

1001. *The roots of primary molars in the absence of their permanent successors:*

1. sometimes are partially resorbed and become ankylosed.
 2. may remain for years with no significant resorption.
 3. may remain for years partially resorbed.
 4. are always resorbed.
- A. (1) (2) (3)
B. (1) and (3)
C. (2) and (4)
D. (4) only
E. All of the above.

Answer: A.

1002. *A disease of childhood characterized by mental retardation, delayed growth and delayed tooth eruption may be caused by deficient:*

- A. thyroid hormone.
B. testicular hormone.
C. posterior pituitary hormone.
D. anterior pituitary growth hormone.

Answer: A.

1003. *A patient is not able to close her left eye, wrinkle her forehead or smile on the left side. The most likely diagnosis is:*

- A. contralateral subarachnoid hemorrhage.
B. fracture of the base of the skull.
C. Horner's syndrome.
D. acute mastoiditis.
E. facial nerve paralysis (Bell's palsy).

Answer: E.

1004. *Bacterial infection may be confirmed by:*

1. white blood cell count.
 2. hemoglobin level.
 3. erythrocyte sedimentation rate.
 4. platelet count.
- A. (1) (2) (3)
B. (1) and (3)
C. (2) and (4)
D. (4) only
E. All of the above.

Answer: B.

1005. *Gigantism is caused by:*

- A. a hyperactive thyroid.
B. atrophy of the posterior pituitary.
C. hyperplasia of the anterior pituitary.
D. hyperplasia of the parathyroids.
E. None of the above.

Answer: C.

1006. *Alveolar bone is undergoing remodeling:*

- A. through the primary dentition.
- B. until the end of mixed dentition.
- C. until the complete eruption of permanent teeth.
- E. throughout life.

Answer: E.

1007. *In children, the most common cause of a fistula is:*

- A. an acute periapical abscess.
- B. a chronic periapical abscess.
- C. an acute periodontal abscess.
- D. a dentigerous cyst.

Answer: B.

Or suppurative periradicular periodontitis

1008. *A 3-year old requires the extraction of a maxillary deciduous second molar. The local anaesthetic technique of choice is:*

- A. a posterior superior alveolar block.
- B. buccal and palatal infiltration.
- C. a tuberosity block plus subperiosteal infiltration of the mesio-buccal root.
- D. an infra-orbital block.

Answer: B.

1009. *The causative organism in most acute alveolar infections is*

- A. staphylococcus.
- B. lactobacillus.
- C. streptococcus.
- D. candida albicans.
- E. actinomyces.

Answer: C.

For osteomyelitis it is Staph. Aureus.

1010. *The mechanism of adjustment to maintain the shape and proportions of bone throughout its growth period is called:*

- A. remodeling.
- B. cortical drift.
- C. area relocation.
- D. translatory growth.

Answer: A.

1011. *Which of the following foods is the most cariogenic?*

- A. Cheese.
- B. Dark chocolate.
- C. Jam.
- D. Toffee.

Answer: D.

1012. *Epidemiology of disease is best described as the:*

- A. data obtained from sickness surveys.
- B. usual low level of disease normally found within a population.
- C. control of disease.
- D. study of disease patterns in a population.

Answer: D.

1013. *With the development of gingivitis, the sulcus becomes predominantly populated by:*

- A. gram-positive organisms.
- B. gram-negative organisms.
- C. diplococcal organisms.
- D. spirochetes.

Answer: B.

1014. *A characteristic of the periodontium which allows safe temporary separation of the teeth is the:*

- A. nature of acellular cementum.
- B. elasticity of bone.
- C. modified continuous eruption of the teeth.
- D. passive eruption.

Answer: B.

1015. *Deposition of plaque on teeth occurs in*

- A. less than 24 hours.
- B. 24 to 48 hours.
- C. 2 to 4 days.
- D. 5 to 7 days.

Answer: A.

1016. *Chronic periodontitis is characterized as:*

- A. inflammatory.
- B. irreparable.
- C. atrophic.
- D. hyperplastic.
- E. none of the above.

Answer: A.

1017. *How would you diagnose a periapical abscess:*

- A. Pain on percussion
- B. Pain when eating hot food
- C. Pain when eating cold food
- D. The thickness of periodontal ligament on X-Ray

Answer: A or D.

This question is quite tricky. If the apical abscess is Acute Apical Abscess is an inflammatory reaction to pulpal infection and necrosis characterized by rapid onset, spontaneous pain, extreme tenderness of the tooth to pressure, pus formation and swelling of associated tissues. There may be no radiographic signs of destruction and the patient often experiences malaise, fever and lymphadenopathy. But in case of Chronic Apical Abscess is an inflammatory reaction to pulpal infection and necrosis characterized by gradual onset, little or no discomfort and an intermittent discharge of pus through an associated sinus tract. Radiographically, there are typically signs of osseous destruction such as a radiolucency.

Option A: pain on percussion can also be related to apical periodontitis, whether acute or chronic (apical granuloma).

1018. *Maximum shrinkage after gingival curettage can be expected from tissue that is*

- A. fibroedematous.
- B. edematous.
- C. fibrotic.
- D. formed within an infrabony pocket.

E. associated with exudate formation.

Answer: B.

1019. Antibiotic coverage should be provided when performing subgingival curettage for patients with:

- A. myocardial infarction.
- B. dental implants.
- C. valvular heart disease.
- D. coronary artery disease.

Answer: C.

1020. In a 10-year old child with a normal mixed dentition and healthy periodontal tissues, removal of the labial frenum (frenectomy) is indicated when:

- A. the frenum is located at the mucogingival junction.
- B. a diastema is present but the papilla does not blanch when tension is placed on the frenum.
- C. the frenum is located on the attached gingiva.
- D. None of the above.

Answer: D.

But if there is an option of the papilla blanches when tension is placed on the frenum, it will be the correct one.

1021. During tooth development, vitamin A deficiency may result in

- A. peg-shaped teeth.
- B. partial anodontia (hypodontia).
- C. Hutchinson's incisors.
- D. enamel hypoplasia.
- E. dentinogenesis imperfecta.

Answer: D.

1022. Dietary deficiency of vitamin D can result in:

- A. abnormal formation of osteoid.
- B. osteitis fibrosa cystica.
- C. Paget's disease.
- D. myositis ossificans.
- E. osteogenesis imperfecta.

Answer: A.

1023. The major stimulator of respiration is:

- A. low blood pressure.
- B. high percentage of blood oxygen.
- C. low percentage of blood carbon dioxide.
- D. high percentage of blood carbon dioxide.

Answer: D.

1024. Calculus contributes to gingival inflammation by:

- A. having a porous surface.
- B. having cytotoxic bacterial products.
- C. favouring bacterial colonization.
- D. all of the above.

Answer: D.

1025. *A periapical infection of a mandibular third molar may spread by direct extension to the:*

1. parapharyngeal space.
2. submandibular space.
3. pterygomandibular space.
4. submental space.

- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: A.

1026. *Allergic reactions to amide-type local anesthetic solutions are most likely caused by sensitivity to:*

- A. lidocaine hydrochloride.
- B. epinephrine.
- C. methylparaben.
- D. contaminants.

Answer: C.

1027. *The most appropriate radiographic examination for a 4 year old without visible or clinically detectable caries or anomalies, and with open proximal contacts is*

- A. maxillary and mandibular anterior occlusals.
- B. a pair of posterior bitewings.
- C. maxillary and mandibular posterior periapicals.
- D. none.

Answer: D.

1028. *The washing of hands must be performed before putting on and after removing gloves because it*

1. reduces the number of skin bacteria which multiply and cause irritation.
2. completely eliminates skin bacteria.
3. minimizes the transient bacteria which could contaminate hands through small pinholes.
4. allows gloves to slide on easier when the hands are moist.

- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: B.

1029. *For prevention of cross infection, which of the following impression materials can be treated with a disinfecting spray solution/ agent?*

- A. Irreversible hydrocolloid (alginate).
- B. Polyether.

- C. Polysulfide.
- D. Polysiloxane.
- E. All of the above.

Answer: E.

1030. One week after an amalgam restoration is placed in the mandibular first premolar, the patient returns complaining of a sharp pain of short duration when eating or drinking something cold. Teeth respond normally to electric pulp testing and heat and the radiographs are normal. The most likely diagnosis is

- A. hypercementosis.
- B. reversible pulpitis.
- C. pulpal microabscess.
- D. acute apical periodontitis.

Answer: B.

1031. The most frequent cause of malocclusion is:

- A. thumbsucking.
- B. mouth breathing.
- C. heredity.
- D. ectopic eruption.

Answer: C.

1032. Which of the following is the LEAST likely primary site for the development of oral squamous cell carcinoma in the elderly?

- A. Dorsum of the tongue.
- B. Floor of the mouth.
- C. Lateral border of the tongue.
- D. Tonsillar fossa.

Answer: A.

1033. Which of the following pharmacokinetic change(s) occur(s) with aging?

1. Absorption is altered by a decrease in the gastric pH.
 2. Metabolism is decreased by a reduced liver mass.
 3. Distribution is altered by a decrease in total body fat.
 4. Excretion is reduced because of lessened renal blood flow.
- A. (1) (2) (3)
 - B. (1) and (3)
 - C. (2) and (4)
 - D. (4) only
 - E. All of the above.

Answer: C.

1034. As a dentist, it is ethical to refuse to treat a patient on the basis of

1. religious beliefs.
 2. physical handicap.
 3. infectious disease.
 4. recognition of lack of skill or knowledge.
- A. (1) (2) (3)
 - B. (1) and (3)
 - C. (2) and (4)
 - D. (4) only
 - E. All of the above.

Answer: D.

1035. A radiographic examination of a 10 year old child reveals retention of deciduous teeth and presence of many unerupted supernumerary teeth. This is characteristic of

- A. cleidocranial dysplasia.
- B. ectodermal dysplasia.
- C. dentinogenesis imperfecta.
- D. congenital hypothyroidism.

Answer: A.

1036. A 12-year old child presents with characteristic tetracycline discoloration of the maxillary and mandibular incisors and permanent first molars. The probable age at which this child received tetracycline therapy was:

- A. 6 years.
- B. 4 years.
- C. 1 year.
- D. before birth.

Answer: C.

1037. The roots of primary molars in the absence of their permanent successors

- 1. sometimes are partially resorbed and become ankylosed.
- 2. may remain for years with no significant resorption.
- 3. may remain for years partially resorbed.
- 4. are always resorbed.

- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: A.

1038. A 6-year old patient has a larger than average diastema between the maxillary central incisors. The radiographic examination shows a mesiodens. In order to manage the diastema, you should extract the mesiodens:

- A. after its complete eruption.
- B. once the patient has reached the age of 12.
- C. only if it develops into a cystic lesion.
- D. as soon as possible.

Answer: D.

1039. A single hypoplastic defect located on the labial surface of a maxillary central incisor is most likely due to a/an

- A. dietary deficiency.
- B. endocrine deficiency.
- C. tetracycline therapy.
- D. trauma to the maxillary primary central incisor.
- E. high fluoride intake.

Answer: D.

1040. In primary molars, radiographic bony changes from an infection are initially seen

- A. at the apices.
- B. in the furcation area.
- C. at the alveolar crest.
- D. at the base of the developing tooth.

Answer: B.

1041. *In children, the most common cause of a fistula is a/an*

- A. acute periapical abscess.
- B. chronic periapical abscess.
- C. acute periodontal abscess.
- D. dentigerous cyst.

Answer: B.

Other options to this question

- A. suppurative periradicular periodontitis.
- B. acute periradicular abscess.
- C. acute periodontal abscess.
- D. dentigerous cyst.

Answer: A.

1042. *The absence of a pulp chamber in a deciduous maxillary incisor is most likely due to*

- A. amelogenesis imperfecta.
- B. hypophosphatasia.
- C. trauma.
- D. ectodermal dysplasia.
- E. cleidocranial dysostosis.

Answer: C.

1043. *An 8 year old patient with all primary molars still present exhibits a cusp-to-cusp relationship of permanent maxillary and mandibular first molars and good alignment of the lower incisors. The management of this patient should be to:*

- A. refer for orthodontic consultation.
- B. use a cervical headgear to reposition maxillary molars.
- C. disk the distal surfaces of primary mandibular second molars.
- D. place patient on appropriate recall schedule.

Answer: D.

1044. *A large carious exposure occurs on a permanent first molar of a 7-year old. There is no periapical involvement and the tooth is vital. The treatment should be to*

- A. cap the exposure with calcium hydroxide and place zinc-oxide and eugenol.
- B. perform a pulpotomy and place calcium hydroxide.
- C. perform a pulpectomy.
- D. extract the tooth and place a space maintainer.

Answer: B.

1045. *A patient telephones and tells you he has just knocked out his front tooth but that it is still intact. Your instructions should be to:*

- A. put the tooth in water and come to your office at the end of the day.
- B. wrap the tooth in tissue and come to your office in a week's time.
- C. put the tooth in alcohol and come to your office immediately.
- D. place tooth under the tongue and come to your office immediately.
- E. place the tooth in milk and come to your office immediately.

Answer: E.

1046. *A patient presenting with diplopia, exophthalmos, nasal bleeding and swelling, may suffer from a fracture of the*

- A. neck of the condyle.
- B. body of the mandible.
- C. zygomatic bone.
- D. maxillary tuberosity.

Answer: C.

1047. *The design of a mucoperiosteal flap should*

1. provide for visual access.
 2. provide for instrument access.
 3. permit repositioning over a solid bone base.
 4. be semilunar in shape.
- A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: A.

Other options to this question:

1. broad based.
 2. adequate access.
 3. able to be repositioned over bone.
 4. adequate blood supply.
- A. All of the above.
 B. (1) (2) (3)
 C. (2) and (4)
 D. (3) and (4)

Answer: A.

1048. *Which of the following nerves should be anesthetized for extraction of a maxillary lateral incisor?*

1. Nasociliary.
 2. Nasopalatine.
 3. Sphenopalatine.
 4. Anterior superior alveolar.
- A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: C.

1049. *An excisional biopsy of a nodule 5mm in diameter on the lateral border of the tongue was diagnosed as a fibroma. This patient should have:*

- A. hemisection of the tongue.
- B. radiotherapy to site of biopsy.
- C. no additional therapy.
- D. re-excision with wider margins.
- E. radium implantation around biopsy site.

Answer: C.

1050. *Alteration of the intestinal flora by some chemotherapeutic agents can interfere with reabsorption of a contraceptive steroid thus preventing the recirculation of the drug through the enterohepatic circulation. Which of the following can interfere with this mechanism?*

1. Codeine.
2. Penicillin V.
3. Acetaminophen
4. Tetracycline.

- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: C.

1051. *The most common complication of a venipuncture is*

- A. syncope.
- B. hematoma.
- C. thrombophlebitis.
- D. embolus.

Answer: B.

Venipuncture is the collection of blood from a vein, usually for laboratory testing.

1052. *Benign neoplasms*

- 1. grow slowly.
- 2. are generally painless.
- 3. can be managed conservatively.
- 4. can metastasize.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: A.

