


Course No: DNTT 3134  
Course Title: Radiology II  
Date: 21/05/2015  
No. of Questions: (2)  
Time: 2 hours  
Using Calculator (No)


University of Palestine  
  
Final Exam  
2<sup>ed</sup> Semester 2014/2015  
Total Grade: 60

Instructor Name: Dr. Kamal Jaber  
Student No.: \_\_\_\_\_  
Student Name: \_\_\_\_\_  
College Name: College of Dentistry  
Dep. / Specialist: \_\_\_\_\_  
Using Dictionary (No)

### Question One: MCQ:

- 1) **Concerning intra-oral images receptor, all the following are true except:**
  - a) Digital image receptors include rigid sensors and phosphor plate receptors.
  - b) Intraoral digital receptors are available in sizes comparable to traditional dental film.
  - c) Digital receptors can be sterilized.
  - d) It is important to utilize proper infection control techniques to prepare and cover digital receptors for placement inside the mouth.
  - e) Rigid digital receptors are available in both wired and wireless formats.
  
- 2) **Concerning intra-oral radiographic technique, all the following are true except:**
  - a) The paralleling technique is the most accurate intraoral radiographic technique.
  - b) The paralleling technique meets four of the five principles of accurate image projection.
  - c) In order to achieve parallelism, it is necessary to place the receptor more lingual to the structures.
  - d) The bisecting angle provides an alternative technique when parallel placement cannot be achieved
  - e) The bisecting angle technique is accomplished by placing the receptor perpendicular to the long axis of tooth as possible.
  
- 3) **Concerning intra-oral procedure, choose the best answer:**
  - a) Is one of the most important diagnostic aids available to the dental practitioner.
  - b) Diagnostic-quality intraoral images reveal evidence of disease that cannot otherwise be found.
  - c) One of the fundamental of intra-oral imaging is that the central beam should pass through the area to be examined.
  - d) The second is that the radiographic receptor should be placed in a position to record the image with the least amount of image distortion.
  - e) All of the above are true.
  
- 4) **Concerning peri-apical radiographic imaging, all the following are true except:**
  - a) The purpose of the intraoral periapical examination is to obtain a view of the entire tooth and it's surrounding structures.
  - b) The two exposure techniques employed for periapical radiography are the paralleling technique and the bisecting angle technique.
  - c) The bisecting angle technique is the preferred method.
  - d) The paralleling technique provides less image distortion and reduces excess radiation to the patient.
  - e) In the paralleling technique the tooth, receptor, and end of the position indicating device (PID) are all kept on parallel planes.
  
- 5) **Concerning paralleling technique, all the following are true except:**
  - a) The anatomic configuration of the oral cavity determines the distance needed between receptor and tooth and varies among individuals.
  - b) The major advantage of the paralleling technique, is that the image formed on the receptor will have both linear and dimensional accuracy.
  - c) The major disadvantages are the difficulty in placing the PID.
  - d) The position of the tube head is usually adjusted in two directions: vertically and horizontally.
  - e) Insufficient vertical angulation produces an elongated image.


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- 6) Concerning patient positioning of paralleling technique, one of the following is false:
- When positioning a patient, there are three imaginary planes that must be considered.
  - The occlusal plane runs horizontally, dividing the patient's head into upper and lower portions.
  - A midsagittal plane divides the patient's head or body on a vertical dimension into equal right and left portions.
  - When using the paralleling technique to examine the maxillary region, the occlusal plane of the maxilla is parallel to the floor and the sagittal plane of the patient's head is perpendicular to the floor.
  - When paralleling the mandibular region, the patient might need to be tilted back in the chair.
- 7) Concerning bisecting angle technique, one of the following is false:
- The receptor is positioned resting on the palate or on the floor of the mouth as close to the lingual tooth surfaces as possible.
  - The linear equality is the basis for diagnostic quality bisecting angle radiographic images.
  - The bisecting angle technique is of value when the paralleling technique cannot be utilized.
  - The bisecting angle technique is necessary for patients with small mouths and those with low palatal vaults.
  - In the bisecting angle technique, supporting the receptor with the patient's forefinger is highly recommended.
- 8) Concerning bitewing radiography, all the following are true expect:
- Bitewing radiography has particular value in detecting interproximal caries in the early stages of development, before it is clinically visible.
  - Bitewing radiographic images are also useful in evaluation of the alveolar crests for detection of early periodontal disease.
  - The receptor is positioned parallel to the long axis of the teeth and the beam is perpendicular to the receptor.
  - Bitewing radiographic images are usually exposed with an indicated vertical angulation of +30 degrees
  - A bitewing tab is utilized to stabilize the receptor as the bites together.
- 9) Concerning occlusal radiography. All the following are true expect:
- Occlusal radiography is used to view the maxilla for anterior alveolar fractures, cysts, supernumerary teeth and impacted canines,
  - To view pathology at the apices of the incisors.
  - It is used to diagnose periodontal pathology.
  - The patient is seated with the sagittal plane perpendicular to the floor and the occlusal plane parallel to the floor.
  - Before any radiographic images are exposed, the patient must be draped with a protective apron and thyroid collar.
- 10) Concerning extra-oral radiography, choose the best answer:
- Examination made of the head and facial region using films located outside the mouth.
  - They allow the Dentist to view large areas of the jaws and skull on a single radiograph not covered by intraoral films.

