# *Oral Pathology for the Dental Hygienist 7th edition Ibsen Test Bank*

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**MULTIPLE CHOICE**

1. A decrease in the size and function of a cell, a tissue, an organ, or the body is referred to as
   a. emigration.
   b. atrophy.
   c. hyperplasia.
   d. phagocytosis.

   ANS: B
   *Atrophy* is defined as a decrease in the size and function of a cell, a tissue, an organ, or the whole body. Emigration is the passage of white blood cells through the endothelium and wall of the microcirculation into the injured tissue. Hyperplasia is the enlargement of a tissue or organ resulting from an increase in the number of normal cells. Phagocytosis is the process of ingestion and digestion of particulate material by cells.

   REF: Reactive Tissue Response, page 43 OBJ: 8

2. The first response of the body to injury is
   a. anaphylaxis.
   b. erythema.
   c. fever.
   d. inflammation.

   ANS: D
   The inflammatory response is the first reaction to injury, and it involves a series of microscopic events. Anaphylaxis is a severe type of hypersensitivity or allergic reaction in which there is an exaggerated immunologic reaction resulting from the release of vasoactive substances such as histamine. Erythema is redness of the skin or mucosa and is a local sign of inflammation. Fever is the elevation of the normal body temperature and is a systemic sign of inflammation.

   REF: Inflammation, page 34 OBJ: 1

3. Which type of inflammation occurs when the injury is minimal and brief and its source is removed from the tissue?
   a. Acute
   b. Chronic
   c. Local
   d. Systemic

   ANS: A
   Acute inflammation occurs when the injury is minimal and brief. Chronic inflammation occurs when the inflammatory response lasts for longer periods, even indefinitely. *Local* is a term used to describe a specific area of inflammation. Systemic factors such as fever, leukocytosis, and lymphadenopathy occur when the injury is extensive.

   REF: Inflammation, page 34 OBJ: 2

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4. Which cell is the first to arrive at the site of injury and is the primary cell type involved in acute inflammation?
   a. Macrophage
   b. Neutrophil
   c. Plasma cell
   d. Mast cell

   ANS: B
   The neutrophil is the first cell to arrive at the site of injury and is the primary cell type involved in acute inflammation. The macrophage is the second cell type to participate in the inflammatory response. The plasma cell is involved in chronic inflammation. The mast cell participates in both the inflammatory and immune responses.

   REF: White Blood Cells in the Inflammatory Response, page 38
   OBJ: 4

5. Which symptom is *not* a classic local sign of inflammation?
   a. Redness
   b. Swelling
   c. Leukocytosis
   d. Loss of normal tissue function

   ANS: C
   Leukocytosis is an increase in the number of white blood cells and is a sign of systemic inflammation. Redness is a local clinical change at the site of injury and is one of the classic local signs of inflammation. Swelling is a local clinical change observed at the site of injury and is one of the classic local signs of inflammation. Loss of normal tissue function at the site of injury is a classic local sign of inflammation.

   REF: Leukocytosis, page 41 OBJ: 5

6. Healing of an injury with little tissue loss, such as a surgical incision, is referred to as healing by which type of intention?
   a. Tertiary
   b. Keloid
   c. Secondary
   d. Primary

   ANS: D
   Healing by primary intention occurs when there is very little loss of tissue. The clean edges of the surgical incision are joined with sutures, and very little granulation tissue forms. Healing by tertiary intention occurs when an infection develops at the site of a surgical incision that is healing by primary intention. Healing by secondary intention may ensue. Keloid formation is excessive scar tissue development that can occur in healing by secondary intention when there is a significant loss of tissue. Healing by secondary intention occurs when the injury involves significant loss of tissue and the edges of the injury cannot be joined during healing. A large clot forms, resulting in an increase in granulation tissue.

   REF: Healing by Primary Intention, page 45 OBJ: 11

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7. The wearing away of tooth structure during mastication is termed
   a. attrition.
   b. erosion.
   c. abrasion.
   d. abfraction.

   ANS: A
   Attrition is defined as the wearing away of tooth structure during mastication. Erosion is the loss of tooth structure from chemical action. Abrasion is a pathologic wearing of tooth structure resulting from a repetitive mechanical habit. Abfraction is the result of biomechanical forces on the teeth.

   REF: Attrition, page 46 OBJ: 14

8. The loss of tooth structure seen in bulimia is caused by
   a. anorexia.
   b. erosion.
   c. attrition.
   d. bruxism.

   ANS: B
   Generalized erosion, especially on the lingual surfaces of maxillary anterior teeth, is caused by frequent vomiting in patients with bulimia. Patients with anorexia nervosa do not vomit after eating. Attrition is the wearing away of tooth structure during mastication. Bruxism occurs when there is nonfunctional grinding or clenching of the teeth.

   REF: Erosion, page 48 OBJ: 14

9. A patient comes to the office for an emergency visit complaining of a toothache in the left posterior mandible. On clinical examination you notice a gray-to-white patch on the left posterior buccal mucosa. On questioning, the patient tells you that this area is also painful. After reviewing the patient's medical history, you question the patient regarding his recent use of




   a. hydrogen peroxide.
   b. aspirin.
   c. antibiotics.
   d. mouthwash.

   ANS: B

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This is a classic case of aspirin burn caused by the misuse of aspirin. The patient placed aspirin near the tooth that was aching; thus necrosis of the mucosa occurred, resulting in the painful white patch on the buccal mucosa. A chemical burn from the use of hydrogen peroxide would be more diffuse, probably bilateral, and not a white plaque. Antibiotics would be taken systemically and most likely swallowed. Commercial mouthwashes would not cause a localized lesion.

REF: Aspirin Burn, page 49OBJ: 17

10. A white raised line observed on the buccal mucosa along the occlusal plane of the teeth is most likely
    a. cheek biting.
    b. linea alba.
    c. white sponge nevus.
    d. frictional keratosis.

