Which sequence is appropriate for instrument processing before sterilization?

- A.** Clean, package, sterilize, then store
- B.** Sterilize, clean, package, then store
- C.** Package contaminated instruments before cleaning
- D.** Store instruments before sterilization

122. What is the safest approach for cleaning contaminated instruments?

- A.** Hand scrub loose instruments without utility gloves
- B.** Clean instruments in the operatory sink by hand
- C.** Skip cleaning if instruments appear dry
- D.** Use automated cleaning equipment when available

123. Which personal protective equipment should be worn when splash or spatter to the face is anticipated?

- A.** Gloves and protective clothing
- B.** Gown and shoe covers

- C. Hair covering and gloves
- D. Mask plus protective eyewear

124. When should clinical gloves be changed?

- A. Between patients and when torn or compromised
- B. at the end of the day
- C. after visibly bloody procedures
- D. Whenever hand hygiene is inconvenient

125. Which action is appropriate after removing clinical gloves?

- A. Hand hygiene after glove removal
- B. Immediately touch clean supplies with contaminated hands
- C. Reuse the same gloves for another patient
- D. Disinfect the gloves and keep wearing them

126. Which surface requires cleaning and disinfection between patients if it becomes contaminated and is not covered by a barrier?

- A. Office ceiling
- B. Unoccupied hallway floor after most patients
- C. Sealed instrument package
- D. Contaminated clinical contact surface

127. What is the first action after a percutaneous sharps injury in the dental setting?

- A. Complete the entire appointment before reporting
- B. Squeeze the wound aggressively for several minutes
- C. Wash the area and report the exposure immediately

D. Apply caustic chemicals to the puncture

128. Which vaccination is specifically recommended for dental healthcare personnel at occupational risk of exposure to blood?

- A. Routine hepatitis C vaccination**
- B. Routine HIV vaccination**
- C. Routine cytomegalovirus vaccination**
- D. Hepatitis B vaccination**

129. A patient becomes pale, diaphoretic, and briefly loses consciousness after seeing a needle. What is the most likely emergency?

- A. Vasovagal syncope**
- B. Anaphylaxis**
- C. Hyperglycemic crisis**
- D. Acute stroke**

130. What is the first positional intervention for uncomplicated vasovagal syncope?

- A. Place the patient supine with legs elevated**
- B. Sit the patient upright immediately**
- C. Place the patient prone**
- D. Have the patient walk around the operatory**

131. A conscious patient with diabetes becomes shaky, confused, and diaphoretic during treatment. What should be given first if hypoglycemia is suspected and the patient can swallow?

- A. Long-acting insulin**
- B. Nitroglycerin**
- C. Aspirin**

D. Oral glucose

132. A patient develops wheezing and shortness of breath consistent with an acute asthma attack. Which medication should be used first if available?

A. Short-acting albuterol inhaler

B. Warfarin tablet

C. Oral fluoride supplement

D. Long-acting statin

133. A patient develops diffuse urticaria, wheezing, and hypotension minutes after exposure to an allergen. What is the first-line medication?

A. Oral antihistamine alone

B. Sublingual nitroglycerin

C. Acetaminophen

D. Intramuscular epinephrine

134. A patient reports crushing substernal chest pressure that does not resolve promptly with rest and prescribed nitroglycerin. What is the most appropriate action?

A. Activate EMS for suspected acute coronary syndrome

B. Continue treatment and reassess later

C. Give food and resume scaling

D. Place the patient prone and observe

135. Which finding is most suggestive of a stroke during a dental appointment?

A. Gradual tooth sensitivity to cold

B. Sudden unilateral weakness and speech difficulty

C. Localized gingival bleeding

D. Chronic bilateral jaw soreness

136. During a generalized tonic-clonic seizure, which action is appropriate?

- A. Force an instrument between the teeth**
- B. Restrain the limbs firmly**
- C. Attempt to give oral medication during convulsions**
- D. Protect the patient from injury and clear nearby objects**

137. A patient is suspected of hyperventilating from anxiety. Which initial management is appropriate after ruling out a more serious cause?

- A. Give supplemental carbon dioxide from a paper bag routinely**
- B. Force rapid deep breathing**
- C. Administer insulin**
- D. Stop care and coach slow controlled breathing**

138. Which item should be immediately available as part of basic emergency preparedness in a dental office?

- A. Oxygen delivery equipment**
- B. a spare toothbrush**
- C. topical fluoride varnish**
- D. impression material**

139. Which toothbrushing method is commonly recommended for plaque removal at the gingival margin and sulcus in adults?

- A. Fones method for most adults**
- B. Horizontal scrub with heavy force**
- C. No brushing at the gingival margin**

D. Bass or modified Bass technique

140. Which interdental aid is generally most effective for a patient with open embrasures and exposed root surfaces?

- A. Interdental brush**
- B. Unwaxed floss forced into a large space**
- C. Wooden tongue blade**
- D. Cotton roll**

141. For a patient with tight contacts and intact papillae, which home-care aid is usually appropriate for proximal plaque removal?

- A. Large interdental brush forced through contacts**
- B. Dental floss or tape**
- C. Metal scaler used at home**
- D. Coarse abrasive strip daily**

142. What is the principal anticaries mechanism of topical fluoride?

- A. Favor remineralization over demineralization**
- B. Increase plaque acidity**
- C. Remove all calculus mechanically**
- D. Eliminate salivary buffering**

143. Which patient is the strongest candidate for professionally applied fluoride varnish?

- A. Patient with no teeth and no exposed oral tissues**
- B. Patient with active caries and multiple risk factors**
- C. Patient with stable low caries risk**

D. Patient seeking stain removal

144. Pit-and-fissure sealants are most effective when placed on which surface?

- A. Cavitated lesion with obvious pulpal involvement**
- B. Smooth surface that can be readily cleaned**
- C. Root surface covered by calculus**
- D. Sound or noncavitated high-risk occlusal pits and fissures**

145. Which dietary behavior most increases caries risk?

- A. Eating cariogenic foods with a meal**
- B. Drinking plain fluoridated water**
- C. Frequent between-meal fermentable carbohydrate intake**
- D. Choosing unsweetened cheese as a snack**

146. Which recommendation is most appropriate for a patient with xerostomia and high caries risk?

- A. Frequent sugar-containing lozenges**
- B. Alcohol-containing mouthrinse several times daily**
- C. Frequent fluoride plus saliva-supportive measures**
- D. Avoid water between meals**

147. A patient uses a powered toothbrush effectively but still has plaque between molars. What is the best next educational step?

- A. Replace brushing with mouthrinse**
- B. Brush with more force at the occlusal surfaces**
- C. Stop all proximal cleaning to avoid bleeding**
- D. Add an interdental cleaning method matched to the embrasure**

- 148.** Which approach best supports behavior change during oral hygiene counseling?
- A.** Deliver a long lecture without patient input
 - B.** Set a specific achievable goal collaboratively with the patient
 - C.** Use fear as the motivator
 - D.** Change several difficult behaviors at once without prioritizing
- 149.** What is the most appropriate way to evaluate whether toothbrushing instruction was effective?
- A.** Ask whether the patient understood
 - B.** Assume compliance after giving a brochure
 - C.** Return demonstration with plaque reassessment
 - D.** Measure blood pressure instead of plaque
- 150.** Which recommendation best reduces erosive tooth wear from frequent acidic beverages?
- A.** Brush immediately and aggressively after every acidic drink
 - B.** Hold the beverage around the teeth before swallowing
 - C.** Reduce frequency and avoid prolonged swishing or sipping
 - D.** Replace water with sports drinks
- 151.** Which communication strategy is most appropriate for a highly anxious dental patient?
- A.** Avoid discussing what will happen
 - B.** Stepwise explanation with an agreed stop signal
 - C.** Dismiss the patient's concerns
 - D.** Begin treatment without consent to reduce anticipation
- 152.** Topical anesthetic is most useful for which purpose?
- A.** Producing pulpal anesthesia for a molar

- B. Treating systemic anaphylaxis**
- C. Reduce needle-penetration discomfort**
- D. Sterilizing the injection site**

153. Which factor most directly increases the risk of local anesthetic systemic toxicity?

- A. Excess dose or intravascular injection**
- B. Using aspiration before injection**
- C. Calculating dose by body weight**
- D. Injecting slowly**

154. Why is aspiration recommended before depositing many local anesthetic injections?

- A. To increase needle penetration depth**
- B. To sterilize the cartridge**
- C. To reduce the chance of intravascular injection**
- D. To eliminate the need for dose calculation**

155. Which manifestation may occur early in local anesthetic systemic toxicity?

- A. long-term tooth ankylosis**
- B. Localized calculus formation**
- C. Slow enamel remineralization**
- D. Circumoral numbness and tinnitus**

156. Which vasoconstrictor-related response is most likely after rapid systemic absorption of epinephrine?

- A. Profound bradycardia from vagal blockade**
- B. Immediate hypoglycemia in most patients**

- C. Palpitations and transient tachycardia
- D. long-term loss of taste

157. Which nonpharmacologic measure can reduce procedural discomfort during instrumentation?

- A. Apply greater pressure whenever the patient reacts
- B. Avoid breaks during long procedures
- C. Light controlled strokes with advance warning
- D. Continue instrumentation without changing technique

158. A patient reports persistent sharp pain during subgingival instrumentation despite topical anesthetic. What is the most appropriate next step?

- A. Reassess pain and use local anesthesia if appropriate
- B. Continue forceful instrumentation without modification
- C. Attribute the pain to transient gingival sensitivity
- D. Use a stronger polishing paste

159. For a patient with well-controlled hypertension, which clinical measure remains important before and during dental hygiene care?

- A. Monitor blood pressure and minimize excessive stress
- B. Avoid all local anesthesia categorically
- C. Discontinue prescribed antihypertensive drugs
- D. Assume blood pressure generally not changes during care

160. Which oral finding is common in patients with poorly controlled diabetes?

- A. Reduced infection susceptibility in all tissues
- B. Complete absence of xerostomia

- C. Greater periodontal inflammation and impaired healing
- D. complete absence of caries

161. For a patient taking warfarin, which laboratory value is traditionally used to assess anticoagulation intensity?

- A. HbA1c
- B. Serum amylase
- C. Thyroid-stimulating hormone
- D. INR measurement

162. A patient taking apixaban needs routine nonsurgical periodontal care. Which general principle is most appropriate?

- A. Continue anticoagulant unless prescriber advises otherwise
- B. Stop apixaban automatically for every prophylaxis
- C. Double the dose before treatment
- D. Substitute aspirin without consultation

163. Which dental concern is most relevant for a patient using an inhaled corticosteroid for asthma?

- A. complete severe gingival enlargement
- B. Direct anticoagulant effect
- C. Loss of enamel development in adults
- D. Oral candidiasis risk after inhaled steroid use

164. Which modification is most appropriate for a patient with symptomatic gastroesophageal reflux and enamel erosion?

- A. Recommend immediate aggressive brushing after reflux episodes
- B. Encourage frequent acidic beverages

- C. Address acid exposure and reinforce nonabrasive preventive care
- D. Discontinue fluoride products

165. A patient with chronic kidney disease may have increased risk during dental treatment from which issue?

- A. Altered drug clearance and bleeding or anemia concerns
- B. complete hypercalcemia with no medication effects
- C. Complete immunity to infection
- D. No need to review dialysis schedule

166. Which oral condition is common after head and neck radiation that involves major salivary glands?

- A. long-term hypersalivation
- B. Elimination of candidiasis risk
- C. Complete prevention of periodontal disease
- D. Xerostomia with elevated caries risk

167. Which dental history is especially important in a patient receiving antiresorptive therapy for osteoporosis or cancer?

- A. Prior dental extraction history
- B. Current toothbrush technique
- C. History of orthodontic treatment
- D. Medication exposure and procedure history

168. A patient with a prosthetic heart valve asks whether antibiotics are needed before a procedure involving gingival manipulation. What is the appropriate approach?

- A. Prescribe antibiotics before routine dental visits
- B. generally not consider prophylaxis for any cardiac condition

- C. Use current prophylaxis guidance for this cardiac history
- D. Ask the patient to stop all cardiac medications

169. Informed consent is best described as which process?

- A. A signature obtained without discussion
- B. Voluntary informed agreement after disclosure
- C. Permission assumed because the patient arrived
- D. A form used for research participation

170. Which documentation practice is most appropriate?

- A. Alter prior entries without notation
- B. Record findings and care promptly, accurately, and objectively
- C. Document procedures that were planned but not performed
- D. Use vague comments instead of clinical findings

171. Patient confidentiality permits disclosure of protected health information without ordinary authorization in which circumstance?

- A. Whenever a friend asks about the patient
- B. Whenever a coworker is curious
- C. Whenever the patient is a public figure
- D. Disclosure required or permitted by law

172. If a dental hygienist identifies a clinical need beyond the hygienist's scope or competence, what is the best action?

- A. Proceed after documenting patient consent
- B. Monitor the finding without referral

- C. Document that no action is needed without assessment
- D. Refer or consult with the appropriate qualified provider

173. Which action best reflects the ethical principle of autonomy?

- A. Withholding all treatment options from the patient
- B. Respecting a capable patient's informed choices about care
- C. Providing care solely for clinician convenience
- D. Ignoring a patient's refusal

174. Which action best reflects the ethical principle of nonmaleficence?

- A. Prioritize treatment efficiency over minor risks
- B. Avoid causing preventable harm
- C. Provide unnecessary procedures
- D. Disclose confidential information casually

175. When a patient repeatedly arrives with uncontrolled plaque despite prior instruction, which response is most appropriate?

- A. Label the patient noncompliant and stop education
- B. Repeat the identical lecture without discussion
- C. Assume the patient lacks motivation without asking
- D. Reassess barriers and modify the self-care plan collaboratively

176. Which referral communication best supports continuity of care?

- A. Send no clinical information
- B. Include broad medical history beyond the referral purpose
- C. Tell the patient to remember all details verbally

D. Relevant findings and referral reason with authorization

177. Which epidemiologic measure describes the number of new cases of a disease occurring in a population during a specified period?

- A. Prevalence**
- B. Incidence of new disease**
- C. Case fatality ratio**
- D. Mean survival time**

178. Which measure describes all existing cases of a condition in a population at a given time?

- A. Disease prevalence**
- B. Incidence density**
- C. Relative risk**
- D. Attributable risk**

179. Which study design follows exposed and unexposed groups over time to compare disease occurrence?

- A. Case-control study**
- B. Cross-sectional survey**
- C. Cohort study**
- D. Case report**

180. Which study design begins with people who have a disease and compares their prior exposures with people who do not have the disease?

