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Clinical Neurosciences and Related Subjects ILOs

(7226503)

**Monday 25 November 2019**

AN-NAJAH NATIONAL UNIVERSITY

DEPARTMENT OF MEDICINE

# Course Outline

* **Course Details**

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| Course Title | Clinical neurosciences and related subjects |
| Course Number | 7226503 |
| Prerequisite(s) | Pass 4th year |
| Course Type: | Compulsory |
| Credit Hours | 8 |

* **Class Details**

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| Weeks | 8 weeks |
| Time | 5 days/ week 8:00 am- 2:00 pm |
| Location | An-Najah National University Hospital and Ministry of Health Hospitals affiliated to An-Najah National University in the northern of West Bank |

* **Course Description and Objectives**

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| This course is designed to give students of the fifth-year the basic clinical knowledge in: Clinical Neuroscience: this is a 3 weeks clerkship where students learn how to take history and perform clinical examination and are involved in the evaluation and treatment of neurological and neurosurgical diseases. Instruction includes care of patients in the wards and out-patient clinics under supervision, case discussions and seminars in addition to didactic lectures. The clinical rotation take place in neurology, and neuropediatric facility in a hospital or as outpatient activity.  Ear, Nose and Throat ENT (3 weeks) where students are exposed to common ENT problems that face the primary care physician.  Ophthalmology (2 weeks) which is designed to introduce students to the principles of eye diseases. Students are taught how to perform ophthalmic examination and how to recognize common eye diseases. |

# Textbooks and References

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| Textbook(s) |
| 1. **Neurology and Neurosurgery Illustrated, 5e.** 2. **Crash Course Neurology, 4e.** 3. **Diseases of the Ear, Nose and Throat (Lecture Notes) 11th edition.** 4. **Lecture Notes Ophthalmology 11th edition.** 5. **Ophthalmology at a Glance.** |

# Topics and Teaching Methods:

**Neurology: (3 credit hours, 150 working hours, 3 weeks)**

This 4 weeks course is given as part of the clinical rotations for 5th

year medical students. It is an integrated 2 weeks neurology and 2 weeks neurosurgery course that covers common neurological and neurosurgical problems. The course also emphasizes fundamentals of the neurological history taking, neurological examination, investigation interpretation of general lab tests, LP procedures, EMG, EEG and imaging studies and formulation of differential diagnosis and plan of treatment. Pathophysiology and management of common neurological and neurosurgical diseases are covered during the course. Care in areas of head and spine injuries, congenital anomalies, brain tumors, spinal diseases, stroke, demyelinating diseases, epilepsy, different types of headache and neuromuscular diseases are also covered**.** Students also join the neurosurgical team in the operating theater where they observe some of the common neurosurgical procedures.

Specific objectives and Lectures:

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|  | **Title** | **Objectives** |
| 1 | Neurological examination | 1. History taking, 2. Level of consciousness 3. Cranial nerves 4. Motor function (POWER) 5. Sensation 6. Autonomic function 7. Gait |
| 2 | Neurological investigation | 1. Neuroimaging, 2. Clinical neurophysiology, 3. Fluid and tissues (CSF and others) 4. EMG, EEG |
| 3 | Headache and facial pain | 1. Raised ICP 2. Benign ICP. 3. Meningeal irritation 4. Temporal artertitis 5. Migraine 6. Tension headache |
| 4 | Epilepsy | 1. Definition 2. Classification 3. Causes 4. Investigation and diagnosis 5. Management |
| 5 | Stroke | 1. Etiology and pathogemsis 2. Pathophysiology 3. Clinical features 4. Complication 5. Treatment |
| 6 | Parkinson disease and other movement disorders | 1. Parkinson disease 2. Etiology and pathogenesis, clinical features, clinical features, 3. diagnosis, treatment 4. Other movement disorders. 5. Chorea, athetosis, tremor, others |
| 7 | CNS infections | * 1. Bacterial meningitis: Etiology, clinical, features, investigations, treatment.   2. Brain abcess: Etiology, diagnosis;. Treatment, Viral infections: (Meningitis and encephalitis), Etiology and pathogenesis, clinical features. Investigations, treatment |
| 8 | Spinal cord disease | 1. Neuroanatomy  2. Symptoms and signs  3. Specific syndromes; Brown-Sequard , Syringomyelia, Subacute combined, degeneration, others |
| 9 | Multiple sclerosis and others demyelinating disorders | 1. Pathology and pathophysiology 2. Pathogenesis 3. Epidemiology 4. Clinical features & Causes 5. Investigation 6. Treatment |
| 10 | Nerve and muscle | * 1. Peripheral nerve disorders * Classification: Mononeuropathies, multifocal   neuropathies, Polyneuropathies.   * Causes * Investigations * Treatment   1. Myopathies: * Classification: hereditary and acquired * Diagnosis * o Treatment |
| 11 | Neuromuscular junction, disorders | -Myasthenia gravis: Pathogenesis, Clinical features, Investigations, Treatment. |
| 12 | Development and degeneration | * 1. Congenital disorders   Cerebral palsy: definition, causes, clinical features, management.  Neuro genetics:  Huntington chorea, Wilson disease, Fredriech ataxia, others.   * 1. Demention: causes, clinical features, diagnosis& management   2. Motor neuron disease;   Epidemiology, etiology and pathogenesis, clinical features, prognosis & management |
| 13 | Neurology and other Medical specialties | 1. Metabolic encephalopathy 2. Vitamin deficiencies 3. Alcohol and the nervous system 4. Neuro oncology: metastases, paraneoplastic disorders 5. Connective tissue disorders: SLE, others 6. Endocrine disease; thyrotoxicosis diabetes mellitus. |
| 14 | Neurology of pregnancy | 1. Effect on pre-existing neurological disease: epilepsy, MS, tumors and Migraine. 2. Neurological complications of pregnancy: eclampsia |
| 15 | Neurology and psychiatry | 1. Somato-form disorders 2. Hysteria 3. Chronic fatigue syndrome |