    ANS: B
    Linea alba is a raised white line on the buccal mucosa along the occlusal plane; it is considered a variant of normal. Cheek biting is usually seen bilaterally as a diffuse area causing sloughing of the buccal mucosa near the occlusal plane. White sponge nevus is a genetic autosomal-dominant condition. Clinically, it is characterized by a white, soft, folding (*corrugation*) of the buccal mucosa. A thick layer of keratin produces the whitening effect. Frictional keratosis is caused by a chronic rubbing or friction against the mucosa or alveolar ridge. Diagnosis is made by identifying the trauma causing the lesion and removing the cause.

    REF: Linea Alba, page 52 OBJ: 17

11. Which term describes white blood cells adhering to the walls of a blood vessel during inflammation?
    a. Margination
    b. Pavementing
    c. Leukocytosis
    d. Emigration

    ANS: B
    Pavementing is the adherence of white blood cells to the walls of a blood vessel during inflammation. Margination is a process during inflammation in which white blood cells move to the periphery of the blood vessel wall. Leukocytosis is a temporary increase in the number of white blood cells circulating in blood. Emigration is the passage of white blood cells through the endothelium and wall of the microcirculation into the injured tissue.

    REF: Microscopic Events of Inflammation and Clinical Signs, page 35
    OBJ: 1

12. Which symptom is a systemic sign of inflammation?
    a. Redness
    b. Pain
    c. Loss of normal tissue function
    d. Fever

    ANS: D

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Fever is a systemic sign of inflammation. Redness is a local sign of inflammation. Pain is a local sign of inflammation caused by pressure on nerves by exudate formation. Loss of normal tissue function is a local sign of inflammation associated with local swelling and pain.

REF: Microscopic Events of Inflammation and Clinical Signs, Table 2-1, page 35
OBJ: 3

13. The enlargement of lymph nodes is termed
    a. atrophy.
    b. lymphadenopathy.
    c. hyperplasia.
    d. leukocytosis.

    ANS: B
    Lymphadenopathy occurs when lymph nodes become enlarged and palpable. Atrophy is a decrease in size and function of a cell, a tissue, an organ, or the whole body. Hyperplasia is an enlargement of a tissue or an organ resulting from an increase in the number of normal cells. Leukocytosis is a temporary increase in the number of white blood cells.

    REF: Lymphadenopathy, page 41 OBJ: 1

14. The first microscopic event in the inflammatory response is
    a. decreased blood flow.
    b. constriction of the microvasculature.
    c. phagocytosis.
    d. dilation of microvasculature.

    ANS: B
    After injury to the tissue, the first microscopic event is constriction of the microvasculature. Decreased blood flow occurs after exudate formation. Phagocytosis occurs when the white blood cells remove foreign substances from the site by ingestion and digestion; these substances must be removed for the inflammation to resolve. Dilation of the microvasculature is the second microcirculation event to occur after injury.

    REF: Microscopic Events of Inflammation and Clinical Signs, page 34
    OBJ: 4

15. Serous exudate is composed of which material(s)?
    a. Tissue debris and many white blood cells
    b. Suppuration
    c. Plasma fluids and proteins with a few white blood cells
    d. Plasma fluids and red blood cells

    ANS: C
    Serous exudate is composed of plasma fluids and proteins with a few white blood cells. Purulent exudate contains tissue debris and many white blood cells. Suppuration is the formation and discharge of pus, as seen in purulent exudate. *Serous* describes the watery consistency of plasma. Red blood cells are not a component of serous fluid.

    REF: Microscopic Events of Inflammation and Clinical Signs, page 35
    OBJ: 5

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16. When formation of exudate is excessive, a drainage tract may develop through the injured tissue. This channel is often termed
    a. a fistula.
    b. leukocytosis.
    c. erythema.
    d. emigration.

    ANS: A
    A fistula is the channel through which excessive exudate passes to drain to the outside. Leukocytosis is a temporary increase in white blood cells. Erythema is redness of the skin or mucosa. Emigration occurs when white blood cells pass through the endothelium and wall of the microcirculation into the injured tissue.

    REF: Microscopic Events of Inflammation and Clinical Signs, page 35
    OBJ: 5

17. Neutrophils constitute what percentage of the entire white blood cell population?
    a. 5%
    b. 20%
    c. 65%
    d. 90%

    ANS: C
    Neutrophils make up 60% to 70% of all white blood cells. There are significantly more than 5% of neutrophils in the entire white blood cell count. There are significantly more than 20% of neutrophils in the entire white blood cell count. There are fewer than 90% of neutrophils in the entire white blood cell count.

    REF: Neutrophils, page 38 OBJ: 6

18. All statements are true concerning the neutrophil *except* that the neutrophil is
    a. the first cell at the site of injury.
    b. the primary cell in acute inflammation.
    c. the primary cell in chronic inflammation.
    d. a phagocyte.

    ANS: C
    In chronic inflammation, the primary cells are macrophages, lymphocytes, and plasma cells. Neutrophils are the first cells at the site of injury. Neutrophils are the primary cells in acute inflammation. The main function of the neutrophil is phagocytosis.

    REF: White Blood Cells in the Inflammatory Response, page 38
    OBJ: 6

19. Which system mediates inflammation by causing increased dilation of the blood vessels at the site of injury and increases the permeability of local blood vessels?
    a. Kinin system
    b. Clotting system
    c. Complement system
    d. Lysosomal enzymes

    ANS: A

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The kinin system mediates inflammation by causing increased dilation of the blood vessels at the site of injury and increases the permeability of local blood vessels. The clotting mechanism functions primarily in the clotting of blood. The complement system involves the production of a sequential cascade of plasma proteins that function in inflammation and immunity. Lysosomal enzymes are released from granules in the white blood cells; they act as chemotactic factors and can cause damage to connective tissues and the clot that has formed at the site of injury.

REF: Kinin System, page 40 OBJ: 4

20. Which medication is a steroidal anti-inflammatory drug?
    a. Aspirin
    b. Prednisone
    c. Ibuprofen
    d. Motrin

    ANS: B
    Prednisone is a steroidal anti-inflammatory drug. Aspirin is a nonsteroidal anti-inflammatory agent. Ibuprofen is a nonsteroidal anti-inflammatory agent. Motrin is ibuprofen, a nonsteroidal anti-inflammatory drug.