- A. Randomized controlled trial**
- B. Prospective cohort**
- C. Ecologic time series**

D. Case-control study

181. Which study design measures exposure and disease status at approximately the same point in time?

A. Cohort study

B. Cross-sectional study

C. Case-control study

D. Randomized clinical trial

182. What is randomization intended to accomplish in a clinical trial?

A. ensure identical outcomes

B. Eliminate the need for informed consent

C. Balance confounders between groups

D. Ensure every participant receives the intervention

183. What is the main purpose of blinding in a clinical study?

A. Increase sample size automatically

B. Reduce performance and assessment bias

C. Replace randomization completely

D. Ensure statistical significance

184. Which measure of central tendency is most influenced by extreme outliers?

A. Median

B. Mode

C. Arithmetic mean

D. Interquartile range

- 185.** Which measure of central tendency is usually most appropriate for a highly skewed distribution?
- A.** Mean
 - B.** Variance
 - C.** Standard error
 - D.** Sample median
- 186.** What does standard deviation describe?
- A.** The probability that the null hypothesis is true
 - B.** The number of study participants
 - C.** Dispersion of observations around the mean
 - D.** The direction of causation
- 187.** A p value below a prespecified alpha level most directly indicates what?
- A.** The null hypothesis has zero probability
 - B.** The treatment effect is clinically important
 - C.** Data relatively unlikely under the null hypothesis
 - D.** The study has no risk of bias
- 188.** What does a 95% confidence interval primarily communicate?
- A.** Range of plausible parameter values
 - B.** The percentage of participants correctly diagnosed
 - C.** The probability each individual result is accurate
 - D.** A ensure that the treatment works
- 189.** Which statistic is most appropriate for describing the strength and direction of a linear relationship between two continuous variables?

- A. Odds ratio
- B. Sensitivity
- C. Specificity
- D. Pearson r value

190. Sensitivity is the ability of a diagnostic test to do what?

- A. Correctly identify those without disease
- B. Correctly identify people who have the condition
- C. Measure disease prevalence directly
- D. Eliminate false-positive results

191. Specificity is the ability of a diagnostic test to do what?

- A. Correctly identify all diseased people
- B. Calculate incidence directly
- C. Correctly identify people without the condition
- D. Eliminate false-negative results

192. Which index expresses cumulative caries experience using decayed, missing, and filled permanent teeth?

- A. CPI
- B. OHI-S
- C. Dean fluorosis index
- D. DMFT index

193. Which first step is most appropriate when planning a community oral-health program?

- A. Assess the population's needs and available resources

- B.** Select an intervention before collecting data
- C.** Purchase supplies before defining the problem
- D.** Evaluate outcomes before implementation

194. Which statement best describes a measurable program objective?

- A.** It states that oral health should improve
- B.** It lists supplies without an outcome
- C.** It specifies the desired change, target group, and time frame
- D.** It avoids any numerical or observable criterion

195. Which evaluation asks whether a program was implemented as intended?

- A.** Process evaluation
- B.** Outcome evaluation
- C.** Economic forecasting
- D.** Diagnostic validation

196. Which evaluation focuses on whether a program changed the targeted health status or behavior?

- A.** Process evaluation
- B.** Outcome evaluation
- C.** Inventory control
- D.** Random allocation

197. Which public-health principle is most closely reflected by community water fluoridation?

- A.** Population-level prevention independent of daily action
- B.** Treatment after disease develops
- C.** A diagnostic test for each resident

D. An intervention limited to people with private insurance

198. When appraising a research article, which source best supports judging whether the methods can answer the stated question?

A. Study design, sampling, and analysis

B. The journal cover design

C. The number of author affiliations alone

D. The article title alone

199. A statistically significant result with a very small effect size should be interpreted how?

A. The result must be clinically dramatic

B. Statistical significance may lack clinical importance

C. The study has no confounding

D. The intervention should automatically become standard care

200. Which factor most directly improves the external validity of a community oral-health study?

A. A sample and setting representative of the target population

B. Excluding all typical participants

C. Using one unusually selected volunteer

D. Changing the outcome after data collection

201. Case 1 (Questions 201-210): A 52-year-old man smokes one pack of cigarettes daily. He has generalized interdental attachment loss, 6- to 8-mm probing depths, bleeding on probing, class II furcation involvement of mandibular first molars, and radiographic bone loss extending to the middle third of several roots. He reports no significant medical conditions. Which diagnosis best fits the periodontal findings?

A. Plaque-induced gingivitis with no attachment loss

B. Generalized advanced periodontitis

- C. Necrotizing gingivitis limited to papillae
- D. Localized pericoronitis around a third molar

202. Case 1: Which modifiable factor most increases this patient's risk for progression and poorer treatment response?

- A. Age 52 years by itself
- B. Cigarette smoking
- C. Presence of mandibular first molars
- D. Use of a manual toothbrush

203. Case 1: Which instrument is most useful for assessing the class II furcation involvement?

- A. Straight explorer
- B. Sickie scaler tip
- C. Nabers furcation probe
- D. Periodontal file

204. Case 1: What is the primary goal of initial nonsurgical periodontal instrumentation?

- A. Biofilm and calculus removal with root preservation
- B. Remove all cementum from every root surface
- C. Eliminate the periodontal ligament
- D. Create gingival curettage intentionally

205. Case 1: Which home-care recommendation best complements treatment for his open posterior embrasures?

- A. Use a tongue scraper for proximal plaque
- B. Force floss through wide spaces without adaptation

- C. Avoid proximal cleaning until bleeding stops
- D. Use appropriately sized interdental brushes

206. Case 1: When should the clinician judge the tissue response to initial periodontal therapy?

- A. During the first instrumentation stroke
- B. after several years
- C. generally not if the patient reports less bleeding
- D. After an appropriate healing interval

207. Case 1: Which finding at reevaluation most strongly indicates ongoing inflammatory disease activity?

- A. Stable physiologic pigmentation
- B. Bleeding on probing at deep sites
- C. Presence of an intact CEJ
- D. A mandibular torus

208. Case 1: Which maintenance approach is most appropriate after active therapy?

- A. Individualized short maintenance interval
- B. Return when symptoms develop
- C. Use the same annual interval for most patients
- D. Discontinue periodontal charting for the long term

209. Case 1: How should tobacco use be addressed within dental hygiene care?

- A. Provide brief cessation counseling and referral resources
- B. Limit tobacco counseling to the medical provider
- C. Recommend switching to smokeless tobacco as a safe alternative

D. Delay all periodontal therapy until the patient quits completely

210. Case 1: Which radiographic pattern is consistent with the described advanced periodontal destruction?

- A.** Uniformly increased crestal bone height
- B.** Generalized hypercementosis without bone loss
- C.** widened pulp chambers
- D.** Alveolar bone loss to the middle root third

211. Case 2 (Questions 211-220): A 58-year-old woman has type 2 diabetes treated with metformin and hypertension treated with lisinopril. Her HbA1c is 9.2%, blood pressure is 136/84 mm Hg, and she has generalized 5- to 6-mm periodontal pockets with bleeding. She ate breakfast and took her usual medications before the morning appointment. What systemic factor most likely contributes to increased periodontal inflammation and impaired healing?

- A.** Use of a morning appointment
- B.** Poor glycemic control
- C.** Taking metformin as prescribed
- D.** Eating breakfast before treatment

212. Case 2: What is the best interpretation of the diabetes-periodontitis relationship?

- A.** Periodontitis has no relationship to diabetes
- B.** Poor glycemic control is the sole cause of periodontitis
- C.** Periodontal treatment for the long term cures diabetes
- D.** Bidirectional diabetes-periodontitis relationship

213. Case 2: Why is confirming that she ate and took her usual diabetes medication clinically useful?

- A.** It guarantees blood glucose cannot fall
- B.** It eliminates the need to recognize hypoglycemia

- C. It means all appointments should be longer
- D. Maintains predictable glucose balance during care

214. Case 2: If she becomes shaky, confused, and diaphoretic but can swallow, what should be given first?

- A. Additional metformin
- B. A fast-acting oral carbohydrate source
- C. Sublingual nitroglycerin
- D. A dose of long-acting insulin

215. Case 2: Which periodontal outcome should be emphasized when discussing improved diabetes control?

- A. complete regeneration of all lost bone
- B. Immediate elimination of all pockets
- C. Improved host response and periodontal healing
- D. long-term prevention of plaque formation

216. Case 2: Which blood-pressure statement best fits the recorded value?

- A. It represents a hypertensive crisis
- B. It requires emergency activation by itself
- C. It is above ideal and should continue to be monitored
- D. It is severe isolated diastolic hypertension

217. Case 2: What is the most appropriate periodontal treatment approach?

- A. Nonsurgical therapy with close reevaluation
- B. Withhold all periodontal care until HbA1c is normal

- C. Use systemic antibiotics instead of instrumentation
- D. Perform polishing despite deep pockets

218. Case 2: Which home-care strategy is most important for both periodontal and caries prevention?

- A. Avoid brushing because gingiva bleeds
- B. Use sugar-containing lozenges frequently
- C. Rely on professional cleaning alone
- D. Consistent daily plaque control with fluoride exposure

219. Case 2: Which finding would most strongly support a shorter maintenance interval?

- A. Persistent deep pockets with bleeding and poor glycemic control
- B. Stable shallow pockets and excellent plaque control
- C. No history of periodontal attachment loss
- D. A single intact restoration

220. Case 2: What interprofessional action is reasonable because of the HbA1c result?

- A. Change her diabetes medication independently
- B. Advise stopping metformin before all dental visits
- C. Medical follow-up with coordinated dental care
- D. Defer medical follow-up until the next dental recall

221. Case 3 (Questions 221-230): A 29-year-old patient is 24 weeks pregnant and reports increased gingival bleeding. Examination shows generalized erythematous edematous gingiva and a localized red lobulated mass between the maxillary incisors that bleeds easily. Her pregnancy is otherwise uncomplicated. What is the most likely explanation for the generalized gingival changes?

- A. Plaque-induced gingivitis exaggerated by pregnancy-associated hormonal changes
- B. Irreversible periodontitis caused solely by pregnancy

- C. Acute necrotizing gingivitis in every pregnancy
- D. A medication-induced enlargement from metformin

222. Case 3: What is the localized bleeding mass most consistent with?

- A. Torus palatinus
- B. Pyogenic granuloma
- C. Amalgam tattoo
- D. Leukoedema

223. Case 3: Which preventive measure is most appropriate?

- A. Avoid all dental care until after delivery
- B. Stop brushing bleeding areas
- C. Plaque control plus indicated debridement
- D. Use tobacco to reduce gingival bleeding

224. Case 3: Which period is commonly considered especially convenient for routine dental care during an uncomplicated pregnancy?

- A. The second trimester period
- B. the first two weeks after conception
- C. after delivery for all procedures
- D. No trimester permits routine care

225. Case 3: If a diagnostically necessary dental radiograph is required, what is the best approach?

- A. Postpone nonurgent radiography until after delivery
- B. Needed radiograph with optimized radiation protection
- C. Take extra images because pregnancy increases caries

D. Delay emergency diagnosis until delivery

226. Case 3: What positioning modification may improve comfort later in pregnancy if the patient feels light-headed when supine?

- A. Place the patient fully prone**
- B. Use a slight left tilt or more upright position**
- C. Keep the patient flat despite symptoms**
- D. Position with the head far below the feet for the entire visit**

227. Case 3: Which local anesthetic is commonly considered acceptable for dental use during pregnancy when clinically indicated?

- A. Lidocaine with appropriate dose and technique**
- B. Cocaine topical anesthetic**
- C. Any unmeasured anesthetic dose**
- D. No local anesthetic under any circumstance**

228. Case 3: What should be done if the gingival mass interferes with function or has an atypical appearance?

- A. Professional evaluation for possible biopsy or excision**
- B. Observe the lesion until after delivery without further evaluation**
- C. Attempt home removal with floss**
- D. Treat it with whitening gel**

229. Case 3: Which nutrition counseling point is most relevant to caries prevention during pregnancy?

- A. Sip sweetened beverages throughout the day**
- B. Limit sugar frequency and maintain fluoride use**
- C. Stop using fluoridated toothpaste**

D. Avoid all dairy products

230. Case 3: Which statement about periodontal assessment in pregnancy is most accurate?

- A.** Any bleeding automatically means severe periodontitis
- B.** Probing should generally not be performed in pregnancy
- C.** Hormonal changes make plaque irrelevant
- D.** Pregnancy gingivitis without automatic attachment loss

231. Case 4 (Questions 231-240): A 7-year-old child has several restored primary molars, one active cavitated lesion in a primary molar, frequent sweetened drinks between meals, and newly erupted permanent first molars with deep occlusal pits. The child brushes once daily with family assistance. How should this child's caries risk be classified?

- A.** Low because long-term teeth are newly erupted
- B.** High because of active disease and multiple ongoing risk factors
- C.** Low because some primary teeth are restored
- D.** No risk can be estimated in children

232. Case 4: Which intervention is most appropriate for the newly erupted first molars if the pits and fissures are sound or noncavitated?

- A.** Perform full-coverage crowns on all four molars
- B.** Place pit-and-fissure sealants
- C.** Monitor the deep grooves until definite cavitation occurs
- D.** Apply bleaching gel to the grooves

233. Case 4: Which dietary change would most reduce repeated cariogenic acid challenges?

- A.** Sip juice slowly throughout the day
- B.** Add sticky candy after every snack

- C. Replace between-meal sweet drinks with water
- D. Use sports drinks instead of water

234. Case 4: Which fluoride measure is appropriate for a child at high caries risk?

- A. Avoid fluoride because primary teeth are present
- B. Use nonfluoridated toothpaste
- C. Rely on sealants without fluoride exposure
- D. Professionally applied fluoride varnish at risk-based intervals

235. Case 4: What toothpaste amount is generally appropriate for a child older than 3 years who can spit with supervision?

- A. A full ribbon of fluoridated toothpaste
- B. A pea-sized amount of fluoridated toothpaste
- C. No toothpaste until all long-term teeth erupt
- D. a sugar-containing gel

236. Case 4: Which radiographic approach is appropriate for this high-caries-risk child?

- A. Take no radiographs until age 18
- B. Take a full-mouth series at routine visits
- C. Use panoramic imaging alone to detect all proximal caries
- D. Individualized bitewings based on risk and need

237. Case 4: Which behavior guidance technique is appropriate for a cooperative but apprehensive child?

- A. Use surprise procedures without explanation
- B. Tell-show-do behavior guidance

- C. Threaten loss of privileges during treatment
- D. Avoid all communication with the child

238. Case 4: Which self-care goal is most appropriate for the family?

- A. Child brushes when pain occurs
- B. Caregiver stops assisting immediately
- C. Use mouthrinse instead of toothbrushing
- D. Supervised twice-daily brushing plus proximal cleaning

239. Case 4: What does the child's active cavitated lesion indicate about disease status?

- A. Active caries requiring restoration and risk reduction
- B. The lesion will typically remineralize without treatment
- C. It proves all long-term teeth are caries free
- D. It makes preventive care unnecessary

240. Case 4: Which outcome best indicates that the prevention plan is working at follow-up?

- A. More frequent snacking but less brushing
- B. No new lesions with better plaque and diet control
- C. Progression of white-spot lesions
- D. New cavitation on sealed teeth

241. Case 5 (Questions 241-250): A 15-year-old with fixed orthodontic appliances has generalized gingival bleeding, heavy plaque around brackets, and chalky white areas adjacent to several maxillary brackets. The patient drinks sports beverages most afternoons. What do the chalky white areas most likely represent?

