

## GOALS AND OBJECTIVES FOR NEPHROLOGY ROTATION

### **Introduction:**

This two month rotation consists of rotations involving Nephrology inpatient service, Nephrology inpatient consult service, and Nephrology clinic. At the discretion of the attending (supervising) nephrologist, residents are scheduled to spend equal amount of time rotating nephrology inpatient service and nephrology inpatient consult service, while attending weekly nephrology clinic and spending at least couple of weeks in the dialysis center . The resident is expected to attend the monthly nephrology grand rounds, which are part of general medicine morning report, on Tuesday morning and is expected to present at these rounds on at least one occasion. Additionally, while at rotating at Mubarak Al-Kabeer Hospital, residents are required to attend intra-departmental nephrology meeting on Tuesdays.

For Nephrology rotations, residents may be assigned at Mubarak Al-Kabeer Hospital or Al-Amiri Hospital.

### **Rotation Structure and Schedule:**

On the inpatient nephrology service, residents are expected to round on an average of 3-5 patients per day. At the discretion of the attending supervision physician, the resident is expected to admit patients presenting with various common End-Stage Kidney disease related issue, including electrolytes derailment, volume overload, malfunctioning dialysis catheter access, infected dialysis catheter site, complicated urinary tract infection in ESRD patients etc. The resident is expected to pre-round on their patients daily, write progress notes in the chart and discuss daily progress of their patients on rounds with the rest of the nephrology team lead by the attending nephrologist. It is expected that the resident complete their progress notes prior to rounds and, in certain instances, the residents may ask to complete a discharge summary when their patients are discharged from the service.

On the consult service, it is expected that resident sees an average of 2-4 new cases per day, and follow up on average of 3-5 cases/day. The resident will initially perform all new consults. The patient is subsequently seen jointly by the resident/student and the attending. Consultation note prepared by the resident will not be placed in the chart until signed by the attending. Emphasis is placed upon a pertinent history and physical with review of laboratory trends. In this regard, residents are expected to learn master microscopic examination of urine sediment in evaluating hospitalized medical patient presenting with acute kidney injury.

In the outpatient nephrology clinic, the resident is expected to work with preceptor on a one to one basis seeing and evaluating patients presenting with a chronic kidney disease/End-stage renal disease, including management of resistant hypertension, reduction of proteinuria, adequately glycemic control, management of bone and mineral disease, mitigating risk factors for cardiovascular disease, management of anemia in patients with CKD, and preventing electrolytes and acid-base disturbances in this patient population.

In the dialysis clinic, the resident is expected to learn basic principles and indications for hemodialysis, peritoneal dialysis, ultrafiltration and hemoperfusion. This can be done also in the inpatient service

## Sample Daily Schedule on Nephrology Inpatient Consult Service:

**7:30 am to 8:00 am:** Resident attends morning report. Residents must maintain 70% mandatory attendance.

**8:00 am to 12:00 am:** Resident follows up on old patients and work up new consults.

**12:30 pm to 2:00 pm:** Team gather and round on all new and old patients.

## Sample Daily Schedule on Nephrology Inpatient Service:

**7:30 am to 8:00 am:** Resident attends morning report. Residents must maintain 70% mandatory attendance.

**8:00 am to 9:00 am:** Pre-Rounds on patients

**9:00 am – Noon:** Teaching rounds with rest of the team and attending nephrologist.

**12:30 pm -2:00 pm:** Teaching/Didactics/Follow up on patients.

## Sample Daily Schedule on Nephrology outpatient Service

**7:30 am to 8:00 am:** Resident attends morning report. Residents must maintain 70% mandatory attendance.

**8:00 am to 1:00 pm:** See patients in ambulatory nephrology clinic along with supervising attending nephrologist.

**1:00 pm to 2:00 pm:** Didactic teaching session.

## On-call Schedule:

There is no assigned call or weekend coverage on Nephrology rotation. Hence, the Internal Medicine resident must take general medicine call, as assigned by the internal medicine program director.