    REF: Anti-inflammatory Drugs, page 42 OBJ: 6

21. Which term is defined as an increase in the number of cells in a tissue or organ?
    a. Hypertrophy
    b. Atrophy
    c. Hyperplasia
    d. Repair

    ANS: C
    Hyperplasia is an increase in the number of cells in a tissue or organ. Hypertrophy is an increase in the size of an organ or tissue but not in the number of cells. Atrophy is a decrease in the size and function of a cell, a tissue, or an organ. Repair is the restoration of damaged or diseased tissue.

    REF: Reactive Tissue Response, page 43 OBJ: 1

22. Excessive scarring in skin is termed
    a. a keloid.
    b. healing by primary intention.
    c. a hematoma.
    d. healing by tertiary intention.

    ANS: A
    A keloid occurs when there is excessive scarring in the skin. In healing by primary intention, very little granulation tissue forms. A hematoma occurs when there is hemorrhage into the tissue. This may impair healing. Healing by tertiary intention occurs after the infection has been resolved and surgical tissue repair has been performed.

    REF: Healing by Secondary Intention, page 45 OBJ: 9

23. The first sign of attrition is

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a. open contacts.
b. disappearance of mamelons on incisors.
c. temporomandibular joint dysfunction.
d. biomechanical forces on the teeth.

ANS: B
The first sign of attrition is the disappearance of mamelons on incisors. Open contacts are associated with erosion. Temporomandibular joint dysfunction problems are more likely associated with bruxism. Excessive attrition, muscle pain, and wear facets are present in bruxism. Abfraction results from biomechanical forces on the teeth.

REF: Attrition, page 46 OBJ: 14

24. Which habit is *not* a cause of abrasion?
a. Pipe placement by smokers
b. Playing wind instruments
c. Holding needles or pins with the teeth
d. Frequent sucking of lemons

ANS: D
Erosion, not abrasion, can be caused by the frequent sucking of lemons. Abrasion can be caused by pipe placement by pipe smokers. Abrasion may be caused by playing wind instruments. Abrasion can be caused by needles and pins held between the teeth.

REF: Erosion, pages 48-49 OBJ: 14

25. This type of erosion is classically associated with



a. anorexia nervosa.
b. bulimia.
c. sucking lemons.
d. abrasive toothpaste.

ANS: B

Bulimia is an eating disorder characterized by food binges followed by self-induced vomiting that causes erosion to the lingual aspects of the teeth. Anorexia nervosa is an eating disorder, but it is not associated with erosion because vomiting after eating is not a component of the disorder. Sucking lemons would cause erosion to the facial aspects of the teeth. Abrasive toothpastes are more responsible for contributing to abrasion.

REF: Erosion, Fig. 2.25, page 48 OBJ: 14

26. Aspirin burn on the oral mucosa
    a. is caused by ingestion of too many aspirin tablets.
    b. is caused by placing the aspirin on the tooth with the toothache, causing the surrounding mucosa to become necrotic.
    c. is painless.
    d. requires a biopsy for diagnosis.

    ANS: B
    Aspirin burn is caused when aspirin is placed on the tooth with the toothache, causing the surrounding mucosa to become necrotic. Aspirin burn is caused by a topical misuse of aspirin; it is not systemic. Aspirin burn is very painful and slow to heal. Aspirin burn is usually diagnosed by questioning the patient to reveal the cause of the lesion.

    REF: Aspirin Burn, page 49OBJ: 17

27. Electric burns in the oral area are usually seen in which patient group?
    a. Electricians
    b. Infants and young children
    c. Elderly
    d. Individuals involved in an electrical fire

    ANS: B
    Electric burns in the oral area are most often seen in infants and young children who have bitten or chewed a live electrical cord. Electricians do not usually have electric burns in the oral area. The elderly do not usually have electric burns in the oral area. Individuals in an electrical fire do not usually have electric burns in the oral area.

    REF: Electric Burn, page 50 OBJ: 17

28. The diagnosis of a traumatic ulcer is usually based on
    a. history of the lesion.
    b. scalpel biopsy.
    c. therapeutic procedures.
    d. laboratory tests.

    ANS: A
    Traumatic ulcers are usually diagnosed on the basis of the relationship of the history to the lesion. Scalpel biopsy is not used in the diagnosis of traumatic ulcers. However, if the trauma persists and the ulcer lasts 14 days, a biopsy may be performed. Therapeutic measures are not used to diagnose traumatic ulcers. Laboratory tests are not used to diagnose traumatic ulcers.

    REF: Traumatic Ulcer, page 51 OBJ: 17

29. The major cause of a mucocele is

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a. a sialolith.
b. salivary duct obstruction.
c. trauma to a minor duct.
d. allergic reaction.

ANS: C
The major cause of a mucocele is trauma to a minor duct. The mucous salivary gland secretion spills into the adjacent connective tissue. A sialolith is a salivary gland stone. Dilated salivary gland ducts are believed to develop as a result of salivary duct obstruction. A mucocele is not caused by an allergic reaction.

REF: Mucous Retention Lesions, page 56 OBJ: 19

30. Necrotizing sialometaplasia is thought to result from
a. lack of blood supply to the affected salivary gland.
b. a sialolith.
c. trauma to the floor of the mouth.
d. pleomorphic adenoma.

ANS: A
Necrotizing sialometaplasia results from lack of blood supply to the affected salivary gland. A sialolith is a salivary gland stone that causes an obstruction in the salivary gland. Necrotizing sialometaplasia occurs on the hard palate, not the floor of the mouth. Pleomorphic adenoma is a benign salivary gland tumor found unilaterally on the posterior palate.