- A. Mature calculus beneath the gingiva
- B. Fluorosis developing after eruption

- C. Dentin hypersensitivity without mineral loss
- D. Early enamel demineralization or white-spot lesions

242. Case 5: Which home-care device is especially useful around brackets and under arch wires?

- A. Interdental or orthodontic brush
- B. Periodontal file used at home
- C. Metal explorer for self-scaling
- D. Cotton pliers

243. Case 5: Which fluoride recommendation is most important?

- A. Stop fluoride until appliances are removed
- B. Use whitening toothpaste
- C. Daily fluoride toothpaste plus added topical fluoride
- D. Apply acidic rinses after brushing

244. Case 5: How should the sports-beverage habit be modified?

- A. Sip the beverage continuously between meals
- B. Hold each sip around the brackets
- C. Brush aggressively immediately after every acidic sip
- D. Reduce frequency and substitute water for routine hydration

245. Case 5: Which periodontal diagnosis best fits generalized bleeding without attachment loss?

- A. Plaque-induced gingivitis
- B. Generalized periodontitis by definition
- C. Necrotizing periodontitis
- D. Peri-implantitis

246. Case 5: Which educational method best checks whether the patient can clean around brackets?

- A. Provide a brochure and assume mastery
- B. Ask whether the instructions were heard
- C. Wait for appliance removal to assess plaque
- D. Ask for a return demonstration after instruction

247. Case 5: What is the purpose of disclosing solution in this case?

- A. Diagnose pulpal vitality
- B. Disclosed plaque for self-care teaching
- C. Sterilize orthodontic brackets
- D. Remove calculus chemically

248. Case 5: Which professional intervention is appropriate for the inflamed gingiva?

- A. Aggressively curette healthy tissue
- B. Defer gingival treatment until orthodontic appliances are removed
- C. Debridement plus meticulous home-care reinforcement
- D. Use systemic antibiotics as the therapy

249. Case 5: Which sign would indicate progression beyond gingivitis?

- A. Bleeding on brushing alone
- B. Visible plaque around brackets
- C. Development of clinical attachment loss
- D. Transient gingival redness

250. Case 5: Which follow-up plan is most appropriate while disease activity remains high?

- A. Shorter recall with plaque and white-spot reassessment

- B. Use a routine 6- to 12-month recall interval
- C. Discontinue oral hygiene instruction
- D. Schedule after orthodontic treatment ends

251. Case 6 (Questions 251-260): A 76-year-old woman takes oxybutynin, sertraline, and hydrochlorothiazide. She reports constant dry mouth, difficulty swallowing dry foods, and frequent sipping of sweet tea. Examination shows little salivary pooling, several root-surface carious lesions, and removable white plaques on the palate beneath a denture. Which medication is especially likely to contribute to xerostomia through anticholinergic activity?

- A. Topical fluoride varnish
- B. Oxybutynin therapy
- C. Amoxicillin taken years ago
- D. Acetaminophen used rarely

252. Case 6: Which caries pattern is strongly associated with reduced salivary flow in older adults?

- A. occlusal caries in unerupted teeth
- B. No increase in caries risk
- C. Caries limited to primary teeth
- D. Root and cervical caries

253. Case 6: What are the removable white palatal plaques most consistent with?

- A. Leukoplakia that cannot be wiped away
- B. Denture-associated oral candidiasis
- C. Torus palatinus
- D. Amalgam tattoo

254. Case 6: Which beverage change would best reduce both caries risk and oral dryness burden?

- A. Sip sweet tea more often to stimulate saliva
- B. Use sugary hard candy throughout the day
- C. Avoid drinking water with meals
- D. Replace frequent sweet tea with water or noncariogenic fluids

255. Case 6: Which preventive strategy is most appropriate for her high caries risk?

- A. Stop fluoride because roots are exposed
- B. Use whitening agents
- C. Rely exclusively on denture adhesive
- D. Intensive topical fluoride with close reassessment

256. Case 6: Which saliva-supportive measure may help if medically appropriate?

- A. Sugar-free gum or lozenges for salivary stimulation
- B. Frequent sucrose candy
- C. Alcohol-containing rinse every hour
- D. Anticholinergic medication added for dryness

257. Case 6: What denture instruction is appropriate?

- A. Wear the denture continuously to protect mucosa
- B. Clean with concentrated bleach while in the mouth
- C. Use the denture to cover untreated lesions
- D. Remove and clean the denture daily and avoid continuous overnight wear

258. Case 6: Which mouthrinse characteristic should generally be avoided when dryness is severe?

- A. High-alcohol mouthrinse formulation
- B. Neutral or moisturizing formulation

- C. Fluoride content when indicated
- D. Noncariogenic ingredients

259. Case 6: Which assessment is most useful at follow-up?

- A. Measure tooth shade
- B. Use the prior medication list without updating
- C. Record denture color
- D. Saliva, mucosa, and caries review

260. Case 6: What interprofessional step is appropriate when medication-induced dryness is severe?

- A. Stop prescribed drugs independently
- B. Tell the patient to halve all doses
- C. Discuss feasible medication changes with the prescriber
- D. Avoid documenting the suspected adverse effect

261. Case 7 (Questions 261-270): A 70-year-old man with atrial fibrillation takes apixaban twice daily. He has generalized moderate periodontitis and needs nonsurgical periodontal instrumentation. He has no history of abnormal spontaneous bleeding and his renal function is stable. What is the best medication-management principle before routine nonsurgical periodontal care?

- A. Continue apixaban unless medically directed otherwise
- B. Stop apixaban automatically for one week
- C. Replace apixaban with aspirin independently
- D. Double the apixaban dose before treatment

262. Case 7: Which laboratory test is not routinely used to titrate apixaban the way it is used for warfarin?

- A. INR anticoagulation test

- B.** Complete medication history
- C.** Renal function assessment
- D.** Clinical bleeding history

263. Case 7: Which local measure is useful if mild prolonged gingival bleeding occurs after instrumentation?

- A.** Systemic thrombolytic therapy
- B.** Firm pressure with local hemostatic support
- C.** Immediate cessation of all anticoagulation
- D.** Aggressive tissue curettage

264. Case 7: Which analgesic class may increase bleeding risk and should be considered cautiously in an anticoagulated patient?

- A.** Topical fluoride agents
- B.** Local desensitizing varnishes
- C.** Nonsteroidal anti-inflammatory drugs
- D.** Saliva substitutes

265. Case 7: What should the dental record include regarding anticoagulation?

- A.** the color of the tablet
- B.** the patient's insurance plan
- C.** Anticoagulant dose, indication, and bleeding history
- D.** No medication information because apixaban is common

266. Case 7: Which periodontal treatment approach is appropriate?

- A.** Careful nonsurgical therapy with local hemostasis

- B.** Avoid all periodontal treatment indefinitely
- C.** Use systemic antibiotics instead of debridement
- D.** Limit care to supragingival debridement because of anticoagulation

267. Case 7: Which finding would most justify medical consultation before proceeding?

- A.** Recent major bleeding or significant renal deterioration
- B.** A stable pulse and unchanged medication list
- C.** No previous bleeding complications
- D.** Shallow supragingival plaque

268. Case 7: Why is unilateral medication discontinuation potentially harmful?

- A.** It typically causes gingival enlargement
- B.** It may increase the risk of stroke or systemic embolism
- C.** It for the long term increases salivary flow
- D.** It guarantees periodontal healing

269. Case 7: Which patient instruction is appropriate after instrumentation?

- A.** Explain expected bleeding and warning signs
- B.** Tell the patient that any blood is normal for several days
- C.** Recommend taking extra apixaban for bleeding
- D.** Advise vigorous rinsing immediately to dislodge clots

270. Case 7: Which factor should guide maintenance frequency most strongly?

- A.** Anticoagulant use alone
- B.** Periodontal activity and risk
- C.** Patient age alone

D. Number of medications alone

271. Case 8 (Questions 271-280): A 48-year-old kidney-transplant recipient takes cyclosporine and amlodipine. The patient has lobulated gingival enlargement, plaque accumulation, blood pressure of 142/88 mm Hg, and no signs of acute infection. The transplant team reports stable graft function. Which medications in this case are both associated with gingival enlargement?

- A. Acetaminophen and fluoride
- B. Cyclosporine and amlodipine
- C. Albuterol and metformin
- D. Amoxicillin and nitroglycerin

272. Case 8: Which local factor can magnify medication-related gingival enlargement?

- A. Physiologic melanin pigmentation
- B. Presence of enamel prisms
- C. Normal salivary buffering
- D. Dental plaque-induced inflammation

273. Case 8: What is the most appropriate initial dental hygiene approach?

- A. Stop immunosuppressive therapy independently
- B. Perform gingivectomy without referral or assessment
- C. Observe the enlargement without local therapy because it is medication related
- D. Plaque control and deposit removal with medical coordination

274. Case 8: Why is infection recognition especially important in this patient?

- A. Immunosuppressive therapy can reduce host defenses
- B. Transplant recipients cannot develop infections
- C. Cyclosporine is an antibiotic

D. Amlodipine eliminates inflammation

275. Case 8: What is the best interpretation of the blood pressure?

- A. It is a hypertensive crisis**
- B. It is normal for every transplant recipient**
- C. Elevated reading requiring recheck and follow-up**
- D. It eliminates the need for monitoring**

276. Case 8: Which action regarding cyclosporine is within the dental hygienist's role?

- A. Document and communicate the medication adverse effect**
- B. Discontinue cyclosporine immediately**
- C. Reduce the dose without consultation**
- D. Substitute a different immunosuppressant**

277. Case 8: Which home-care aid may be particularly useful when enlargement creates difficult interproximal access?

- A. A sharp household object for self-scaling**
- B. No proximal cleaning until enlargement resolves**
- C. An interdental aid selected to fit the accessible embrasures**
- D. A coarse abrasive strip forced under gingiva**

278. Case 8: Which finding would require prompt medical or dental evaluation?

- A. Fever with a rapidly spreading oral infection**
- B. Stable asymptomatic gingival enlargement**
- C. A longstanding mandibular torus**
- D. Physiologic tongue papillae**

279. Case 8: Which professional principle is most important before prescribing or recommending systemic drugs?

- A. Assume all antibiotics are interaction-free
- B. Use standard adult drug doses because graft function is stable
- C. Use the highest dose without reviewing history
- D. Check for interactions with transplant medications and renal function

280. Case 8: What outcome would indicate successful nonsurgical management of the inflammatory component?

- A. Immediate disappearance of all fibrotic enlargement
- B. long-term cessation of immunosuppression
- C. Elimination of every periodontal pocket in one visit
- D. Less bleeding and plaque with reduced tissue inflammation

281. Case 9 (Questions 281-290): A 34-year-old patient has persistent asthma controlled with an inhaled corticosteroid and uses albuterol as a rescue inhaler. The patient also reports a documented immediate latex allergy. Today there is no wheezing, and vital signs are stable. What operatory modification is essential?

- A. Latex-free clinical products and barriers
- B. Use powdered latex gloves to reduce friction
- C. Rely on the patient to identify latex after exposure
- D. Use latex for short procedures

282. Case 9: Which medication should be immediately accessible during treatment because of the asthma history?

- A. Warfarin
- B. Metformin

- C. Levothyroxine
- D. Albuterol

283. Case 9: Which oral adverse effect is associated with inhaled corticosteroids?

- A. Oropharyngeal candidiasis
- B. Medication-related osteonecrosis of the jaw
- C. long-term enamel hypoplasia in adults
- D. Factor Xa inhibition

284. Case 9: What self-care instruction reduces the risk of steroid-associated candidiasis?

- A. Use sugary lozenges after every dose
- B. Avoid cleaning the tongue and palate
- C. Stop the prescribed inhaler abruptly
- D. Rinse with water after inhaled steroid use

285. Case 9: If wheezing begins during treatment, what is the initial action?

- A. Continue instrumentation to finish quickly
- B. Place an instrument in the mouth to prevent closure
- C. Stop care and assist with the rescue inhaler
- D. Give oral glucose as the treatment

286. Case 9: Which appointment strategy may reduce the chance of stress-triggered bronchospasm?

- A. Schedule unnecessarily prolonged stressful appointments
- B. Withhold local anesthesia despite pain
- C. Use surprise procedures without explanation
- D. Use good pain control, clear communication, and a calm paced visit

287. Case 9: Which finding suggests asthma is not well controlled and warrants medical follow-up?

- A. Rare rescue use with no symptoms
- B. Frequent rescue use or night symptoms
- C. Normal breathing at rest
- D. Stable exercise tolerance

288. Case 9: If the patient develops generalized urticaria, airway symptoms, and hypotension after inadvertent latex exposure, what is the first-line drug?

- A. Oral antihistamine alone
- B. Albuterol alone
- C. Topical fluoride
- D. Intramuscular epinephrine

289. Case 9: Which history detail is most important when evaluating the latex allergy?

- A. Preferred toothbrush color
- B. Prior latex reaction history
- C. Number of sealants as a child
- D. Dominant hand

290. Case 9: Which infection-control principle still applies in a latex-free operator?

- A. No gloves are needed because latex is avoided
- B. Sterilization can be omitted
- C. the allergic patient needs infection control
- D. Standard Precautions with nonlatex protective equipment

291. Case 10 (Questions 291-300): A 65-year-old man completed radiation therapy for oropharyngeal cancer 18 months ago. He has severe xerostomia, limited mouth opening, several new cervical caries lesions, and a history of high-dose radiation involving the mandible. No recurrent tumor has been identified. Which late effect most directly explains his rapid increase in cervical caries?

- A. Increased salivary buffering
- B. Radiation-induced xerostomia
- C. long-term hypersalivation
- D. Reduced plaque retention

292. Case 10: Which preventive measure is especially important long term?

- A. Discontinue fluoride after cancer therapy
- B. Use whitening products
- C. Rely on professional polishing alone
- D. Daily intensive topical fluoride

293. Case 10: Which complication is a major concern with invasive procedures involving previously irradiated mandibular bone?