1053. *In the surgical removal of an impacted mandibular third molar, which of the following would be considered to be the most difficult?*

- A. Mesio-angular.
- B. Horizontal.
- C. Vertical.
- D. Disto-angular.

Answer: D.

1054. *Continued smoking will impair wound healing following a surgical procedure because of*

- A. stain development.
- B. increased rate of plaque formation.
- C. increased rate of calculus formation.
- D. contraction of peripheral blood vessels.
- E. superficial irritation to tissues by smoke.

Answer: D.

1055. *Vestibuloplasty is a preprosthetic surgical procedure used to*

- A. facilitate reliable impression making.
- B. provide adequate posterior inter-arch space.
- C. allow placement of teeth over the residual ridge.
- D. increase the supporting surface area.

Answer: D.

1056. *A surgical flap not repositioned over a bony base will result in*

- 1. slower healing.
- 2. foreign body inflammatory reaction.

- 3. wound dehiscence.
- 4. necrosis of bone.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: B.

1057. *A lateral cephalometric radiograph for a patient with a 3mm anterior functional shift should be taken with the patient in*

- A. maximum intercuspation.
- B. initial contact.
- C. normal rest position.
- D. maximum opening.
- E. protrusive position.

Answer: B.

1058. *If a patient loses a permanent maxillary first molar before the age of 11, the*

- 1. premolar drifts distally.
- 2. maxillary second molar erupts and moves mesially.
- 3. opposing tooth erupts into the space created.
- 4. overbite increases.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: A.

1059. *Excessive orthodontic force used to move a tooth may*

- 1. cause hyalinization.
- 2. cause root resorption.
- 3. crush the periodontal ligament.
- 4. impair tooth movement.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: E.

1060. *The angle SNA can be used to evaluate the*

- A. maxillary protrusion.
- B. overbite.
- C. upper incisor inclination.
- D. facial height.
- E. mandibular angle.

Answer: A.

1061. *A single tooth anterior crossbite found in a 9 year old should*

- A. self-correct.
- B. be treated with a removable appliance.
- C. have 2 arch orthodontic treatment.
- D. be treated in the complete permanent dentition.
- E. be observed and treated when the cuspids have erupted.

Answer: B.

1062. *A 7 year old patient has a left unilateral posterior cross-bite and a left functional shift of the mandible. The most appropriate treatment for this patient is*

- A. bilateral expansion of the maxillary arch.
- B. unilateral expansion of maxillary arch.
- C. placement of a maxillary repositioning splint.
- D. observation until the permanent teeth erupt.
- E. bilateral constriction of the mandibular arch.

Answer: A.

1063. *The predominant type of movement produced by a finger spring on a removable appliance is*

- A. torque.
- B. tipping.
- C. rotation.
- D. translation.

Answer: B.

1064. *A patient suddenly becomes pale and sweaty after an injection of 4ml of lidocaine 2% with epinephrine 1:100,000. The radial pulse is slow and steady. The respiration is slow. The blood pressure is 80/60. What is the most probable diagnosis?*

- A. A toxic reaction to lidocaine.
- B. A toxic reaction to epinephrine.
- C. An allergic reaction to the local anesthetic.
- D. Incipient syncope.
- E. An impending adrenal insufficiency.

Answer: D.

1065. *In an infection caused by non-penicillinase producing staphylococcus, the drug of choice is*

- A. penicillin V.
- B. cephalixin.
- C. tetracycline.
- D. vancomycin.

Answer: A.

1066. *Systemic or topical cortisone therapy is used in the treatment of*

- A. necrotizing ulcerative gingivitis.
- B. erythema multiforme.
- C. submaxillary cellulitis.
- D. ptyalism (excessive saliva).
- E. herpes simplex.

Answer: B.

Option B: corticosteroid treatment is useful with Erythema multiforme because it is allergic mediated reaction. It is a skin condition of unknown cause, possibly mediated by deposition of immune

complex (mostly IgM) in the superficial microvasculature of the skin and oral mucous membrane that usually follows an infection or drug exposure.

1067. *Before performing surgery on a patient who is taking warfarin, which of the following should be evaluated?*

- A. Bleeding time.
- B. Clotting time.
- C. Prothrombin time.
- D. Coagulation time.

Answer: C.

1068. *In the treatment of an acute anaphylactic reaction, the first drug that should be administered is*

- A. hydroxyzine.
- B. epinephrine.
- C. hydrocortisone.
- D. diphenhydramine.

Answer: B

1069. *Antibiotic prophylaxis is recommended for patients with which of the following?*

- 1. Mitral valve prolapse with regurgitation.
- 2. Cardiac pacemaker.
- 3. Prosthetic heart valves.
- 4. All heart murmurs.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: B.

1070. *In a standard dental cartridge (carpule) containing 1.8ml 2% lidocaine with epinephrine 1/100,000, the amount of vasoconstrictor is*

- A. 18.0 mg.
- B. 0.018 mg.
- C. 1.8 mg.
- D. 0.18 mg.
- E. 180.0 mg.

Answer: B (Appendix I).

1071. *Which of the following does NOT influence the rate of induction during inhalation anesthesia?*

- A. Pulmonary ventilation.
- B. Blood supply to the lungs.
- C. Hemoglobin content of the blood.
- D. Concentration of the anesthetic in the inspired mixture.
- E. Solubility of the anesthetic in blood.

Answer: C.

1072. *A known insulin dependent diabetic patient feels unwell following the administration of a local anesthetic and becomes pale and sweaty. This condition does not respond to placing the patient in a supine position. The most likely cause is*

- A. syncope.
- B. adrenal insufficiency.

- C. hyperglycemia.
- D. hypoglycemia.
- E. carotid sinus reflex.

Answer: D.

1073. The usual adult dosage of codeine administered orally is

- A. 500-1000mg.
- B. 250-500mg.
- C. 30-60mg.
- D. 2-5mg.
- E. None of the above.

Answer: C.

1074. An epinephrine-containing retraction cord has the potential of

- A. interfering with the setting of the impression material.
- B. causing tissue necrosis.
- C. producing a systemic reaction.
- D. discolouring gingival tissue.

Answer: C.

1075. Cultures made from a dental abscess indicate the infection is caused by beta hemolytic streptococcus. Which of the following is the drug of choice?

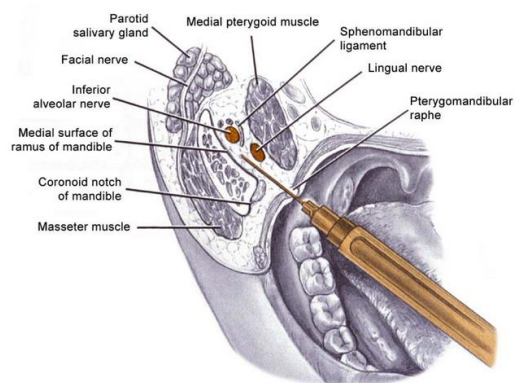
- A. Penicillin.
- B. Erythromycin.
- C. Tetracycline.
- D. Cloxacillin.

Answer: A.

1076. Which one of the following describes the position of the needle tip during administration of local anesthetic for the inferior alveolar nerve block?

- A. Anterior to the pterygomandibular raphe.
- B. Medial to the medial pterygoid muscle.
- C. Superior to the lateral pterygoid muscle.
- D. Lateral to the sphenomandibular ligament.

Answer: D.



1077. Which of the following is/are (a) useful guide(s) in determining a patient's occlusal vertical dimension?

1. Appearance.
 2. Phonetics.
 3. Observation of the rest position.
 4. Pre-extraction profile records.
- A. (1) (2) (3)
 - B. (1) and (3)
 - C. (2) and (4)
 - D. (4) only.
 - E. All of the above.

Answer: E.