## Objectives and Core Competency:

Residents are evaluated monthly based on CAN med core competency: (1) Medical expert; (2) Communicator; (3) Collaborator; (4) Leader; (5) Health advocate; (6) Scholar; and (7)Professional.

### **17. Medical Expert:**

#### **■ R1-R2 residents:**

By the end of the rotation, the resident will be able to:

- 1) Describe the pathophysiology, diagnosis, and management of: acute kidney injury, proteinuria, hematuria, primary and secondary hypertension, fluid and electrolyte and acid-base disorders, poisonings.
- 2) Describe indications for hemodialysis, peritoneal dialysis, ultrafiltration, hemoperfusion, renal transplantation.
- 3) Describe the pharmacology of commonly used medications in patients with impaired renal function and immunosuppressive agents.

- 4) Take an appropriate and thorough history, perform a comprehensive physical examination, and formulate an appropriate differential diagnosis and management strategy related to renal diseases.
- 5) Perform and interpret a microscopic urinalysis, be aware of the indications and limitations of imaging studies in urological disease, be aware of the indications for and interpretation of renal biopsy.
- 6) Manage complications of chronic kidney disease such as hypertension, anemia, mineral metabolism abnormalities, electrolyte disturbances and volume overload.

■ **R3-R4 residents:**

By the end of the rotation, the resident will be able to:

- 26) Meet competency stated for R1-R2 residents.
- 27) The resident will demonstrate the ability to describe the etiology, epidemiology, pathophysiology, clinical features, relevant laboratory knowledge, and the therapeutic options for major kidney related diseases, including:
  - i. Fluid and electrolyte abnormalities
  - ii. Acid-base disturbances
  - iii. Acute renal failure and oliguria
  - iv. Hematuria
  - v. Proteinuria
  - vi. Complications of chronic renal disease
  - vii. Renal replacement therapy and transplantation
  - viii. Nephritic and Nephrotic syndromes
  - ix. Glomerulonephritis
  - x. Acute tubular necrosis
  - xi. Interstitial nephritis
  - xii. Renovascular hypertension
  - xiii. Renal tubular acidosis
  - xiv. Renal calculi
  - xv. Renal complications of diabetes, hypertension and rhabdomyolysis
- 28) The resident will demonstrate competency in managing complications of chronic kidney disease such as hypertension, anemia, mineral metabolism abnormalities, electrolyte disturbances and volume overload.
- 29) The resident demonstrates competency in performing placement of central venous catheters as appropriate to level of training.

■ **R5 resident:**

By the end of the rotation, the resident will be able to develop proficiency and competency in the following areas:

- 1) Ability to undertake a critical appraisal of the literature
- 2) Synthesize data to derive the most likely diagnosis (es) and differential diagnosis (es).
- 3) Independently choose appropriate management and therapeutic plan.
- 4) Demonstrate effective consultation skills in the provision of timely well-documented assessments and recommendations in written and/or verbal forms.

- 5) Demonstrate the attitudes and skills necessary to collaborate with other health care professionals necessary to the care of the patient.
- 6) Access, retrieve, critically evaluate, and apply information from all sources in maintaining the highest standard of patient evaluation, care, and management.
- 7) Demonstrate insight into his/her own limitations of expertise by self-assessment

2. **Communicator:**

By the end of this rotation, the resident at all levels will be able to perform the following:

- 10) Establish a therapeutic relationship with patients and their families, emphasizing active listening, understanding, trust, empathy, and confidentiality.
- 11) Communicate in an effective manner, verbally and in written form, with other members of the health care team.
- 12) Develop a patient-centered approach to healthcare. This approach will encourage discussion, promote patients' participation in decisions (such as choice of renal replacement therapy), and acknowledge the importance of factors, which influence the patient-physician relationship such as age, gender, ethnicity, cultural and socioeconomic background, and spiritual values.
- 13) Discuss appropriate information with the patient, his/her family, and other healthcare providers (hospitalists, intensivists, other physician requesting consultation, nursing staff, dialysis technician, and other health professionals) to facilitate the optimal management plan for the care of the patient.