- A. Physiologic attrition
- B. Reversible gingivitis
- C. Acute fluorosis
- D. Osteoradionecrosis

294. Case 10: How should a nonrestorable mandibular tooth in the irradiated field be managed?

- A. Extract immediately without reviewing radiation history
- B. Delay extraction until routine dental follow-up
- C. Refer for coordinated evaluation before extraction
- D. Use home instruments to remove it

- 295. Case 10:** Which recommendation may help symptomatic xerostomia?
- A.** Frequent sugar-sweetened beverages
 - B.** Alcohol-containing mouthrinse hourly
 - C.** Intentional dehydration
 - D.** Water and saliva substitutes
- 296. Case 10:** What does limited mouth opening most likely represent in this context?
- A.** Acute syncope
 - B.** Normal salivary reflex
 - C.** Radiation-related trismus
 - D.** Caries confined to enamel
- 297. Case 10:** Which oral infection is more likely with severe xerostomia?
- A.** Tetanus of the jaw
 - B.** Candidiasis
 - C.** Malaria
 - D.** Measles
- 298. Case 10:** Which maintenance strategy is most appropriate?
- A.** Routine annual recall with home fluoride
 - B.** Frequent risk-based preventive recall
 - C.** No dental follow-up after cancer treatment
 - D.** Whitening visits without disease assessment
- 299. Case 10:** Which dietary instruction best reduces caries risk?
- A.** Limit frequent fermentable carbohydrates and acidic drinks

- B. Sip sugared beverages to keep the mouth wet
- C. Use sticky candies for salivary stimulation
- D. Avoid water because it dilutes saliva

300. Case 10: Which statement about oral care after radiation is most accurate?

- A. Once cancer therapy ends, radiation-related oral risks disappear
- B. Preventive dental care remains essential indefinitely
- C. Fluoride is needed during the first month
- D. Periodontal disease cannot occur after radiation

301. Case 11 (Questions 301-310): A 31-year-old patient reports intermittent methamphetamine use. Examination shows severe xerostomia, rampant cervical and smooth-surface caries, generalized plaque, bruxism-related wear, and a resting pulse of 112 beats/min. The patient appears restless and says methamphetamine was used earlier today. What is the safest approach to elective dental hygiene treatment today?

- A. Proceed with a long stressful appointment
- B. Administer additional sympathomimetic drugs routinely
- C. Defer elective care because acute stimulant effects are suspected
- D. Proceed if the patient denies chest pain despite tachycardia

302. Case 11: Which mechanism contributes strongly to the rampant caries pattern?

- A. Increased salivary buffering
- B. Excess fluoride secretion
- C. Xerostomia with cariogenic exposures
- D. Reduced oral bacterial metabolism

303. Case 11: Why should epinephrine-containing local anesthetic be approached cautiously during suspected acute stimulant intoxication?

- A. Epinephrine directly causes candidiasis
- B. It for the long term stains enamel
- C. It typically causes hypoglycemia
- D. Additive sympathomimetic cardiovascular effects

304. Case 11: Which preventive intervention is most important once the patient is stable for care?

- A. Intensive fluoride and xerostomia prevention
- B. Whitening before disease control
- C. Stop all fluoride because of dry mouth
- D. Use a tongue scraper

305. Case 11: Which beverage recommendation is appropriate?

- A. Sip soda continuously to relieve dry mouth
- B. Water instead of frequent sugared drinks
- C. Use energy drinks after brushing
- D. Choose sticky candies for hydration

306. Case 11: Which communication approach is most appropriate when discussing substance use?

- A. Confront the patient with shaming language
- B. Avoid addressing substance use despite treatment risk
- C. Use nonjudgmental motivational interviewing and offer referral resources
- D. Threaten to report the patient without legal basis

307. Case 11: Which condition best explains the tooth wear described?

- A. Bruxism or parafunctional activity
- B. Fluorosis developing in adulthood

- C. Pericoronitis
- D. Aphthous ulceration

308. Case 11: Which vital sign should be reassessed before any future treatment if recent stimulant use is possible?

- A. Pulse and blood pressure
- B. body height
- C. tooth shade
- D. interpupillary distance

309. Case 11: Which salivary strategy is preferred for chronic dry mouth?

- A. Sucrose-containing candies throughout the day
- B. Sugar-free stimulation and hydration when appropriate
- C. Alcohol mouthrinse every hour
- D. Intentional fluid restriction

310. Case 11: What is the priority sequencing after the patient returns sober and medically stable?

- A. Control urgent disease, then complete risk-based care
- B. Perform cosmetic whitening first
- C. Delay all caries treatment until every habit is eliminated
- D. Provide polishing despite cavitation

311. Case 12 (Questions 311-320): A 22-year-old adult with autism spectrum disorder lives with family and has legal capacity to consent. The patient becomes distressed by bright lights and unexpected sounds, tolerates short appointments, and uses a visual schedule successfully in other healthcare settings. Plaque and gingivitis are generalized. Which appointment modification is most likely to improve tolerance?

- A. Change the sequence without warning

- B.** Use louder equipment to promote desensitization
- C.** Use a predictable visual schedule and short structured visits
- D.** Schedule the longest appointment possible

312. Case 12: Who should provide informed consent for routine care?

- A.** A family member automatically because of autism
- B.** The dental office manager
- C.** The patient, because capacity is present
- D.** The accompanying caregiver provides consent

313. Case 12: Which sensory modification is appropriate?

- A.** Use bright flashing light without warning
- B.** Dim lighting and advance warning before noisy equipment
- C.** Avoid all explanation of sensory events
- D.** Restrain the patient for convenience

314. Case 12: Which communication style is most appropriate?

- A.** Use figurative language
- B.** Ask multiple complex questions at once
- C.** Speak to the caregiver
- D.** Concrete language and processing time

315. Case 12: What is the best approach to generalized plaque-induced gingivitis?

- A.** Assume home care cannot improve
- B.** Tailored plaque-control plan matched to patient abilities
- C.** Provide professional cleaning without education

D. Use punitive language for missed plaque

316. Case 12: Which home-care tool may be useful if manual dexterity and tolerance are adequate?

A. A sharp scaler for independent subgingival use

B. A device chosen for clinician preference

C. A powered toothbrush with a familiar sensory setting

D. No toothbrush because gingiva bleeds

317. Case 12: If the patient raises a hand using an agreed stop signal, what should the clinician do?

A. Continue briefly despite the signal after consent is signed

B. Continue until the quadrant is complete

C. Pause promptly and reestablish readiness before continuing

D. Ask the caregiver to hold the patient still

318. Case 12: Which strategy best supports gradual desensitization?

A. Expose the patient to all feared stimuli at once

B. Gradual single-stimulus exposure with reinforcement

C. Use surprise instrumentation

D. Avoid documenting successful strategies

319. Case 12: How should family involvement be handled?

A. Share all health information automatically

B. Exclude family even when the patient wants support

C. Let family override the capable patient's decisions

D. Include family support with the patient's permission and preferences

320. Case 12: Which outcome best demonstrates success of the preventive plan?

- A. Better plaque control with tolerated appointment supports
- B. Longer forced visits despite distress
- C. Reduced communication with the patient
- D. More gingival bleeding with unchanged plaque

321. Case 13 (Questions 321-330): A 62-year-old woman has a prosthetic aortic valve and no drug allergies. She is scheduled for periodontal instrumentation that will manipulate gingival tissue. Her cardiologist has previously confirmed that she meets criteria for infective endocarditis prophylaxis. Why is antibiotic prophylaxis considered for this patient?

- A. All adults over 60 require prophylaxis
- B. Periodontal disease itself typically requires antibiotics
- C. Prosthetic valve with high-risk endocarditis outcomes
- D. Prophylaxis is used to prevent dental caries

322. Case 13: Does periodontal instrumentation meet the type of procedure for which prophylaxis may be indicated in a qualifying patient?

- A. No, because prophylaxis applies to radiographs
- B. No, because any dental cleaning is exempt
- C. Yes, because it manipulates gingival tissue
- D. if the patient has active caries

323. Case 13: What is the usual first-line prophylactic antibiotic for an adult without penicillin allergy?

- A. Metronidazole alone
- B. Topical chlorhexidine
- C. Nystatin
- D. Amoxicillin

324. Case 13: When should the prophylactic dose generally be taken?

- A. after the appointment ends
- B. One week before the procedure
- C. 30 to 60 minutes before treatment
- D. Every day for a month

325. Case 13: If the patient forgot the preprocedure dose, what is the best action?

- A. Automatically cancel all future dental care
- B. Double every antibiotic dose for a week
- C. Proceed and document the missed dose without further action
- D. Follow guidance for a missed preprocedure prophylactic dose

326. Case 13: Which statement about clindamycin is most consistent with current prophylaxis guidance?

- A. No longer preferred because of adverse-reaction risk
- B. It is mandatory for every penicillin-allergic patient
- C. It is the acceptable prophylactic drug
- D. It is used topically on the gingiva for prophylaxis

327. Case 13: Which additional action remains essential even when prophylaxis is given?

- A. Stop brushing to reduce bacteremia
- B. Maintain excellent oral hygiene and regular dental care
- C. Avoid all periodontal treatment indefinitely
- D. Use antibiotics instead of plaque control

328. Case 13: Which documentation is appropriate?

- A. Document that an antibiotic was taken
- B. Omit the cardiac history after the first visit
- C. Record a drug allergy that the patient does not have
- D. Cardiac indication, drug, dose, timing, and response

329. Case 13: Which procedure would generally not trigger prophylaxis solely on the basis of gingival manipulation criteria?

- A. Subgingival periodontal instrumentation
- B. Extraction of a tooth
- C. Routine dental radiographs
- D. Procedure that perforates oral mucosa

330. Case 13: What is the best source for deciding whether future prophylaxis recommendations have changed?

- A. An old antibiotic prescription label
- B. A social media comment
- C. Current guidelines plus the patient medical team
- D. The patient's memory of a childhood regimen

331. Case 14 (Questions 331-340): A 40-year-old man with HIV infection takes antiretroviral therapy. His viral load is undetectable and CD4 count is 620 cells/mm³. He has localized plaque-induced gingivitis and asks whether the office needs special infection-control procedures because of his diagnosis. Which infection-control approach is appropriate?

- A. Use a separate sterilizer for this patient
- B. Use enhanced PPE beyond Standard Precautions for HIV
- C. Refuse care because HIV is present
- D. Use Standard Precautions exactly as for all patients

332. Case 14: What does the undetectable viral load and CD4 count suggest about current immune status?

- A. The patient has advanced immunosuppression by definition
- B. The patient cannot develop oral disease
- C. The infection appears well controlled on therapy
- D. Antiretroviral therapy has failed

333. Case 14: What is the appropriate treatment for the localized plaque-induced gingivitis?

- A. Systemic antibiotics solely because of HIV
- B. No treatment because bleeding is expected
- C. Immediate periodontal surgery
- D. Routine plaque control with indicated debridement

334. Case 14: Which oral lesion becomes more common with significant immune suppression and may signal worsening disease?

- A. Oral candidiasis
- B. Mandibular torus
- C. Physiologic melanin pigmentation
- D. Linea alba

335. Case 14: How should the patient's HIV status be handled in the health record?

- A. Confidential disclosure only when permitted or authorized
- B. Discuss it openly with other patients
- C. Post it on the operatory schedule
- D. Omit all medical history because it is private

- 336. Case 14:** If the clinician sustains a needlestick during care, what is the correct first step?
- A. Finish the day before reporting
 - B. Wash, report, and start the postexposure protocol
 - C. Apply caustic chemicals to the puncture
 - D. Ask the patient to leave without documentation
- 337. Case 14:** What determines whether antibiotic prophylaxis is needed for routine dental care in this patient?
- A. Specific clinical indications, not HIV status alone
 - B. HIV diagnosis automatically requires prophylaxis
 - C. most patients with gingivitis requires prophylaxis
 - D. Prophylaxis is generally not permitted in any circumstance
- 338. Case 14:** Which question is most useful when reviewing antiretroviral therapy?
- A. Ask the color of the tablets
 - B. Review adherence, adverse effects, and drug interactions
 - C. Focus on oral findings and defer medication review to medicine
 - D. Advise stopping therapy before scaling
- 339. Case 14:** Which ethical principle is violated by refusing routine care solely because of HIV status without a legitimate clinical reason?
- A. Autonomy requires refusal
 - B. Justice and professional nondiscrimination
 - C. Beneficence requires exclusion
 - D. Confidentiality requires no treatment

340. Case 14: Which follow-up is most appropriate for the gingivitis?

- A. Assume HIV prevents improvement
- B. Schedule if pain develops
- C. Avoid periodontal charting for the long term
- D. Reassess plaque, bleeding, and tissue response

341. Case 15 (Questions 341-350): A 60-year-old woman has a mandibular first-molar implant restored five years ago. She reports inconsistent interdental cleaning. Around the implant there is bleeding on probing, 6-mm probing depth, and radiographic crestal bone loss that has progressed compared with prior images. The implant is not mobile. Which diagnosis best fits the implant findings?

- A. Peri-implant health
- B. Peri-implantitis with bone loss
- C. Peri-implant mucositis without bone loss
- D. Acute pulpitis of the implant

342. Case 15: Which feature most distinguishes peri-implantitis from peri-implant mucositis?

- A. Presence of plaque alone
- B. Use of a dental implant
- C. Progressive loss of supporting bone
- D. Need for interdental cleaning

343. Case 15: What does the absence of implant mobility suggest?

- A. The implant must be healthy
- B. Bone loss cannot be present
- C. Probing is contraindicated
- D. Residual osseointegration remains

344. Case 15: Which clinical assessment should be repeated over time using gentle standardized technique?

- A. Peri-implant probing depth and bleeding
- B. Pulp vitality testing of the implant
- C. Percussion of adjacent teeth
- D. Caries excavation of titanium

345. Case 15: Which home-care intervention is most important?

- A. Avoid cleaning because probing causes bleeding
- B. Use a metal household pick under the gingiva
- C. Daily implant plaque control with an interdental aid
- D. Rely on annual professional polishing

346. Case 15: What is the most appropriate professional next step?

- A. Assume routine polishing alone will regenerate lost bone
- B. Continue routine maintenance despite progressive bone loss because the implant is stable
- C. Remove the implant immediately without evaluation
- D. Specialist peri-implantitis management plus biofilm control

347. Case 15: Which radiographic comparison is most useful?

- A. Compare tooth shade with old photographs
- B. Compare current crestal bone levels with prior baseline images
- C. Measure pulp chamber size inside the implant
- D. Assess enamel thickness of the implant crown

348. Case 15: Which risk factor is clearly present in this case?

- A. Implant mobility
- B. Poor plaque control at the implant
- C. Untreated pulpal disease in the implant
- D. Primary dentition

349. Case 15: Which finding at follow-up would indicate improvement?

- A. Increasing suppuration and deeper probing
- B. New implant mobility
- C. Less bleeding with stable probing and bone levels
- D. Continued progressive radiographic bone loss

350. Case 15: Which maintenance principle is most appropriate after active peri-implant therapy?

- A. Individualized supportive implant maintenance and reassessment
- B. Discontinue probing forever
- C. Use the same long interval for every implant patient
- D. Provide maintenance when pain develops

Answers

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1. C. The trigeminal nerve is the major sensory nerve of the face and oral cavity. Its maxillary and mandibular divisions carry sensation from the teeth, gingiva, and much of the oral mucosa; the other listed nerves have primarily motor, taste, or more limited sensory roles.
 2. C. The inferior alveolar nerve enters the mandibular foramen and travels through the mandibular canal to supply mandibular teeth. The mental nerve is a terminal branch that exits at the mental foramen, while the long buccal and mylohyoid nerves follow different courses.
 3. B. Bilateral contraction of the lateral pterygoids protrudes the mandible and assists opening. The masseter, temporalis, and medial pterygoid are mainly elevators, although the medial pterygoid can assist protrusion.