1078. Generally, glass ionomer cements contain

- A. zinc oxide and distilled water.
- B. zinc oxide and polyacrylic acid.
- C. fluoro aluminosilica powder and orthophosphoric acid.
- D. fluoro aluminosilica powder and polyacrylic acid.

Answer: D.

1079. *Upon setting, a mixture of plaster of Paris and water will exhibit*

- A. loss in compressive strength.
- B. expansion.
- C. gain in moisture content.
- D. contraction.

Answer: B

1080. *Upon examination of an edentulous patient, it is observed that the tuberosities contact the retromolar pads at the correct occlusal vertical dimension. The treatment of choice is to*

- A. reduce the retromolar pads surgically to provide the necessary clearance.
- B. reduce the tuberosities surgically to provide the necessary clearance.
- C. construct new dentures at an increased occlusal vertical dimension to gain the necessary clearance.
- D. proceed with construction of the denture and reduce the posterior extension of the mandibular denture to eliminate interferences.

Answer: B.

1081. *A hinge axis facebow records*

- A. Bennett angle.
- B. centric relation.
- C. lateral condylar inclination.
- D. horizontal condylar inclination.
- E. opening and closing axis of the mandible.

Answer: E.

1082. *Following the insertion of complete dentures, a generalized soreness over the entire mandibular alveolar ridge can be caused by:*

- A. Inadequate interocclusal distance.
- B. impingement on the buccal frenum.
- C. high muscle attachments.
- D. excess border thickness.

Answer: A.

1083. *In the design of a removable partial denture, guiding planes are made*

- A. parallel to the long axis of the tooth.
- B. parallel to the path of insertion.
- C. at a right angle to the occlusal plane.
- D. at a right angle to the major connector.

Answer: B.

1084. *Extreme resorption of an edentulous mandible can bring the alveolar ridge to the level of the attachment of the*

- A. buccinator, styloglossus and geniohyoid muscles.
- B. mylohyoid, buccinator and styloglossus muscles.
- C. superior constrictor, mylohyoid and buccinator muscles.
- D. mylohyoid, buccinator and genioglossus muscles.

Answer: D.

1085. *The location of a crown margin is determined by*

1. esthetic requirements.
 2. clinical crown length.
 3. presence of caries.
 4. presence of an existing restoration.
- A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: E.

1086. *A fracture in an all ceramic crown may be caused by*

1. inadequate ceramic thickness.
 2. sharp line angles in the tooth preparation.
 3. excessive occlusal load.
 4. use of an inappropriate luting material.
- A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: E.

1087. *The gingival margin of the preparation for a full crown on a posterior tooth, with a clinical crown that satisfies the requirements for retention and resistance, should be placed*

- A. 0.5mm subgingivally.
 B. on the enamel.
 C. at least 1mm supragingivally.
 D. at the cemento-enamel junction.
 E. at the gingival margin.

Answer: C.

1088. *In partial denture design, the major connector should*

- A. rigidly connect the bilateral components.
 B. act as a stress-breaker.
 C. not interfere with lateral forces.
 D. dissipate vertical forces.

Answer: A.

1089. *A survey of the master cast shows that the 3.5 and 3.7 abutments for a fixed partial denture have different paths of insertion with respect to 3.7. A semi-precision attachment is chosen rather than preparing the teeth again. Where should the male part of the attachment ideally be located?*

- A. Distal of the 3.5 retainer.
 B. Distal of the 3.6 pontic.
 C. Mesial of the 3.7 retainer.
 D. Mesial of the 3.6 pontic.

Answer: D (shillinburg, 96)

1090. *Which of the following should be checked first when a cast gold crown that fits on its die cannot be seated on its abutment?*

- A. The occlusal contacts.

- B. The taper of the preparation.
- C. The proximal contacts.
- D. The impression used to pour the cast.

Answer: C.

1091. *The best way to protect the abutments of a Class I removable partial denture from the negative effects of the additional load applied to them is by*

- A. splinting abutments with adjacent teeth.
- B. keeping a light occlusion on the distal extensions.
- C. placing distal rests on distal abutments.
- D. using cast clasps on distal abutments.
- E. regular relining of the distal extensions.

Answer: E.

1092. *Irreversible hydrocolloid materials are best removed from the mouth by*

- A. a quick snap.
- B. a slow teasing motion.
- C. twisting and rocking.
- D. having the patient create a positive pressure.

Answer: A.

1093. *Which of the following structures affects the thickness of the flange of a maxillary complete denture?*

- A. Malar process.
- B. Coronoid process.
- C. Mylohyoid ridge.
- D. Zygomatic process.
- E. Genial tubercle.

Answer: B.

1094. *During the fabrication of new complete dentures, which of the following can be modified to achieve the desired occlusion?*

- 1. The compensating curve.
- 2. The orientation of the occlusal plane.
- 3. The cusp inclination.
- 4. The condylar inclination.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: A.

1095. *A patient with complete dentures complains of clicking. The most common causes are*

- A. reduced vertical dimension and improperly balanced occlusion.
- B. excessive vertical dimension and poor retention.
- C. use of too large a posterior tooth and too little horizontal overlap.
- D. improper relation of teeth to the ridge and excessive anterior vertical overlap.

Answer: B.

1096. *A maxillary complete denture exhibits more retention and stability than a mandibular one because it*

1. covers a greater area.
 2. incorporates a posterior palatal seal.
 3. is not subject to as much muscular displacement.
 4. is completely surrounded by soft tissue.
- A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: A.

1097. *The best means of extending the working time of an irreversible hydrocolloid impression material is to*

- A. extend spatulation time.
- B. add additional water.
- C. use cold water.
- D. add a small amount of borax.
- E. add potassium sulfate.

Answer: C.

1098. *After initial setting, a chemically cured glass ionomer cement restoration should have a coating agent applied to*

- A. hasten the final set.
- B. protect the cement from moisture.
- C. retard the final set.
- D. protect the cement from ultraviolet light.
- E. create a smooth finish.

Answer: B.

1099. *Which of the following cements can chemically bond to enamel?*

1. Zinc phosphate cement.
 2. Polycarboxylate cement.
 3. Ethoxy benzoic acid cement.
 4. Glass ionomer cement.
- A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: C.

1100. *Compared to unfilled resins, composite resins have*

1. reduced thermal dimensional changes.
2. increased strength.
3. reduced polymerization shrinkage.

4. better polishability.
 A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: A.

1101. *The prime advantage of vacuum firing of porcelain is*
 A. better colour.
 B. less shrinkage.
 C. more translucency.
 D. increased strength.

Answer: D.

1102. *Most zinc-oxide-eugenol cements are not suitable for permanent cementation of crowns and fixed partial dentures because of*
 A. high viscosity.
 B. low pH.
 C. high solubility in saliva.
 D. adverse pulp response.

Answer: C.

1103. *In patients wearing complete dentures, the most frequent cause of tooth contact (clicking) during speaking is*
 A. nervous tension.
 B. incorrect centric relation position.
 C. excessive occlusal vertical dimension.
 D. lack of vertical overlap.
 E. unbalanced occlusion.

Answer: C.

1104. *To improve denture stability, mandibular molar teeth should normally be placed*
 A. over the crest of the mandibular ridge.
 B. buccal to the crest of the mandibular ridge.
 C. over the buccal shelf area.
 D. lingual to the crest of the mandibular ridge.

Answer: A.

1105. *A cast post and core is used to*
 1. provide intraradicular venting.
 2. strengthen a weakened tooth.
 3. redirect the forces of occlusion.
 4. provide retention for a cast crown.
 A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: D.

1106. *At his first post insertion appointment, a patient with a new removable partial denture complains of a tender abutment tooth. The most likely cause is*

- A. overextended borders of the partial.
- B. inadequate polishing of the framework.
- C. improper path of insertion.
- D. the occlusion.

