

WRNMMC Nephrology Rotation 2013

Educational Purpose

The WRNMMC nephrology rotation provides in-depth exposure and education for interested housestaff and medical students in areas of acid-base and electrolyte disorders, hypertension, and renal disease. The nephrology rotation is structured to facilitate successful performance on the nephrology portion of the ABIM Internal Medicine certifying exam, and to enable internists and primary care providers to evaluate and care for patients with a variety of renal diseases.

Rotation Description/Types of Clinical Encounters

Generally, trainees will rotate on the nephrology service for four weeks. Hours will be those of the normal duty day, Monday through Friday, although rounds will occasionally run late. There is no call responsibility.

Residents and students who rotate on the nephrology service will be assigned to work with a staff attending nephrologist.

1. Medical students will see primarily inpatients, and rotate with the Inpatient consult team, consisting of the medical student, a nephrology fellow, and the nephrology attending. Inpatient consultations come from medicine, surgery (including transplant surgery), obstetrics/gynecology, and occasionally psychiatry. The medical student will see approximately 3-5 new inpatient consults weekly, performing the history and physical, discussing with the nephrology fellow, and then presenting to the attending staff. Generally, the consult team will round daily at which time further evaluations and therapies will be determined.
2. Internal Medicine residents will primarily see outpatients, and be part of the E-DOC Service, consisting of the resident, a nephrology fellow, and the nephrology attending. The resident should see 3-5 new patients and 1-3 return patients a week in the nephrology outpatient clinic, and will be directly supervised by the nephrology attending. Residents may see additional staff and walk-in patients as time permits. Each will have the opportunity to evaluate the patient first, then present the patient and discuss the case with the Attending staff. Clinic patients are scheduled Monday through Friday. The resident will continue his/her IM continuity clinic during that time from the internal medicine clinic.
3. Rotating residents will complete a pre-test and post-test of their Nephrology knowledge, the results of which will be discussed with the Rotation coordinator to identify strengths and weaknesses, and guide self-directed study.
4. Each rotating resident and medical student will give a brief 15 to 20 minute Power Point presentation related to a case seen during the month. The

Rotation Coordinator will supervise and evaluate this presentation, which is usually given the last week of the rotation.

5. Medical students and residents are expected to complete an online urinalysis tutorial and competency test.
6. Residents and medical students are expected to attend the noon Nephrology didactic conference (M-W) and the Friday morning (0830-0930) clinic conference, if this does not interfere with their continuity clinic, or required IM didactic conferences. Additional conference which may be attended as time and interest permit include the Dialysis Multi-Disciplinary (Th 1200-1300) and the Transplant Conference (F 1000-1100).
7. Residents and students should attempt to attend at least one Dialysis attending rounds per week. Dialysis attending rounds are held Monday/Tuesday at 1400, Wednesday/Thursday at 0800.
8. Residents and medical students are expected to attend chalk talks, given by the second year fellows, on general nephrology topics during the rotation.

Mix of renal conditions to which the trainees will become familiar with:

1. To become familiar with the methods used commonly to assess a nephrology patient, i.e. urinalysis, measured creatinine clearance, renal scans, ultrasounds, etc. and their limitations
2. To become familiar with the differential diagnosis of microscopic hematuria and the appropriate evaluation
3. To become familiar with the etiology of proteinuria, the differential diagnosis, and the appropriate evaluation
4. To become familiar with the major categories of acute kidney injury, preventative measures utilized in high risk patients, appropriate evaluation, and treatment options
5. To become familiar with the presentation of acute glomerulonephritis, major causes of primary and secondary glomerulopathies, appropriate evaluation, and general therapeutic options
6. To become familiar with the evaluation of secondary causes of hypertension
7. To become familiar with disorders of water metabolism, including SIADH and diabetes insipidus
8. To become familiar with the major acid-base disturbances
9. To become familiar with common causes of chronic kidney disease, complications of CKD itself, and medical therapies designed to delay progression to end stage renal disease
10. To become familiar with the various forms of renal replacement therapy, including peritoneal dialysis, hemodialysis, and transplantation