- 4. B.** The parotid glands contribute the largest proportion of stimulated salivary flow. At rest, the submandibular glands contribute more, while the sublingual and minor glands contribute smaller volumes.
- 5. A.** The parotid duct opens on the buccal mucosa opposite the maxillary second molar. Recognizing this landmark helps distinguish the duct papilla from pathologic soft-tissue changes.
- 6. D.** Wharton duct empties at the sublingual caruncle on either side of the lingual frenum. The other landmarks are unrelated to the submandibular duct opening.
- 7. B.** The maxillary first premolar commonly has separate buccal and lingual roots. The other premolars are more often single-rooted, although anatomic variation can occur.
- 8. C.** Maxillary molars have an oblique ridge that crosses from the mesiolingual cusp toward the distobuccal cusp. It is not a defining feature of mandibular molars, canines, or premolars.
- 9. A.** The maxillary canine generally has the longest root of any tooth. Its long root supports its important role in guidance and arch stability.
- 10. A.** The hard palate forms the rigid anterior partition between the oral and nasal cavities. The soft palate is posterior and movable, the septum divides the nasal cavity, and the raphe is a soft-tissue landmark.
- 11. B.** Branches of the maxillary artery, including posterior superior alveolar and infraorbital-derived dental branches, supply the maxillary teeth. The facial, lingual, and superficial temporal arteries do not provide the primary dental supply.
- 12. C.** The mandibular incisors commonly drain first to the submental nodes. Lymph then progresses to submandibular and deep cervical chains depending on the region.
- 13. B.** With a unilateral hypoglossal lower motor neuron lesion, the protruded tongue deviates toward the injured side because of unopposed action of the contralateral genioglossus. Facial and trigeminal lesions do not produce this classic tongue deviation.
- 14. B.** Early opening is primarily rotational movement between the condyle and articular disc in the lower compartment. Translation of the disc-condyle complex becomes more prominent as opening continues.
- 15. D.** Filiform papillae are the most numerous and serve mainly a mechanical role; they generally do not contain taste buds. Fungiform, circumvallate, and foliate papillae are associated with taste buds.
- 16. D.** Ameloblasts arise from the inner enamel epithelium of the ectoderm-derived enamel organ. Dentin, pulp, cementum, and much of the periodontium are derived largely from ectomesenchymal tissues.

- 17. C.** Odontoblasts arise from ectomesenchymal cells at the periphery of the dental papilla. The dental lamina and enamel epithelia are epithelial structures with other developmental roles.
- 18. C.** Mature enamel is acellular and lacks the cellular machinery for true regeneration after eruption. Cementum, dentin, and bone can undergo limited formation or repair by living cells.
- 19. A.** Principal periodontal ligament fibers insert into cementum and alveolar bone as Sharpey fibers. This attachment helps suspend the tooth and distribute functional forces.
- 20. B.** The junctional epithelium forms the epithelial attachment to the tooth surface through internal basal lamina and hemidesmosomes. It is distinct from oral and sulcular epithelium.
- 21. B.** Osteoblasts produce osteoid and participate in mineralization. Osteoclasts resorb bone, while osteocytes are mature bone cells that help maintain and sense the bone environment.
- 22. A.** Primary dentin forms during normal tooth development, including the major bulk of dentin before root completion. Secondary dentin forms slowly thereafter, and tertiary dentin develops in response to irritation.
- 23. B.** Bicarbonate concentration rises with salivary flow and is a major buffering system against oral acids. Keratin, collagen, and hemoglobin are not principal salivary buffering agents.
- 24. D.** Calcium is a major constituent of hydroxyapatite in mineralized tissues. Sodium and potassium are key electrolytes, and iron is essential for hemoglobin but is not a principal mineral component of hydroxyapatite.
- 25. D.** Vitamin C is required for hydroxylation reactions during collagen synthesis. Deficiency can impair connective-tissue integrity and wound healing, including in periodontal tissues.
- 26. C.** Vitamin K is required for gamma-carboxylation of several clotting factors, including II, VII, IX, and X. Deficiency can contribute to bleeding tendency.
- 27. C.** Sympathetic activation increases heart rate and promotes bronchodilation as part of the fight-or-flight response. Parasympathetic activation is more associated with bradycardia, miosis, and copious watery salivation.
- 28. D.** Insulin promotes glucose uptake in insulin-sensitive tissues and favors glycogen and fat storage. It opposes hepatic glucose production and glycogen breakdown.
- 29. D.** *Streptococcus mutans* is highly acidogenic and aciduric and is strongly associated with caries initiation. *Porphyromonas gingivalis* is linked to periodontal dysbiosis, while the other organisms have different primary disease associations.
- 30. C.** *Porphyromonas gingivalis* is one of the classic red-complex organisms associated with advanced periodontal disease. The other species are not members of the red complex.

- 31. B.** Biofilm organisms are organized within a self-produced extracellular polymeric matrix that alters metabolism, communication, and antimicrobial susceptibility. This is a defining feature of mature dental plaque biofilm.
- 32. B.** Secretory IgA is the predominant immunoglobulin in saliva and helps inhibit microbial adherence and neutralize antigens at mucosal surfaces.
- 33. D.** Neutrophils migrate through the junctional epithelium and are key phagocytic defenders against subgingival microorganisms. The other listed functions are unrelated.
- 34. C.** Vaccination exposes the immune system to antigen in a controlled way, leading the patient to mount an adaptive response and immunologic memory. That is active acquired immunity.
- 35. A.** An effective hepatitis B vaccine is recommended for dental healthcare personnel with occupational exposure risk. There is no licensed vaccine for hepatitis C or HIV, and EBV prevention is not based on routine occupational vaccination.
- 36. C.** Steam under pressure reliably destroys microorganisms, including spores, when proper time, temperature, and pressure are achieved. Surface disinfectants, mouthrinses, and UV exposure do not sterilize critical instruments.
- 37. C.** Pseudomembranous candidiasis typically presents as removable white plaques over an erythematous base. Leukoplakia generally cannot be wiped away, while linea alba and leukoedema have different clinical patterns.
- 38. A.** Leukoplakia is a clinical term for a predominantly white plaque of uncertain risk after other causes are excluded and carries potential for dysplasia or malignancy. The other findings are generally benign variants.
- 39. B.** Recurrent herpes labialis commonly presents as grouped vesicles on the vermilion border that ulcerate and crust. The other conditions have different lesion patterns and typical locations.
- 40. C.** Recurrent aphthous ulcers typically affect nonkeratinized movable mucosa and are painful, shallow, and well circumscribed. Grouped vesicles on keratinized mucosa suggest recurrent intraoral herpes.
- 41. A.** Hemangiomas are vascular lesions and may blanch when compressed as blood is displaced. Fibromas and papillomas are not vascular, and an amalgam tattoo is a pigment deposition.
- 42. A.** Reticular oral lichen planus classically shows interlacing white striae, often bilaterally on the buccal mucosa. The other conditions have distinct clinical appearances.
- 43. D.** Loss of pulpal vitality can lead to apical periodontitis and related inflammatory radiolucency. A dentigerous cyst surrounds the crown of an unerupted tooth, while tori are radiopaque bony growths.

- 44. D.** A persistent, indurated, unexplained ulcer or mass is concerning for malignancy and requires prompt evaluation. Benign anatomic variants and clearly healing traumatic lesions are less concerning.
- 45. B.** Geographic tongue has migrating areas of filiform papillary loss bordered by a serpiginous white rim. The lesions change shape and location over time.
- 46. B.** A mucocele results from mucus extravasation, often after trauma to a minor salivary gland duct, and commonly appears as a bluish fluctuant lower-lip swelling.
- 47. A.** Necrotizing sialometaplasia is a benign, self-limited inflammatory reaction of salivary tissue that can ulcerate and mimic cancer. Biopsy may be required because of its alarming appearance.
- 48. A.** Certain calcium channel blockers, especially nifedipine and related agents, can contribute to gingival enlargement. Other classic drug groups include phenytoin and calcineurin inhibitors.
- 49. B.** Potent antiresorptive agents, including bisphosphonates and denosumab, are associated with medication-related osteonecrosis of the jaw, particularly at higher oncology doses and with invasive procedures.
- 50. A.** Acetaminophen is effective for pain and fever but has relatively weak peripheral anti-inflammatory action compared with nonsteroidal anti-inflammatory drugs such as ibuprofen, naproxen, and aspirin.
- 51. B.** Excessive acetaminophen can cause serious hepatic injury through accumulation of a toxic metabolite when normal conjugation pathways are overwhelmed.
- 52. A.** NSAIDs inhibit cyclooxygenase enzymes and reduce prostaglandin production, thereby decreasing inflammation and pain. The other pathways are not their principal mechanism.
- 53. C.** Lidocaine is an amide local anesthetic. Procaine, benzocaine, and tetracaine are ester local anesthetics.
- 54. D.** Epinephrine constricts local blood vessels, slowing anesthetic absorption, prolonging duration, and reducing local bleeding. It does not reverse allergy or create permanent nerve blockade.
- 55. B.** Intramuscular epinephrine is the first-line treatment for anaphylaxis because it rapidly treats airway edema, bronchospasm, and hypotension. Antihistamines and bronchodilators can be adjuncts but should not delay epinephrine.
- 56. D.** Albuterol is a short-acting beta-2 agonist used for rapid relief of bronchospasm. The other listed drugs treat unrelated systemic conditions.
- 57. D.** Apixaban is a direct oral factor Xa inhibitor. Clopidogrel and aspirin are antiplatelet agents, while heparin acts indirectly through antithrombin.

- 58. A.** Clopidogrel inhibits the platelet P2Y₁₂ ADP receptor and reduces platelet aggregation. Warfarin and apixaban are anticoagulants, and enoxaparin is a low-molecular-weight heparin.
- 59. D.** Metformin is widely used as initial pharmacologic therapy for type 2 diabetes because it improves insulin sensitivity and reduces hepatic glucose production. The other listed drugs treat different conditions.
- 60. A.** Amoxicillin is an aminopenicillin in the beta-lactam class. Macrolides include azithromycin, tetracyclines include doxycycline, and fluoroquinolones include ciprofloxacin.
- 61. D.** Azithromycin is a macrolide. Doxycycline is a tetracycline, cephalexin a cephalosporin, and metronidazole a nitroimidazole antimicrobial.
- 62. B.** A current medical history is essential for safe care. New diagnoses may change risk assessment, need for consultation, medication considerations, or treatment modifications and should be documented before treatment proceeds.
- 63. D.** A systolic pressure of 120-129 mm Hg with diastolic pressure below 80 mm Hg is categorized as elevated blood pressure under commonly used adult guidelines. It is not stage 2 hypertension or a crisis value.
- 64. C.** Pulse assessment includes rate, rhythm, and quality or strength. These features can identify irregularity or poor perfusion that may alter clinical decision-making.
- 65. A.** Cyanosis is a bluish discoloration caused by increased deoxygenated hemoglobin and may signal impaired oxygenation. The other findings suggest different processes.
- 66. A.** Probing depth is the distance from the gingival margin to the base of the sulcus or periodontal pocket. Clinical attachment level uses the cemento-enamel junction as its fixed reference.
- 67. D.** The CEJ is a stable reference for calculating clinical attachment level. Gingival margin position can change with inflammation, recession, or enlargement and therefore is not a fixed reference.
- 68. D.** Bleeding on probing is a clinical sign of inflamed gingival tissues. The other findings are anatomic or physiologic characteristics rather than indicators of active gingival inflammation.
- 69. A.** A curved Nabers probe is designed to enter and measure furcation areas of multirooted teeth. Standard explorers and scalers are not designed to classify horizontal furcation involvement.
- 70. A.** Mobility testing evaluates tooth displacement within the socket. Increased mobility may reflect reduced periodontal support, inflammation, trauma from occlusion, or other factors and should be interpreted with the full assessment.

- 71. B.** Plaque control records quantify disclosed or visible plaque on tooth surfaces and are useful for patient education and monitoring. DMFT measures caries experience and Dean index evaluates fluorosis.
- 72. D.** Dentinal hypersensitivity produces short, sharp pain in response to thermal, tactile, osmotic, or chemical stimuli when dentin is exposed. Lingering spontaneous pain would be more concerning for pulpal disease.
- 73. D.** A persistent hard fixed lymph node is concerning and warrants further evaluation. Tender mobile nodes may occur with infection, while normal symmetric anatomy is not inherently suspicious.
- 74. A.** Persistent erythroplakic or otherwise unexplained red lesions at high-risk sites require prompt evaluation because dysplasia or malignancy may be present. Delay can postpone diagnosis.
- 75. A.** Caries risk assessment integrates previous disease experience with current factors such as biofilm, diet, fluoride exposure, salivary flow, and medical conditions. No single demographic or clinical feature is sufficient by itself.
- 76. B.** Xerostomia assessment includes signs such as dry or sticky mucosa, reduced salivary pooling, ropery saliva, candidiasis, and cervical or root caries. These findings should be interpreted with medications and medical history.
- 77. C.** When the gingival margin is apical to the CEJ, recession is added to probing depth. Therefore, 6 mm plus 2 mm of recession equals 8 mm of clinical attachment loss at that site.
- 78. D.** When gingival enlargement places the margin coronal to the CEJ, the coronal distance is subtracted from probing depth. Thus, 5 mm minus 2 mm equals 3 mm clinical attachment level.
- 79. A.** Complete lesion documentation supports comparison over time, communication, referral, and continuity of care. A diagnosis is not required before recording objective findings and the management plan.
- 80. D.** Bitewings provide high-resolution views of posterior crowns and crestal bone and are the standard intraoral projection for detecting interproximal caries when contacts are open.
- 81. B.** The paralleling technique places the receptor parallel to the long axis of the tooth and directs the beam perpendicular to both, reducing distortion and improving reproducibility.
- 82. C.** In the bisecting-angle technique, insufficient vertical angulation produces elongation, while excessive vertical angulation produces foreshortening.
- 83. C.** Incorrect horizontal beam angulation causes proximal surfaces to superimpose. Correcting the horizontal angle so the central ray passes through the contacts opens them radiographically.

