



Course Description

343 DDS- Clinical Oral and Maxillofacial Radiology II (2014-2015)

Course title: Clinical Oral & Maxillofacial Radiology II

Course No & Code: 343 DDS

Credit Hours: 2

Level: Third year undergraduate level

Prerequisite: 243 DDS Physics of Diagnostic Radiology and Oral and Maxillofacial Radiology

Academic Year: 2014-2015

Course Director (MUC): Dr. Asma'a Al-Ekrish- Assistant Professor , OMF Radiology

Course Contributors (MUC): Dr. Wafa Al-Faleh- Associate Professor, OMF Radiology

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1.0 General Description:

This is the second course of oral radiology which is a comprehensive course in radiographic interpretation and differential diagnosis of developmental and pathological lesions, and fractures of the jaws and associated structures. The course is covered by lectures in the first half of the year and practical and tutorials in the second half. The lectures in the first half will encourage the student to present and participate in case discussion sessions in the second half.

2.0 References:

1. Lectures

2. Required Textbooks:

Oral radiology- Principles and Interpretation. 6th edition

By: White and Pharoah

Fundamentals of Sectional Anatomy, An Imaging Approach, 2005 (Only Chapter 2).

By: Denise L. Lazo

3. Suggested reading:

Differential Diagnosis of Oral Lesions (*section on bony lesions*)

By: Wood and Goaz

Separate recommendations for further reading will be given at the end of each lecture.

4. Recommended Web Links:

Oral Radiographic Differential Diagnosis (ORAD II): <http://www.orad.org/index.html>

Marcilan Maxillofacial Radiology:

<http://www.marcilan.com>

European Academy of Dentomaxillofacial Radiology:

<http://www.eadmfr.eu/training/anatomy-cbct-images>

HeadNeckBrainSpine (Sectional anatomy resource):

http://headneckbrainspine.com/web_flash/newmodules/skull%20base%20CT.swf

3.0 Content of Lectures:

Chapters and pages from Oral Radiology principles and Interpretation, 6th edition unless otherwise specified.

3.01 **Sectional anatomy- chapter 2 (Textbook: Fundamentals of Sectional Anatomy, an imaging approach, By Denise L. Lazo 2005):**

- ♦ Sectional bony anatomy of axial, coronal and sagittal of the oral and maxillofacial structures

3.02 **Inflammatory lesions of the jaws- chapter 20:**

Review of: acute apical periodontitis, chronic apical periodontitis, periapical granulomas, and radicular cyst. Clinical features, radiographic appearance, and differential diagnosis of rarefying and sclerosing osteitis, osteomyelitis and osteoradionecrosis, periapical scar, and surgical defect.

3.03 **Odontogenic and non-odontogenic cysts- chapter 2**

Definition, clinical features, radiographic features, and differential diagnosis of:

- ♦ Odontogenic cysts
 - Radicular cyst
 - Residual cyst
 - Dentigerous cyst
- ♦ Non-odontogenic cysts
 - Nasopalatine duct cyst (incisive canal cyst)
- ♦ Cyst-like lesions
 - Simple bone cyst (traumatic bone cyst)
 - Lingual salivary gland defect (Stafne cyst)-(p. 574)
 - Aneurysmal bone cyst- (p. 445)

3.04 **Benign odontogenic tumors- chapter 22**

- Definition, clinical features, radiographic features (location, shape, periphery, internal structure, and effect on surrounding structures) and differential diagnosis of the following **benign odontogenic tumors**:

- ♦ Odontogenic epithelial tumors
 - Ameloblastoma
 - Adenomatoid odontogenic tumor (AOT)
 - Keratocystic odontogenic tumor (KOT)
- ♦ Mixed odontogenic tumors
 - Odontoma

- ♦ Odontogenic mesenchymal tumors
 - Odontogenic myxoma

3.05 Benign non-odontogenic tumors- chapter 22 (p. 410)

- Definition, clinical features, radiographic feature, and differential diagnosis of the following **hyperplastic** lesions (p. 367):
 - ♦ Torus palatinus
 - ♦ Torus mandibularis
 - ♦ Enostoses
 - ♦ Idiopathic osteosclerosis
 - ♦ Exostoses
- Definition, clinical features, radiographic features, and differential diagnosis of the following **benign non-odontogenic tumors**:
 - ♦ Tumors of neural origin:
 - Traumatic neuroma
 - ♦ Mesodermal tumors:
 - Osteoma
 - Osteoblastoma

