



# Renal Module

## Final Year MBBS

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**Khyber Medical University (KMU) Vision:**

Khyber Medical University will be the global leader in health sciences academics and research for efficient and compassionate health care.

**Khyber Medical University (KMU) Mission:**

Khyber Medical University aims to promote professional competence through learning and innovation for providing comprehensive quality health care to the nation.

**Institute of Health Professions Education & Research (IHPER) Mission:**

To produce leaders, innovators and researchers in health professions education who can apply global knowledge to resolve local issues.

# Themes

Table 1: Thematic Distribution

S. No	Themes	Duration in Hours
1	Facial swelling	4
2	Scanty Urine	6
3	Loin pain and dysuria	5
4	Pain and swelling of external genitalia	5

\*A minimum of 4 hours daily apart from above hours, must be allocated for clinical teaching and training at the bedside in different units.

# Learning Objectives

**By the end of Renal Module, Final year MBBS students will be able to:**

- 1) Discuss the diagnostic approach and management of an adult and a child with suspected glomerular disease.
- 2) Discuss the diagnostic approach and management of an adult and a child with acute and chronic renal disease.
- 3) Discuss the management of a patient with nephrocalcinosis.
- 4) Discuss the etiology, clinical features, and management of common electrolyte abnormalities.
- 5) Explain the diagnosis and management of a patient with hematuria and UTIs.
- 6) Explain the common diseases of the urogenital system.
- 7) Take history and perform a physical examination of urogenital system.
- 8) Counsel a patient with acute and chronic renal failure.

# Specific Learning Objectives

Table 2: Theme Wise Learning objectives

Theme 1: Facial swelling					
Subject	Topic	Hours	S. No	Domain of learning	Learning objective
Medicine/ Nephrology	Investigations of renal diseases	1	1	Cognitive	Discuss the biochemical, radiological, hematological, and other specialized investigations and their interpretations in renal diseases.
	Approach to a facial swelling		2	Cognitive	Discuss the diagnostic workup and management approach for a patient with facial swelling of renal origin
			3	Psychomotor	Take history and perform physical examination of patient with facial swelling
	Minimal change disease	1	4	Cognitive	Explain the diagnostic workup and management and complications of a patient with Minimal change disease.
	Post streptococcal Glomerulonephritis		5	Cognitive	Explain the diagnostic workup and management and complications of a patient with Post-Streptococcal Glomerulonephritis.
	IgA Nephropathy		6	Cognitive	Explain the diagnostic workup and management and complications of a patient with IgA Nephropathy.
	Chronic glomerulonephritis		7	Cognitive	Explain the diagnostic workup and management and complications of a patient with Chronic glomerulonephritis
Pediatrics	Nephrotic Syndrome	1	8	Cognitive	Discuss the clinical presentation, the diagnostic workup and management for suspected GN and Nephrotic Syndrome in Pediatric patients.

			9	Psychomotor	Take a history from a patient with Nephrotic Syndrome.
			10	Psychomotor	Perform physical examination of a patient with suspected GN and Nephrotic Syndrome.
			11	Affective	Effectively counsel a child and his/her parents with nephrotic syndrome.
<b>Theme-2: Scanty Urine</b>					
Subject	Topic	Hours	S. No	Domain of learning	Learning objectives
Medicine/Nephrology	Electrolyte disorders	1	12	Cognitive	Explain the etiology, clinical features, diagnosis, and treatment of Hyper and Hyponatremia.
			13	Cognitive	Explain the etiology, clinical features, diagnosis, and treatment of hyper and hypokalemia.
		1	14	Cognitive	Explain the etiology, clinical features, diagnosis, and treatment of hyper and hypophosphatemia.
	15		Cognitive	Explain the etiology, clinical features, diagnosis, and treatment of hyper and hypomagnesemia.	
	Blood Ph abnormalities		16	Cognitive	Explain the etiology, clinical features, diagnosis and treatment of Metabolic acidosis and alkalosis and its associated compensations.
			17	Cognitive	Explain the etiology, clinical features, diagnosis and treatment of respiratory acidosis and alkalosis and its associated compensation.