- 84. B.** Too little radiation reaching the receptor produces an underexposed, light image. Excessive exposure generally produces excessive density or signal, depending on the imaging system.
- 85. B.** Rectangular collimation restricts the beam to approximately the size of the receptor, substantially reducing patient radiation exposure compared with a larger circular field.
- 86. A.** ALARA means using radiographs only when justified and optimizing technique to obtain needed diagnostic information with the lowest reasonable exposure.
- 87. B.** Early proximal enamel caries commonly appears as a triangular radiolucency with its base toward the outer enamel and apex toward the DEJ. Progression into dentin changes the shape and extent.
- 88. C.** Comparing the alveolar crest with the CEJs of adjacent teeth allows estimation of bone height. Normal crestal bone is typically close to and parallel with the CEJ line.
- 89. B.** Cone cutting occurs when part of the receptor lies outside the x-ray beam because the PID is misaligned. The unexposed area appears clear or white.
- 90. B.** Panoramic images are sharp only for structures within the focal trough. Positioning too far forward or backward changes the apparent width and sharpness of anterior teeth.
- 91. C.** Radiographs should be selected after clinical examination and review of history, risk, and existing images. Individualized selection avoids unnecessary exposure while supporting diagnosis.
- 92. C.** The dental hygiene process is a systematic cycle beginning with assessment and dental hygiene diagnosis, followed by planning, implementation, evaluation, and documentation. Reassessment can lead back into the cycle.
- 93. A.** A dental hygiene diagnosis interprets assessment data to identify conditions amenable to dental hygiene intervention. It should be supported by patient-specific evidence and guide planning.
- 94. C.** A systematic sequence promotes complete coverage and efficient instrumentation. Reassessment is essential to determine tissue response, residual deposits, and need for additional care.
- 95. A.** Modern nonsurgical periodontal therapy aims to disrupt pathogenic biofilm and remove calculus and contaminated deposits while preserving healthy root structure. Excessive cementum removal is not the goal.
- 96. A.** Area-specific curets have an offset blade and rounded toe designed for subgingival adaptation to specific tooth surfaces. The other instruments are designed for restorative or orthodontic procedures.
- 97. D.** A Gracey curet has an offset face that creates one lower functional cutting edge. Correct shank alignment helps identify and adapt that working edge.

- 98. B.** For insertion, the curet face is closed against the tooth to reduce tissue trauma, and the lower third of the blade is adapted to the root surface. The working angulation is opened after reaching the base of the pocket.
- 99. C.** A working angulation around 70 to 80 degrees provides an effective cutting relationship for calculus removal. A nearly closed blade is used for insertion rather than for a removal stroke.
- 100. A.** Assessment strokes are light exploratory strokes used to evaluate tooth surface characteristics. Calculus-removal strokes use firmer lateral pressure and controlled activation.
- 101. D.** Ultrasonic instruments can efficiently disrupt biofilm and remove deposits while providing lavage. They still require proper adaptation and infection-control measures and do not sterilize the pocket.
- 102. B.** A slim periodontal insert improves access in deep or narrow areas and is appropriate for light residual deposits when used at recommended power. Oversized tips at excessive power can reduce adaptation and increase trauma.
- 103. C.** Continuous movement and appropriate water flow reduce heat generation and minimize the risk of root-surface damage. Stationary activation can concentrate energy in one area.
- 104. C.** Successful nonsurgical therapy is judged by improved clinical inflammation, probing response, plaque control, and patient-specific outcomes. Not every residual pocket or mobility finding can be eliminated nonsurgically.
- 105. B.** Reevaluation is scheduled after tissues have had time to heal so changes in bleeding, probing depth, attachment, plaque control, and residual deposits can be meaningfully assessed.
- 106. C.** Residual deposits and inflammation should be managed with targeted instrumentation and improved biofilm control, followed by reassessment. Antibiotics are not a substitute for mechanical therapy when local factors remain.
- 107. D.** Maintenance intervals should be individualized. Persistent inflammation, prior periodontitis, smoking, diabetes, poor plaque control, or other risk factors can justify more frequent supportive care.
- 108. D.** Supportive periodontal care is an active maintenance phase that reassesses disease status, controls biofilm and deposits, reinforces self-care, and adjusts interval according to risk.
- 109. A.** Management begins with identifying etiologic factors such as traumatic brushing, plaque-associated inflammation, or occlusal factors and using desensitizing measures when indicated. Further root abrasion or acid exposure can worsen symptoms.
- 110. D.** Selective polishing limits unnecessary removal of tooth structure and restorative material. Abrasive agents should be chosen according to stain, surface, and restoration characteristics.

- 111. C.** Traditional sodium bicarbonate air-polishing powders can contribute sodium exposure and may be inappropriate for patients with sodium restrictions. Alternative powders may be considered according to product indications.
- 112. D.** Precise adaptation and controlled pressure allow effective deposit removal while minimizing soft-tissue and root-surface trauma. Incorrect insertion or excessive pressure increases injury risk.
- 113. B.** The modified pen grasp supports fine control and tactile sensitivity for periodontal instrumentation. A stable fulcrum further improves precision and reduces clinician fatigue.
- 114. A.** A stable fulcrum supports controlled activation, protects tissues, and helps transfer force efficiently. It should promote neutral ergonomics rather than excessive joint strain.
- 115. C.** Neutral posture, proper patient positioning, instrument sharpness, and movement variation reduce cumulative loading. Sustained awkward posture and excessive force increase musculoskeletal risk.
- 116. B.** Reevaluation compares current findings with baseline to judge response to therapy. Probing, bleeding, inflammation, plaque control, mobility, furcation findings, and patient adherence are clinically relevant measures.
- 117. D.** Standard Precautions apply to all patients and are designed around potential exposure to blood and other potentially infectious materials, not solely known infections or visible blood.
- 118. C.** Critical instruments penetrate soft tissue or contact bone or blood and require sterilization. A subgingival curet falls in this category, whereas environmental and intact-skin contact items require different processing.
- 119. B.** Biological indicators containing resistant bacterial spores directly assess the sterilizer's ability to achieve sterilization and are the most definitive routine monitoring method.
- 120. A.** Chemical indicators change when exposed to one or more process parameters, but they do not by themselves prove microbial sterility. Biological monitoring provides a higher level of assurance.
- 121. A.** Instrument processing should minimize handling of contaminated sharps and remove debris before packaging and sterilization. Proper storage preserves package integrity after sterilization.
- 122. D.** Ultrasonic cleaners or instrument washers reduce direct handling of contaminated sharps and improve standardized cleaning. If manual cleaning is unavoidable, heavy-duty utility gloves and careful technique are required.
- 123. D.** Facial mucous membranes require protection from splash and spatter. A mask protects nose and mouth, while eyewear or a face shield protects the eyes and surrounding facial areas.

- 124. A.** Clinical gloves are single-use barriers and must be changed between patients and whenever integrity is compromised. Hand hygiene is performed at appropriate times before and after glove use.
- 125. A.** Gloves do not replace hand hygiene because microscopic defects or contamination during removal can occur. Hands should be cleaned according to infection-control protocol after glove removal.
- 126. D.** Clinical contact surfaces touched during care can become contaminated and should be barrier protected or cleaned and disinfected between patients. Housekeeping surfaces follow different schedules.
- 127. C.** Immediate first aid includes washing the injury with soap and water, followed by prompt reporting and medical evaluation under the exposure-control plan. Delays can interfere with timely postexposure management.
- 128. D.** Hepatitis B vaccination is an important occupational protection for dental healthcare personnel. Vaccines are not available for hepatitis C or HIV.
- 129. A.** The prodrome of pallor, sweating, nausea, and transient loss of consciousness associated with fear is classic for vasovagal syncope. Positioning supine with legs elevated and supporting airway and circulation are typical initial measures.
- 130. A.** Supine positioning with leg elevation improves venous return and cerebral perfusion. Airway, breathing, and circulation should also be assessed and oxygen used as indicated.
- 131. D.** A conscious patient with suspected hypoglycemia who can swallow should receive a rapidly absorbed carbohydrate source such as glucose. Insulin would worsen hypoglycemia.
- 132. A.** A short-acting beta-2 agonist such as albuterol is the standard rescue medication for acute bronchospasm. Persistent or severe symptoms require emergency escalation.
- 133. D.** Multisystem involvement with hypotension and respiratory symptoms indicates anaphylaxis. Intramuscular epinephrine should be administered promptly while activating emergency medical services and supporting airway and circulation.
- 134. A.** Persistent chest pressure may represent myocardial infarction or another acute coronary syndrome. Dental treatment should stop and emergency medical services should be activated; additional first aid follows established protocols and patient-specific contraindications.
- 135. B.** Sudden focal neurologic deficits such as facial asymmetry, unilateral weakness, or speech disturbance are classic warning signs of stroke and require immediate emergency activation.
- 136. D.** During an active seizure, protect the patient from injury without restraining movements or placing objects in the mouth. After convulsions stop, assess airway and recovery and seek emergency help as indicated.

- 137. D.** Anxiety-related hyperventilation is managed by stopping the procedure, reassurance, and coached slow breathing. Rebreathing into a paper bag is not routinely recommended because other dangerous causes of dyspnea can be missed.
- 138. A.** Emergency preparedness includes trained personnel, an emergency plan, and appropriate equipment and medications. Oxygen is a core supportive resource for many medical emergencies.
- 139. D.** The Bass approach directs soft bristles toward the gingival sulcus at approximately 45 degrees and uses gentle vibratory strokes, making it useful for plaque control at the gingival margin.
- 140. A.** Interdental brushes can fill open embrasures and clean concave proximal root surfaces more effectively than floss alone in many patients. Selection should match the space and patient dexterity.
- 141. B.** Floss or tape can pass through tight contacts and clean proximal surfaces. Larger interdental brushes are better suited to open embrasures and should not be forced into tight contacts.
- 142. A.** Topical fluoride shifts the demineralization-remineralization balance toward repair and makes enamel more resistant to acid challenge. It can also inhibit bacterial metabolism at higher local concentrations.
- 143. B.** Professional fluoride is most clearly indicated when caries risk is elevated, especially with active lesions, xerostomia, exposed roots, orthodontic appliances, or other risk factors.
- 144. D.** Sealants are preventive or noninvasive therapeutic measures for susceptible pits and fissures that are sound or have noncavitated lesions. Cavitated lesions require different management.
- 145. C.** Caries risk is strongly influenced by frequency of fermentable carbohydrate exposure because repeated acid challenges prolong time below the critical pH. Frequency often matters more than total amount alone.
- 146. C.** Xerostomia increases caries risk. Management commonly includes enhanced fluoride, hydration, saliva substitutes or stimulants when appropriate, and avoidance of frequent sugar and drying agents.
- 147. D.** Toothbrushing does not predictably clean all proximal surfaces. An interdental aid selected for contact tightness and embrasure size should be added rather than increasing traumatic brushing force.
- 148. B.** Collaborative, specific, achievable goals and patient-centered communication improve self-efficacy and adherence. Small measurable changes are generally more sustainable than noninteractive instruction.
- 149. C.** Teach-back or return demonstration provides direct evidence of skill acquisition, while subsequent plaque assessment helps determine whether the technique is effective in practice.
- 150. C.** Reducing exposure frequency and contact time lowers acid challenge. Immediately aggressive brushing after an acid exposure can increase mechanical wear while enamel is softened.

- 151. B.** Clear explanations, predictable pacing, and a stop signal increase the patient's sense of control and can reduce anxiety. The strategy should be individualized and paired with appropriate pain control.
- 152. C.** Topical anesthetics penetrate superficial mucosa and can reduce the sensation of needle insertion. They do not reliably produce deep pulpal anesthesia or sterilize tissue.
- 153. A.** Toxicity is related to excessive plasma concentration, which can occur with overdose or intravascular injection. Dose calculation, aspiration, and slow injection are risk-reduction measures.
- 154. C.** Aspiration helps identify whether the needle tip is within a blood vessel before solution is deposited, reducing the risk of rapid systemic administration.
- 155. D.** Early systemic toxicity can produce neurologic symptoms such as circumoral numbness, metallic taste, tinnitus, agitation, or tremor before more severe seizures or cardiovascular depression.
- 156. C.** Systemic epinephrine can produce palpitations, tremor, anxiety, and tachycardia. Careful injection technique and dose limitation reduce unwanted cardiovascular effects.
- 157. C.** Technique modification, pacing, communication, desensitizing agents, topical or local anesthesia, and shorter visits can all improve comfort. Increasing uncontrolled pressure generally worsens discomfort.
- 158. A.** Topical anesthetic has limited depth of action. If clinically indicated and within scope, local anesthesia may be needed after reassessing the pain source and medical history.
- 159. A.** Blood pressure should be monitored and stress reduced according to patient risk. Most patients with controlled hypertension can receive routine care with appropriate precautions and medication review.
- 160. C.** Poor glycemic control is associated with increased periodontal inflammation, impaired host response and healing, and greater infection risk. Bidirectional interactions between diabetes and periodontitis are clinically important.
- 161. D.** INR standardizes prothrombin time and is used to monitor warfarin therapy. It is not used to monitor direct oral anticoagulants in the same routine manner.
- 162. A.** Anticoagulants should not be stopped or altered independently because thrombosis risk may outweigh procedural bleeding risk. Dental management depends on procedure, patient factors, and prescriber guidance when needed.
- 163. D.** Inhaled corticosteroids can predispose to local candidiasis and dysphonia. Rinsing the mouth after inhalation and correct device technique can reduce local adverse effects.

