



HUMANITAS MEDICAL SCHOOL

Course: Head & Neck

Year: 3rd

Period: 2nd semester

Credits: 8

Disciplines: Anatomy, Physiology, Oral Diseases, Ophthalmology, Otorhinolaryngology (ENT)

Faculty:

- **Anatomy:** *Prof. Isabella Barajon*
- **Physiology:** *Prof. Riccardo Fesce*
- **Oral Diseases:** *Prof. Roberto Weinstein, Prof. Jason Motta Jones*
- **Ophthalmology:** *Prof. Paolo Vinciguerra, Prof. Mario Romano, Prof. Alessandra Di Maria*
- **Otorhinolaryngology:** *Prof. Giuseppe Spriano, Prof. Giuseppe Mercante, Prof. Armando De Virgilio, Prof. Giovanni Colombo, Prof. Fabio Ferreli*

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

Anatomy Module

Lectures 1 and 2:

Larynx and pharynx

Lecture 3:

Cranial nerves

Physiology Module

Lectures 1 and 2 - Flipped classroom

Sensory systems in head and neck

Lecture 3:

Vestibular physiopathology – posture – balance – vertigo – nausea

Lecture 4:

The control of eye movements and visceral reflexes

Lecture 5:

The bulbar apparatus – cough – swallowing – vomit – vocalization

Lecture 6:

Facial motility – Emotions – Mimic movements – Mastication

Oral Diseases Module

Lecture 1

Introduction: diseases of the oral cavity

Lecture 2

Natural history of periodontal tissue diseases: gingivitis and periodontitis

Lecture 3

Natural history of dental caries

Lecture 4

Periodontal medicine

Lecture 5

The impacted teeth and acute inflammatory disorders



Lecture 6

Diseases of the oral mucosa

Lecture 7

Bleeding of the oral cavity, dental trauma and oral pain

Lecture 8

Prophylaxis and prevention of caries and periodontal diseases

Lecture 9

Dental therapies: state of the art

Lecture 10

Clinical Cases discussion

Ophthalmology Module

Lecture 1:

**The basic of an ophthalmological examination and the available technology;
Red eye and ocular inflammation: the differential diagnosis**

Lecture 2:

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

Lecture 3:

What is a refractive defect and its possible correction

Lecture 4:

Retinal detachment - epiretinal traction

Lecture 5:

Cataract etiopathology, diagnosis and treatment

Lecture 6:

Glaucoma, optic and other neuropathies

Lecture 7:

**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**

Lecture 8:

Corneal and conjunctival infection

Lecture 9:

Orbit tumors, eyelid pathologies and ocular swelling



Lecture 10:

Uveitis

Lecture 11:

Corneal degeneration and dystrophy

Lecture 12:

**Ocular migraines: causes, symptoms, and treatment;
Strabismus**

Lecture 13:

Leukocoria: differential diagnosis

Otorhinolaryngology Module

Lecture 1:

Anatomy of the Neck: Neck Triangles, Fascial Systems, Muscles

Practical session: physical examination with neck palpation

Lecture 2:

Anatomy of the Neck: Vascular System, Lymph Nodes

Lecture 3:

The Patient with Dysphonia, Dysphagia and Dyspnea: The Larynx

Lecture 4:

The Patient with Ear Pain 1

Practical session: physical examination of the external ear with inspection.

Lecture 5:

ENT Diseases in Pediatric Patients

Lecture 6:

The patient with Ear Pain 2

Lecture 7:

The patient with Hearing Loss

Lecture 8:

The patient with Salivary glands and Thyroid nodules

Practical session: physical examination with glands palpation.

Lecture 9:

The Patient with Pharyngodynia and Dysphagia

Practical session: physical examination of the oral cavity and oropharynx.

Lecture 10:

Relevant Cranial Nerves of the Neck: Vagus Nerve, Glossopharyngeal Nerve, Extrapetrous Facial Nerve



Practical session: *physical examination of the cranial nerves (V-VII-VIII-IX-X-XI-XII).*

Lecture 11:

The Patient with a Neck Mass

Practical session: *physical examination and palpation of the neck.*

Lecture 12:

ENT Emergencies

Lecture 13:

Oral Cancer

Practical session: *physical examination and inspection of the oral cavity.*

Lecture 14:

The Patient with Vertigo

Practical session: *vestibular function examination and vertigo maneuvers.*

Lecture 15:

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

Practical session: *physical examination of nose and anterior rhinoscopy.*

Lecture 16:

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

Teaching Methods

Lectures

All lectures will be held in presence, if possible. Momentarily, students in isolation due to COVID-19 pandemic may follow remotely through Microsoft Teams.

Lessons will focus on the most clinically relevant diseases of the Head & Neck, with a special interest on their clinical manifestations; they will also include a recap of the relevant anatomy and physiology. 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, if possible. Participation is mandatory. Students who cannot be on Campus for reasons related to the pandemic will participate remotely through Microsoft Teams.

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

Written Exam:

Multiple Choice Test comprising all Head & Neck Course's Disciplines (Anatomy, Physiology, Oral Diseases, Ophthalmology, Otorhinolaryngology)

Oral Exam:

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

Texts

Suggested textbooks:

- 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).