

Name: _____

Final Examination - D373 Principles of Periodontology I, fall, 2007

Instructions: Select the single best answer for each question and enter response onto the computer bubble sheet, onto which you also enter your name, the last four digits of your student number, and the exam version (A or B - see bottom of the this first page). You must turn in both this examination copy and your computer answer sheet. You have 60 minutes to complete the examination. No questions will be answered by proctors during the examination.

1. You should allow a minimum of how many mm from the alveolar crest to the restorative margin when you perform a crown lengthening procedure?
 - A. 0 mm
 - B. 1 mm
 - C. 2 mm
 - D. 3 mm

2. An important indication for correcting a narrow zone of attached gingiva is:
 - A. placing a crown.
 - B. improving plaque control.
 - C. tooth whitening.
 - D. root canal treatment.

3. The biological width is made of:
 - A. the epithelial attachment.
 - B. the fibrous attachment.
 - C. both epithelial attachment and fibrous attachment.
 - D. the space occupied by the gingival sulcus.

4. When the restorative margins intrude on the biological width, they will initiate an inflammatory reaction in the gingiva.
The gingival inflammatory reaction aims to shift the biological width at a more apical level.
 - A. The first statement is true, but the second is false.
 - B. The first statement is false, but the second is true.
 - C. Both statements are true.
 - D. Both statements are false.

5. An example of a periodontal surgical procedure to help the dentist restore a tooth with minimal remaining structure is:
 - A. a gingival graft.
 - B. crown lengthening.
 - C. a coronally positioned flap.
 - D. guided tissue regeneration.

6. Which of the following pontic designs is the most desirable from a periodontal point of view?
 - A. sanitary
 - B. ridge lap
 - C. modified ridge lap
 - D. ovate

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EXAM VERSION - A

7. Splinting of teeth is the treatment of choice to manage primary occlusal trauma. A temporary splint is preferable than a permanent splint.
- A. The first statement is true, but the second is false.
 - B. The first statement is false, but the second is true.
 - C. Both statements are true.
 - D. Both statements are false.

QUESTION #7 - CREDIT GIVEN TO ALL STUDENTS

8. *A. actinomycetemcomitans* and *P. gingivalis* are pathogenic microorganisms associated with aggressive periodontitis because they:
- A. induce only low antibody reactions in affected patients.
 - B. produce potent virulence factors.
 - C. are capable of invading human osteoblast cells.
 - D. All of the above
9. Which of the following is a periodontal bacterium that produce a toxin that kills leukocytes and contributes to the pathogenesis of aggressive periodontitis?
- A. *Porphyromonas gingivalis*
 - B. *Tannerella forsythensis*
 - C. *Fusobacterium nucleatum*
 - D. *Aggregatibacter actinomycetemcomitans*
10. A recent national survey of U.S. children (Albandar et al. 1997) assessed the risk for developing aggressive periodontitis among 14-17 year old of different race-ethnicity. This study found that the risk is _____ compared to whites.
- A. 4 times higher in African-Americans, and 15 times higher in Hispanics
 - B. 8 times higher in African-Americans, and 4 times higher in Hispanics
 - C. 15 times higher in African-Americans, and 4 times higher in Hispanics
 - D. 4 times higher in African-Americans, and 8 times higher in Hispanics
11. Studies show that neutrophils from aggressive periodontitis patients have a reduced neutrophil chemotaxis response to fMLP antigens (i.e., fewer neutrophils migrate to tissue to fight bacteria) compared to healthy persons. These studies also show that the chemotaxis response for neutrophils derived from white subjects is lower than the response for cells from African-Americans.
- A. Both statements are correct
 - B. Both statements are wrong
 - C. Only the first statement is correct
 - D. Only the second statement is correct
12. Which of the following diseases/conditions in adolescent children presents radiographically as vertical or arc-shaped lesions at multiple first permanent molars and/or incisors, and show a rapid progression of disease and a high rate of attachment loss?
- A. Aggressive periodontitis
 - B. Generalized chronic periodontitis
 - C. Generalized gingivitis

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D. Generalized gingival recession

13. Studies show that persons who are heavy smokers have _____ than subjects who are light smokers or nonsmokers.

- A. more severe periodontitis
- B. a lower percentage of teeth with deep probing depth
- C. a higher percentage of teeth with gingival bleeding
- D. all of the above

14. A recent epidemiological study in Brazil (Susin et al. 2004) showed that approximately _____ of severe periodontitis (attachment loss \geq 5 mm) in adult Brazilians is attributed to cigarette smoking.

- A. 6%
- B. 12%
- C. 24 %
- D. 48%

15. The use of guided tissue regeneration (GTR) in the treatment of intrabony periodontal defects show significantly poorer outcome in patients who are smokers than in nonsmokers.
However, the rate of failing implants following dental implants treatment is similar in smokers and nonsmokers.

- A. Both statements are correct
- B. Both statements are wrong
- C. Only the first statement is correct
- D. Only the second statement is correct

16. Studies suggest that tobacco smoking contributes to the development of:

- A. higher levels of supragingival dental plaque
- B. higher percentages of Gram-negative bacteria in the supragingival dental plaque
- C. higher percentages of Gram-positive bacteria in the supragingival dental plaque
- D. none of the above

17. Volatile components of cigarettes:

- A. enhance the attachment of human gingival fibroblasts to root surfaces
- B. cause a increase in the proliferation of human gingival fibroblasts in vitro
- C. interfere with wound healing
- D. all of the above

18. Many smokers may continue to have progressive or recurrent periodontitis leading to tooth loss.
The detrimental effects of smoking on periodontal treatment outcomes is long-lasting and independent of the frequency of maintenance therapy.