**ENT (ear, nose & throat): (2 credit hours, 100 working hours, 2 weeks)**

This is an introductory two weeks clinical rotation offered to fifth year medical students. During the rotation, common diseases of ear,nose,pharynx,oral cavity and larynx are emphasized. Students see patients in the clinic with the attending staff and gain preliminary experience in performing otoscopic examinations of the ears, examinations of the nose, nasopharynx, and oral cavity and larynx,. Students are familiarized with the diagnosis and management of the common presenting problems in otolaryngology as well as emergency of Otolaryngology cases. Skills necessary to take relevant medical history and examination are well emphasized.

Specific Objectives:

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|  | **Titles** | **OBJECTIVES** |
| **1** | Introduction : history & physical examination | 1. Learn basic clinical skills, including the ability to obtain history from patient with ENT problem, perform complete ENT physical examination, interpretation of the clinical findings to reach the differential diagnosis and to formulate the plan of management. 2. To know the relationship between Ear, Nose and Throat. 3. To know the principles of audiology and hearing assessments. 4. To be familial with patients most commonly seen in otolaryngology clinic. |
| **2** | Hearing loss & Vertigo | 1. Define the hearing loss and vertigo. 2. To differentiate between the conductive and sensory neural hearing loss. 3. To know the differences between vertigo and other causes of dizziness. 4. To know the common causes of hearing loss and vertigo and how to diagnose them. 5. Outline the principles of audiological and radiological assessment for hearing loss and vertigo 6. Outline the treatment ways. |
| **3** | Acute & chronic otitis externa | To know the otitis externa, its causes and management |
| **4** | Acute and chronic otitis media & complications | 1. To define the otitis media and its different classifications. 2. To know the causes of otitis media and predisposing factors. 3. To know the reason for classification of otitis media and how to manage each subclass. 4. Investigations of otitis media and its complications, audiological and radiological. 5. To know the cholesteatoma and its management. 6. Outline the complications and their management. |
| **5** | Facial nerve paralysis | 1. To know the anatomy and function of facial nerve 2. Causes of facial nerve paralysis 3. Investigation of facial nerve paralysis 4. Management of facial nerve paralysis |
| **6** | Chronic rhinosinusitis &  Acute rhinosinusitis | 1. To know the definition of rhinosinusitis and classifications. 2. To know the causes and predisposing factors for rhinosinusitis 3. How they can diagnose rhinosinusitis. 4. When they need to investigate in patient with rhinosinusitis. 5. Outline the ways of management of acute and chronic rhinosinusitis. 6. Numerate the complications and their management. |
| **7** | Epistaxis and facial trauma | 1. To know how to deal with emergency situations in ENT. 2. To be familiar with the blood supply of the nose. 3. Outline the cause of epistaxis. 4. To know the indication of tracheostomy. 5. To know how to deal with epistaxis. |
| **8** | Adenoids. acute and chronic tonsillitis, chronic sore throat | 1. To know about the anatomy of lymphoid tissue of the Waldeyer's ring. 2. Outline the common adenotonsillar disorders. 3. To know the indications and contraindications for adenotonsillectomy. 4. Highlight on the obstructive sleep apnea and its cause. 5. Treatment plan for different adenotonsillar and sleep disorders. |
| **9** | Stridor and tracheostomy | 1. To know how to deal with emergency situations in ENT. 2. To be familiar with anatomy and physiology of the   larynx.   1. Outline the causes stridor. 2. To know the indication of tracheostomy. 3. To know how to deal with acute stridor |
| **10** | Hoarseness of voice, laryngeal tumors | 1. To know the voice box (larynx) and its disorders. 2. Outline the causes of hoarseness. 3. To know the common laryngeal tumors and their presentation. 4. Investigation and management plans for laryngeal tumors. |
| **11** | Neck masses, pharyngeal tumors. | 1. To be familial with anatomy of the neck and highlight on   important land marks.   1. Classify the neck masses. 2. Clinical assessment of neck masses. 3. Investigate patient with neck mass. 4. Plan management of patients with neck mass. 5. To know the common pharyngeal tumors and their presentation. 6. Investigation and management plans for pharyngeal tumors. |
| **12** | Foreign bodies in ENT | 1. To know the importance of management of foreign bodies in ENT 2. To know what are the common foreign bodies seen in different orifices. 3. To be familiar with the emergencies in ENT. 4. To know the principles of management of foreign bodies in ENT. 5. Outline the possible complications and how to prevent and management. |