Answer: D.

1107. *The maxillary cast partial denture major connector design with the greatest potential to cause speech problems is*

- A. a thick narrow major connector.
- B. an anterior and a posterior bar.
- C. a thin broad palatal strap.
- D. narrow horseshoe shaped.

Answer: A.

1108. *Smooth surface caries begins at localized areas on the*

- A. outer surface of enamel and dentin.
- B. inner surface of the enamel.
- C. outer surface of the dentin.
- D. outer surface of the enamel.
- E. inner surface of the dentin.

Answer: A.

1109. *To ensure maximum marginal strength for an amalgam restoration the cavosurface angle should*

- A. approach 45 degrees.
- B. approach 90 degrees.
- C. be bevelled.
- D. be chamfered.

Answer: B.

1110. *For a cast gold restoration, a gingival bevel is used instead of a shoulder because a bevel*

- 1. protects the enamel.
- 2. increases retention.
- 3. improves marginal adaptation.
- 4. increases the thickness of gold.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: B.

1111. *Using pins to retain amalgam restorations increases the risk of*

- 1. cracks in the teeth.
- 2. pulp exposures.
- 3. thermal sensitivity.

4. periodontal ligament invasion.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: E.

1112. *The tooth preparation for a porcelain veneer must create a/an*
- A. rough surface for improved bonding.
 - B. space for an appropriate thickness of the veneering material.
 - C. margin well below the gingival crest.
 - D. definite finish line.

Answer: B.

Other options of the same question:

1. rough surface.
 2. space for the veneer material.
 3. margin at least 1mm supragingivally.
 4. definite finish line.
- A. (1) and (3).
 - B. All of the above.
 - C. (1) (2) (3).
 - D. (4) only.
 - E. (2) and (4).

Answer: E.

1113. *Sterilization of carious dentin without pulp injury is assured by the application of*
- A. phenol.
 - B. 70% ethyl alcohol.
 - C. chlorhexidine.
 - D. absolute alcohol.
 - E. None of the above.

Answer: E.

1114. *In order to achieve a proper interproximal contact when using a spherical alloy, which of the following is/are essential?*

1. A larger sized condenser.
 2. A thinner matrix band.
 3. An anatomical wedge.
 4. Use of mechanical condensation.
- A. (1) (2) (3)
 - B. (1) and (3)
 - C. (2) and (4)
 - D. (4) only
 - E. All of the above.

Answer: A.

1115. *What clinical evidence would support a diagnosis of acute dento-alveolar abscess?*
1. A negative reaction to the electric vitality tester.
 2. A positive reaction of short duration to cold.

- 3. A positive reaction to percussion.
- 4. Presence of a draining fistula.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: B.

1116. *The radiographic appearance of internal resorption is:*

- A. radiolucent enlargement of the pulp cavity.
- B. radiolucency around the apex of the root.
- C. radiolucency on the surfaces of the root.
- D. localized radiopacities in the pulp cavity.
- E. radiopacity around the apex of the root.

Answer: A.

1117. *Which of the following conditions would NOT require antibiotic premedication before endodontic therapy?*

- A. Valvular heart disease.
- B. Cardiac prosthesis.
- C. Persistent odontogenic fistula.
- D. Immuno-suppressive therapy.
- E. Organ transplant.

Answer: C.

1118. *A 22 year old presents with a fracture of the incisal third of tooth 2.1 exposing a small amount of dentin. The fracture occurred one hour previously. There is no mobility of the tooth but the patient complains that it is rough and sensitive to cold. The most appropriate emergency treatment is to*

- A. open the pulp chamber, clean the canal and temporarily close with zinc oxide and eugenol.
- B. smooth the surrounding enamel and apply glass ionomer cement.
- C. smooth the surrounding enamel and apply a calcium hydroxide cement.
- D. place a provisional (temporary) crown.

Answer: B.

1119. *The most important principle dictating location and size of access to the root canal system is*

- A. preservation of tooth structure.
- B. removal of all caries.
- C. straight line access to the canal.
- D. removal of all pulp horns.

Answer: C.

1120. *Having just completed endodontic treatment on a maxillary central incisor, you are preparing the canal for a post when you inadvertently perforate the labial surface of the root. You would*

- A. extract the tooth.
- B. cement the post using zinc-oxyphosphate cement.

- C. cement the post, then raise a flap and seal the defect surgically with amalgam.
- D. re-prepare the canal so the post is now totally within the canal and cement the post.

Answer: C.

1121. Under normal conditions, the most definitive test to confirm the loss of pulp vitality is

- A. applying warm gutta percha to the crown.
- B. cutting into the dentin without anaesthetic.
- C. applying ethyl chloride to the crown.
- D. performing a radiographic examination of the tooth.
- E. performing an electric pulp test.

Answer: B.

1122. Special attention is given to matrix adaptation for the insertion of amalgam in a MO cavity in a maxillary first premolar because of the

- A. concavity in the cervical third of the mesial surface of the crown.
- B. restoration being in the esthetic zone.
- C. unusual position of the contact area.
- D. buccolingual width of the tooth's mesial marginal ridge.
- E. size of the interproximal gingival embrasure.

Answer: A.

1123. In pin-retained restorations, the pin holes should be parallel to the

- A. long axis of the tooth.
- B. nearest external surface.
- C. pulp chamber.
- D. axial wall.

Answer: B.

1124. The "smear layer" is an important consideration in

- A. plaque accumulation.
- B. caries removal.
- C. pulp regeneration.
- D. dentin bonding.

Answer: D.

1125. Planning the enamel at the gingival cavosurface of a Class II amalgam preparation on a permanent tooth

- A. should result in a long bevel.
- B. is contraindicated because of the low edge strength of amalgam.
- C. is unnecessary since the tooth structure in this area is strong.
- D. should remove unsupported enamel which may fracture.
- E. should result in a sharp gingivoproximal line angle.

Answer: D.

1126. Highly filled, hybrid, posterior composite resins are CONTRAINDICATED as a posterior restorative material in cases of:

1. cusp replacement.
2. bruxism.
3. lack of enamel at the gingival cavosurface margin.
4. inability to maintain a dry operating field.

- A. (1) and (3)
- B. All of the above.
- C. (1) (2) (3).
- D. (4) only.
- E. (2) and (4).

Answer: E.

1127. Composite resin is CONTRAINDICATED as a posterior restorative material in cases of
1. cusp replacement.
 2. bruxism.
 3. lack of enamel at the gingival cavosurface margin.
 4. inability to maintain a dry operating field.
- A. (1) (2) (3)
B. (1) and (3)
C. (2) and (4)
D. (4) only
E. All of the above.

Answer: C.

1128. Following root canal therapy, the most desirable form of tissue response at the apical foramen is
- A. cementum deposition.
 - B. connective tissue capsule formation.
 - C. epithelium proliferation from the periodontal ligament.
 - D. dentin deposition.

Answer: A.

1129. Caries in older persons is most frequently found on which of the following locations?
- A. Pits and fissures.
 - B. Proximal enamel.
 - C. Root surfaces.
 - D. Incisal dentin.

Answer: C.

1130. Precipitation of salivary calcium salts to form calculus is
- A. promoted by a higher buffering capacity.
 - B. inhibited by a higher buffering capacity.
 - C. inhibited by a higher pH.
 - D. promoted by a higher pH.

Answer: D.

1131. Overhangs on restorations initiate chronic inflammatory periodontal disease by
- A. enhancing plaque retention.
 - B. enhancing food retention.
 - C. causing traumatic occlusion.
 - D. causing pressure atrophy.

Answer: A.