- 164. C.** Intrinsic acid from reflux can contribute to erosion. Management includes medical follow-up, reducing additional acid exposures, fluoride or remineralization strategies, and avoiding abrasive brushing immediately after acid contact.
- 165. A.** Renal disease can alter medication elimination, hemostasis, anemia, blood pressure, and infection risk. Dental planning should account for disease severity, medications, and dialysis or transplant status where relevant.
- 166. D.** Radiation can damage salivary glands, markedly reducing salivary flow and increasing risks of rampant caries, mucosal discomfort, infection, and dysphagia.
- 167. D.** Medication-related osteonecrosis risk varies with agent, potency, dose, duration, indication, and local factors. A complete history helps guide prevention and referral decisions.
- 168. C.** Certain high-risk cardiac conditions, including prosthetic cardiac valves, may meet criteria for antibiotic prophylaxis before specified dental procedures involving gingival manipulation. Current guidance and allergy history should be followed.
- 169. B.** Valid informed consent is a communication process in which a capable patient receives understandable information about the proposed care, alternatives, material risks and benefits, and voluntarily agrees.
- 170. B.** The health record should be contemporaneous, accurate, objective, and complete. Corrections should preserve the integrity of the original record according to policy rather than obscuring prior entries.
- 171. D.** Confidentiality is a core professional duty, but laws permit or require disclosure in defined circumstances such as certain public health or safety situations. Unnecessary disclosure to others is inappropriate.
- 172. D.** Professional responsibility includes recognizing limitations and arranging appropriate consultation or referral. Patient safety takes precedence over attempting care beyond legal scope or competence.
- 173. B.** Autonomy supports the patient's right to make informed decisions, including refusal, after receiving appropriate information. It does not eliminate the clinician's duty to recommend safe evidence-based care.
- 174. B.** Nonmaleficence is the duty to avoid or minimize harm. It is closely linked with competence, risk assessment, infection control, and appropriate referral.
- 175. D.** Persistent plaque may reflect dexterity, cognition, beliefs, access, technique, or competing priorities. Patient-centered reassessment and a tailored plan are more appropriate than judgmental labeling.

- 176. D.** A focused referral communicates the clinical concern and relevant history while respecting privacy and consent requirements. This allows the receiving provider to understand the reason for evaluation and reduces fragmented care.
- 177. B.** Incidence measures newly occurring cases among a population at risk during a defined time period. Prevalence measures all existing cases at a point or over a period.
- 178. A.** Prevalence reflects the burden of existing disease in a population at a specified point or interval. It is influenced by both incidence and disease duration.
- 179. C.** A cohort study classifies participants by exposure and follows them to compare incidence of outcomes. Case-control studies begin with outcome status and look back for prior exposures.
- 180. D.** Case-control studies select cases with the outcome and controls without it, then compare previous exposures. They are useful for uncommon diseases but do not directly measure incidence.
- 181. B.** Cross-sectional studies provide a snapshot of exposure and outcome in a population and are commonly used to estimate prevalence. Temporal relationships can be difficult to establish.
- 182. C.** Random assignment reduces systematic differences between groups and helps distribute confounding factors, improving internal validity. It does not guarantee perfect balance or identical outcomes.
- 183. B.** Blinding can reduce performance and measurement bias by limiting knowledge of group assignment among participants, clinicians, or outcome assessors when feasible.
- 184. C.** The arithmetic mean can be shifted substantially by very high or very low values. The median is generally more resistant to outliers.
- 185. D.** The median identifies the middle ordered value and is less affected by skew and extreme observations than the mean, making it useful for non-symmetric distributions.
- 186. C.** Standard deviation summarizes how spread out observations are around the mean. It is not a direct measure of statistical significance or causation.
- 187. C.** A p value quantifies compatibility of the data with the null model. A small p value can support rejecting the null hypothesis at a chosen alpha, but it does not prove the null is false or establish clinical importance.
- 188. A.** A confidence interval expresses uncertainty around an estimate. Its width reflects precision, and whether it includes a null value can inform statistical interpretation, but it is not a guarantee about individual outcomes.
- 189. D.** Pearson correlation summarizes the linear association between two continuous variables, ranging from -1 to +1. It does not by itself establish causation.

- 190. B.** Sensitivity is the proportion of true cases that test positive. A highly sensitive test has relatively few false-negative results.
- 191. C.** Specificity is the proportion of people without the condition who test negative. A highly specific test has relatively few false-positive results.
- 192. D.** DMFT summarizes caries experience in the permanent dentition by counting teeth that are decayed, missing because of caries, or filled. It does not directly measure periodontal status or fluorosis.
- 193. A.** Community program planning begins with needs assessment so priorities, target groups, resources, barriers, and baseline measures are understood before selecting interventions.
- 194. C.** A useful objective is specific and measurable, identifying what outcome should change, for whom, and by when. This allows later evaluation of whether the program achieved its goal.
- 195. A.** Process evaluation examines program delivery, reach, fidelity, and activities. Outcome evaluation focuses on whether health or behavior indicators changed.
- 196. B.** Outcome evaluation measures the effect of a program on predefined endpoints such as plaque levels, sealant uptake, or caries incidence rather than only whether activities occurred.
- 197. A.** Community water fluoridation is a population-level preventive measure that can reduce caries across socioeconomic groups without requiring each person to perform a daily behavior beyond consuming the water supply.
- 198. A.** Critical appraisal focuses on whether the design and methods are appropriate, valid, and sufficiently described to support the conclusions. Cosmetic features and author counts do not establish validity.
- 199. B.** Large samples can produce small p values for effects that are clinically trivial. Clinical relevance requires considering effect magnitude, confidence intervals, harms, feasibility, and patient context.
- 200. A.** External validity concerns generalizability. Findings are more applicable when participants and settings resemble the population in which the results will be used.
- 201. B.** Deep probing, interdental attachment loss, furcation involvement, and substantial radiographic bone loss indicate periodontitis rather than gingivitis. The generalized distribution and severity require comprehensive periodontal assessment and therapy.
- 202. B.** Smoking is a major modifiable risk factor for periodontitis progression and impaired healing. Age is associated with cumulative disease experience but is not itself the principal modifiable exposure here.
- 203. C.** A Nabers probe is curved to follow the anatomy of furcation entrances and is the standard instrument for horizontal furcation assessment.

- 204. A.** Nonsurgical periodontal therapy targets biofilm and calculus while avoiding unnecessary root removal. Clinical improvement depends on both professional instrumentation and patient biofilm control.
- 205. D.** Open embrasures and exposed proximal root surfaces are often cleaned more effectively with interdental brushes than with floss alone. Bleeding from inflammation is not a reason to stop appropriate plaque control.
- 206. D.** Reevaluation after healing permits meaningful comparison of probing, bleeding, plaque control, and residual deposits. It guides decisions about further nonsurgical treatment, referral, or maintenance.
- 207. B.** Persistent bleeding at deep sites suggests continued inflammation and need for further assessment. Benign anatomic findings do not indicate active periodontal inflammation.
- 208. A.** Prior severe periodontitis and smoking justify close supportive periodontal care. Recall intervals should be individualized according to risk, plaque control, and residual disease.
- 209. A.** Tobacco cessation support is directly relevant to periodontal prognosis and overall health. Brief counseling and referral can be integrated without making treatment contingent on immediate abstinence.
- 210. D.** Advanced periodontitis can produce substantial horizontal or vertical alveolar bone loss. Bone extending only a normal short distance apical to the CEJ would not fit the described severity.
- 211. B.** An HbA1c of 9.2% indicates poor glycemic control, which is associated with greater periodontal inflammation and impaired healing. Eating and taking prescribed medication usually support safer routine care.
- 212. D.** Diabetes increases risk and severity of periodontitis, and periodontal inflammation can adversely affect glycemic control. Periodontal treatment may modestly improve glycemic measures but does not cure diabetes.
- 213. D.** Routine meals and prescribed medications help maintain predictable glucose control. Clinicians should still recognize hypoglycemia symptoms and have rapid carbohydrate available.
- 214. B.** These symptoms are compatible with hypoglycemia. A conscious patient who can swallow should receive rapidly absorbed carbohydrate and be reassessed.
- 215. C.** Improved glycemic control can support immune function and healing and may improve periodontal outcomes. It cannot guarantee regeneration or eliminate the need for plaque control and periodontal therapy.
- 216. C.** A blood pressure of 136/84 is above optimal and commonly falls in a stage 1 range under widely used adult categories, but it is not a crisis value. Continued monitoring and medical follow-up are appropriate.

- 217. A.** Poor glycemic control increases risk but does not automatically preclude needed nonsurgical periodontal care. Treatment should be individualized, with medical consultation when findings or planned procedures warrant it.
- 218. D.** Daily plaque control remains central to periodontal management, while fluoride helps reduce caries risk. Bleeding from inflammation should prompt improved atraumatic plaque removal rather than avoidance.
- 219. A.** Persistent inflammation plus systemic risk supports more frequent supportive periodontal care. Stable low-risk patients may tolerate longer intervals.
- 220. C.** The dental hygienist should not alter medical therapy but can reinforce the importance of medical follow-up and communicate relevant oral findings within appropriate consent and referral processes.
- 221. A.** Pregnancy-associated hormonal changes can amplify the gingival inflammatory response to plaque. Pregnancy does not itself create attachment loss, so periodontal findings must still be assessed separately.
- 222. B.** A pyogenic granuloma can arise during pregnancy as a vascular inflammatory overgrowth, often from gingiva. It typically appears red, lobulated, and prone to bleeding.
- 223. C.** Control of local plaque and calculus is central to managing pregnancy gingivitis. Needed routine preventive care can be provided during pregnancy with appropriate modifications.
- 224. A.** Necessary dental care can be provided during pregnancy, and the second trimester is often particularly comfortable for routine treatment. Urgent care should not be withheld because of trimester alone.
- 225. B.** Dental radiographs can be obtained during pregnancy when clinically justified, using optimized exposure and appropriate protection. Diagnostic needs should be balanced with radiation-minimization principles.
- 226. B.** The enlarging uterus can compress major vessels in a fully supine position later in pregnancy. A left tilt or more upright position can improve venous return and comfort.
- 227. A.** Lidocaine is commonly used for dental local anesthesia during pregnancy when indicated. As with all patients, the lowest effective dose and careful injection technique are appropriate.
- 228. A.** Although many pregnancy-associated pyogenic granulomas regress after delivery, lesions that interfere with function, bleed excessively, or appear atypical need professional evaluation and sometimes excision or biopsy.
- 229. B.** Frequent sugar exposure increases caries risk. Regular fluoride toothpaste, balanced nutrition, and reducing repeated cariogenic snacks support maternal oral health.

- 230. D.** Pregnancy modifies the inflammatory response but does not replace the need for a complete periodontal assessment. Probing and clinical attachment findings distinguish gingivitis from periodontitis.
- 231. B.** Current cavitated caries is a strong disease indicator, and frequent sugar exposure plus inadequate plaque control further increase risk. Newly erupted permanent molars also have susceptible pits and fissures.
- 232. B.** Sealants are effective for preventing or arresting noncavitated occlusal caries in susceptible pits and fissures. They are especially useful in high-risk children with newly erupted permanent molars.
- 233. C.** Reducing the frequency of fermentable carbohydrate and acidic drink exposure decreases the number and duration of plaque pH drops. Water is a noncariogenic alternative.
- 234. D.** High-risk children benefit from professional topical fluoride in addition to twice-daily fluoridated toothpaste and other risk-based measures.
- 235. B.** For children age 3 to 6, a pea-sized amount of fluoridated toothpaste with adult supervision is commonly recommended to balance caries prevention and ingestion risk. At age 7, supervised appropriate use remains important.
- 236. D.** Radiographic frequency and type should be individualized according to caries risk, contact status, clinical findings, and prior images. Bitewings are useful for proximal caries when indicated.
- 237. B.** Tell-show-do introduces the procedure with age-appropriate explanation and demonstration before performing it, helping build predictability and cooperation.
- 238. D.** At this age, many children still need caregiver supervision to achieve effective brushing. Twice-daily fluoride toothpaste and appropriate interdental cleaning support caries control.
- 239. A.** A cavitated lesion is generally not cleansable or predictably reversible by remineralization alone. Restorative assessment and aggressive prevention are both needed.
- 240. B.** Successful management is reflected by disease arrest, absence of new lesions, and improved modifiable behaviors such as plaque control and dietary frequency.
- 241. D.** White-spot lesions around orthodontic brackets commonly represent subsurface enamel demineralization from prolonged plaque retention and acid exposure. They are an early sign of caries activity.
- 242. A.** Small interdental or orthodontic brushes can access plaque around brackets and beneath wires where a standard brush may miss. They should complement, not replace, toothbrushing.
- 243. C.** Orthodontic appliances increase plaque retention and white-spot risk. Consistent fluoride use supports remineralization and reduces demineralization.

- 244. D.** Frequent acidic and sugary beverage exposure increases both erosion and caries risk. Reducing frequency and choosing water decreases repeated acid challenges.
- 245. A.** Gingivitis is inflammation without clinical attachment or bone loss. Orthodontic plaque retention can markedly increase gingival inflammation even in otherwise healthy adolescents.
- 246. D.** Return demonstration lets the clinician observe technique and give immediate feedback. Disclosing agents can also help make missed plaque visible.
- 247. B.** Disclosing agents stain plaque and support visual feedback. They are educational tools, not disinfectants or diagnostic tests for pulpal disease.
- 248. C.** Plaque-induced gingivitis is managed by effective biofilm control and removal of contributing deposits. Antibiotics are not indicated for routine plaque-induced gingivitis.
- 249. C.** Periodontitis requires loss of periodontal attachment and/or supporting bone beyond gingivitis. Bleeding and redness alone do not establish attachment loss.
- 250. A.** High plaque levels and active demineralization justify closer follow-up to reinforce behavior, apply preventive measures, and monitor lesion activity during orthodontic treatment.
- 251. B.** Oxybutynin is strongly anticholinergic and commonly causes dry mouth. Other medications can also reduce salivary flow, so the overall medication burden should be reviewed.
- 252. D.** Saliva protects teeth through buffering, clearance, antimicrobial activity, and remineralization. Xerostomia increases risk for root and cervical caries, especially where recession exposes dentin or cementum.
- 253. B.** Candida overgrowth can produce removable white plaques and erythema, particularly in xerostomic denture wearers. Denture hygiene and clinical evaluation are important.
- 254. D.** Frequent sugar-containing drinks create repeated acid challenges. Water supports hydration without adding fermentable carbohydrate and is preferable for routine sipping.
- 255. D.** Xerostomia and active root caries justify intensive fluoride prevention, potentially including prescription-strength products when indicated, plus professional follow-up and risk-factor control.
- 256. A.** Sugar-free chewing or lozenges can stimulate residual saliva, especially when salivary glands retain function. Cholinergic medications may be considered by a prescriber in selected patients, but added anticholinergic exposure would worsen dryness.
- 257. D.** Daily denture cleaning and periods of removal allow mucosal recovery and reduce microbial burden. Continuous wear is associated with denture stomatitis and candidal overgrowth.
- 258. A.** Alcohol-containing rinses can be uncomfortable or drying for some xerostomic patients. Product selection should emphasize comfort, fluoride when indicated, and absence of fermentable sugars.