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- c) Detect fractures and evaluate trauma
- d) Detect pathological lesions and diseases of the jaws.
- e) All the above are true.

**11) Concerning types of extra-oral radiography, all the following are correct expect:**

- a) Dental Panoramic Tomography (OPG,OPT)
- b) Cephalometry.
- c) Lateral oblique (bimolars)
- d) CBCT.
- e) Sialography.

**12) Concerning radiation protection, all the following are true expect:**

- a) Radiation dose from extra-oral radiography is low but protection still important.
- b) Protection is done by good technique.
- c) Protection is done by good processing.
- d) Protection is done by lead rubber apron
- e) In pregnancy the risk is very high and X-ray must be avoid.

**13) Concerning step 1 of analysis of intra-osseous lesion, all the following are true expect:**

- a) Metabolic or endocrine abnormalities of bone are considered if the lesions affect all the bones segments of face and jaw.
- b) If the abnormality is localized, it may be unilateral or bilateral.
- c) Often variations of normal anatomy are more commonly bilateral.
- d) Paget ' s disease is always seen unilaterally in the mandible.
- e) Bilateral mandibular radiolucency may indicate normal anatomy.

**14) Concerning cysts & cyst-like lesions of the jaws, all the following are true expect:**

- a) A cyst is a pathologic cavity filled with fluid.
- b) Lined by epithelium, and surrounded by a definite connective tissue wall.
- c) The majority of cysts arise in the soft tissues of the oro-facial region.
- d) The cystic fluid either is secreted by the cells lining the cavity or derives from the surrounding tissue fluid.
- e) Cysts may occur centrally (within bone) in any location in the maxilla or mandible.

**15) Concerning radicular cyst, one of the following is false:**

- a) Most radicular cysts (60%) are found in the mandible.
- b) Theperiphery usually has a well-defined cortical border.
- c) In most cases the internal structure of radicular cysts is radiolucent.
- d) Occasionally, dystrophic calcification may develop in long-standing cysts, appearing as sparsely distributed, small particulate radiopacities.
- e) If a radicular cyst is large, displacement and resorption of the roots of adjacent teeth may occur.

**16) Concerning lateral periodontal cyst, all the following are true except:**

- a) 50% to 75% of lateral periodontal cysts develop in the mandible.
- b) Appears as a well-defined radiolucency with a prominent cortical boundary and a round or oval

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shape.

- c) Usually is radiolucent.
- d) Small cysts may efface the lamina dura of the adjacent root.
- e) On CT, these cysts appear always as uni-cystic lesion.

**17) Concerning osteoblastoma, one of the following is false:**

- a) Osteoblastomas are found both in the tooth-bearing regions and commonly around the temporomandibular joint
- b) Lesions often have a soft tissue capsule around the periphery.
- c) The internal structure may be entirely radiolucent in early developing tumors
- d) No calcifications found in the tumor matrix.
- e) Usually a thin outer cortex is maintained

**18) Concerning osteosarcoma, choose the best answer:**

- a) The mandible is more commonly affected than the maxilla.
- b) Ill-defined border and when viewed against normal bone, the lesion is usually radiolucent with no peripheral sclerosis or encapsulation
- c) If the lesion involves the periosteum directly or by extension, the typical sunray spicules or “hair-on-end”.
- d) If the periosteum is elevated a Codman ’ s triangle at the edges is formed.
- e) All the above are correct.

**19) Concerning fibrous dysplasia of jaw bones, all the following are correct expect:**

- a) Fibrous dysplasia involves the maxilla almost twice as often as the mandible.
- b) Usually bilateral.
- c) Occasionally the boundary between normal bone and the lesion can appear sharp and even corticated.
- d) Radiopaque pattern that can vary; the lesion has granular appearance (or “ground-glass” appearance).
- e) Fibrous dysplasia can displace teeth or interfere with normal eruption, complicating orthodontic therapy.


**20) Concerning aneurysmal bone cyst (ABC), one of the following is false:**

- a) The mandible is involved more often than the maxilla.
- b) The periphery usually is well defined, and the shape is circular
- c) Often the internal aspect has a multilocular appearance.
- d) On CT, ABC shows high internal structure, representing solid density.
- e) After an ABC becomes large, there is an expansion of the outer cortical plates.

