

RESTORATIVE DENTISTRY D260
PROGRESS EXAMINATION #1
February 14, 2008

41

NAME: [REDACTED]

PRECLINICAL SEAT NUMBER: [REDACTED]

EXAMINATION NUMBER: [REDACTED] B

1. Please read all directions before starting the examination.
2. Your examination booklet should contain 4 pages with a total of 50 questions. Please check to verify you have all of the examination.
3. Write your name and preclinical seat number on the cover of the examination booklet.
4. Write your name, your Temple ID number and the exam number and letter on the computerized answer sheet in the appropriate boxes. Blacken the corresponding letters and digits below the boxes.
5. On the reverse side of the computerized answer sheet sign your name and write the number and letter (A or B) of your test booklet in the box labeled identification information.
6. Darken all circles on the answer sheet before the end of the examination. Extra time will not be given at the end of the examination for this purpose.
7. No questions will be answered during the examination. Answer each question as best you can using the information available.
8. Return the computerized answer form AND the entire examination booklet to the proctor.

=====

1. Regarding a carbide bur, the number of cutting blades determines its cutting efficiency. Burs with a smaller number of cutting blades results in

- a. less efficient cutting and a smoother surface c. more efficient cutting and a smoother surface
b. less efficient cutting and a rougher surface ☒ d. more efficient cutting and a rougher surface.

2. Diamond burs are superior to carbide burs for the removal of dental enamel. Therefore, diamond burs are better for extra-coronal cavity preparations, beveling enamel margins on cavity preparations, and enameloplasty.

- ☒ a. Both statements are true. c. Statement one is true and statement two is false.
b. Both statements are false. d. Statement one is false and statement two is true.

3. Initial pulpal inflammation is thought to be evident clinically by production of sharp pains. A short, painful response to cold with each pain lingering only a few seconds (<10 seconds) in response to the thermal stimulus is suggestive of

- ☒ a. reversible pulpitis b. irreversible pulpitis c. necrotic pulp

4. Fracture of a complete cusp in posterior teeth is a common occurrence. In general, in all posterior teeth, the most frequently fractured cusps are the _____

- a. holding ☒ b. nonholding c. all cusps fracture with equal frequency

5. The enamel is thicker at the incisal and occlusal areas of a tooth and becomes progressively thinner until it terminates at the DEJ.

- a. Both statements are true. ☒ c. Statement one is true; statement two is false.
b. Both statements are false. d. Statement one is false; statement two is true.

6. Color differences in the dentin cannot be used as a reliable index for complete caries removal. In rapidly advancing lesions the softened dentin may show little or no color change while more slowly advancing lesions may have more discoloration.

- ☒ a. Both statements are true. c. Statement one is true; statement two is false.
b. Both statements are false. d. Statement one is false; statement two is true.

Attention
7. Primary resistance form is that shape or form of the prepared cavity that resists displacement or removal of the restoration from tipping or lifting forces. In (Class II) preparations where only one of the two proximal surfaces is involved, an occlusal dovetail may aid in preventing the tipping of the restoration by occlusal forces.

- ☒ a. Both statements are true. c. Statement one is true; statement two is false.
b. Both statements are false. ☒ d. Statement one is false; statement two is true.

8. Purported advantages of amalgam bonding include which of the following:

- a. increased retention of amalgam restorations
- b. reduction/prevention of post-placement leakage
- c. reduction/prevention of post-placement sensitivity
- d. all of the above
- e. none of the above

9. When placing a base on the pulpal floor, it is important to cover the entire floor of the preparation with the base; because it is better to have the base rather than dentin bear the compressive load of mastication

- a. Both statements are true.
- b. Both statements are false.
- c. Statement one is true and statement two is false.
- d. Statement one is false and statement two is true.

10. Using pins to retain amalgam restorations increases the risk of

- 1. cracks in the teeth
- 2. thermal sensitivity
- 3. pulpal exposures
- 4. periodontal ligament invasion

- a. 1 & 2
- b. 3 and 4
- c. 1, 3 & 4
- d. all of the above

11. Grooves or fissures are formed at the junction of the developmental lobes of the enamel. Sound coalescence of the lobes results in grooves and faulty coalescence results in fissures.

- a. Both statements are true.
- b. Both statements are false.
- c. Statement one is true and statement two is false.
- d. Statement one is false and statement two is true.

