Name:

First Examination - D573 *Periodontal Therapy and Treatment Planning I*, fall, 2003

Instructions: Select the single best answer for each question and enter response onto the computer bubble sheet, onto which you also enter your name and social security number. You must turn in both this examination copy and your computer answer sheet. You have 75 minutes to complete the examination.

1. The following are advantages of sharp periodontal instruments except which one of the following.

   A. Reduced number of treatment strokes needed to scale tooth surfaces.
   B. Improved patient comfort.
   →C. Less eye fatigue for the treating clinician in visualizing subgingival calculus.
   D. Better control of treatment strokes.

2. The cutting edge to be sharpened on a periodontal curette is located at:

   A. the angle between the instrument face and shank.
   →B. the angular junction between the instrument face and lateral surface.
   C. the angular junction between the instrument face and toe.
   D. the interface where the instrument shank and toe come together.

3. You are scaling a patient and note that your removal of plaque and calculus seems inefficient. You look at your periodontal instrument under a magnifying lens and a bright light. Which of the following indicates a need to sharpen your instrument based upon what you see under magnification?

   A. A black line is seen along the entire length of the junction between the instrument face and its lateral surface.
   B. A blue hue is seen when the surface of the instrument face is examined.
   C. An abtuse angle is seen along the length of the cutting edge.
   →D. A white line is noted along the length of the angular junction between the instrument face and its lateral surface.

4. During the course of periodontal scaling on a patient, you adapt your scaling instrument to the surface of a sterile plastic stick similar to the way a tooth surface is treated, and the instrument bites into the surface of the plastic stick. What does this tell you?

   A. The instrument needs to be sharpened.
   →B. You can continue to treat the patient with the instrument as it is.
   C. The instrument needs to be re-sterilized.
   D. Additional subgingival calculus is present on the tooth root surfaces you are treating.

5. You are treating a patient and wish to make your periodontal instruments razor-sharp. Which of the following will provide a finer edge on your instrument?

   →A. A fine natural Arkansas stone
   B. A course artificial Arkansas stone
   C. A medium India stone
   D. A course natural Arkansas stone

6. When trying at chairside to create a sharp cutting edge on a periodontal curette, which of the following should be your objective?

A. restore a more rounded angle between the face of the instrument and its lateral surface by removing metal from the lateral surface without altering the original shape of the instrument.
B. create a sharp acute angle on the cutting edge by altering the original shape of the instrument.
C. create a more rounded angle on the cutting edge by altering the original shape of the instrument.
→D. create a sharp acute angle on the cutting edge without altering the original shape of the instrument.

7. You are sharpening a periodontal instrument in front of a patient at chairside. What do you tell the patient when they ask you what is the purpose of the lubricant oil you have applied to your sharpening stone?

A. It preserves the sterility of the periodontal instrument during the sharpening procedures.
B. It keeps the sharpening stone from getting clogged up with caculus from the instrument.
→C. Heat from friction created by the sharpening strokes on the stone is reduced.
D. It softens the instrument edge to enhance sharpening it with the stone.

8. You reach into your instrument cart and remove a fine natural Arkansas sharpening stone to sharpen your periodontal instruments during a clinical patient care session. Which of the following should you do next?

A. Place a Columbia universal curette at a 90° angle to the stone surface and initiate sharpening without a lubricant being placed onto the stone.
→B. Apply a lubricant oil onto the stone.
C. Apply water onto the surface of the stone as a lubricant.
D. Examine the cutting edge of the stone under magnification with a bright light.

9. In sharpening a periodontal instrument, how do you avoid creation of a wire edge along the sharpened cutting edge?

→A. Finish with a downstroke on the sharpening stone with the periodontal instrument toe directed towards the floor.
B. Finish with a downstroke on the sharpening stone with the periodontal instrument toe directed towards the ceiling.
C. Finish with a upstroke on the sharpening stone with the periodontal instrument directed towards the floor.
D. Finish with a downstroke with the instrument shank oriented at a 100-110 degree angle to the sharpening stone.

10. You are sharpening a periodontal instrument with a fine natural Arkansas stone and notice a build-up of a sludge-like material starting to appear on the face of the periodontal instrument when you move it along the surface of the sharpening stone. What does this tell you?

A. That you should switch to a more course Arkansas sharpening stone.
B. That you are not applying heavy enough pressure on the instrument as you press it against the sharpening stone.
→C. That sharpening of the periodontal instrument cutting edge is nearly complete.
D. That too much lubricant oil is on the surface of the sharpening stone.

