The Hashemite University

Course Syllabus

Course Name: Clinical Neurosurgery

1. Course title:	Clinical Neurosurgery
2. Course number	111502402
3. Credit hours (theory, practical):	2.25 (theory, practical)
4. Prerequisites/corequisites:	This module is available only to 4th year medical students.
5. Program title:	Doctor of Medicine
6. Program code:	N/A
7. Awarding institution:	The Hashemite University
8. Faculty:	Medicine
9. Department:	General and Special Surgery
10. Level of course:	Bachelor MD
11. Year of study and semester (s):	4th year
12. Final Qualification:	MD
13. Language of Instruction:	English
14. Date of production/revision:	Sep 14, 2020/ Aug 22, 2024
15. Course Coordinator:	Dr. Abdalhaleem Ibdah Office: 3rd floor -Men's wing- Price Hamzah Hospital Contact number: 0799952063 Email: newhaleem@gmail.com
16.**Other instructors:**	A-Prince Hamzah Hospital: Dr. Salem Al-Dwari Dr. Alaa` Almousa Dr. Luay Abu Aliah

	B- Zarqa National Hospital Dr. Abdalhaleem Ibdah Dr. Redab Khataybeh
17. **Course Description:**	Neurosurgery is a broad field covering a wide range of diagnostic and therapeutic interventions that target pathological processes affecting the brain, spine and peripheral nerves. The course consists of a comprehensive seminar, bed side teaching, outpatient clinic attendance and operating theatre attendance (if appropriate).

18.**Course aims and outcomes:**

-To equip fourth year medical students with the necessary clinical knowledge and skills relevant to neurosurgery practice in the settings of A&E, GP consultations and perioperative care.

-Introduce students to the wider specialties of neurosurgery and research possibilities in neurosurgery.

18-A Aims:

18-B Outcomes:

1. **knowledge:**

-Knowledge of the basic clinical skills, diagnostic investigations and principles of treating emergency neurosurgical conditions.

-Knowledge of differentiating neurosurgical condition in outpatient clinics and ordering the appropriate investigations in a timely manner.

-Knowledge of the perioperative care principles of surgical patients particularly in neurosurgery wards.

	Topic	**Intended Learning Outcomes**
Introduction	History taking Anatomy review Neuro-investigation	1. General review of neurosurgical anatomy. 2. General review of radiological neuroanatomy. 3. Understand the principle of neuro-investigations: a- MR, CT, XRAY b- CSF ANALYSIS c- NCS and EMG
Theme	**Topic**	**Intended Learning Outcomes**

Trauma	ICP, CPP AND CBF Types of brain oedema ACUTE SUBDURAL HEMATOMA ACUTE EPIDURAL HEMATOMA SKULL FRCTURES	1.Understand the concept of ICP, CPP and CBF. 2.Initiate management of elevated intracranial pressure in head trauma. 3- define and understand the different types of brain oedema. 4.Distinguish anatomically and radiographically acute subdural and epidural hematoma and describe the surgical management of each indications for each. 5.understand the different types of sull fractures and their management.
Theme	**Topic**	**Intended Learning Outcomes**
Tumours (Brain and spine)	INTRODUCTION TO BRAIN TUMOURS	1. Describe the general clinical presentations of brain tumours in the following locations: cerebral hemisphere, cerebellum, brainstem, pituitary, and cerebellopontine angle. analysis of the relevant history and pathophysiology. 2. List the advantages and limitations of the following diagnostic tools used in the evaluation of brain tumours: CT, MRI. 3. List the most common brain tumours according to histopathology and its general characteristics. 4. Understand the clinical presentation and relevant history of spinal tumours. 5. List the most common spinal tumours, its classification and general management.
Spine	LOW BACK PAIN MYELOPATHY NEUROGENIC CLAUDICATION CERVICAL AND LUMBAR RADICULOPATHY	1. Define types of low back pain, causes and management. 2. Define radiculopathy, myelopathy, and cauda equina syndrome and its aetiology. 3. Describe the general management of cervical disc herniation, lumbar disc herniation, lumbar instability, and low back pain.
Hydrocephalus and spinal dysraphism	Hydrocephalus spinal dysraphism	1. List common symptoms and signs of acute hydrocephalus in children. 2. Define communicating and noncommunicating hydrocephalus. 3. Describe the most common CSF diversion procedures. 4. Define and understand the different types of aspinal dysraphism. 5. Describe Primary prevention principles in Spinal dysraphism.

Miscellaneous	CNS infection. Chronic subdural hematoma Idiopathic intracranial hypertension Subarachinoid haemorrhage Peripheral nerves entrapment	1- Identify the symptoms and signs of CNS infection 2- know the most common causative M.O. 3- understand the pathophysiology and treatment of CSDH 4- diagnosis of IIH 5- Describe the common aetiologies of SAH 6- describe common peripheral nerves entrapments and its treatment.

2. Understanding:

-Understands the importance of basic clinical skills (history and physical examination) in the diagnosis of neurological conditions.

-Understands the importance of early diagnosis and management of neurosurgical conditions

-Understands the burden of neurological diseases socially and economically.

3. **SUBJECT-SPECIFIC SKILLS:**

-Communicate with patients, colleagues, and staff verbally and in writing.

-Manipulate data in form of data collection, analysis and interpretation.

-Apply the problem-solving approach in the practice of medicine.

-Work with others in team.

-Develop the capacity of life-long self-learning.

4. **TRANSFERABLE KEY SKILLS:**

19. References:

Toronto Notes (Chapter of Neurosurgery).

20. **Teaching Methods and Assignments:**

21.A Morning reports and group discussions

21.B Case presentation and bedside teaching

21.C Simulated case discussions

21.D Seminars

21. **Evaluation Methods and Course Requirements:**
    20% evaluation (5% attendance, 5% attitude, 10% log book)
    35% end of rotation exam
    45% final exam