1132. The location and extent of sub-gingival calculus is most accurately determined clinically by
- A. radiopaque solution used in conjunction with radiographs.
 - B. disclosing solution.
 - C. probing with a fine instrument.
 - D. visual inspection.

Answer: C.

1133. Irregularly distributed shallow to moderate craters in the interseptal bone are best eliminated by

- A. osteoplasty.
- B. gingivoplasty.
- C. deep scaling.
- D. bone grafting.

Answer: A.

1134. A clenching habit may be a factor in

- A. suprabony periodontal pocket formation.
- B. marginal gingivitis.
- C. increased tooth mobility.
- D. generalized recession.

Answer: C.

1135. Regarding dental caries, which of the following is correct?

- A. All carbohydrates are equally cariogenic.
- B. More frequent consumption of carbohydrates increases the risk.
- C. The rate of carbohydrate clearance from the oral cavity is not significant.
- D. Increased dietary fat increases the risk.

Answer: B.

1136. Abrasion is most commonly seen on the

- A. lingual surface of posterior teeth.
- B. occlusal surface of posterior teeth.
- C. incisal edges.
- D. facial surfaces of teeth.

Answer: D.

1137. Carious lesions are most likely to develop if a patient has

- A. a high lactobacillus count.
- B. saliva with low buffering capacity.
- C. plaque on his teeth.
- D. lactic acid in his mouth.

Answer: B.

1138. The most important objective of occlusal adjustment of a natural dentition is to

- A. prevent temporomandibular joint syndrome.
- B. increase the shearing action in mastication.
- C. improve oral hygiene by preventing food impaction.
- D. achieve a more favorable direction and distribution of forces of occlusion.

Answer: D.

1139. An increase of immunoglobulins is consistent with increased numbers of

- A. fibroblasts.
- B. neutrophils.
- C. lymphocytes.
- D. plasma cells.

Answer: D.

1140. In periodontics, the best prognosis for bone regeneration follows the surgical treatment of
- A. suprabony pockets.
 - B. one-wall infrabony pockets.
 - C. two-wall infrabony pockets.
 - D. three-wall infrabony pockets.

Answer: D.

1141. The most important diagnostic element in assessing the periodontal status of a patient is
- A. the results of vitality testing.
 - B. the radiographic appearance.
 - C. the depth of periodontal pockets.
 - D. the mobility of the teeth.

Answer: C.

1142. The absence of adequate drainage in a periodontal pocket may result in
- A. cyst formation.
 - B. abscess formation.
 - C. epithelial hyperplasia.
 - D. increased calculus formation.

Answer: B.

1143. The instrument best suited for root planning is a/an
- A. hoe.
 - B. file.
 - C. curette.
 - D. sickle scaler.
 - E. ultrasonic scaler.

Answer: C.

1144. The majority of nitrous oxide is eliminated from a patient's circulatory system through the
- A. lungs.
 - B. kidneys.
 - C. liver enzymes.
 - D. plasma enzymes.
 - E. intestinal gas.

Answer: A.

1145. Antihistamines act by
- A. increasing the action of histaminase.
 - B. altering the formation of histamine.
 - C. blocking the actions of histamine by competitive inhibition.
 - D. interfering with the degradation of histamine.

Answer: C.

1146. A therapeutic advantage of penicillin V over penicillin G is
- A. greater resistance to penicillinase.
 - B. broader antibacterial spectrum.
 - C. greater absorption when given orally.
 - D. slower renal excretion.
 - E. None of the above.

Answer: C.

1147. The most effective drug for relief of angina pectoris is

- A. morphine.
- B. digitalis.
- C. quinidine.
- D. nitroglycerine.
- E. pentobarbital sodium.

Answer: D.

1148. Fixed partial denture pontics should

- A. completely replace the missing hard and soft tissue.
- B. have a concave surface touching the mucosa.
- C. have minimal soft tissue coverage.
- D. hide the porcelain-metal junction on their gingival aspect.

Answer: C.

1149. In the preparation of gypsum products, an increase in the water/powder ratio will

- A. increase the surface hardness.
- B. increase the compressive strength.
- C. accelerate the setting reaction.
- D. None of the above.

Answer: D.

1150. In an edentulous maxilla, the direction of resorption of the alveolar ridge is

- A. upward and palatally.
- B. upward and facially.
- C. uniform in all directions.
- D. upward only.

Answer: A.

1151. Dental porcelain has

- 1. low compressive strength.
 - 2. high hardness.
 - 3. high tensile strength.
 - 4. low impact strength.
- A. (1) (2) (3)
 - B. (1) and (3)
 - C. (2) and (4)
 - D. (4) only
 - E. All of the above.

Answer: C.

1152. Where cavity preparations are extensive, polycarboxylate cement can be used as a base material because

- A. its pH stimulates secondary dentin formation.
- B. it interacts with setting amalgam to form a weak chemical union.
- C. it is biocompatible with the pulp.
- D. it is compressible when set.

Answer: C.

1153. Gold contributes which of the following properties to a gold-copper alloy?
- A. Corrosion resistance.
 - B. Increased strength.
 - C. Lowered specific gravity.
 - D. Increased hardness.

Answer: A.

1154. Coefficient of thermal expansion of composite resins is
- A. greater than that of enamel.
 - B. the same as that of enamel.
 - C. less than that of enamel.
 - D. the same as that of amalgam.
 - E. the same as that of glass ionomer cement.

Answer: A.

1155. Which of the following impression materials is the most dimensionally stable?
- A. Condensation type silicone.
 - B. Polysulphide.
 - C. Polyvinyl siloxane.
 - D. Reversible hydrocolloid.
 - E. Irreversible hydrocolloid.

Answer: C.

1156. Which of the following muscles has two separate functions in mandibular movement?
- A. Masseter.
 - B. Geniohyoid.
 - C. External (lateral) pterygoid.
 - D. Buccinator.

Answer: C.

Opening and lateral movement.

1157. The inorganic ion that is implicated in primary hypertension is
- A. sodium.
 - B. fluoride.
 - C. potassium.
 - D. magnesium.

Answer: A.

1158. A lowering of serum calcium is the stimulus for the endogenous release of
- A. thyroid hormone.
 - B. adrenocortical hormone.
 - C. insulin.
 - D. parathyroid hormone.
 - E. adrenalin.

Answer: D.

1159. Which of the following is the greatest risk factor for rampant caries in children?

- A. Frequent ingestion of polysaccharides.
- B. Frequent ingestion of high sucrose containing foods.
- C. Severe enamel hypoplasia.
- D. Deficiency of vitamin D.

Answer: B.

1160. Which of the following penicillins is LEAST resistant to the level of acidity found in the stomach?

- A. Benzylpenicillin (penicillin G).
- B. Phenoxymethylpenicillin (penicillin V).
- C. Amoxicillin.
- D. Ampicillin.

Answer: A.

1161. In congestive heart failure, a glycoside that increases the force of myocardial contraction is

- A. digitoxin.
- B. quinidine.
- C. amyl nitrite.
- D. procainamide hydrochloride.

Answer: A.

1162. When used for conscious sedation, nitrous oxide may

- 1. produce signs of inherent myocardial depression.
 - 2. produce an indirect sympathomimetic action.
 - 3. cause the patient to sweat.
 - 4. produce numbness of the extremities.
- A. (1) (2) (3)
 - B. (1) and (3)
 - C. (2) and (4)
 - D. (4) only
 - E. All of the above.

Answer: E.

1163. An excess of which hormone is associated with increased sensitivity to epinephrine?

- A. Testosterone.
- B. Parathyroid hormone.
- C. Insulin.
- D. Thyroxin.
- E. Estrogen.

Answer: D.