REF: Necrotizing Sialometaplasia, page 57 OBJ: 18

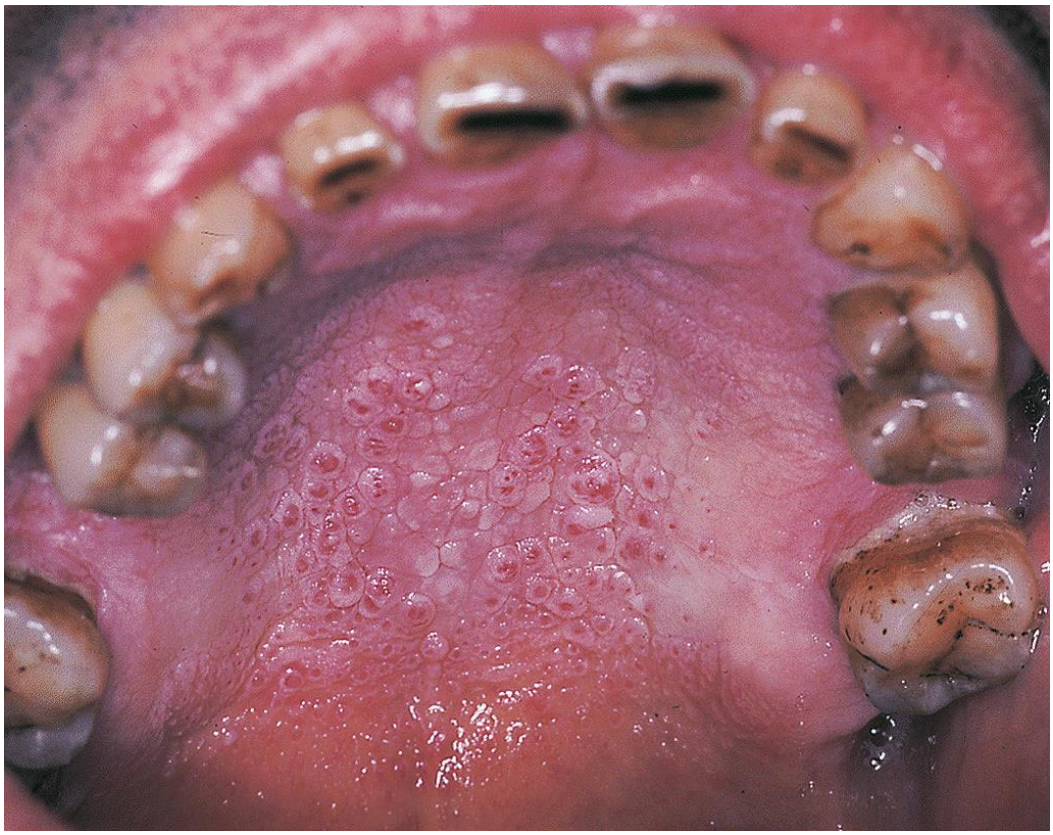
31. Which choice is most likely to result in frictional keratosis?
a. High-fiber diet
b. Chewing on an edentulous ridge
c. Malignancy
d. Daily use of mouthwash

ANS: B
Frictional keratosis results from chronic chewing on an edentulous ridge. A high-fiber diet does not cause frictional keratosis. Frictional keratosis is not associated with malignancy. Mouthwashes do not cause frictional keratosis.

REF: Frictional Keratosis, page 52 OBJ: 17

32. This lesion on the palate is typically associated with heavy pipe and cigar smoking and is termed

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a. tobacco pouch keratosis.
b. necrotizing sialometaplasia.
c. nicotine stomatitis.
d. frictional keratosis.

ANS: C
Nicotine stomatitis is a benign lesion of the hard palate typically associated with heavy pipe and cigar smoking. Tobacco pouch keratosis occurs in the mucobuccal fold and is caused by chewing/spitting tobacco. Necrotizing sialometaplasia is caused by lack of blood supply to a specific area of the palate. An ulcer is often present. Frictional keratosis results from chronic chewing on an edentulous alveolar ridge.

REF: Nicotine Stomatitis, page 52 OBJ: 18

33. Traumatic neuroma is a lesion caused by injury to which structure?
a. The epithelium
b. A peripheral nerve
c. A salivary gland
d. Striated muscle

ANS: B
The traumatic neuroma is a lesion caused by injury to a peripheral nerve. The mental foramen is the most common location. The traumatic neuroma does not result from epithelial injury. The traumatic neuroma does not result from injury to a salivary gland. The traumatic neuroma does not result from injury to striated muscle.

REF: Traumatic Neuroma, page 52 OBJ: 18

34. Which lesion occurs on the gingiva or alveolar process and contains many multinucleated giant cells, red blood cells, and chronic inflammatory cells?
    a. Ranula
    b. Central giant cell granuloma
    c. Fibroma
    d. Peripheral giant cell granuloma

    ANS: D
    The peripheral giant cell granuloma occurs on the gingiva or alveolar process; originates from the periodontal ligament; is thought to be a response to injury; and histologically is characterized by many multinucleated giant cells, red blood cells, and inflammatory cells. The ranula is found on the floor of the mouth. The central giant cell granuloma is found within bone. The fibroma occurs most frequently on the buccal mucosa and is composed of dense scarlike connective tissue containing few blood vessels.

    REF: Peripheral Giant Cell Granuloma, page 58 OBJ: 18

35. Epulis fissuratum is caused by
    a. denture adhesive products.
    b. poor suction in the palatal vault.
    c. poor denture hygiene.
    d. an ill-fitting denture flange.

    ANS: D
    Epulis fissuratum is caused by an ill-fitting denture flange. Denture adhesive products do not cause epulis fissuratum. Poor suction in the palatal vault causes papillary hyperplasia of the palate. Poor denture hygiene does not cause epulis fissuratum.

    REF: Denture-induced Fibrous Hyperplasia, page 60 OBJ: 18

36. This granular, erythematous papillary surface of the palatal vault was caused by




    a. poor oral hygiene.
    b. an ill-fitting suction area of a maxillary denture.
    c. the denture flange.
    d. soaking the denture in caustic rinses.

