



MEDTEC SCHOOL

Course: Head and Neck

Year: 5th

Period: 2nd semester

Credits: 5 CFU

Objectives

- *to understand the basic pathophysiologic mechanisms of diseases of the Head & Neck;*
- *to be able to recognize the clinical manifestations of the most relevant diseases of the Head & Neck;*
- *to perform a thorough anamnesis and discuss the appropriate diagnostic flow-chart;*
- *to recognize emergencies;*
- *to name the most relevant therapeutic strategies.*

Prerequisites

- *knowledge of the regional anatomy and histology of the Head & Neck: eyes, ears (external, middle, inner), nose and paranasal sinuses, temporal bone and cranial base, oral cavity, oropharynx and hypopharynx, cervical esophagus, larynx, trachea, salivary glands, thyroid and parathyroid glands, neck muscles, vessels, lymph nodes and fascias;*
- *knowledge of the vascularization and innervation of the main organs and systems of the Head & Neck;*
- *knowledge of the physiology of the main organs and systems of the Head & Neck.*

Contents

Oral Diseases and Dentistry

Introduction: diseases of the oral cavity

Learning goals:

- to discuss the anatomy and nomenclature of the oral cavity, teeth and periodontal tissues;
- to describe the bacterial biofilm: the dental plaque

Natural history of periodontal tissue diseases: gingivitis and periodontitis

Learning goals:

- to define periodontal lesions;

- to discuss epidemiology, etiology, pathogenesis, signs and symptoms and treatment of periodontal lesions.

Natural history of dental caries

Learning goals:

- to define caries;
- to discuss the epidemiology, etiology and pathogenesis of caries;
- to discuss the signs and symptoms of caries;
- to illustrate dental pain;
- to discuss Treatment of caries.

Periodontal medicine

Learning goals:

- to illustrate the Era of focal infection;
- to discuss periodontal and coronary heart disease/atherosclerosis;
- to discuss the relationship between periodontal disease and diabetes mellitus;
- to discuss the role of periodontitis in pregnancy;
- to discuss the relation between periodontal disease and acute respiratory infection;
- to present periodontal medicine in the clinical practice.

The impacted teeth and acute inflammatory disorders

Learning goals:

- to discuss acute inflammatory disorders of the oral cavity: diagnosis and emergency treatment.

Diseases of the oral mucosa

Learning goals:

- to demonstrate an appropriate knowledge regarding the prevalence of oral mucosal diseases in the different areas of the world;
- to be able to make a correct diagnosis of an oral elementary lesion;
- to recognize the most common abnormalities of the oral mucosa including viral and bacterial infections and neoplastic conditions;
- to discuss potentially malignant oral lesions and oral cancer;
- to be able to make a diagnosis of oral leukoplakia;
- to be able to make a diagnosis of oral erythroplakia;
- to define the management protocol for oral leukoplakia;
- to describe the most frequent clinical features of early oral cancer at presentation;
- to describe the role of HVP in oral cancer;
- to illustrate the main rules for smoking cessation promotion in a medical office;
- to indicate the role of different drugs in drug-related osteonecrosis.

Bleeding of the oral cavity, dental trauma and oral pain

Learning goals:



- to perform an adequate anamnesis of patients complaining of bleeding of the oral cavity, dental trauma and oral pain;
- to elaborate an appropriate diagnostic flowchart and provide the most adequate treatment.

Prophylaxis and prevention of caries and periodontal diseases

Learning goals:

- to describe the prophylaxis for caries: sealants and fluorides;
- to discuss primary prevention of caries and periodontal disease: the role of domiciliary dental hygiene;
- to discuss secondary prevention strategies.

Dental therapies: state of the art

Learning goals:

- to describe the most advanced options in dental therapies.

Clinical Cases discussion

Learning goals:

- to discuss clinical cases;
- to summarize the main topics covered in the course.

Eye Diseases

The basic of an ophthalmological examination and the available technology;

Red eye and ocular inflammation: the differential diagnosis

Learning goals:

- to describe the anamnesis and the objective examination of the eye and in particular what is important to observe and what can be recognized simply through external examination in various ocular pathologies;
- to illustrate the modern tools by which it is possible to examine the eye, how they work, their specificities and purposes (e.g. ocular biomicroscopic and ophthalmoscopic evaluation, the slit lamp, the keratometer, the topographer and tomographer, the tonometry, the angiography, the retinal optical coherence tomography, the visual field, the echography, the electrophysiology);
- to discuss the appearance of red eye: how it can arise and why (conjunctivitis, keratitis, scleritis, uveitis);
- to discuss the main symptoms associated to a red eye, how can they help recognize the benign from the serious pathology

Posterior segment diagnostics: ocular fundus, visual field and other diagnostic systems - the meaning and usefulness for non-ophthalmologist

Learning goals:

- to understand the basic notions and the clinical findings of the modern imaging techniques for the posterior segment of the eye (optical coherence tomography, fluorescein and indocyanine angiography).