- 259. D.** Xerostomia is dynamic and influenced by medications and systemic disease. Follow-up should monitor salivary function, mucosal health, candidiasis, caries activity, and prevention adherence.
- 260. C.** Dental professionals can identify likely medication-related xerostomia and communicate the oral consequences. Any medication change must be directed by the appropriate prescriber.
- 261. A.** Direct oral anticoagulants protect against thromboembolism. For many dental procedures, treatment can proceed with local hemostatic measures, and medication should not be altered without appropriate clinical assessment and prescriber involvement when needed.
- 262. A.** INR is used for warfarin monitoring but does not reliably quantify the anticoagulant effect of apixaban. Clinical factors and renal function are more relevant to procedural planning.
- 263. B.** Most minor dental bleeding can be managed with local pressure, careful technique, and local hemostatic methods. Systemic medication changes should not be made reflexively.
- 264. C.** NSAIDs can impair platelet function and increase gastrointestinal bleeding risk, which may add to anticoagulant-associated bleeding. Analgesic selection should consider the full medical history.
- 265. C.** Complete medication documentation supports risk assessment and communication. Dose timing, renal status, bleeding history, and procedure invasiveness can influence management.
- 266. A.** Stable anticoagulation usually does not eliminate the need for periodontal care. Meticulous technique and local hemostasis allow appropriate therapy in many patients.
- 267. A.** Recent major bleeding, renal dysfunction, multiple antithrombotic drugs, or high-risk procedures can change bleeding risk and justify coordination with the prescribing clinician.
- 268. B.** Apixaban is prescribed to reduce thromboembolic risk in atrial fibrillation. Interrupting therapy without medical justification can expose the patient to serious preventable events.
- 269. A.** Clear postoperative instructions help the patient distinguish minor expected oozing from persistent or heavy bleeding and preserve clot formation. Vigorous early rinsing can disrupt hemostasis.
- 270. B.** Maintenance intervals are driven by periodontal stability, plaque control, smoking, systemic factors, and prior disease severity. Anticoagulation influences procedural bleeding management but does not by itself determine periodontal recall frequency.
- 271. B.** Calcineurin inhibitors such as cyclosporine and calcium channel blockers such as amlodipine can contribute to gingival enlargement. Plaque-associated inflammation can worsen the overgrowth.
- 272. D.** Plaque and gingival inflammation commonly increase the severity of drug-associated enlargement. Meticulous biofilm control is therefore an important component of management.

- 273. D.** Local inflammatory factors should be controlled first, while medication and surgical options can be discussed with the appropriate medical and dental providers if enlargement persists or interferes with function.
- 274. A.** Immunosuppressive medications increase susceptibility to infection and can alter its presentation. New oral infections warrant timely assessment and coordination.
- 275. C.** A reading of 142/88 is above recommended targets and commonly falls in a stage 2 systolic range under widely used categories. It should be confirmed and considered in the overall medical assessment, although it is not a crisis value.
- 276. A.** Medication changes are directed by the transplant team. Dental professionals can identify adverse oral effects, control local factors, and communicate findings that may support medical adjustment when safe.
- 277. C.** Tailored interdental aids can improve plaque removal around enlarged tissue. The choice depends on space, anatomy, and patient dexterity and should avoid trauma.
- 278. A.** An immunosuppressed patient with fever and spreading infection may deteriorate quickly and requires urgent assessment. Stable benign findings do not carry the same concern.
- 279. D.** Transplant medications have clinically important interactions, and kidney function influences drug handling. Medication choices should be coordinated and evidence based.
- 280. D.** Plaque control and debridement can reduce the inflammatory component of gingival enlargement. Fibrotic overgrowth may persist and require medication review or surgical management.
- 281. A.** A patient with immediate latex allergy should be treated in a latex-safe environment to minimize exposure. Products and equipment should be screened before care begins.
- 282. D.** Albuterol is a short-acting beta-2 agonist used for rapid relief of bronchospasm. Patients with asthma should have access to their rescue inhaler during dental treatment.
- 283. A.** Local steroid deposition can suppress mucosal defenses and contribute to candidiasis. Good inhaler technique and rinsing after use can reduce this risk.
- 284. D.** Rinsing and spitting after an inhaled corticosteroid reduces residual medication in the mouth. The controller medication should not be stopped without the prescribing clinician's direction.
- 285. C.** Acute bronchospasm requires stopping treatment, positioning for comfortable breathing, and administering the prescribed short-acting bronchodilator. Severe or unresponsive symptoms require emergency activation.
- 286. D.** Anxiety and pain can trigger bronchospasm in susceptible patients. Stress reduction and effective pain control are important preventive measures.

- 287. B.** Frequent albuterol use, nighttime awakening, activity limitation, or recent exacerbations suggest inadequate asthma control and should prompt medical review.
- 288. D.** This pattern is anaphylaxis. Intramuscular epinephrine is first-line treatment while emergency medical services are activated and airway and circulation are supported.
- 289. B.** Immediate hypersensitivity severity varies. A detailed history helps define risk and informs the need for strict latex avoidance and emergency preparedness.
- 290. D.** Latex avoidance does not change infection-control requirements. Appropriate nonlatex gloves and standard instrument and surface protocols are still required.
- 291. B.** Radiation involving major salivary glands can markedly reduce salivary volume and buffering, leading to rapid cervical and root caries unless intensive prevention is maintained.
- 292. D.** Head and neck radiation survivors with xerostomia often require lifelong intensive fluoride exposure and close preventive follow-up because caries can progress rapidly.
- 293. D.** Radiation can create hypovascular, hypoxic bone with impaired healing. Invasive surgery in high-dose fields may increase risk of osteoradionecrosis and requires careful specialist planning.
- 294. C.** Extraction decisions after high-dose head and neck radiation require careful evaluation of dose, field, timing, and alternatives. Coordinated dental and oncology or surgical input helps reduce osteoradionecrosis risk.
- 295. D.** Hydration, noncariogenic saliva substitutes, and salivary stimulation when feasible can improve comfort. Preventive fluoride remains essential because symptom relief alone does not restore salivary protection.
- 296. C.** Fibrosis of masticatory muscles and tissues after radiation can cause trismus. Gentle prescribed stretching or rehabilitation may be part of multidisciplinary management.
- 297. B.** Reduced salivary flow impairs mucosal defense and increases the risk of candidal overgrowth. Symptoms can include burning, erythema, and removable plaques.
- 298. B.** Radiation survivors with xerostomia and active caries are high risk and benefit from close ongoing preventive surveillance and rapid management of new disease.
- 299. A.** Frequent fermentable carbohydrate exposure magnifies caries risk in a dry mouth. Noncariogenic fluids and sugar-free stimulants are preferable.
- 300. B.** Radiation-related xerostomia, caries risk, fibrosis, and bone-healing concerns can persist for years or permanently. Long-term preventive and restorative dental care is therefore essential.

- 301. C.** Recent stimulant use with tachycardia and agitation raises cardiovascular and behavioral risk. Elective treatment should be deferred, and urgent needs should be managed with appropriate medical judgment.
- 302. C.** Methamphetamine-associated caries is multifactorial, commonly involving severe dry mouth, high-sugar beverage habits, prolonged plaque retention, and reduced self-care.
- 303. D.** Methamphetamine and epinephrine both increase sympathetic activity. During acute stimulant effects, additional sympathomimetic exposure may worsen tachycardia or hypertension and should be avoided or deferred according to clinical circumstances.
- 304. A.** Rampant active caries and xerostomia require aggressive prevention with fluoride, saliva-supportive measures, dietary counseling, and close follow-up in addition to restorative treatment.
- 305. B.** Frequent sugary and acidic drinks compound the effects of reduced saliva and dramatically increase caries risk. Water is the preferred routine hydration source.
- 306. C.** Nonjudgmental, patient-centered communication supports disclosure and behavior change. Referral to appropriate medical or substance-use services can be offered while maintaining confidentiality requirements.
- 307. A.** Stimulant use can be associated with clenching and bruxism, producing attrition and muscle symptoms. This is distinct from developmental enamel changes or mucosal disease.
- 308. A.** Stimulants can cause tachycardia, hypertension, and arrhythmia risk. Vital signs plus a candid substance-use history are important before treatment.
- 309. B.** Sugar-free gum or lozenges can stimulate residual saliva without adding cariogenic sugar, while hydration and substitutes improve comfort. High-risk patients also need fluoride.
- 310. A.** Treatment should prioritize pain, infection, and active disease, while simultaneously addressing high caries risk and substance-use factors. Care should not be withheld solely because behavior change is incomplete.
- 311. C.** Predictability and individualized sensory accommodations can reduce distress. A visual schedule and shorter visits build on strategies already known to work for this patient.
- 312. C.** Autism does not eliminate decision-making capacity. A capable adult retains the right to receive information and consent to or refuse care, while supporters can participate with permission.
- 313. B.** Reducing unnecessary sensory triggers and providing advance warning can improve comfort and cooperation. Accommodations should be individualized to the patient's known preferences.
- 314. D.** Concrete communication, one instruction at a time, visual supports, and adequate processing time can improve understanding while respecting the adult patient directly.

- 315. B.** Effective prevention depends on a feasible routine. Caregiver support may be included with the patient's agreement, but the plan should be individualized to sensory, motor, and cognitive preferences.
- 316. C.** A powered toothbrush may improve plaque removal for some patients, but sensory tolerance matters. The best device is one the patient can use consistently and safely.
- 317. C.** Honoring a stop signal reinforces trust and patient control. Consent is ongoing and does not remove the patient's right to pause or refuse treatment.
- 318. B.** Gradual exposure with predictability and positive reinforcement can increase tolerance over repeated visits. Successful accommodations should be documented for continuity.
- 319. D.** A capable adult controls who participates in care and receives information. Support persons can be valuable when the patient chooses their involvement.
- 320. A.** Success includes both clinical improvement and sustainable access to care. Effective accommodations support repeated preventive visits rather than simply completing a single appointment at any cost.
- 321. C.** Current guidance limits prophylaxis to selected high-risk cardiac conditions because potential benefits outweigh harms only in those groups. Prosthetic cardiac valves are included among those high-risk conditions.
- 322. C.** For patients who meet cardiac criteria, prophylaxis is considered for dental procedures involving manipulation of gingival tissue, the periapical region of teeth, or perforation of oral mucosa.
- 323. D.** Amoxicillin is the standard first-line oral regimen for infective endocarditis prophylaxis in adults who can take oral medication and have no penicillin allergy.
- 324. C.** The prophylactic regimen is intended to provide effective antibiotic levels during transient bacteremia associated with the procedure, so it is generally administered shortly before treatment.
- 325. D.** Guidance addresses situations in which prophylaxis was inadvertently not given before the procedure. The clinician should follow the current regimen rather than inventing prolonged or doubled dosing.
- 326. A.** Current guidance removed clindamycin from recommended alternatives for dental prophylaxis because it is associated with more frequent and severe adverse reactions, including *C. difficile* infection.
- 327. B.** Routine oral hygiene and disease control reduce the ongoing inflammatory burden and are central to oral and systemic health. Antibiotic prophylaxis does not replace preventive care.
- 328. D.** Complete documentation supports safe repeat care and communication. The indication and exact regimen should be clear in the health record.

- 329. C.** Routine radiographs do not manipulate gingiva, the periapical region, or perforate oral mucosa. In contrast, extractions and subgingival instrumentation do.
- 330. C.** Prophylaxis recommendations evolve as evidence changes. Current professional guidance and coordinated medical information should be used rather than outdated habits.
- 331. D.** Standard Precautions are designed to protect clinicians and patients regardless of known infection status. HIV status does not require a separate sterilization system or justify refusal of routine dental care.
- 332. C.** A high CD4 count and undetectable viral load generally indicate effective treatment and preserved immune function. Dental care should still be based on current medical history and clinical findings.
- 333. D.** Well-controlled HIV does not alter the basic management of plaque-induced gingivitis. Local biofilm control is the primary therapy unless other clinical findings indicate a different problem.
- 334. A.** Oral candidiasis is more frequent with impaired cellular immunity and can be an indicator of immunosuppression. Benign anatomic variants are not markers of HIV progression.
- 335. A.** HIV status is protected health information. It should be documented as clinically relevant and safeguarded under confidentiality and privacy requirements.
- 336. B.** Occupational exposures require immediate first aid and prompt evaluation. Postexposure management should follow the office exposure-control plan and current medical guidance.
- 337. A.** HIV infection alone is not an indication for routine antibiotic prophylaxis. Decisions depend on specific cardiac, surgical, immunologic, or medical circumstances and current guidance.
- 338. B.** A complete medication review can identify xerostomia, taste change, metabolic effects, or clinically relevant interactions. Antiretroviral therapy should not be interrupted for routine dental care without medical direction.
- 339. B.** Patients should receive equitable care without discrimination. Standard infection-control procedures are designed for bloodborne pathogens and make routine treatment appropriate when clinically indicated.
- 340. D.** Localized plaque-induced gingivitis should improve with effective biofilm control. Reassessment documents response and identifies any findings inconsistent with simple gingivitis.
- 341. B.** Bleeding and increased probing depth accompanied by progressive supporting bone loss are consistent with peri-implantitis. Peri-implant mucositis is inflammatory disease without progressive bone loss beyond initial remodeling.

- 342. C.** Both conditions can show inflammation and bleeding. Progressive radiographic bone loss is the key feature that distinguishes peri-implantitis from mucositis.
- 343. D.** Mobility is a late sign indicating loss of osseointegration or structural failure. An implant can have peri-implantitis and significant bone loss while remaining immobile.
- 344. A.** Gentle probing around implants helps monitor tissue inflammation and pocket changes when interpreted with baseline measurements and radiographs. Implants do not have dental pulp or caries in titanium.
- 345. C.** Peri-implant biofilm control is essential. The device should fit the prosthesis and embrasure without damaging tissues or restorative components.
- 346. D.** Peri-implantitis with progressive bone loss requires comprehensive evaluation and often treatment beyond routine maintenance. Dental hygiene therapy still supports biofilm control and monitoring.
- 347. B.** Serial radiographs help distinguish stable post-placement remodeling from progressive bone loss. Baseline and follow-up images are therefore important in implant maintenance.
- 348. B.** Poor plaque control is a key modifiable risk factor for peri-implant inflammatory disease. The implant is not mobile, and implants do not have pulp tissue.
- 349. C.** Improvement is reflected by reduced inflammation, stable or improved probing parameters, and radiographic stability. Progressive bone loss or mobility indicates ongoing or worsening disease.
- 350. A.** Implant maintenance should be risk based and include plaque control, peri-implant tissue assessment, prosthesis evaluation, and radiographs when indicated by findings and prior disease.