- A. Both statements are correct
- B. Both statements are wrong
- C. Only the first statement is correct
- D. Only the second statement is correct

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19. Of the following patients, who is expected to have the least favorable outcome following periodontal nonsurgical treatment (scaling and root planing)?
- A. A 30 years old person who has been smoking 15-20 cigarettes daily for the last 10 years and will not consider quitting.
 - B. A 40 years old person who smoked 25 cigarettes daily for 20 years, but quit smoking 2 years ago.
 - C. A 22 years old person who has been smoking 5 cigarettes daily for the last 2 years and will not consider quitting.
 - D. A 55 years old person who has never smoked cigarettes.
20. Individuals whose blood glucose level is higher than normal, but do not meet the criteria for diabetes include those with:
- A. impaired fasting glucose
 - B. type 2 diabetes
 - C. gestational diabetes
 - D. All of the above
21. Which of the following is not a typical clinical finding in leukemic patients?
- A. severe periodontitis
 - B. mucosal ulceration
 - C. gingival bleeding
 - D. gingival enlargement
22. High levels of the female sex hormone progesterone:
- A. favors certain anaerobic bacteria in the subgingival area.
 - B. increases the level of subgingival bacteria by many folds.
 - C. causes low production of the plasminogen activator inhibitor type 2.
 - D. all of the above
23. According to the recommendations of the American Diabetes Association a person whose HbA1C test score is 5.5%.
- A. is normal.
 - B. is poorly controlled and should seek medical help.
 - C. is poorly controlled but can improve by changing his/her diet.
 - D. has a tendency to develop type 2 diabetes in the future.
24. Which of the following is a microorganism frequently isolated from periodontal pockets and is the most commonly isolated bacterial species in the amniotic fluid from mothers having low birth weight infants?
- A. *Porphyromonas gingivalis*
 - B. *Tannerella forsythensis*
 - C. *Fusobacterium nucleatum*
 - D. *Aggregatibacter actinomycetemcomitans*
25. Infection during pregnancy may cause high production of:
- A. lipopolysaccharide
 - B. prostaglandin
 - C. pro-inflammatory mediators
 - D. all of the above

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26. Infection decreases blood viscosity.
Decreasing blood viscosity will increase the risk of coronary ischemia.

- A. Both statements are correct
- B. Both statements are wrong
- C. Only the first statement is correct
- D. Only the second statement is correct

27. Studies suggest that platelets aggregation is _____ by oral strains of *Streptococcus sanguis* and *Porphyromonas gingivalis*.

- A. enhanced
- B. not affected
- C. reduced
- D. none of the above

28. Ulcerated soft tissues of the periodontal pocket have higher risk for bacteremia.
Bacteremia occurs more frequently in persons with severe gingival inflammation than those with healthy gingivae.

- A. Both statements are correct
- B. Both statements are wrong
- C. Only the first statement is correct
- D. Only the second statement is correct

29. Bacteremia of periodontal microorganisms may lead to deactivation (depression) of the hepatic acute phase response.

The depression of the hepatic acute phase response contributes to a significant increase in the level of C-reactive protein (CRP) in the blood, and thereby greatly increases the risk for renal failure.

- A. Both statements are correct
- B. Both statements are wrong
- C. Only the first statement is correct
- D. Only the second statement is correct

30. In a 14-year follow-up study on treatment of advanced periodontitis (Lindhe et al. 1985), it was shown that:

- A. More recurrent deep probing depths were found in the older patients after 14 years.
- B. More recurrent deep probing depths were found in the young patients after 14 years.
- C. The age of the patients did not influence the long-term treatment results.
- D. A reduced healing capacity was found in young patients with advanced periodontitis as compared to that seen in elderly patients with the same degree of periodontal destruction.

31. Which of the following are correct relative to experimental gingivitis studies (Holm-Pedersen et al. 1975) in young vs. elderly individuals?

1. The onset of gingivitis occurred sooner in the older persons.
2. Gingival inflammation was less severe in the elderly persons.
3. Elderly persons had lower Gingival Index scores at baseline.
4. Following re-institution of oral hygiene procedures, no differences in the rate of healing were found between the young vs. elderly gingivitis study subjects.

- A. all of the above
- B. #2 & 4 only
- C. #3 & 4 only
- D. #1 & 4 only

32. More dense gingival connective tissues with greater numbers of fibroblasts and less collagen is seen in elderly vs. young persons.
The thickness of tooth cementum is decreased in apical areas in elderly persons as compared to young individuals.
- 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
33. A lower collagen/fibroblast ratio is present in the periodontal ligament space in elderly persons as compared to young persons.
Less osteogenic potential is found in bone grafts removed from elderly persons as compared to young individuals.
- 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
34. A partial denture is a more desirable tooth replacement choice in a patient with periodontitis.
- A. The statement is true.
 - B. The statement is false.

QUESTION #34 - CREDIT GIVEN TO ALL STUDENTS

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