Goals and Objectives:

The goals and objectives for the Nephrology elective are organized into the ACGME Core Competency, which apply to the IM Residents at the PGY1-3 level. Each area of competency is then defined by specific levels of knowledge, ability, and attitude. Upon completion of the rotation, the resident will be expected to attain these goals and objectives:

1. **Medical Knowledge:**
 - a. Diagnosis of common medical problems in the Nephrology patient and basic diagnostic testing and management of these problems.
 - b. Understand and explain the basics of evidence-based medicine as applied to nephrology.
 - c. To develop an organized approach to the evaluation of hematuria.
 - d. To develop knowledge of the etiology of proteinuria to include differential diagnosis and appropriate evaluation.
 - e. Demonstrate an organized approach to the causes, diagnosis, evaluation, treatment and prevention of acute kidney injury
 - f. To become familiar with the various forms of renal replacement therapy, including peritoneal dialysis, hemodialysis and transplantation.
 - g. To become familiar with the presentation of acute glomerulonephritis and major causes of primary and secondary glomerulopathies, to include appropriate evaluation and treatment.
 - h. To understand the indications and contraindications of renal biopsy.
 - i. To become familiar with disorders of water metabolism, including SIADH and diabetes insipidus to include diagnosis and management.

Expectations for PGY1-3 are the same for Medical Knowledge.

2. **Interpersonal skills and communication:**
 - a. Able to clearly communicate with families and patients.
 - b. Demonstrate ability to ask an effective question of a consultant.
 - c. Shares plan with dialysis nurses, clinic and ward nurses and other health care personnel in a timely manner.
 - d. Able to present a case to the attending nephrologist in a concise and organized manner, and produce a complete and detailed consultation/note that accurately reflects the assessment and plan of care.

Expectations for PGY1: a-d with the assistance of the attending. PGY2-3: a-d independent of the attending.

3. **Professionalism:**
 - a. Displays appropriate appearance (scrub attire is appropriate while immediately involved in a procedure, otherwise the Department of Medicine uniform policy should be adhered to).
 - b. Manner and bearing is respectful and caring.
 - c. Strong sense of duty to the patient.
 - d. Shows respect and sensitivity to cultural and/or social issues.
 - e. Timely completion of Case-presentation and Pre- and Post-test.
 - f. Attendance at required conferences.

Expectations for PGY1-3 are the same for Professionalism.

4. Patient care:
 - a. Able to perform a directed renal history and physical exam independently.
 - b. Demonstrates patient ownership.
 - c. Ensures plan of care is implemented.
 - d. Completes tutorial on urinalysis, and completes and passes associated competency test. Demonstrates increasing ability to interpret microscopic urinalysis.

Expectation for PGY1 is to implement plan of care with assistance of attending. PGY2-3 should be able to implement plan of care independently.

5. Systems-based Practice:
 - a. To become familiar with the various forms of renal replacement therapy, including peritoneal dialysis and hemodialysis, and transplantation
 - b. Be able to contact a dialysis unit to obtain dry weight and specifics of last hemodialysis session.
 - c. To become familiar with the unique reimbursement systems for end stage kidney disease in the civilian medical system.
 - d. Attend the dialysis multidisciplinary conference to witness how outside resources are accessed and incorporated into care plans for patients on renal replacement therapy.

Expectations for PGY1-3 are the same.

6. Practice-based Learning and Improvement:
 - a. Able to ask an answerable question.
 - b. Able to understand limits of own knowledge.
 - c. Able to perform a basic literature search pertinent to the case presentation prepared for the end of the rotation, and prepare a case description, pose a question and answer it using evidence (references) in PowerPoint format.
 - d. Demonstrate evidence of patient-based reading.

Expectations for PGY1 are to perform c. with attending and rotation coordinator assistance. PGY2-3 with little to no assistance.