    ANS: B

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Papillary hyperplasia is caused by the palatal suction of an ill-fitting maxillary denture. Poor oral hygiene does not cause papillary hyperplasia. It may contribute to the inflammatory response of the area. The ill-fitting denture flange causes epulis fissuratum. Soaking the denture in caustic rinses may contribute to inflammation but not papillary hyperplasia.

REF: Inflammatory Papillary Hyperplasia of the Palate, page 61
OBJ: 17

37. The most common site for the development of a pulp polyp is
    a. the occlusal surface of a large open carious tooth.
    b. the apex of the tooth.
    c. the gingival margin of the tooth.
    d. deep in the pulp canal.

    ANS: A
    The most common site for the pulp polyp is in the occlusal surface of large open carious teeth. It is seen as a red or pink nodule that fills the occlusal surface. It is an excessive proliferation of chronically inflamed dental pulp tissue. Pulp polyps are not seen at the apex of teeth. Pulp polyps are not seen on the gingival margin of teeth. Pulp polyps are not seen deep in the pulp canal.

    REF: Chronic Hyperplastic Pulpitis, page 62 OBJ: 18

38. Which does *not* cause gingival enlargement?
    a. Hormonal changes
    b. Calcium channel blockers
    c. Hereditary factors
    d. Nitroglycerin

    ANS: D
    Nitroglycerin is prescribed for angina and does not cause gingival enlargement. Hormonal changes do contribute to gingival enlargement. Calcium channel blockers do cause gingival enlargement. Certain hereditary factors do cause gingival enlargement.

    REF: Gingival Enlargement, pages 61-62 OBJ: 8

39. Which inflammatory periapical lesion is most painful?
    a. Periapical abscess
    b. Periapical granuloma
    c. Radicular cyst
    d. Residual cyst

    ANS: A
    The periapical abscess is associated with severe pain caused by the inflammation. Periapical granuloma is most often asymptomatic. The radicular cyst is often asymptomatic and discovered on radiographic examination. The residual cyst forms when the radicular cyst is incompletely removed and left behind at the extraction site.

    REF: Periapical Abscess, page 62 OBJ: 22

40. Resorption of tooth structure from outside the tooth is termed
    a. internal resorption.

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b. external resorption.
c. idiopathic tooth resorption.
d. condensing osteitis.

ANS: B
External resorption begins outside the tooth. Internal resorption begins inside the pulpal area. Idiopathic tooth resorption can involve the crown or roots of impacted teeth, and the cause cannot be identified. Condensing osteitis is a change in the bone near the apices of teeth that is thought to be a reaction to a low-grade infection. The mandibular first molar is most commonly involved, and the area is seen radiographically as a radiopacity below the root apex of the involved tooth.

REF: Tooth Resorption, page 64 OBJ: 13

41. A process during inflammation in which white blood cells move to the blood vessel wall is termed
a. chemotaxis.
b. margination.
c. leukocytosis.
d. transudate.

ANS: B
Margination is defined as a process during inflammation in which white blood cells move to the blood vessel wall. Chemotaxis is the directed movement of white blood cells to the area of injury by biochemical mediators. Leukocytosis is a temporary increase in the number of white blood cells circulating in blood. Transudate is the fluid component of blood that normally passes through the endothelial walls of the microvasculature.

REF: Microscopic Events of Inflammation and Clinical Signs, page 35
OBJ: 1

42. An example of an irreversible cellular response that occurs during tissue injury is termed
a. atrophy.
b. hypertrophy.
c. hyperplasia.
d. necrosis.

ANS: D
Necrosis is the pathologic death of one or more cells or a portion of the tissue or an organ that results from irreversible damage to cells. Atrophy is an example of a reversible cellular response. Hypertrophy is an example of a reversible cellular response. Hyperplasia is an example of a reversible cellular response.

REF: Injury, page 34 OBJ: 2

43. The inflammatory response is a dynamic process, continually changing in response to injury and repair. Repair of tissue occurs only if the persistent source of injury is removed.
a. Both statements are true.
b. Both statements are false.
c. The first statement is true; the second is false.
d. The first statement is false; the second is true.

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ANS: A
Both statements are true.

REF: Inflammation, page 34 OBJ: 3

44. Hyperemia is responsible for which two clinical signs of inflammation?
    a. Emigration and pain
    b. Heat and erythema
    c. Transudation and redness
    d. Swelling and chemotaxis

ANS: B
Heat and erythema are caused by hyperemia. Emigration is the process by which the white blood cells escape from the blood vessels and is not a clinical sign of inflammation. Transudation is the process of plasma cells passing between the endothelial cells and entering the tissue and is not a clinical sign of inflammation. Chemotaxis is the directed movement of white blood cells toward the site of the injury and is not a clinical sign of inflammation.

REF: Microscopic Events of Inflammation and Clinical Signs, page 35
OBJ: 4

45. During inflammation, pain may be caused by which microscopic event?
    a. Phagocytosis
    b. Leukocytosis
    c. Exudate formation
    d. Anaphylaxis

ANS: C
Exudate presses on sensory nerves and may cause pain. Phagocytosis is the ingestion and digestion of foreign substances and is not a cause of pain. Leukocytosis is an increase in the number of white blood cells and is not a cause of pain. Anaphylaxis is a type of hypersensitivity or allergic reaction and is not a direct cause of pain.

REF: Microscopic Events of Inflammation and Clinical Signs, page 35
OBJ: 5

46. During the acute inflammatory process, the second type of white blood cell to emigrate from the blood vessel into the injured tissue is termed
    a. macrophage.
    b. neutrophil.
    c. plasma cell.
    d. lymphocyte.

ANS: A
The macrophage is the second cell to participate in the inflammatory response. The neutrophil is the first cell to arrive at the site of injury and is the primary cell involved in acute inflammation. The plasma cell is involved in chronic inflammation. The lymphocyte is involved in chronic inflammation.

REF: White Blood Cells in the Inflammatory Response, pages 38-39
OBJ: 6

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47. Each statement regarding the atrophy of tissue cells is true *except* one. Which is the *exception*?
    a. Atrophied cells are capable of returning to their normal size after stress is removed.
    b. Atrophy can occur with changes in cellular growth, malnutrition, ischemia, or hormonal changes.
    c. Atrophy can be present in the muscular wasting that occurs in some chronic diseases that do not allow for mobility.
    d. Atrophy occurs in the smooth muscles of the uterus and the mammary glands in response to pregnancy.