3.06 Malignant tumors- chapter 23

- Radiographic characteristics of **malignant tumors**, difference between benign and malignant tumors.
- Definition, clinical features, radiographic features, and differential diagnosis of the following **malignant tumors**:
 - ♦ Carcinomas
 - Squamous cell carcinoma
 - Metastatic carcinoma
 - ♦ Sarcomas
 - Osteosarcoma

3.07 Trauma to the Facial Structures- chapter 29

- ♦ Introduction and general radiographic signs of fracture.
- ♦ Clinical and radiographic appearance of:
 - Mandibular fractures
 - Condylar fractures

- Midface fractures
- Zygomatic complex fractures

3.08 Bone diseases with jaw manifestation- chapter 24

Definition, clinical features, radiographic features, and differential diagnosis of:

- ◆ Fibrous dysplasia
- ◆ Periapical cemental dysplasia
- ◆ Focal cemento-osseous dysplasia
- ◆ Florid osseous dysplasia
- ◆ Cemento-ossifying fibroma
- ◆ Giant cell lesions:
 - Cherubism
 - Central giant cell granuloma
- ◆ Paget's disease
- ◆ Osteopetrosis

3.09 Soft Tissue Calcifications - chapter 28

General clinical and radiographic features, and differential diagnosis of:

- ◆ Dystrophic calcifications:
 - Calcified lymph nodes
 - Dystrophic calcification in the tonsils
 - Calcified blood vessels
 - Calcified atherosclerotic plaque (carotid)
- ◆ Idiopathic calcification:
 - Salivary sialolith
 - Phleboliths
- ◆ Metastatic calcification
- ◆ Heterotopic calcification:
 - Ossification of stylohyoid ligament
 - Myositis ossificans

3.10 Systemic diseases manifested in the jaws - chapter 25

- ◆ Endocrine disorders
 - Hyperparathyroidism

- Hypoparathyroidism
- Hyperthyroidism
- Hypothyroidism
- Diabetes mellitus
- ◆ Metabolic bone diseases
 - Osteoporosis
 - Rickets and osteomalacia
 - Osteopetrosis
- ◆ Other systemic diseases
 - Sickle cell anemia
 - Thalassemia

3.11 Tempromandibular joint (TMJ) disorders and imaging- chapter 26

- Radiographic ***anatomy*** of the TMJ

- Diagnostic ***imaging*** of the TMJ

- ◆ Hard tissue imaging
 - Panoramic and automatic double TMJ program
 - Conventional tomography
 - Computed tomography and cone beam computed tomography
- ◆ Soft tissue imaging
 - MRI

- ***Abnormalities*** of the TMJ

- ◆ Developmental abnormalities (bony)
 - Condylar hyperplasia and hypoplasia
 - Coronoid hyperplasia
 - Bifid condyle
- ◆ Soft tissue abnormalities
 - Disk displacement with reduction
 - Disk displacement without reduction
 - Disk perforation and deformities
- ◆ Remodeling
- ◆ Arthritic disorders
 - Osteoarthritis
 - Rheumatoid arthritis
- ◆ Trauma:
 - Dislocation

- Fractures
- Ankylosis

3.12 Salivary gland diseases and imaging- chapter 31

- ♦ Anatomy
- ♦ Diagnostic imaging
 - Plain film radiography
 - Intraoral radiography (periapical, occlusal)
 - Extraoral radiography (lateral oblique)
 - Indications, contra-indications, limitations, and appearance of:
 - Conventional sialography
 - CT
 - MRI
- ♦ Definition, clinical features, radiographic appearance, and differential diagnosis of:
 - Sialolithiasis,
 - Autoimmune sialadenitis (Sjogren's syndrome)
- ♦ Radiographic appearance of benign and malignant tumors of the salivary glands.

