

Neurosciences-3 Module

3 weeks

Final Year (MBBS)

Module themes

S. No	Theme	Duration in hours
1	Disturbed mood & behavior	4
2	Right-sided weakness and inability to speak	2
3	Loss of consciousness and Fits	3
4	Tremors	3
5	Headache	9
6	Paraplegia	8

*A minimum of 4 hours daily must be allocated for clinical teaching and training at the bedside in different units as specified by the Pakistan Medical Commission

General learning outcomes

- 1) Discuss the management approach to a patient with different types of Dementia
- 2) Discuss the management of common psychiatric disorders, autism, and substance abuse disorders
- 3) Explain the management of different types of strokes, and epilepsy
- 4) Discuss the management of different types of movement disorders
- 5) Explain the management of different intracranial infections

- 6) Discuss the management of intracranial space-occupying lesions and head injuries
- 7) Explain the management of common neuropathies and spinal cord diseases

Specific learning objectives

Subject	Topic	Hours	Domain of Learning	Learning objective At the end of this session, the students of shall be able to:
Theme-1: Disturbed mood and behavior				
Medicine	Dementia	1	Cognitive	Discuss the etiology, clinical features and management of different types of Dementias
			Cognitive	Classify the reversible and irreversible causes of Dementia
			Cognitive	Explain the pathophysiology and clinical features of a patient with Huntington's disease
			Cognitive	Discuss the diagnostic work up and management for patients suspected of dementia
			Psychomotor Skills	Perform mini-mental state examination
Psychiatry	PTSD	1	Cognitive	Explain the etiology and management of a patient with PTSD
	OCD		Cognitive	Explain the etiology and management of a patient with OCD
	Somatic symptoms disorder	1	Cognitive	Explain the etiology and management of a patient with Somatic symptoms disorder and Chronic pain syndromes

	Autism spectrum disorder		Cognitive	Explain the etiology and management of a child with Autism spectrum disorder
	Substance abuse		Cognitive	Explain the risk factors, types of substance abuse, clinical features, withdrawal symptoms, complications and management of a patient with substance abuse
			Affective domain	Counsel and educate a family of a patient with Dementia
Family Medicine/ General Medicine	Anxiety and depression	1	Cognitive	Explain the approach to a patient with anxiety and depression in a primary health care setting.
			Cognitive	Explain the risk assessment for mental health
			Cognitive	Identify common red-flags.
			Cognitive	Discuss the guidelines for management of a patient with Anxiety and depression in a primary health care setting.
			Psychomotor Skills	Perform Screening for Anxiety, Depression and Schizophrenia.

			Psychomotor Skills	Perform a consultation with a patient with anxiety or depression under supervision.
			Affective domain	Observe the consultation of a family physician with a patient with anxiety or depression
Theme 2: Right-sided Weakness and Inability to Speak				
Medicine	Stroke syndromes	1	Cognitive	Discuss the diagnostic and management approach for a patient with Right-sided weakness and inability to speak due to an ischemic stroke
		1	Cognitive	Discuss the diagnostic workup and management for a patient suspected of Haemorrhagic stroke
	Subarachnoid haemorrhage (SAH)		Cognitive	Discuss the diagnostic workup and management for patients suspected of SAH
			Psychomotor Skills	Demonstrate the complete assessment of the patient on the NIH stroke scale under supervision
			Psychomotor Skills	Demonstrate the assessment of a comatose patient on the Glasgow coma scale under supervision
			Psychomotor Skills	Interpret the CT and MRI findings in stroke patients

			Affective domain	Counsel a stroke victim about future prevention and management of complications
Theme-3: Loss of consciousness and Fits				
Medicine	Coma	1	Cognitive	Discuss the management algorithm of a patient with coma
	Epilepsy		Cognitive	Discuss the diagnostic work up and management for a patient with fits
		1	Cognitive	Discuss the diagnostic work up and management for a patient with Tonic Clonic epilepsy
			Cognitive	Discuss the diagnostic work up and management for a patient with Status Epilepticus
			Psychomotor Skills	Perform a consultation with a patient with epilepsy under supervision
			Psychomotor Skills	Write prescriptions for patients with Tonic-Clonic and Petit-mal epilepsy
			Affective	Counsel a patient with Epilepsy
Pediatrics	Epilepsy	1	Cognitive	Discuss the diagnostic work up and management for children with seizures and Epilepsy
			Psychomotor Skills	Perform a consultation with a child having epilepsy under supervision emphasizing history and examination.