    ANS: D
    Hypertrophy occurs in the smooth muscles of the uterus and the mammary glands in response to pregnancy. All other statements are true.

    REF: Reactive Tissue Response, page 43 OBJ: 8

48. If the source of injury has been completely removed, the inflammation and immune responses in the tissues are completed in which time frame?
    a. One day after removal of injury
    b. Two days after removal of injury
    c. Seven days after removal of injury
    d. Two weeks after removal of injury

    ANS: C
    If the source of injury has been completely removed, the inflammation and immune responses in the tissues are completed in approximately 7 days. The day after injury removal, acute inflammation takes place in the area of future repair. Two days after removal of injury, fibroplasia, angiogenesis, the formation of granulation tissue, and epithelialization occur. Two weeks after removal of injury, matured fibrous connective tissue or scar tissue occurs.

    REF: Seven Days After Injury, page 44 OBJ: 9

49. Repair of bone injury is similar to the process that takes place in fibrous connective tissue except that it involves the creation of bone tissue. The removal of osteoblast-producing tissues and excessive movement of the bone promote bone healing.
    a. Both statements are true.
    b. Both statements are false.
    c. The first statement is true; the second is false.
    d. The first statement is false; the second is true.

    ANS: C
    The removal of osteoblast-producing tissues and excessive movement of the bone can interrupt healing. The first statement is true and the second is false.

    REF: Bone Tissue Repair, page 45 OBJ: 10

50. In cases of healing, if an infected injury is left open and the edges are not surgically joined until the infection is controlled; this process is referred to as healing by _____ intention.
    a. primary
    b. secondary

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c. tertiary

ANS: C
Healing by tertiary intention occurs when an infected injury is left open and the edges are not surgically joined until the infection is controlled. Healing by primary intention refers to the healing of an injury in which little loss of tissue takes place. Healing by secondary intention involves injury in which tissue is lost; thus the edges of the injury cannot be joined by healing.

REF: Healing by Tertiary Intention, page 45 OBJ: 11

51. Each factor may impair healing *except* one. Which is the *exception*?
a. Tobacco use
b. *Staphylococcus*
c. Nutritional supplements
d. Renal failure

ANS: C
The use of nutritional supplements has not been shown to impair healing. Tobacco use has been shown to impair healing. *Staphylococcus* infection has been shown to impair healing. Renal failure has been shown to impair healing.

REF: Factors that Impair Healing, page 46 OBJ: 12

52. A tooth must be extracted if internal root resorption is present and a perforation occurs.
a. Both the statement and reason are correct and related.
b. Both the statement and reason are correct but *not* related.
c. The statement is correct, but the reason is *not.*
d. The statement is *not* correct, but the reason is correct.
e. *Neither* the statement *nor* the reason is correct.

ANS: A
A tooth must be extracted if internal root resorption is present and a perforation occurs. Both the statement and reason are correct and related.

REF: Tooth Resorption, page 64 OBJ: 13

53. A wedge-shaped defect at the cervical area of a tooth, the cause of which is related to microfracture of the tooth structure in areas of concentration of stress, is termed
a. attrition.
b. erosion.
c. abrasion.
d. abfraction.

ANS: D
Abfraction is the result of biomechanical forces on the teeth. Attrition is defined as the wearing away of tooth structure during mastication. Erosion is the loss of tooth structure from chemical action. Abrasion is a pathologic wearing of tooth structure resulting from a repetitive mechanical habit.

REF: Abfraction, page 47 OBJ: 14

54. Which statement is characteristic of erosion?

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a. It is a pathologic wearing away of tooth structure that results from a repetitive mechanical habit.
b. It is caused by local factors such as occlusal interferences in combination with stress and tension.
c. If tooth structure is lost around a restoration, the restoration will appear raised from the surrounding demineralized tooth structure.
d. Its first clinical sign is the disappearance of mamelons on the anterior teeth and the flattening of occlusal cusps on the molar teeth.

ANS: C
This phenomenon is seen in erosion and is not seen in abrasion, bruxism, or attrition. This is the definition of abrasion. This describes bruxism. This describes attrition.

REF: Erosion, pages 48-49 OBJ: 15

55. Aspirin burn to the oral mucosa appears as
a. white.
b. pigmented.
c. bulbous.
d. papillary.

ANS: A
Aspirin burn causes the tissue to become necrotic and appears white. Aspirin burn does not appear pigmented. Aspirin burn does not appear bulbous. Aspirin burn does not appear papillary.

REF: Aspirin Burn, page 49OBJ: 17

56. The most likely cause of a ranula is
a. inflammation of gland tissue.
b. blockage of blood supply.
c. trauma to a minor duct.
d. salivary duct obstruction.

ANS: D
Salivary gland obstruction is the most likely cause of a ranula. Inflammation of salivary gland tissue is referred to as *sialadenitis*. Necrotizing sialometaplasia results from blockage of the blood supply. The major cause of a mucocele is trauma to a minor duct.

