UNIVERSITÀ
DEGLI STUDI DI MILANO-BICOCCA

COURSE SYLLABUS

Radiology

2021-2-H4601D008

Aims

The student has to know:

- the main clinical indications to the different imaging techniques and the limits of each of them;
- the diagnostic procedure of the different pathologies: inflammatory, focal benign and malignant;
- the main radiological features of the most common pathologies;
- physical and executive principles of the various imaging techniques;
- correctness and pertinence criteria of the various imaging techniques;
- The student has also to be able to interpret autonomously endoral and extraoral radiological images and orthopantomograms (OPGs).

Contents

The course provides the student with fundamental theoretical knowledge of general diagnostic radiology and of odontostomatologic imaging.

Detailed program

•Physics of ionizing
radiations, biological effects of radiations, safety and protection from
radiations;

•Imaging techniques basics:
x-ray films, projection's geometry, radiographic quality control;

•Endoral and extraoral
radiographies; panoramic radiography; normal radiographic anatomy;

•Digital systems and
Scanora Tomography; specialized radiographic techniques; CT general
information; spiral CT; Dentascan; multislice CT; cone-beam CT; MRI: physical
basics, general clinical information, mention of radiobiology;

•Radiographic
interpretation of pathology: dental caries; pathology of periodontium;

•Maxillary cysts
(Odontogenic cysts: general features, radicular cyst, dentigerous cyst,
odontogenic keratocysts). Inflammatory pathology of maxillary alveolar
processes (periapical lesions, pericoronitis, acute and chronic
osteomyelitis, osteonecrosis). Maxillary bones benign neoplasms (palatal and mandibular
tori, exostoses and enostoses, ameloblastoma and variants, odontoma,
ameloblastic fibroma and other odontogenic tumors,
non odontogenic tumors). Maxillary bones primary and secondary malignant
neoplasms;

•Pediatric pathology: OPG
(growth, number and classification of deciduous and permanent teeth);
teleradiographic exams of the skull: indications and purposes; requirements;
bone age: methods and purposes; mention of guidelines and radioprotection;

•Bone pathologies: Fibrous
Dysplasia - Periapical Cemental Dysplasia (PCD) - Florid Osseous Dysplasia -
Cemento-ossifying Fibroma - Central Giant-cell Granuloma - Aneurysmatic Bone
Cyst - (Cherubinism) - Paget's disease - Histiocytosis X. Systemic Pathologies:
Hyperparathyroidism, Acromegaly, Diabetes Mellitus. Osteoporosis. Rachitism.
Renal Osteodystrophy. Growth Disorders: Cleido-cranial Dysplasia - Crouzon
Syndrome -
Goldenhar Syndrome (Hemifacial Hypotrophy) - Stafne defect - Palatoschisis -
Focal Osteoporotic Bone Marrow Defect. Calcifying and Ossificans Pathology of
Soft Tissues and Salivary Glands: Calcified Lymph
Nodes - Dystrophic Calcifications of Tonsilla - Blood vessels calcified -
Sialoliths - Phleboliths - Heterotopic Bones: Ligamentum Stylohyoideum
Ossification - Ossificans Myositis;

•Implants: Typology (blade,
subperiosteal, root-form). Imaging Techniques: endoral apical and occlusal
x-ray – Teleradiography – OPG – Conventional Tomography (Scanora) – Dentascan
and Cone-Beam CT – Simplant. Residual Bone Evaluation. Bone Graft and Maxillary
Sinus Lift. Preoperative Program. Follow-up. Failure Signs. Other Implants.
Maxillary Sinuses: Normal Development and Variations. Imaging Techniques.

Inflammatory
Alterations: Mucous Membrane Thickening, Periostitis, Sinusitis, Empyema, Polyps, Ritention Pseudocysts, Mucocele;

•Temporomandibular Joints:
Radiographic and Functional Anatomy; Diagnostic Imaging: OPG, Projections: Transcranial - Transpharyngeal - Transorbital - Transmaxillary - Fronto-Condylal Projection - Axial Submentovertex; Conventional Tomography; CT; MRI; (Arthrography). Growth Anomalies: Condyloid Hyperplasia; Condyloid Hypoplasia; Juvenile Osteoarthritis; Coronoid Hyperplasia; Condylus Bifidus. Soft Tissues Anomalies and Internal Lesions: Disk Dislocation with/without Reduction; Discal Perforation and Deformity; Fibrous Adherences and Effusion. Remodeling and Osteoarthritic Pathologies: Remodeling; Degenerative Articular Disease; Rheumatoid Arthritis; Juvenile Rheumatoid Arthritis; Psoriasic Arthritis and Ankylosing Spondylitis (AS); Septic Arthritis. Intraarticular Loose Bodies: Synovial Chondromatosis; Chondrocalcinosis;

•Traumas: Traumatic Lesions of the Teeth: Concussion, Luxation, Avulsion, Crown Fractures, Root Fractures, Crown-Root Fractures, Vertical Root Fractures Traumatic Lesions of the Facial Bones: Mandibular Fractures: Body, Condyle, Alveolar Process; Maxillary Fractures: Middle Third, Horizontal (Le Fort I), Pyramidal (Le Fort II), Cranio-Facial Disjunctions (Le Fort III); Zygomatic Fractures

Prerequisites

Teaching form

Lectures

Textbook and teaching resource

L.De Florio, G.Ghigi: Compendio di Radiologia Odontostomatologica (2nd edition) Idelson-Gnocchi - S.C.White, M.Phqroah: Radiologia odontoiatrica (4th edition) A. Delfino editore

Teachers will provide further didactic material.

Semester

Second semester

Assessment method

Written test and oral examination.

The written test is about workers and patient radioprotection and includes 25 multiple choice questions with only one
correct answer among 4. Each correct answer is scored 1,2. The written test is
evaluated with a mark ranging from 0 to 30.

Oral examination consists in the evaluation of
the knowledge acquired among all the other course topics through open questions, and recognition of radiological images The oral test is
evaluated with a mark ranging from 0 to 30.

The final mark is based on the average score obtained
by the students during the written and the oral test.

Office hours

By appointment required by
mail