1164. Which of the following, if left untreated, is most likely to result in a periapical lesion?

- A. Internal resorption.
- B. Reversible pulpitis.
- C. Acute suppurative pulpitis.
- D. Chronic hyperplastic pulpitis.

E. Diffuse calcification of the pulp.

Answer: C.

1165. Which of the following is/are characterized by an obliteration of pulp chambers and root canals?

1. Ageing.
2. Chronic trauma.
3. Dentinal dysplasia.
4. Taurodontism.
- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: A.

1166. Hyperplastic lingual tonsils may resemble which of the following?

- A. Epulis fissuratum.
- B. Lingual varicosities.
- C. Squamous cell carcinoma.
- D. Median rhomboid glossitis.
- E. Prominent fungiform papillae.

Answer: C.

1167. In the bisecting angle principle of intraoral radiography, the radiopacity that can obliterate the apices of maxillary molars is the

- A. maxillary sinus.
- B. palatine bone and the zygoma.
- C. orbital process of the zygomatic bone.
- D. zygoma and the zygomatic process of the maxilla.

Answer: D.

1168. A 60-year old patient requests the replacement of tooth 4.6, which was extracted many years ago. Tooth 1.6 has extruded 1.8mm into the space of the missing tooth. The three unit fixed bridge replacing the mandibular first molar should be fabricated

- A. to the existing occlusion.
- B. after extracting tooth 1.6 and replacing it with a fixed partial denture.
- C. after restoring tooth 1.6 to a more normal plane of occlusion.
- D. after devitalizing and preparing tooth 1.6 for a cast crown.

Answer: C.

1169. In complete dentures, the external oblique line is used as a guide for the

- A. position of the posterior teeth.
- B. height of the occlusal plane.
- C. termination of the buccal flange.
- D. termination of the lingual flange.

Answer: C.

1170. Which of the following is/are clinical signs of gingivitis?

1. Loss of stippling.
2. Gingival hyperplasia.
3. Bleeding on probing.

4. Increased probing depth.

A. (1) (2) (3)

B. (1) and (3)

C. (2) and (4)

D. (4) only

E. All of the above.

Answer: B.

Signs of gingivitis:

- Bleeding on probing.
- Loss of stippling.
- Cynosis of tissue.

1171. In an infrabony pocket, the epithelial attachment is located

A. within basal bone.

B. coronal to alveolar bone crest.

C. apical to alveolar bone crest.

D. none of the above.

Answer: C.

1172. The epithelial attachment

A. in health, is located at the cemento-enamel junction.

B. with periodontitis, moves apically along the root surface as periodontal disease progresses.

C. is composed of stratified squamous non-keratinized epithelium.

D. All of the above.

Answer: D.

1173. The chief mechanism by which the body metabolizes short-acting barbiturates is

A. oxidation.

B. reduction.

C. hydroxylation and oxidation.

D. sequestration in the body fats.

Answer: C.

1174. Normal sulcular epithelium in man is

1. non-keratinized.

2. squamous.

3. stratified.

4. non-permeable.

A. (1) (2) (3)

B. (1) and (3)

C. (2) and (4)

D. (4) only

E. All of the above.

Answer: A.

1175. Periodontal pocket epithelium

A. is NOT colonized by bacteria.

B. does NOT contain anatomically and physiologically distinct zones.

C. is a site where immunological elements interact with pocket bacteria.

D. does NOT provide a barrier against bacterial penetration.

Answer: C.

1176. A patient who has until recently been on prolonged corticosteroid therapy may have
- A. increased bleeding time.
 - B. hyposensitivity to pain.
 - C. decreased tolerance to physiological stress.
 - D. an increased metabolic rate.
 - E. high level of plasmatic cortisol.

Answer: C.

1177. The treatment for an 11-year old who has intermittent swelling and pain associated with a central incisor which was traumatized 6 months ago should be

- A. pulpotomy.
- B. pulpectomy.
- C. extraction.
- D. observation.

Answer: B.

1178. Which cells migrate into the gingival sulcus in the largest numbers in response to the accumulation of plaque?

- A. Plasma cells and monocytes.
- B. Polymorphonuclear leukocytes.
- C. Macrophages.
- D. Lymphocytes.
- E. Mast cells.

Answer: B.

1179. The most likely diagnosis for a child with a painful, fiery-red, diffuse gingivitis is

- A. primary herpetic gingivo-stomatitis.
- B. juvenile periodontitis.
- C. idiopathic fibromatosis.
- D. aphthous stomatitis.

Answer: A.

1180. Filters are placed in the path of the x-ray beam to

- A. increase contrast.
- B. reduce film density.
- C. reduce exposure time.
- D. reduce patient radiation dose.

Answer: D.

1181. If an alginate impression must be stored for a few minutes before the cast is poured, it should be placed in

- A. water.
- B. 100% relative humidity.
- C. A 1% aqueous calcium sulfate solution.
- D. None of the above.

Answer: B.

1182. Which of the following modifications to the standard procedure for mixing gypsum products will increase the compressive strength of the set material?

- A. Adding a small amount of salt to the water before mixing.
- B. Decreasing the water/powder ratio by a small amount.
- C. Using warmer water.
- D. Decreasing the mixing time.

Answer: B.

1183. Particulate hydroxyapatite, when placed subperiostally,
1. is highly biocompatible.
 2. has a low incidence of secondary infection following surgery.
 3. has a tendency to migrate following insertion.
 4. induces bone formation throughout the implanted material.
- A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: E.

1184. A characteristic sign of aggressive periodontitis in an adolescent (juvenile periodontitis) is
- A. marginal gingivitis.
 - B. painful, burning gingivae.
 - C. hyperplastic gingivitis.
 - D. drifting of the teeth.

Answer: D.

1185. Whenever possible, the margins of a restoration should be placed
1. subgingivally.
 2. supragingivally.
 3. on cementum.
 4. on enamel.
- A. (1) (2) (3)
 B. (1) and (3)
 C. (2) and (4)
 D. (4) only
 E. All of the above.

Answer: C.

1186. The area of the tooth that is most sensitive during cavity preparation is
- A. dentin.
 - B. cementum.
 - C. cementoenamel junction.
 - D. dentinoenamel junction.

Answer: D.

1187. The extension of the lingual anterior border of a mandibular denture is limited by the
- A. mylohyoid muscle.
 - B. geniohyoid muscle.
 - C. genioglossus muscle.
 - D. fibres of the digastric muscle.

Answer: C.

1188. The addition of platinum to a dental gold alloy results in increased
1. strength.
 2. hardness.
 3. melting point.
 4. resistance to corrosion.
- A. (1) (2) (3)

- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: E.

1189. Water irrigation devices have been shown to

- A. eliminate plaque.
- B. dislodge food particles from between teeth.
- C. disinfect pockets for up to 18 hours.
- D. prevent calculus formation.

Answer: B.

1190. The most common cause of malocclusion with a Class I molar relationship is

- A. a thumbsucking habit.
- B. crossbite in the posterior segments.
- C. tooth size and jaw size discrepancy.
- D. improper eruption of permanent first molars.

Answer: C.

1191. A maxillary complete denture exhibits more retention and stability than a mandibular one because it

- 1. covers a greater area.
- 2. incorporates a posterior palatal seal.
- 3. is not subject to as much muscular displacement.
- 4. is completely surrounded by soft tissue.

- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: A.

1192. The selection of a vasoconstrictor for a local anesthetic depends upon

- A. the duration of the operation.
- B. the need for hemostasis.
- C. the medical status of the patient.
- D. all of the above.

Answer: D.

1193. Warfarin (Coumadin®) acts by

- A. preventing formation of thromboplastin.
- B. preventing fibrinogen conversion to fibrin.
- C. inhibiting the synthesis of prothrombin in the liver.
- D. incorporating ionic calcium.