What is a refractive defect and its possible correction

Learning goals:

- to understand refractive errors (myopia, hyperopia, astigmatism and presbyopia) explaining the pathogenesis, physiopathology and diagnosis;
- to explain the most important factors causing a refractive error and their medical and surgical correction (refractive surgery);
- to discuss the refractive errors that may underlie corneal or intraocular pathologies;
- to describe the state of the art in the excimer laser correction to the refractive errors;
- to describe the possible causes of refractive defects: retinal break and retinal detachment, acute glaucoma, corneal ulceration, retinal acute vascular diseases, optical neuritis, ocular and orbital trauma and their symptoms, predisposing factors and therapy.

Retinal detachment - epiretinal traction

Learning goals:

- to explain the physiopathology of retinal detachment;
- to explain the physiopathology of epiretinal proliferation and traction leading to epiretinal membrane and macular hole;
- to discuss algorithms for their management and the correct timing for surgical treatment.



Cataract etiopathology, classification, diagnosis and treatment

Learning goals:

- to explain the mechanism by which a cataract develops;
- to illustrate several modern surgical procedures (intracapsular and extracapsular cataract extraction, the aphakic eye and pseudophakic eye and the phacoemulsification) that can be performed to resolve the visual impairment caused by a cataract.

Glaucoma, optic and other neuropathies

Learning goals:

- to explain the physiopathology of humor aqueous production and drainage and all the pathological alterations leading to the different types of glaucoma;
- to discuss the pharmacological basis of glaucoma management and non-medical therapeutic alternatives.

Diabetic retinopathy and retinal vascular diseases (arterial occlusion and venous occlusion, choroidal vasculopathy), age related macular degeneration and other retinal and uveal pathologies;

The eye and systemic diseases

Learning goals:

- to explain ocular damage as caused by diabetes in order to help the general practitioner understand the clinical severity according to the type of diabetic retinopathy and suggest the appropriate timing for follow up;
- to describe age related macular degeneration;
- to understand basic notions regarding the most important modifications in the eye fundus, their meaning and correlation to systemic diseases;
- to explain the most modern imaging techniques for the different eye subregions.

Corneal and conjunctival infection

Learning goals:

- to explain the physiopathology of conjunctival and corneal infections;
- to discuss the pharmacological basis for their treatment as well as non-medical therapeutic alternatives.

Orbit tumors, eyelid pathologies and ocular swelling

Learning goals:

- to present different clinical conditions of the orbit, eyelids and lacrimal apparatus, their differential diagnosis, management and treatment.

Uveitis

Learning goals:

- to explain the pathophysiology of infectious and autoimmune uveitis;
- to present the classification of anterior, intermediate and posterior uveitis.

Corneal degeneration and dystrophy

Learning goals:

- to explain the pathophysiology of corneal degeneration and dystrophy.

Ocular migraines: causes, symptoms, and treatment;

Strabismus



Learning goals:

- to explain the pathophysiology of ocular migraines and their differential diagnosis;
- to explain the pathophysiology of strabismus and its therapeutic options;
- to discuss surgical as well as non-medical therapeutic alternatives.

Leukocoria: differential diagnosis

Learning goals:

- to illustrate the differential diagnosis between Coats disease, congenital cataract, corneal scarring, melanoma of the ciliary body, Norrie disease, ocular toxocariasis, persistence of the tunica vasculosa lentis (PFV/PHPV), retinoblastoma, and retrolental fibroplasia.

Otorhinolaryngology

The Patient with Dysphonia, Dysphagia and Dyspnea: The Larynx

Learning goals:

- to recognize the possible different diseases associated to dysphonia, dysphagia and dyspnea;
- to elaborate an appropriate diagnostic flowchart and provide the most adequate treatment;
- to suspect benign and/or malignant tumors that require consultation by an ENT specialist;
- to know the X cranial nerve pathway and its clinical implications;
- to recognize and treat acute and life-threatening conditions promptly.

The Patient with Ear Pain

Learning goals:

- to recognize and differentiate acute and chronic external ear diseases based on the patient's presenting symptoms;
- to elaborate an appropriate diagnostic flowchart and provide the most adequate treatment for the patient;
- to recognize complications of benign pathologies tempestively and suspect benign and/or malignant tumors that require consultation by an ENT specialist;
- to recognize and differentiate acute and chronic external ear diseases based on the patient's presenting symptoms;
- to elaborate an appropriate diagnostic flowchart and provide the most adequate treatment for the patient;
- to recognize complications of benign pathologies early and suspect benign and/or malignant tumors that require consultation by an ENT specialist.

ENT Diseases in Pediatric Patients

Learning goals:

- to investigate correctly on a child suspected for ENT disorders with anamnesis from the parents, signs and symptoms, clinical evaluation and imaging techniques whenever indicated;
- to recognize malformations, inflammations, and tumors in children.

The patient with Hearing Loss

Learning goals:

- to investigate properly on a patient with hypoacusis: anamnesis, audiometry, tympanogram and imaging techniques whenever indicated;
- to recognize the different types of hypoacusis and possibly hypothesize the underlying etiopathological mechanism.