REF: Mucous Retention Lesions, page 56 OBJ: 19

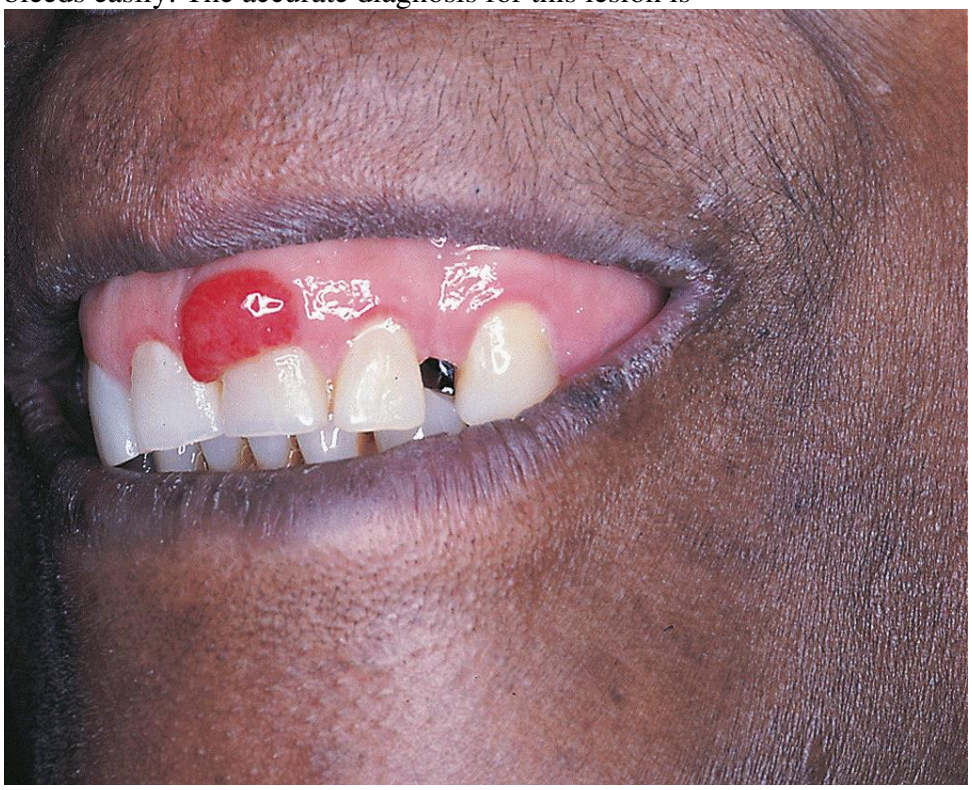
57. Each habit is most likely to result in frictional keratosis *except* one. Which is the *exception*?
a. Chronic cheek biting
b. Chewing on an edentulous ridge
c. Cigarette smoking
d. Tongue chewing

ANS: C
Frictional keratosis is not associated with cigarette smoking. Chronic cheek biting can result in frictional keratosis. Frictional keratosis results from chronic chewing on an edentulous ridge. Tongue chewing can result in frictional keratosis.

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REF: Frictional Keratosis, page 52 OBJ: 17

58. This sessile-based lesion is on the gingiva of a 13-year-old female. It is soft to palpation and bleeds easily. The accurate diagnosis for this lesion is



a. peripheral giant cell granuloma.
b. pyogenic granuloma.
c. traumatic neuroma.
d. irritation fibroma.

ANS: B
Pyogenic granulomas are commonly found in teenagers and exhibit a lesion that is soft to palpation and bleeds easily. Peripheral giant cell granuloma does not exhibit these characteristics. Traumatic neuroma does not exhibit these characteristics. Irritation fibroma does not exhibit these characteristics.

REF: Pyogenic Granuloma, page 58 OBJ: 19

59. These elongated folds of tissue are a result of irritation from an ill-fitting denture. The accurate diagnosis for this lesion is

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a. palatal papillomatosis.
b. gingival hyperplasia.
c. chronic hyperplastic pulpitis.
d. epulis fissuratum.

ANS: D
Epulis fissuratum (denture-induced fibrous hyperplasia) consists of elongated folds of tissue as a result of irritation from an ill-fitting denture. Palatal papillomatosis is seen on the palate. Gingival hyperplasia is an enlargement of the gingiva. Chronic hyperplastic pulpitis is an excessive proliferation of chronically inflamed dental pulp tissue.

REF: Denture-induced Fibrous Hyperplasia, page 60 OBJ: 18

60. The decrease in size and function of a cell, tissue, organ or body describes
a. atrophy.
b. hypertrophy.
c. hyperemia.
d. regeneration.

ANS: A
Atrophy is defined as the decrease in size and function of a cell, tissue, organ, or whole body. Hypertrophy is the enlargement of a tissue resulting from an increase in the size of its individual cells. Hyperemia is an excess of blood within blood vessels in a part of the body. Regeneration is the process whereby injured tissue is replaced with tissue identical to that present before the injury.

REF: Vocabulary, page 32 OBJ: 8

61. Innate or natural defenses used to protect the body include the following *except* one. Which is the *exception*?
a. Intact skin
b. Components of saliva
c. Drainage of an abscess
d. Stomach acid

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ANS: C
Drainage of an intraoral abscess is not an innate or natural defense. Intact skin is an inborn defense that acts as a physical barrier. Components of saliva have antimicrobial activity. Stomach acid kills most of the microorganisms that are taken into the body.

REF: Innate Defenses, page 34 OBJ: 4

62. Hyperemia is responsible for which two clinical signs of inflammation?
a. Erythema and swelling
b. Erythema and heat
c. Swelling and pain
d. Pain and loss of normal tissue function

ANS: B
The increased blood flow of hyperemia causes the redness (erythema) and heat production. Swelling is resulting from the permeability of the microcirculation leading to exudate formation in the tissues. Swelling is resulting from exudate formation, which may cause pressure on the nerves (pain). Loss of tissue function is associated with swelling and pain.

REF: Microscopic Events of Inflammation and Clinical Signs, page 35
OBJ: 5

63. An increase in blood viscosity reveals
a. blood moving quickly through the vessels.
b. decreased amounts of red blood cells.
c. increase in plasma fluid.
d. thicker blood unable to flow as normal.

ANS: D
Viscosity is increased when the blood is thicker and cannot flow as easily. Viscosity refers to the thickness of the blood; an increase in viscosity does not move blood quicker through the vessels. Viscosity is not related to a decrease in red blood cells. Viscosity is not related to an increase in plasma fluid.

REF: Microscopic Events of Inflammation and Clinical Signs, page 35
OBJ: 5

64. The fluid with a high protein content that leaves the microcirculation during the inflammatory process is termed
a. transudate.
b. margination.
c. exudate.
d. pavementing.

