

**INTERNAL MEDICINE ROTATION PLAN****NAME OF ROTATION: IM Nephrology****FOCUS OF THIS ROTATION**

- The goal of this rotation is to provide the Internal Medicine trainee (PGY1s, PGY2s and PGY3s) with the opportunity to develop competencies in the assessment and management of patients with nephrology disorders in the emergency department, on the ward, and/or in the ambulatory clinic setting.
- The objectives listed will be completed, in part, during the subspecialty rotation. Completion of all objectives is expected by the end of the PGY 3 year and will be accomplished through ongoing clinical exposure, participation in the formal academic curriculum and personal learning strategies. Residents are encouraged to prioritize objectives during their initial focused clinical exposure to this discipline.

**CBD stage(s) for this rotation:**

- TTD
- FOD
- COD

**Length of this rotation:**

- 1 block

**PGY Level(s) for this rotation:**

- PGY1
- PGY2
- PGY3

**Locations for rotation:**

- SHSC
- SMH
- UHN-TGH

**Required training experiences included in this rotation:****TTD Stage:**

1.2. After-hours coverage for inpatients and internal medicine consultation to the emergency department

**Foundations stage:**

Clinical training experiences: 1.

1.3. Renal ambulatory care clinic (SHSC, SMH, UHN)

1.4. Acute care experience with patients presenting to emergency department with renal disorders

1.5. After-hours coverage for a broad spectrum of inpatients and internal medicine consultation to the emergency department

Other training experiences: 2.

2.1. Directed and/or independent learning experience, in topics such as medical ethics, critical appraisal, and wellness (e.g. use of journal clubs, online modules, academic rounds)

**Recommended training experiences****Foundations stage:**

Clinical training experiences: 3.

3.2. Consultation service in Nephrology

3.3. Care of the elderly

**Core stage:**

Clinical training experiences: 1.

1.2. Renal Ambulatory care: clinic and/or day hospital. This must include experience with a broad spectrum of conditions as well as patients with complex disorders (at SHSC, SMH, UHN)

1.3. Service providing renal consultation to other disciplines or to medical subspecialty inpatient units

- 1.4. Service providing renal preoperative assessment and perioperative care  
 1.5. After hours coverage for a broad spectrum of Nephrology inpatients and internal medicine consultation to the emergency department  
 1.6. Experience with critically ill patients with renal disorders. This must include ICU, CCU, and consultation to the emergency department

**Blue = TTD PGY1, Blocks 1-4; Green = FOD PGY1, Blocks 5-13, Orange = COD, PGY2 and 3**

EPAs Mapped to this rotation:	Total # of EPAs 4+ per block
TTD1 Performing histories and physical exams, documenting and presenting findings, across clinical settings for initial and subsequent care	2
TTD2 Identifying and assessing unstable patients, providing initial management, and obtaining help	1
FOD 2B Managing patients admitted to acute care settings with common medical problems and advancing their care plans: Part B: Communication with Patient/Family	0-1 (can do)
FOD 7 Identifying personal learning needs while caring for patients, and addressing those needs	1
FOD 1 Assessing, diagnosing, and providing initial management for patients with common acute medical presentations in acute care settings	1
FOD 2A Managing patients admitted to acute care settings with common medical problems and advancing their care plans: Part A: Patient Assessment and Management	1
FOD 2B Managing patients admitted to acute care settings with common medical problems and advancing their care plans: Part B: Communication with Patient/Family	1
FOD 2C Managing patients admitted to acute care settings with common medical problems and advancing their care plan: Part C: Handover	0-1 (can do)
FOD 5 Assessing unstable patients, providing targeted treatment and consulting as needed	Do whenever possible
FOD 7 Identifying personal learning needs while caring for patients, and addressing those needs	0-1
COD 2A Assessing and managing patients with complex chronic conditions: Part A: Assessment, Diagnosis, and Management	0-1 (can do)
COD 8 Caring for patients who have experienced a patient safety incident (adverse event)	Do whenever possible
COD 1 Assessing, diagnosing, and managing patients with complex or atypical acute medical presentations	1
COD 2A Assessing and managing patients with complex chronic conditions: Part A: Assessment, Diagnosis, and Management	1
COD 2B Assessing and managing patients with complex chronic conditions: Part B: Patient Education/Communication	0-1 (can do)
COD 3A Providing internal medicine consultation to other clinical services: Part A: Patient Assessment and Decision-Making	1
COD 3B Providing internal medicine consultation to other clinical services: Part B: Written Communication:	1
COD 3C Providing internal medicine consultation to other clinical services: Part C: Oral Communication	0-1
COD 4A Assessing, resuscitating, and managing unstable and critically ill patients: Part A: Patient Care	Do whenever possible
COD 6 Assessing capacity for medical decision-making	0-1 (can do)
COD 7 Discussing serious and/or complex aspects of care with patients, families, and caregivers	0-1 (can do)
COD 8 Caring for patients who have experienced a patient safety incident (adverse event)	Do whenever possible
COD 10 Implementing health promotion strategies in patients with or at risk for disease	0-1 (can do)