	Scanty Urine	1	18	Cognitive	Discuss the diagnostic workup and management approach for a patient with oliguria and anuria.
	Uremia		19	Cognitive	Discuss the pathophysiological mechanisms, clinical manifestations, investigations, and management of a patient with Uremia.
	Chronic Kidney Injury	1	20	Cognitive	Explain the diagnostic workup and management and complications of a patient with Chronic Kidney Injury
<b>Pediatrics</b>	Acute Kidney Injury (AKI)	1	21	Cognitive	Discuss the clinical presentation, the diagnostic workup and management for Acute Kidney Injury in Pediatric patients.
	Chronic Renal Failure (CKD)	1	22	Cognitive	Discuss the clinical presentation, the diagnostic workup and management for Chronic Renal Failure in Pediatric patients.
<b>Theme-3: Loin pain and dysuria</b>					
<b>Subject</b>	<b>Topic</b>	<b>Hours</b>	<b>S. No</b>	<b>Domain of learning</b>	<b>Learning objectives</b>
<b>Medicine/ Nephrology</b>	Approach to blood in urine (haematuria)	0.5	23	Psychomotor	Take a history from a patient presenting with blood in the urine.
			24	Psychomotor	Perform a physical examination of a patient with blood in the urine.
			25	Cognitive	Discuss the diagnostic workup and management approach for a patient blood in urine.
	Loin pain and dysuria	0.5	26	Cognitive	Discuss the diagnostic workup and management approach for a patient with loin pain and dysuria.



	Acute pyelonephritis	1	27		Discuss the diagnostic workup and management approach for a patient with acute pyelonephritis.
	Acute and chronic prostatitis	1	28	Cognitive	Discuss the diagnostic workup and management approach for a patient with acute and chronic prostatitis
Surgery	Nephrolithiasis	1	29	Cognitive	Explain the etiology, risk factors, types, approach, investigations, treatment, and prevention of Nephrolithiasis
			30	Psychomotor	Take a history from a patient presenting with acute Flank and loin pain.
			31	Psychomotor	Perform a physical examination of a patient with acute Flank, and loin pain.
			32	Affective	Counsel a patient presenting with nephrolithiasis.
	Dysuria	1	33	Cognitive	Discuss the diagnostic workup for Dysuria.
			34	Cognitive	Discuss the management options for a patient with Dysuria
	Hematuria	1	35	Cognitive	Discuss the diagnostic workup for Hematuria.
36			Cognitive	Discuss the management options for a patient with Hematuria.	

#### Theme-4: Pain and swelling of external genitalia

Subject	Topic	Hours	S. No	Domain of learning	Learning objectives
Surgery	Testicular torsion	1	37	Cognitive	Discuss the diagnostic workup for Testicular torsion
			38	Cognitive	Discuss the management options for a patient with Testicular torsion.
	Hydrocele	1	39	Cognitive	Discuss the diagnostic workup for Hydrocele.
			40	Cognitive	Discuss the management options for a patient with Hydrocele.
	Testicular tumors	1	41	Cognitive	Explain the diagnostic workup and management and complications of a patient with suspected Testicular tumors.

	Epididymo-orchitis		42	Cognitive	Discuss the diagnostic workup for Epididymo-orchitis.
			43	Cognitive	Discuss the management options for a patient with Epididymo-orchitis.
<b>Pediatric surgery</b>	Hypospadias	1	44	Cognitive	Discuss the types, complications, and management of a child with Hypospadias.
<b>Urology</b>	Male infertility	1	45	Cognitive	Discuss the diagnostic approach and management options for a male patient with infertility.
<b>Medicine/ Nephrology</b>	Sexually transmitted infections	1	46	Cognitive	Classify STDs and enlist their treatment options.
			47	Cognitive	Discuss the management approach of a patient with a new onset lesion on the genitalia.