ANS: C
Exudate is the fluid with a high protein content that leaves the microcirculation during an inflammatory response. Transudate is the fluid component of blood that passes through the endothelial cell walls of the microcirculation. Margination is the movement of the white blood cells to the periphery of the blood vessel. Pavementing is the adherence of white blood cells to blood vessel walls during inflammation.

REF: Microscopic Events of Inflammation and Clinical Signs, page 35

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OBJ: 4

65. All of the statements refer to chronic inflammation *except* one. Which is the *exception*?
    a. Duration may last weeks, months or years
    b. Tissue returns to its original state
    c. Heals less readily
    d. Associated with functional deficiencies

    ANS: B
    The tissue may return to its original state with acute inflammation. Duration may last weeks, months, or indefinitely with chronic inflammation. Because of its prolonged duration, the tissue heals less readily with chronic inflammation. Chronic inflammation is also associated with more serious functional deficiencies.

    REF: Inflammation, page 34 OBJ: 7

66. The fluid component of blood in which the blood cells are suspended and is composed mainly of water and proteins is termed
    a. plasma.
    b. serous fluid.
    c. transudate.
    d. exudate.

    ANS: A
    Plasma is the fluid component of blood in which blood cells are suspended. Exchange of oxygen and nutrients occurs as plasma passes between the endothelium lining. Serous fluid is a secretion with a watery consistency. Transudate is the fluid component of blood that passes through the endothelial cell walls of the microcirculation. Exudate is the fluid with a high protein content that leaves the microcirculation during an inflammatory response.

    REF: Microscopic Events of Inflammation and Clinical Signs, page 34
    OBJ: 4

67. Matured fibrous tissue seen 2 weeks after an injury appears whiter or paler at the surface of the repaired injury for what two reasons?

    1. Increased granulation tissue
    2. Increased numbers of collagen fibers
    3. Enlarged lymphocyte population
    4. Decreased vascularity
    a. 1 and 2
    b. 1 and 3
    c. 2 and 3
    d. 2 and 4

    ANS: D
    Increased numbers of collagen fibers and decreased vascularity is seen 2 weeks after an injury when the scar tissue has formed. Granulation tissue has more capillaries and fibroblasts and clinically appears as a vivid pink or red, not whiter or paler. Granulation tissue has more capillaries and fibroblasts and clinically appears as a vivid pink or red, not whiter or paler. Enlarged lymphocyte population has no bearing on the injury site 2 weeks later.

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REF: Microscopic Events During Repair, page 44 OBJ: 9

68. Local factors that impair healing include the following *except* one. Which is the *exception*?
    a. Hemorrhage into the tissues
    b. Excessive moving of the injured tissue
    c. Increased scar tissue
    d. Poor blood supply

    ANS: C
    Increased scar tissue is not a local factor that affects healing. Hemorrhage into the tissues may cause a hematoma that can impair healing. Excessive moving of the injured tissue can impair healing. Poor blood supply is a local factor that can impair healing.

    REF: Types of Repair, page 45 OBJ: 12

69. Bruxism is a form of
    a. abrasion.
    b. attrition.
    c. erosion.
    d. abfraction.

    ANS: B
    Attrition is the wearing away of tooth structure during mastication, and bruxism is the grinding of teeth together. Abrasion is the pathologic wearing of tooth structure from a mechanical habit. Erosion is the loss of tooth structure from chemical action. Abfraction is a wedge-shaped defect seen at the cervical area of teeth.

    REF: Traumatic Injuries to Teeth, page 46 OBJ: 14

70. Which permanent tooth would most likely demonstrate abfraction?
    a. #7
    b. #13
    c. #18
    d. #27

    ANS: B
    Abfraction is most likely seen on premolar teeth.

    REF: Traumatic Injuries to Teeth, page 47 OBJ: 14

71. Your patient presents with tooth structure that has been lost around occlusal restorations. The amalgam restorations appear raised from the surrounding demineralized tooth structure. Identify the traumatic injury to the teeth that has occurred:
    a. Attrition
    b. Abrasion
    c. Abfraction
    d. Erosion

    ANS: D

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If erosion occurs in a restored tooth, the tooth structure is lost around the restoration, making the restoration appear raised. With attrition, the restoration would also be worn down with the tooth surface. With abrasion, the restoration would also be worn down with the tooth surface. With abfraction, the defect is seen in the cervical area of the teeth.

REF: Traumatic Injuries to Teeth, page 48 OBJ: 14

72. Frequent vomiting seen in patients with bulimia can result in generalized erosion of which tooth surface?
    a. Buccal
    b. Lingual
    c. Mesial
    d. Distal

    ANS: B
    The frequent vomiting in a patient with bulimia results in generalized erosion of the lingual surfaces of teeth. Erosion is not typically seen on buccal surfaces. Erosion is not typically seen on mesial surfaces. Erosion is not typically seen on distal surfaces.

    REF: Traumatic Injuries to Teeth, page 48 OBJ: 14

73. What is the treatment for a patient with linea alba?
    a. Brush the affected area; recommend good oral hygiene
    b. Antibiotic therapy
    c. Gentle irrigation
    d. No treatment required

    ANS: D
    No treatment is indicated for linea alba. Brushing the area and oral hygiene do not affect linea alba. Antibiotic therapy is not recommended for linea alba. Gentle irrigation is not protocol for linea alba.

    REF: Lesions From Self-induced Injuries, page 52 OBJ: 17

74. Chronic hyperplastic pulpitis presents with all symptoms *except* one. Which is the *exception*?
    a. Pain
    b. Can occur in primary and permanent teeth
    c. Seen as a pink nodule protruding from the tooth
    d. Occurs in teeth with large carious lesions

    ANS: A
    Since hyperplastic tissue contains few nerves, chronic hyperplastic pulpitis is usually asymptomatic. Chronic hyperplastic pulpitis can occur in both dentitions. Chronic hyperplastic pulpitis appears as a red to pink nodule protruding from the affected tooth. Chronic hyperplastic pulpitis does occur in teeth with large open carious lesions.

    REF: Reactive Connective Tissue Hyperplasia, page 62 OBJ: 18

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