3.13 Maxillary sinus diseases and imaging- chapter 27

- ♦ Review of normal development, anatomy, functions, and diagnostic imaging.
- ♦ Definition, clinical features, radiographic appearance and differential diagnosis of:
 - Inflammatory changes (thickened mucous membrane, sinusitis, empyema, polyps)
 - Antrolith
 - Mucous retention cyst
 - Mucocele
 - Odontogenic cyst
 - Benign neoplasms
 - Malignant neoplasms (squamous cell carcinoma)

4.0 Evaluation and Grades:

Activity		Marks	
First Semester			
1st CAT (written)		15	
2nd CAT (written)		15	
Second Semester			
Clinical Requirements	1 case of 20 CMS radiographic taking	5	17
	Evaluation of 20 CMS radiographic taking	2	
	Report writing for 1 assigned 20 CMS case	4	
	1 panoramic radiographic taking	2	
	Evaluation of panoramic radiographic taking	2	
	Report writing for 1 assigned panoramic	2	
1 Case Presentation		7	
8 Case presentation Quizzes		6	
Final clinical exam		40	
Total		100	

DDS 343- Oral and Maxillofacial Radiology

Lectures Schedule

First Semester (2014-2015)

Week	Topic	Lecturer	Date
1	Introduction	Al-Ekrish	4 - 9 – 2014
2	Sectional anatomy of the oral & maxillofacial structures	Al-Ekrish	11- 9 – 2014
3	Inflammation lesions of the jaws	Al-Ekrish	18 - 9 – 2014
4	Odontogenic and non-odontogenic cysts	Al-Faleh	25 - 9 – 2014
HAJJ VACATION			
5	Benign odontogenic tumors	Al-Shawaf	16- 10 – 2014
6	Benign non- odontogenic tumors	Al-Ekrish	23 - 10 – 2014
7	Malignant tumors	Al-Ekrish	30 - 10 – 2014
8	Soft tissue calcifications	Al-Faleh	6 - 11 – 2014
9	First continuous assessment exam	Staff	13 - 11 – 2014
10	Trauma to the facial structures	Al-Ekrish	20- 11 – 2014
11	Bone diseases with jaw manifestations	Al-Ekrish	27- 11 – 2014
12	Systemic diseases manifested in the jaws	Al-Ekrish	4 - 12– 2014
13	Temporomandibular joint imaging and disorders	Al-Ekrish	11 - 12 – 2014
14	Salivary glands imaging and disorders	Al-Shawaf	18 - 12 – 2014
15	Maxillary sinus disease and imaging	Al-Shawaf	25 - 12 – 2014

**Practical Exercise Schedule
Second Semester (2014-2015)**

Week	Group A	Group B	Group C	Group D	Date
1	<ul style="list-style-type: none">• Second continuous assessment exam				29 - 1 – 2015
	<ul style="list-style-type: none">• Panoramic Report Demonstration• Introduction to Radiological Differential Diagnosis and Case Presentation: Detailed Description of a Jaw Lesion				
2	<ul style="list-style-type: none">• Exercise on Characteristic radiographic features of lesions				5 - 2 – 2015
3	Case Presentation- Group A1	Radiograph Taking	Report Writing		12 - 2 – 2015
4	Case Presentation Group A2	Report Writing	Radiograph Taking	Report Writing	19 - 2 – 2015
5	Case Presentation Group A3	Report Writing	Report Writing	Radiograph Taking	26 - 2 – 2015
6	Radiograph Taking	Case Presentation Group B1	Report Writing	Report Writing	5 - 3 – 2015
7	Report Writing	Case Presentation Group B2	Radiograph Taking	Report Writing	12 - 3 – 2015
8	Report Writing	Case Presentation Group B3	Report Writing	Radiograph Taking	19- 3 – 2015
Mid-semester Vacation					
9	Radiograph Taking	Report Writing	Case Presentation Group C1	Report Writing	2- 4 – 2015
10	Report Writing	Radiograph Taking	Case Presentation Group C2	Report Writing	9- 4 – 2015
11	Report Writing	Report Writing	Case Presentation Group C3	Radiograph Taking	16- 4 – 2015
12	Radiograph Taking	Report Writing	Report Writing	Case Presentation Group D1	23- 4 – 2015
13	Report Writing	Radiograph Taking	Report Writing	Case Presentation Group D2	30- 4 – 2015
14	Report Writing	Report Writing	Radiograph Taking	Case Presentation Group D3	7- 5 – 2015
15	Formative Exam				14- 5 – 2015
Final Exam					To be determined