12. Loss of tooth structure by chemicochemical action is called

- a. erosion
- b. attrition
- c. abfraction

13. The earliest clinical evidence of incipient caries on smooth surfaces is called a white spot lesion. Drying the tooth surface causes this lesion to partially or totally disappear from vision.

- a. Both statements are true.
- b. Both statements are false.
- c. Statement one is true and statement two is false.
- d. Statement one is false and statement two is true.

14. The type of dentin formed by replacement odontoblasts in response to moderate-level irritants, such as attrition, abrasion, erosion, trauma, moderate-rate dentinal caries and some operative procedures is called

- a. reparative
- b. sclerotic
- c. inebriated dentin
- d. eburnated dentin

15. Spherical amalgam have higher earlier strength (when compared to admixed). Admixed amalgam permit easier proximal contact development because of higher condensation forces. (P 706)

- a. Both statements are true.
- b. Both statements are false.
- c. Statement one is true and statement two is false.
- d. Statement one is false and statement two is true.

16. A carbide bur with the numerical code 35 is a(n) _____ bur

- a. pear shape
- b. round
- c. tapered fissure
- d. inverted cone
- e. straight fissure

17. A favorable prognosis for the pulp after direct pulp capping may be expected if which of the following criteria are met:

- 1. The exposure is small (< 1.0mm in diameter)
- 2. Tooth sensitivity to a cold stimulus lasts longer than 10 seconds after stimulus removal
- 3. The invasion of the pulp was traumatic with moderate physical irritation to the pulp
- 4. Preparation was not prepared under the rubber dam
- 5. There is excessive hemorrhage from the exposure site

- a. all of the above
- b. none of the above
- c. two of the above
- d. three of the above

18. According to the material presented in lecture, after performing an indirect pulp cap the operator will reenter the tooth after _____ to continue caries excavation. This differs from the step-wise excavation technique which recommends reentering the tooth after _____ to continue caries excavation.

- a. 4 weeks; 6-12 weeks
- b. 6-8 weeks; 4 months
- c. 6-8 weeks; 6-12 months
- d. 8-12 weeks; 12-16 months

According to material presented in lecture and the Sturdevant text, identify the following statements (questions 19 - 38) as true or false. Darken (a) on your answer sheet if the statement is true. Darken (b) on your answer sheet if the statement is false.