			Psychomotor Skills	Write a prescription for a child with Tonic-Clonic and Petit-mal epilepsy
			Affective Domain	Counsel and educate the Parents/guardian of a child with epilepsy.
Theme-4: Tremors and movement disorders				
Medicine	Movement Disorders	1	Cognitive	Classify movement disorders
			Cognitive	Discuss the diagnostic workup and management for patients suspected Cerebellar disorders
			Cognitive	Discuss the diagnostic and management approach to a patient with Ataxia
			Cognitive	Discuss the diagnostic and management approach to a patient with Chorea
	Parkinson's disease	1	Cognitive	Discuss the diagnostic criteria, pharmacological, psycho-social, and rehabilitative approaches to the management of a patient with Parkinson's disease
			Psychomotor	Examine a patient with Parkinson's disease by taking history and performing a physical examination
Psychiatry	Dystonia	1	Cognitive	Discuss the diagnostic approach and management for patients suspected of Drug-Induced Dystonia
Theme 5: Headache				
Medicine	Headache	1	Cognitive	Explain the diagnostic approach to patients with acute and chronic headaches

	Migraine		Cognitive	Explain the types, risk factors, diagnostic approach, management, and prevention of Migraine
			Psychomotor Skills	Demonstrate Complete history and examination of patient with migraine
			Affective domain	Discuss the lifestyle changes preventing migrainous headaches
	Meningitis	1	Cognitive	Classify meningitides
			Cognitive	Differentiate between the clinical features, investigations, CSF findings, radiological findings, and complications in patients with viral, bacterial, and tuberculous meningitis
			Cognitive	Discuss the pharmacological and surgical management approaches in patients with different types of meningitides
			Psychomotor Skill	Take history and perform relevant physical examination and elicit signs of meningitis in a suspected patient
			Psychomotor Skill	Interpret a CSF report in a patient with viral, acute pyogenic and tuberculous meningitis
			Psychomotor Skill	Observe the Lumbar puncture
			Affective domain	Counsel a patient and his/her family with Tuberculous meningitis regarding complications, treatments` side effects and follow ups

	Encephalitis	1	Cognitive	Discuss the etiology, pathogenesis, clinical features, investigations, complications, and treatment of Encephalitis
Family Medicine/ General Medicine		1	Cognitive	Explain the approach to a patient with Headache in a primary health care setting
			Cognitive	Identify common red-flags in a patient with headache
			Cognitive	Discuss the investigations for a patient with Headache in a primary health care setting.
			Cognitive	Identify patients that need urgent and proper referral for specialist care.
Pediatrics		1	Cognitive	Discuss the diagnostic work up and management for children with Headache
	Meningitis	1	Cognitive	Discuss the diagnostic work up and managements for children suspected of Meningitis
			Cognitive	Explain the short term and long term sequelae of meningitis
			Psychomotor Skills	Describe assessing the initial triad symptoms of meningitis in children
	Big head	1	Cognitive	Explain the diagnostic and therapeutic approach to a child with big head
Neurosurgery	Intracranial space occupying lesions	1	Cognitive	Classify intracranial space occupying lesions (benign, malignant and infections)

			Cognitive	Discuss the clinical features, radiological findings and treatment of intracranial space occupying lesions
	Head Injury	1	Cognitive	Discuss the diagnostic workup and management for patients with Head Injury
			Affective domain	Counsel about the post-operative care of patients with head injuries and their families.
Theme-6: Lower limb weakness				
Medicine	Multiple Sclerosis	1	Cognitive	Discuss the diagnostic approach and management of a patient with suspected Multiple Sclerosis
			Psychomotor	Examine the lower limbs of a patient with paraplegia
			Affective Domain	Discuss and counsel the pts regarding the changes in the lifestyle of patients with Multiple sclerosis
	Acquired Neuropathies	1	Cognitive	Classify acquired neuropathies and discuss their clinical features, investigations, and management
	Approach to lower limbs weakness	1	Cognitive	Discuss the diagnostic algorithm of a patient with lower limbs weakness
Pediatrics	Hereditary neuropathies	1	Cognitive	Classify hereditary neuropathies and discuss their clinical features, investigations and management

Pediatric surgery	Congenital malformations- Spina Bifida/myelomeningocele	1	Cognitive	Explain the clinical features, investigations, and management of a paediatric child with Spina Bifida/Myelomeningocele
			Affective Domain	Discuss and counsel the pts regarding the changes in the lifestyle of patients with congenital malformations
Neurosurgery	Syringomyelia	1	Cognitive	Describe Syringomyelia and Explain the onset of Syringomyelia
			Cognitive	Discuss the diagnostic work up and management for pts suspected of Syringomyelia
Orthopedics	Diseases of the vertebrae and intervertebral discs	1	Cognitive	Classify diseases of the vertebrae and intervertebral discs, their clinical features, investigations, complications and management
	Kyphoscoliosis	1	Cognitive	Discuss the etiology, clinical features, complications and management of Kyphoscoliosis

Hours allocation to different subjects in the cognitive domain

S. No	Subject	Hours
1	Medicine	13
2	Psychiatry	3

3	Family medicine*	2
4	Pediatrics	5
5	Neurosurgery	3
6	Pediatrics surgery	1
7	Orthopedics	2
	Total	29 hours

**in case of non-availability of the said specialty, these classes can be taken by the General Medicine faculty*