**21) The triangular radiographic appearance of a carious lesion with the base at outer tooth surface and apex towards DEJ is characteristic for:**

- a) Occlusal caries.
- b) Advanced proximal caries.
- c) Moderate proximal caries.
- d) Buccal caries.


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- 22) The cervical burn out is a pathological R.L area at the neck of tooth that could be misinterpreted with root caries:
- True
  - False
- 23) Which of the following statements best describes radiation caries?
- It is a type of caries that affects old individuals due to increase radiation dose while taking intra-oral complete mouth survey.
  - It's a type of caries that is initiated as a result of demineralization effect due to radiation of hard tooth structures.
  - It is a type of only caries that affects both smooth as well as pit and fissure surfaces of the posterior teeth at the side of the arch receiving radiation.
  - It is a type of caries that has a direct relationship with function of the salivary glands that are dramatically impaired due to radiation to the head and neck region.
- 24) Proper radiographic examination of dental caries includes the following techniques except:
- periapical radiographs.
  - occlusal radiographs.
  - bitewing radiographs.
  - none of the above.
- 25) Clinical examination of a case reveals presence of a large polished occlusal carious lesion of mandibular left first molar. Radiographic examination shows a dark, radiolucent area and white sclerotic line underneath it. The case most probably has:
- Recurrent caries.
  - Arrested caries.
  - Radiation caries.
  - Root surface caries.
- 26) The safety of the safe-light does not depend on which of the following:
- Concentration and temperature of processing solution.
  - Distance of the safelight from the workbench.
  - Wattage of the light bulb.
  - Duration of time the film was exposed to the safelight.
- 27) The first step in film processing is:
- Fixation.
  - Rinsing.
  - Developing.
  - Washing.
  - Drying.
- 28) Developer solution has an affinity to clear the unexposed crystals of silver bromide halide.
- True.
  - False.


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- 29) Fixer solution has an affinity to the bromide radical and will take the bromide part.
- True.
  - False.
- 30) The radiographic radiolucent line that normally presents between the lamina dura and the tooth represents the:
- Cementum.
  - Periodontal ligament space.
  - Bone marrow.
  - Dentin.
- 31) If one is unable to differentiate a cyst from the incisive foramen, differentiation may be accomplished by taking another radiograph:
- From the same horizontal angulation.
  - From a different horizontal angulation.
  - With different kilovoltage.
  - With different film-target distance.
- 32) The image of the coronoid process of the mandible may be visualized in the radiograph:
- As a triangular radiopaque area in the region of the toberosity.
  - In the region of the zygomatic process of maxilla.
  - In the region of maxillary premolars.
  - In the region of cuspid.
- 33) In a radiograph of the upper central incisors, the nasal fossae appear as:
- A radiopaque area surrounded by a radiolucent band.
  - A radiolucent band.
  - A radiolucent area surrounded by radiopaque band.
  - A radiopaque band.
- 34) The following are the radiopaque anatomical landmarks in lower molar region except:
- External oblique ridge.
  - Internal oblique ridge.
  - Inferior border of the mandible.
  - Mandibular canal ( inferior alveolar canal).
- 35) The radiolucent dot in the center of the genial tubercles is the:
- Image of incisive foramen.
  - Image of anterior palatine foramen.
  - Image of the lingual foramen.
  - Image of the mental foramen.
- 36) Improper horizontal angulation when taking periapical radiograph causes:
- Elongation of the final image.
  - Shortening of the final image.

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- c) Overlapping of the proximal areas.
- d) None of the above.

**37) What is the cause of yellow or brown stains which appear on the film after processing?**

- a) Aged film.
- b) Improper exposure technique.
- c) Improper fixation and washing.
- d) None of the above.

**38) Blank image may be due to the following factors except:**

- a) First placing exposed films in the fixer solution.
- b) Unexposed films processed correctly.
- c) both a+b.
- d) none of the above.

**39) Black spots are an artifact usually occurs on the processed film due to:**

- a) over x-ray exposure.
- b) over development.
- c) Static electricity due to friction.
- d) Developer contamination (contact) before developing.
- e) None of the above.

**40) Cone cutting (partial image) on a radiograph is caused by:**

- a) Underexposure.
- b) Improper exposure technique.
- c) Increase target-film distance.
- d) Improper coverage of the film with the beam of radiation.

### Question Two: Short note Questions:

- 1) Give a brief idea of safety and infection control of intra-oral radiography. (2 points)
- 2) Describe briefly the five steps of analysis of intra-osseous lesions. (6 points)
- 3) What are the radiological characteristics of malignant tumors of bone of face and jaw? (2 points)
- 4) What are the principle and purpose of Lateral skull (cephalometric) projection? (3 points)

End of Questions  
*Good Luck*