3. **Collaborator:**

By the end of this rotation, the resident at all levels will be able to perform the following:

- 3) Recognize that high quality nephrology care is best provided by a team approach
- 4) Work effectively in an interdisciplinary team, demonstrating an understanding and respecting the roles of other health disciplines.
- 5) Appropriately utilize other healthcare organizations and allied healthcare professionals in the efficient management of ambulatory nephrology problems and delivery of nephrology services in an out-patient environment.

4. **Leader:**

By the end of this rotation, the resident at all levels will be able to perform the following:

- 29) Residents will demonstrate timeliness in completing assignments & performing consultations (which should typically be completed and reviewed on the day received), and progress notes.
- 30) Resident will demonstrate the ability to prioritize and perform necessary follow-up.
- 31) Resident will demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.
- 32) Resident will demonstrate a commitment to ethical principles pertaining to provision or withholding of clinical care, confidentiality of patient information, informed consent, and business practices.

- 33) Resident will demonstrate sensitivity and responsiveness to patients' culture, age, gender, and disabilities.
- 34) Resident will demonstrate the use of cost/benefit ratios of diagnostic and interventions for kidney disorders as well as cost containment, efficacy, and efficiency as they relate to decision making and quality assurance.

5. **Health Advocate:**

By the end of this rotation, the resident at all levels will be able to perform the following:

- 3) Understand and utilize the multidisciplinary resources necessary to care optimally for the patients.
- 4) Use evidence-based, cost-conscious strategies in the care of the patients.
- 5) Understanding when to ask for help and advice from supervising physicians.
- 6) Learning by participation in teaching conferences, and other educational activities.
- 7) Effective collaboration with other members of the health care team
- 8) Consideration of the cost-effectiveness of diagnostic and treatment strategies.
- 9) Advocate on behalf of patients and parents for improved and timely access to specialist, and allied health care, necessary surgery, beneficial medications and therapies, and community based support services.

6. **Scholar:**

By the end of this rotation, the resident at all levels will be able to perform the following:

- 4) Analyze practice experience and perform practice-based improvement activities using a systematic methodology.
- 5) Locate, appraise, and assimilate evidence from scientific studies related to their patients' health problems.
- 6) Obtain and use information about their own population of patients and the larger population from which their patients are drawn.
- 7) Apply knowledge of study designs and statistical methods to the appraisal of clinical studies and other information on diagnostic and therapeutic effectiveness.
- 8) Use information technology to manage information, access on-line medical information; and support their own education.
- 9) Facilitate the learning of students and other health care professionals.
- 10) Use information technology to support patient care decisions and patient education

7. **Professional:**

By the end of this rotation, the resident at all levels will be able to perform the following:

- 1) Demonstrate respect, compassion, and integrity; a responsiveness to the needs of patients and society that supersedes self-interest; accountability to patients, society, and the profession; and a commitment to excellence and on-going professional development.

- 2) Know how to partner with health care managers and health care providers to assess, coordinate, and improve health care and know how these activities can affect system performance.
- 3) Demonstrate recognition of personal limitations of professional competence and demonstrate a willingness to call upon others with special expertise.
- 4) Appropriate attendance and punctuality at clinical rounds, and clinics
- 5) Be aware of the ethical and legal aspects of patient care
- 6) Strive for a balance between personal and professional roles and responsibilities.

**Evaluations:**

Evaluations should be done on an ongoing basis and residents should ensure they receive and provide verbal mid-rotation feedback to discuss strengths & weaknesses and ensure objectives are being met. At the end of the rotation, a written evaluation will be completed by the attending, with whom the resident spent the majority of their rotation. It is also expected that the residents will complete evaluations on all attendings with whom they have worked.