a. True b. False

- T** 19. When preparing a carious pit on the lingual surface of a maxillary central incisor the bur should be positioned so that it is perpendicular to the lingual surface of the tooth.
- F** 20. Cutting instruments have formulas describing the dimensions and angles of the working end. The first number indicates the length of the blade in tenths of a millimeter.
- T** 21. Gingival Class II cavomargins ideally terminate gingival to both the contact and the lesion.
- F** 22. Inadequate isthmus width is the most likely cause for isthmus fracture of Class II amalgam.
- F** 23. Base materials are needed under composite resin restorations to provide thermal insulation.
- T** 24. The reaction that occurs in a mixture of Zinc Phosphate cement ($ZnPO_4$) is exothermic.
- F** 25. The pH of hard-set calcium hydroxide is about 7 (neutral).
- T** 26. Crosscuts are needed on fissure burs to obtain adequate cutting effectiveness at low speeds, but at high speeds they are not needed.
- T** 27. Medium sized self-threading pins may elicit an inflammatory response if placed within 0.5mm of the pulp, whereas slot placement does not.
- F** 28. Using only air as a coolant during cavity preparation does not cause pulpal damage because the dentinal tubules are effectively sealed by reparative dentin during rapid progression of the carious lesion.
- T** 29. Dentin bonding agents are being recognized as beneficial for dentinal sealing under any type of restorative material.
- T** 30. Mercury can be drawn to the surface of set amalgam during polishing procedures if improper use of rotary instruments (polishing cups and points) raises the temperature of the amalgam.
- T** 31. For conservative Class 1 amalgam preparations, besides varnish and bonding agent, a dentin desensitizer can be placed in the preparation to seal the prepared dentin before amalgam condensation. (p 720)
- F** 32. When the second number in the formula for a gingival margin trimmer is 85 to 75, the pair is used on the distal gingival margin.
- F** 33. Affected dentin has bacteria present, is not remineralizable and does not need to be removed.
- E** 34. Enamel permeability decreases with age because of changes in the enamel matrix.
- T** 35. Pain on percussion suggests possible injury to the periodontal membrane from pulpal or periodontal inflammation. *ligament?*
- T** 36. Conservative amalgam restorations which have anatomy carved too deep can result in acute angles and stress concentrations within the amalgam increasing the potential for fracture. (p 700)
- F** 37. Polishing of low-copper amalgams is less important than it is for high-copper amalgams because the low-copper amalgams are less susceptible to tarnish and marginal breakdown.
- F** 38. When using rubber points to polish amalgam, it is important to use the high speed handpiece because high rotational speed of the point is necessary to remove the remaining small voids and scratches that are present after using the finishing burs.
- E** 39. When placing pins to enhance retention form of a prepared cavity, which of the following potential pin sites should be avoided?
- the mid-buccal area of the mandibular first molar
 - the mid-mesial area of the maxillary first premolar
 - the mid mesial area of the maxillary first molar
 - two of the above
 - (e)** all of the above
- B** 40. Dental burs are designed to cut when they rotate ____ (when viewed from the shank end of the bur).
- counterclockwise
 - (b)** clockwise
 - with even speed
- B** 41. With respect to design of bur blades, the rake angle is defined as
- angle the back of the blade makes with the tooth
 - (b)** the angle the face of the blade makes with the radial line
 - the angle the clearance face makes with the radial line.
- B** 42. When applying a Tofflemire matrix band to a tooth with a Class II preparation, the edge of the band with the larger circumference is always oriented ____ and the open end of the U-shaped retainer head is always oriented ____
- occlusally, occlusally
 - (b)** occlusally, gingivally
 - gingivally, gingivally
 - gingivally, occlusally
- D** 43. According to the material presented in the Sturdevant text (p.859), remaining old restorative material on the internal walls of a preparation should be removed if which of the following condition(s) is (are) present:
- (1)** The old material is judged to be thin, non-retentive or both.
 - (2)** There is evidence of caries under the material (radiographic and/or visual)
 - ~~3~~ The pulp was asymptomatic preoperatively
 - ~~4~~ The periphery of the remaining restorative material is intact
- a. all of the above b. none of the above **(c)** one of the above **(d)** two of the above e. three of the above

44. The words "overcarved" and "undercarved", "overcontoured" and "undercontoured" are used frequently by your laboratory instructors. Some of them are included in the criteria for evaluation of the restorations done in your exercises and practical examinations. If a surface is undercarved, the surface is also

- ☒ a. overcontoured b. undercontoured c. bulky d. two of the above e. none of the above

45. In diagnosing Class 2 interproximal carious lesions that cannot be explored directly, a good supplement to the radiograph is

- a. reviewing the patient's history of caries activity
b. examining the corresponding tooth in the occluding quadrant
☒ c. examining for color changes or loss of translucency beneath marginal ridges
d. preparing the adjacent occlusal surface and examining the exposed proximal dentinoenamel junction

46. According to material presented in the Sturdevant text (p 813), when caries is extensive, reduction of one or more of the cusps for capping may be indicated. Complex amalgam restorations with one or more capped cusps have documented longevity of _____.

- a. 44% after 5 years b. 50% after 9 years c. 62% after 12 years ☒ d. 72% after 15 years

47. To increase the diameter of the matrix band, the operator should turn the _____ on the matrix retainer _____.

- a. adjusting nut; clockwise ☒ c. adjusting nut; counterclockwise
b. locking nut; counterclockwise d. locking nut; clockwise

48. The reason for using traditional liners or bases is to either protect the pulp or to aid pulpal recovery or both. The remaining thickness of dentin is a key determining factor in material choice.

- ☒ a. Both statements are true. c. Statement one is true; statement two is false.
b. Both statements are false. d. Statement one is false; statement two is true.

49. Pin retention is used more frequently in preparations with few or no vertical walls. Slots are particularly indicated in short clinical crowns and in cusps that have been reduced 2-3mm for amalgam.

- ☒ a. Both statements are true. c. Statement one is true; statement two is false.
b. Both statements are false. d. Statement one is false; statement two is true.

50. In the mandibular first premolar, the occlusal dovetail of an ideal disto-occlusal amalgam preparation is usually not extended into the mesial pit because of the

- a. small lingual lobe b. large buccal cusp c. large buccal pulp horn ☒ d. prominent transverse ridge