11. How does sharpening of a Gracey curette differ from sharpening of a Columbia universal curette?

A. The Columbia universal curette needs to be rotated as the length of the cutting edge is sharpened to retain the blade angle.
B. The Gracey curette cutting edge is deliberately flattened while sharpened.
C. The Grady curette needs to be sharpened on both edges of the instrument face, as well as the instrument toe, whereas only one cutting edge is sharpened on a Columbia universal curette.
→D. The Gracey curette needs to be rotated as the length of the cutting edge is sharpened to retain the blade angle.

12. You conduct a periodontal clinical examination. Which of the following clinical findings, if present, can be used to accurately predict future periodontal attachment loss at individual periodontal sites?

A. periodontal probing depth of 7 mm or deeper
B. Grade II furcation involvement
C. Gingival Index = 2
→D. none of the above

13. At a specific periodontal site, a 2 mm probing depth is found with a 4 mm wide zone of attached gingiva. What is the width of keratinized gingiva at the periodontal site?

A. 4 mm
→B. 6 mm
C. 2 mm
D. cannot be determined from the data provided

14. Functional mobility of teeth refers to which of the following?

A. Class 2 or 3 tooth mobility
B. visible movement only of a tooth when subjected to working side occlusal forces
→C. fremitus
D. palpable movement only of a tooth when subjected to protrusive occlusal forces

15. When scoring a tooth for mobility, you note that the tooth has slightly less than 1.0 mm of movement in a vertical direction. What tooth mobility score would be most appropriate for the tooth?

A. Class 0
B. Class 1
C. Class 2
→D. Class 3

16. Suppuration represents which of the following?

A. A radiopaque line at the most coronal aspect of the interdental alveolar septa
→B. A mass of neutrophils
C. Heavy bleeding with a flow along the interface of the interdental papillae and col
D. The presence of a subacute periodontal abscess

17. The presence of bleeding on probing at a periodontal site indicates a high risk of progressive periodontal attachment loss. The absence of bleeding on probing at a periodontal site indicates that the risk of progressive periodontal attachment loss is low.

A. Both statements are true
B. The first statement is true and the second statement is false
→C. The first statement is false and the second statement is true
D. Both statements are false

18. Which of the following is correct about scoring oral hygiene performance of a patient with the Plaque Index?

→A. A disclosing solution is not used
B. A Plaque Index score of 3 indicates good patient plaque control
C. Dental plaque deposits on teeth are only visually evaluated
D. The tooth surface area covered by supragingival calculus is scored in millimeters along with dental plaque thickness

19. A six millimeter distance is measured from the CEJ of a tooth to the apical extent of penetration with light pressure of a periodontal probe into the gingival sulcus. What is the severity of clinical periodontal attachment loss on the periodontal site?

A. slight
B. moderate
→C. severe
D. cannot determine from the data provided

20. A six millimeter distance is measured from the free gingival margin of a tooth to the apical extent of penetration with light pressure of a periodontal probe into the gingival sulcus. What conclusions can be made about the periodontal site.

A. Moderate periodontitis is present.
→B. The probing depth is moderate in size.
C. A deep probing depth is present.
D. Severe clinical periodontal attachment loss is present.

21. The presence of marked gingival inflammation with bleeding on probing:

→A. can lead to deeper probing depth measurement as compared to the presence of minimal gingival inflammation.
B. alters determination of the histologic level of periodontal attachment on a tooth.
C. occurs when the width of attached gingival is less than 3 millimeters.
D. corresponds to a Gingival Index = 1

22. You are performing a periodontal examination on a patient, and are using a Michigan-O periodontal probe with Williams markings and a 0.4 mm probe tip diameter. Halfway through the examination you drop the instrument onto the floor and replace it with a Williams probe with Williams markings and a 0.6 mm probe tip diameter. Assuming that you maintain the same probing pressure and probe insertion angulation for all periodontal sites during the examination, and all of the periodontal sites have an equal degree of gingival inflammation, what will be the effect of using the second periodontal probe on your measurements of probing depth on the patient?

A. None.
B. Deeper probing depth measurements will be made with the Williams probe.
→C. Deeper probing depth measurements will be made with the Michigan-O probe.
D. The patient will feel more pain on probing with use of the Williams probe.

23. How can digital subtraction radiography enhance periodontal evaluations?

→A. It permits visualization of smaller alveolar bone mass changes on radiographs than can be seen with standard visual radiographic analysis.
B. It permits visualization of larger alveolar bone mass changes on radiographs than can be seen with standard visual radiographic analysis.
C. It provides a reliable method to predict future periodontal probing depth changes than standard visual radiographic analysis.
D. It enables better visualization of the width of attached gingival than standard visual radiographic analysis.