**Ophthalmology**: (**2 credit hours, 100 working hours, 2 weeks)**

This is a two weeks’ rotation for 5th year medical students. During this course the student attends daily clinical round in the ward. They participate in seeing patients in the clinics. Seminars on common ophthalmology diseases are given in the afternoon. By the end of the course, the student should be familiar with basics in ophthalmology and aware of the common ophthalmic disorders and conditions. Throughout the course, students are involved in the clinical rounds and consults, outpatient clinics and interactive seminars

**Outcomes:**

* 1. To be able to take appropriate case history with emphasis on ophthalmic pathologies and its symptomatology.
  2. To be alerted to serious vision-threatening problems based on history.
  3. **To conduct a focused eye exam with emphasis on the following** **techniques**:

a- Visual acuity (including use of pinhole).

b- Confrontation visual fields

c- External inspection of ocular adnexa

d- Pupillary examination including direct, consensual and swinging-light test

e- Pen-light exam of anterior segment.

f- Extraocular muscle motility and ocular alignment.

g- Direct ophthalmoscopy.

* 1. To be able to formulate a list of differential diagnosis and plan of management and timely referral to more specialized ophthalmic service.

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|  | Titles | Objectives |
| 1 | Ocular anatomy and physiology | * Surface ocular anatomy * Details of layers of the globe and its structure. * Physiologic mechanism of vision and ocular function |
| 2 | History and examination in ophthalmology | * History taking for ophthalmic diseases. Eye examination: external and pen-light exam. * Perform specific essential techniques such as fundoscopy, pupillary examination, motility assessment and visual field assessment |
| 3 | Refractiveerrors | * Physics of refractive errors * Different states of refractive errors and management * Overview of refractive surgery * Special cases including keratoconus and aphakia |
| 4 | Red Eye | To know symptoms, signs and management of the following diseases:  1. Keratitis  2. Uveitis  3. Angle-closure glaucoma  4. Scleritis/Episcleritis  5. Infectious conjunctivitis  6. Allergic conjunctivitis  7. Sub conjunctival hemorrhages |
| 5 | Acute Visual loss | To know symptoms, signs and management of the following diseases:  1. Central retinal vein occlusion  2. Central retinal artery occlusion  3. Retinal detachment |
| 6 | Chronic Visual loss | 1. Cataract  2. Glaucoma  3. Age related macular degeneration  4. Diabetic macular edema  5. Retinal dystrophies and degeneration |
| 7 | Ocular trauma | Mechanism of ocular trauma  Intervention  Visual prognosis |
| 8 | Selected neurophthalmic topics | 1. Pupillary disorders  2. Cranial nerves: III, IV and VI palsies.  3. Ischemic optic neuropathies  4. Optic neuritis |
| 9 | Eye involvement in Systemic Diseases | 1. Hypertensive retinopathy  2. Diabetic retinopathy  3. Blood disorders  4. Thyroid Ophthalmopathy |
| 10 | Pediatric Ophthalmology topics | 1. Congenital cataract  2. Congenital glaucoma  3. Strabismus |

# Assessment

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| **Exam Format** | **Note** | **Weight (%)** |
| OSCE-exam and Evaluation | Evaluation during rotation which depends on: daily attendance of morning report, educational rounds, clinical skills, basic medical procedures, group discussions, seminars, lectures attendance, student attitude and respect for patients and team. In addition, Practical exams done after the end of the clerkship on real patients to evaluate the medical knowledge of students, ability to take medical history, clinical skills and communication with patients. | 40% |
| Written exam | An exam done at the end of the academic year to evaluate the medical knowledge. Moreover, these exams were provided from the National Board of Medical Examiners (NBME) in USA which is an independent, not-for-profit organization that serves the public through its high- quality assessments of healthcare professionals. | 60% |
| Total |  | 100% |

# Student Evaluation Form During Clerkships

# Important Dates

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| * **At the end of the Academic year: Written Exam** |

# Teaching and Learning Methods

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| **Tools** |
| 1. Lectures. 2. Small-group teaching. 3. Problem-based or case-based learning. 4. Peer assisted learning. 5. Bed-side teaching. 6. Clinical demonstrations. 7. Field exercises in the community. |

# Course **Policies**

* Students should attend all the activities mentioned above during this clerkship every day, and do the required on-calls.
* The maximum allowed absence is 10% of the clerkship’s duration and this only in case of an accepted situation evaluated by the Department of Medicine.
* Students are not allowed to have even a single day off without an accepted reason evaluated by the department of medicine. In that case, 2 points of the clerkship total will be subtracted and this will be added to the student file record.