The patient with Salivary glands and Thyroid nodules

Learning goals:

- to identify the most common neoplasms of the thyroid and salivary glands;
- to recognize suspicious signs for a malignant disease in the thyroid and salivary glands;
- to elaborate an appropriate diagnostic flowchart in the case of a nodule in the thyroid and salivary glands.

The Patient with Pharyngodynia and Dysphagia

Learning goals:

- to recognize and diagnose the most common inflammatory diseases of the oropharynx;
- to select the appropriate treatment for the patient based on the most likely underlying etiological cause;
- to identify and promptly treat the complications of oropharyngeal pathologies;
- to suspect and properly counsel to an ENT specialist the patients with clinically suspicious malignant lesions.

The Patient with a Neck Mass

Learning goals:

- to identify the most common causes for neck masses based on topographical anatomy, anamnesis and physical examination;
- to recognize the suspicious signs for a malignant disease;
- to elaborate an appropriate diagnostic flow chart.

ENT Emergencies

Learning goals:

- to identify the most common causes of ENT emergencies as early as possible;
- to elaborate an appropriate diagnostic flow chart;
- to get to know the bases of the management of ENT emergencies.

Oral Cancer

Learning goals:



- to identify the most common causes of cancer of the oral cavity based on topographic anatomy, anamnesis and physical examination of the patient;
- to recognize the suspicious signs for cancer of the tongue, floor of the mouth, cheek;
- to elaborate an appropriate diagnostic flow chart.

The Patient with Vertigo

Learning goals:

- to investigate properly on a patient with vertigo: anamnesis, vestibular examination and imaging techniques whenever indicated;
- to recognize peripheral causes of balance disorders.

The Patient with Stuffy Nose: Anatomy and Physiology, Inflammatory Pathology and Midline Lesions

Learning goals:

- to recognize and differentiate acute and chronic pathologies involving the nose, the paranasal sinuses and nasopharynx based on the patient's presenting symptoms;
- to elaborate an appropriate diagnostic flowchart and provide the most adequate treatment for the patient;
- to recognize the complications of benign pathologies tempestively and suspect benign and/or malignant tumors that require consultation by an ENT specialist.

Anatomy of Pterygopalatine and Infratemporal Fossa: Tumors of the Nose and Paranasal Sinuses

Learning goals:

- natural history of skull base tumors;
- to learn when to suspect a tumor of the nose and paranasal sinuses with or without involvement of the skull base according the patient's presenting symptoms and how to investigate on it;
- to elaborate an appropriate diagnostic flowchart and provide the most adequate treatment.

Teaching Methods

Lectures

All lectures will be held in presence.

Lessons will focus on the most clinically relevant diseases of the Head & Neck, with a special interest on their clinical manifestations. Lectures will start with the presentation of a clinical problem, from which the students will be guided towards the development of the most appropriate diagnostic flow chart and therapeutic plan. Clinical cases will also be discussed in interactive lessons. Students are encouraged to actively participate to the lectures with questions and comments.

Practical activities:

Practical sessions will be held in presence. Participation is mandatory..



Practical activities will focus on the physical examination of the Head & Neck. Tutors will illustrate how to carry out the basic examination of each organ of interest, using the appropriate equipment. Tutors may project video tutorials in order to aid in the explanation of the techniques, or to illustrate advanced/second-level diagnostic procedures. Students will be able to practice among themselves under the tutor's guidance, in order to acquire the basic skills for the physical examination of the Head & Neck.

Assessment

The exam will be held in presence.

Written Exam:

Multiple Choice Test comprising all Head & Neck Course's Disciplines (Oral Diseases and Dentistry, Eye Diseases, Otorhinolaryngology):

- 30 questions, 10 for each module;
- 1 point for each correct answer;
- 30 minutes maximum;
- to access the oral exam the student must achieve a minimum mark of 18/30, with a minimum of 5 correct answers for each module.

Oral Exam:

Oral Examination covering the whole program. In order to pass the exam, students must obtain a positive evaluation in all modules.

The final mark will be decided collectively by the examination committee.

NB: Subscription to the exam opens 2 weeks before the date of the exam and closes 1 week before. Students who subscribe to the exam without attending it and without cancelling their subscription must provide a formal justification for their absence, otherwise they will lose the opportunity to attend the following exam session.

If a student fails to attend all parts of the exam or withdraws from the exam will be registered as "not sufficient".

Texts

- Slide sets from lessons;
- Suggested textbooks (not mandatory):
 - Peter Lockart Oral Medicine and Medically Complex Patients Wiley and Blackwell, 2013;
 - Kanski Clinical Ophthalmology (Elsevier), Clinical Optics 2014-2015 Section 3 (American Academy of Ophthalmology);
 - Probst, Grevers, Iro. Basic Otorhinolaryngology: A Step by Step Learning Guide (Thieme, 2006);
- Video tutorials.