24. On post-treatment radiographs taken on periodontitis patients, which of the following is associated with an increased risk of recurrent clinical periodontal breakdown over a three year period after exposure of the radiographs?

A. presence of crestal lamina dura
→B. angular bony defects
C. horizontal crestal alveolar bone morphology
D. presence of a radiographic retrocuspid papillae

25. When examining post-treatment radiographs on periodontitis patients, which of the following is correct relative to evaluations of crestal lamina dura at interdental septa?

A. Absence of crestal lamina dura is a highly reliable predictor of future clinical periodontal breakdown within a 24-month period after exposure of the radiographs.
B. No conclusions can be drawn about crestal lamina dura and the subsequent clinical periodontal status.
→C. Presence of crestal lamina dura is highly reliable as a predictor of clinical periodontal stability up
to a two year period after exposure of the radiographs.
D. None of the above.

26. You look at dental radiographs for a patient and note that on multiple tooth surfaces interproximally there are radiopaque irregularities apical to the tooth CEJ which extend beyond or are superimposed over the contour of the root surface. Based upon research findings reported by Buchanan et al. (1987), what do the radiopaque irregularities most likely represent?

A. crestal lamina dura
B. dental caries
C. furcation arrow
→D. subgingival calculus

27. A radiographic furcation arrow represents what clinical entity?

A. The fusion of two tooth roots.
B. An incipient furcation involvement.
→C. The presence of either a Grade II or III furcation involvement.
D. The presence of subgingival calculus in a furcation lesion.

28. You take a periodontal probe to measure the extent of periodontal attachment loss clinically in millimeters from the CEJ on the mesial surface of a tooth, and find six millimeters of clinical periodontal attachment loss. What would you expect to see on the radiograph of the same interproximal tooth surface?

A. The absence of a radiographic crestal lamina dura.
→B. A high probability of finding a similar distance in millimeters from the radiographic CEJ on the tooth to the most coronal level of the alveolar bone.
C. A low probability of finding a similar distance in millimeters from the radiographic CEJ on the tooth to the most coronal level of the alveolar bone.
D. An angular bony defect associated with severe periodontitis.

29. In looking at dental radiographs on a patient, in what areas of the dentition would angular bony defects be most likely to develop with periodontal breakdown?

→A. Where large distances (5 millimeters or more) are present between root surfaces interproximally.
B. Where crestal lamina dura is present at interdental septa.
C. Where adjacent root surfaces are close together interproximally.
D. In furcation areas.

30. The "radius of effectiveness" of microbial dental plaque refers to which of the following?

A. The ability of dental plaque to induce gingival bleeding on probing.
B. The ability of dental plaque biofilms to destroy alveolar bone up to 10 millimeters from its advancing front along the root surface.
→C. The ability of dental plaque to cause alveolar bone resorption for only a limited distance up to 2.5 millimeters from its apical or lateral edge on a tooth root surface.
D. The ability of microbial dental plaque to form a furcation arrow.

31. You are looking at a dental radiograph and measure 6 millimeters in length between the radiographic CEJ to the most coronal level of intact supporting bone. What is the actual loss of alveolar bone on the site?

A. 6 millimeters
→B. 4.0 to 4.5 mm
C. 7.5 to 8.0 mm
D. cannot be determined from the data provided

32. What is the time relationship between the occurrence of episodes of clinical periodontal attachment loss and detectable changes that can be seen on conventional dental radiographs with visual analysis?

A. The radiographic changes can be detected approximately 6-8 months prior to clinical detection of the periodontal breakdown.
B. The occurrence of the periodontal breakdown can be detected at the same time point by both clinical measurements of periodontal attachment loss and radiographic analysis.
→C. The clinical detection of periodontal breakdown can be detected approximately 6-8 months prior to detection of radiographic changes.
D. The radiographic changes can be detected approximately 2-3 months prior to clinical detection of the periodontal breakdown.

33. Which of the following is <u>incorrect</u>.

→A. Dental radiographs overestimate the true extent of alveolar bone loss.
B. Radiographs do not reveal the status of the entire perimeter of a tooth.
C. Radiographs do not conclusively determine the presence of furcation involvements.
D. A periapical radiographic series is generally not needed for periodontal purposes if a patient clinically does not have any recession and probing depths are less than 5 mm.