	<b>Other assessments during this rotation:</b>	<b>Tool Location / Platform (e.g. POWER, Entrada):</b>
<b>1.</b>	ITAR	POWER

	<b>Key Objectives for this Rotation</b>	<b>CanMEDS Role(s):</b>
<b>1.</b>	Perform an accurate and detailed history and physical examination to elicit details of common renal disorders.	Medical Expert
<b>2.</b>	Correlate relevant pathophysiology to the ordering and interpretation of laboratory and imaging investigations commonly used in the assessment of renal disorders, including urinalysis and arterial blood gas analysis.	Medical Expert
<b>3.</b>	Demonstrate a cost-effective, patient-centred approach to and evidence-informed rationale for the management of common chronic renal disorders.	Medical Expert
<b>4.</b>	Effectively manage acute kidney disorders.	Medical Expert
<b>5.</b>	Apply knowledge of medications commonly used in the management of renal disorders including indications, renal dosing adjustments, potential side effects, and contraindications.	Medical Expert
<b>6.</b>	Collaborate effectively with interprofessional health team in the care of patients on dialysis treatment.	Collaborator
<b>7.</b>	Educate patients regarding lifestyle modifications relevant to renal disease.	Health Advocate

### **Royal College Internal Medicine Competencies emphasized on nephrology rotation.**

Numbers refer to items identified in the Royal College Competencies document.

#### Findings

Identify the causes and be able to use history, physical exam and investigations to arrive at a differential and provisional diagnosis for each of the following:

- Acid-base disturbances 1.4.5.1.1.
  - Respiratory and metabolic, acidosis and alkalosis
- Disorders of calcium
  - Hypercalcemia, hypocalcemia)
- Fluid and electrolyte abnormalities 1.4.5.1.2.
  - Hypo- and hyponatremia, hypo- and hyperkalemia
- Generalized edema
- Hematuria 1.4.5.1.3.
- Proteinuria 1.4.5.1.4.

#### Investigations

Be able to order and interpret each of the following:

- Renal Ultrasound
- Urinalysis (includes performing dipstick and microscopic urinalysis)

#### Disorders

Using results of history, physical examination and investigations, be able to confirm the diagnosis of each of the following, and propose a management plan. The plan may include further investigations and treatment, taking into account the underlying cause and any complications.

- Acute renal failure 1.4.5.2.1.
  - Kidney Injury
- Acute tubular necrosis 1.4.5.2.2.
- Chronic kidney disease and its complications 1.4.5.2.3.
  - Polycystic kidney disease
  - Multiple myeloma

- Glomerulonephritis 1.4.5.2.4.
  - Diabetic kidney disease
- Hypertension, including hypertensive emergencies
- Interstitial nephritis 1.4.5.2.5.
- Nephritic and nephrotic syndromes 1.4.5.2.6.
- Renal calculi 1.4.5.2.7.
- Renal tubular acidosis 1.4.5.2.8.
- Renovascular hypertension 1.4.5.2.9.
- Renal complications of diabetes, hypertension, and rhabdomyolysis 1.4.5.2.10.
  - Hepatorenal syndrome
  - Pulmonary renal syndrome
    - Thrombotic microangiopathy

### Therapies

- Describe the principles of:
  - Renal replacement therapy including transplantation 1.4.5.3.1.
  - Dialysis and other therapies used in the management of certain poisonings (ASA, methanol, ethylene glycol, lithium)
- Integrate knowledge of the indications/contraindications, side-effects and pharmacokinetics of the following therapies in the care of patients with renal disorder:
  - Anti-hypertensives
  - Diuretics
  - Intravenous fluids
  - Immunosuppressives (general principles)