Answer: C.

1194. Enlargement of the thyroid gland can be caused by

- A. insufficient fluoride.
- B. excess iodine.
- C. insufficient iodine.

- D. excess calcium.
- E. excess sodium.

Answer: C.

1195. Which of the following pharmacokinetic change(s) occur(s) with aging?

1. Absorption is altered by a decrease in the gastric pH.
2. Metabolism is decreased by a reduced liver mass.
3. Distribution is altered by a decrease in total body fat.
4. Excretion is reduced because of lessened renal blood flow.

- A. (1) (2) (3)
- B. (1) and (3)
- C. (2) and (4)
- D. (4) only
- E. All of the above.

Answer: C.

1196. Hypercementosis at the root apex is often associated with

- A. hypothyroidism.
- B. Paget's disease.
- C. orthodontic tooth movement.
- D. normal occlusal function.
- E. hyperparathyroidism.

Answer: B.

1197. When a radiographic examination is warranted for a 10-year old child, the most effective way to decrease radiation exposure is to

- A. use a thyroid collar and lead apron.
- B. apply a radiation protection badge.
- C. use high speed film.
- D. decrease the kilovoltage to 50kVp.
- E. take a panoramic film only.

Answer: A.

1198. When using the periodontal probe to measure pocket depth, the measurement is taken from the

- A. base of the pocket to the cementoenamel junction.
- B. free gingival margin to the cementoenamel junction.
- C. base of the pocket to the crest of the free gingiva.
- D. base of the pocket to the mucogingival junction.

Answer: C.

1199. Which of the following conditions is characterized by abnormally large pulp chambers?

- A. Amelogenesis imperfecta.
- B. Regional odontodysplasia.
- C. Dentinogenesis imperfecta.
- D. Dentinal dysplasia Type I.

Answer: B.

1200. Premature loss of a primary maxillary second molar usually produces a malocclusion in the permanent dentition that is characterized by:

- A. anterior crowding.

- B. labially displaced maxillary canines.
- C. delayed eruption of the permanent first molar.
- D. a Class II molar relationship on the affected side.
- E. a Class III molar relationship on the affected side.

Answer: D.

Appendix I

Cartridge Components Dilutions and Concentrations

Percent solution

- o Different anesthetics come in various concentrations
- o The concentrations are given as a percentage
 - 0.5% = 5 mg/cc
 - 1% = 10 mg/cc
 - 2% = 20 mg/cc
 - 3% = 30 mg/cc
 - 4% = 40mg/cc

Cartridge Components

- o The prefilled 1.8ml dental cartridge consists of four parts:
 - Cylindrical glass tube
 - Stopper
 - Aluminum Cap
 - Diaphragm
- o To determine the mg/cartridge, multiply the mg/cc by 1.8cc

Example

- o How many milligrams of mepivacaine are contained within 2 cartridges of mepivacaine 3%?
 - 3% mepivacaine = 30mg/cc
 - 1 cartridge = 1.8 cc
 - 2 cartridges = 3.6 cc
 - $(30 \text{ mg/cc}) \times (3.6 \text{ cc}) = 108 \text{ mg}$

Concentrations of Vasoconstrictor in Local Anesthetics

| | |
|-----------|-------------|
| 1:50,000 | 0.02 mg/ml |
| 1:100,000 | 0.01 mg/ml |
| 1:200,000 | 0.005 mg/ml |

Calculation

- o 1:50,000 =
- o $\frac{1 \text{ gram}}{50,000 \text{ ml}} =$
- o $\frac{1000 \text{ mg}}{50,000 \text{ ml}} =$
- o $\frac{1 \text{ mg}}{50 \text{ ml}} = 0.02 \text{ mg/ml}$
- o $(0.02 \text{ mg/ml}) \times (1.8 \text{ ml/cartridge}) = 0.036 \text{ mg/cartridge}$
- o -OR-
- o the way someone once explained it to me:
 - start with 1,000,000 (also convert to ug) and divide the ml amount of the concentration. This gives you the concentration in mcg/kg/AMP/ml
 - $\frac{1,000,000 \text{ ug}}{50,000 \text{ ml}} = 20 \text{ ug/ml}$
 - If you are looking for mg, instead of ug, you can simply divide by 1000 at this point (also, move the decimal point to the left 3 places)

Example

- o How much lidocaine in a cartridge of lidocaine 2% with epinephrine 1/100,000? How much epi?
- o 2% lidocaine = 20mg/ml
 - $(20 \text{ mg/ml}) \times (1.8 \text{ ml/cartridge}) = 36 \text{ mg lidocaine/cartridge}$
- o Epi 1/100,000 = 0.01mg/ml
 - $(0.01 \text{ mg/ml}) \times (1.8 \text{ ml/cartridge}) = 0.018 \text{ mg epinephrine/cartridge}$

Calculating Maximum Dose of Epinephrine

- o Normal, healthy patient: 0.2 mg per appointment
- o From the slide above, we know that there is 0.018mg of epinephrine per cartridge containing epi 1/100,000
- o Therefore: $0.2 \text{ mg} / 0.018 \text{ mg per cartridge} = 11.1$ cartridges contains the maximum dose of epinephrine

Example

- o How much lidocaine in a cartridge of lidocaine 2% with epinephrine 1/100,000? How much epi?
- o 2% lidocaine = 20mg/ml
 - $(20\text{mg/ml}) \times (1.8\text{ ml/cartridge}) = 36\text{mg lidocaine/cartridge}$
- o Epi 1/100,000 = 0.01mg/ml
 - $(0.01\text{ mg/ml}) \times (1.8\text{ ml/cartridge}) = 0.018\text{mg epinephrine/cartridge}$

Calculating Maximum Dose of Epinephrine

- o Normal, healthy patient: 0.2 mg per appointment
- o From the slide above, we know that there is 0.018mg of epinephrine per cartridge containing epi 1/100,000
- o Therefore: $0.2\text{mg}/0.018\text{mg per cartridge} = 11.1$ cartridges contains the maximum dose of epinephrine

Math calculation answers:

The patient you are treating is a 30 year old healthy female. The patient weighs approximately 140 pounds. During the appointment you will be debriding the maxillary left quadrant and your patient requests anesthesia due to gingival recession and sensitivity. The recession is only on the buccal surfaces. She doesn't appear to have sensitivity on the lingual surfaces. The patient will be given 2% lidocaine (Xylocaine) with 1:100,000 epi. State the maximum safe dose of anesthetic this patient can receive.

- The MRD based on the patients weight is $2.0\text{ mg/lb} \times 140\text{ lbs} = 280\text{ mg}$

1. Based upon this, how many carpules of 2% lidocaine (Xylocaine) could this patient safely receive?

- Each cartridge of 2% lidocaine contains $20\text{ mg/ml} \times 1.8\text{ ml/cartridge} = 36\text{ mg}$ of lidocaine (See table 4-4 in Malamed)
- If the maximum dose for this patient is 280 mg, then 280mg divided by $36\text{ mg per cartridge} = 7.8$ cartridges are needed to deliver the maximum safe dose

2. Calculate the maximum safe dose of 4% Citanest (prilocaine) for a 120 pound female.

- The MRD for Prilocaine is 2.7 mg per lb .
- $2.7\text{ mg/lb} \times 120\text{ lbs} = 324\text{ mg}$, (which is below the absolute maximum of 400 mg.)

3. Based upon this information, how many carpules of 4% Citanest can this patient safely receive?

- The concentration of 4% Prilocaine is 40 mg/ml
- $40\text{ mg/ml} \times 1.8\text{ ml per cartridge} = 72\text{ mg of Prilocaine per cartridge}$