Two-Week Versus Four-Week Goals/Objectives:

The goals/objectives for two and four-week rotators will be the same, with the following exceptions:

- Two week rotators may not receive mid-rotation feedback
- Two week rotators will not be expected to give a short case presentation
- Two week rotators may receive fewer chalk talks from the second-year fellows
- Two week rotators will not be expected to complete the post-test

Teaching Methods/Educational Resources:

Teaching is largely through presentation and discussion of individual cases, both inpatients and outpatients.

1. Medical Students and Medical Residents will be expected to evaluate the patient,

- including relevant laboratory data and radiographs. Diagnostic and therapeutic strategies will be outlined with support from the literature as appropriate. Medical students will be expected to follow their individual patients during their hospital stay. Medical residents will provide appropriate follow-up visits to patients seen in the clinic as needed during the rotation.
2. The IM Residents will complete a Nephrology pre-test to identify strengths and weaknesses, and allow for directed learning during the rotation. The Nephrology post-test will demonstrate the effectiveness of this directed learning.
 3. After the initial urinalysis tutorial and competency test, microscopic urinalysis will be examined with the nephrology staff or laboratory technologist to ensure this basic skill is obtained. The trainee will be expected to follow their individual patients during their hospital stay.
 4. Trainees are encouraged to attend the weekly nephrology conferences including physiology, renal biopsy, research, transplant and clinic conferences, journal club, critical reading, and nephrology grand rounds. During these various teaching conferences the trainees are encouraged to participate and present cases.
 5. A series of 6 chalk talks will be presented to rotating students and residents by second-year nephrology fellows.
 6. A collection of articles is available for reading and reference, dealing with many aspects of renal disease, hypertension, and fluid and electrolyte disorders. Similarly, a variety of textbooks and journals are available for further study. Internet access and Up-To-Date are all resources available to trainees while rotating on the Nephrology Service.

RECOMMENDED READING

1. Greenberg A. **Primer on Kidney Diseases**, 5th ed. National Kidney Foundation, 2009 (available for “check out” but must be returned at the end of the rotation)
2. Daugirdas JT. **Handbook of Dialysis**, 4th ed. Lippincott, 2006
3. Danovitch. **Handbook of Kidney Transplantation**, 5th ed, Lippincott, 2010
4. Berns JS. **Drug Prescribing in Renal Failure: Dosing Guidelines for Adults**, 5th ed. 2007. “The Green Book.”

Patient Population

Trainees will care for patients ranging from 18 years of age to over 65 years of age. This will include care for both females and males with a variety of ethnic backgrounds.

Ancillary Support and Services

Each trainee will have access to a nurse practitioner, clinical pharmacist, social worker and dietician, and laboratory technologist associated with the Nephrology Clinic. These

personnel will allow for the provision of comprehensive outpatient nephrologic care.

Staff Responsibilities

The Nephrology staff to whom the trainee is assigned will be responsible for all the patients seen by the trainee, both on the wards and in the clinic. The trainee and the staff together will arrive at a differential diagnosis and management strategy for each case. The staff of record will also be responsible for completion of the rotation evaluation at the end of the month, and for providing appropriate feedback.

Evaluation and Feedback

Evaluative methods include:

1. Pre- and post-Nephrology test. Medical Knowledge and Patient Care.
2. 15-20 Minute Case Presentation. Medical Knowledge, Patient Care, Professionalism, Interpersonal Communication and Practice-based Learning and Improvement.
3. Urinalysis tutorial and Competency Test. Medical Knowledge and Patient Care.
4. Personal Observation and Assessment by Attending (History and physical exam skills; Development of assessment and plan (including use of reference material); Presentation to attending; Discussion with patient and family; Execution of plan using multidisciplinary team). Medical Knowledge, Patient Care, Interpersonal Communication, Professionalism, Systems-based Practice.

At the end of the rotation, the staff and the trainee will review the rotation with particular emphasis on the trainee's performance, strengths, and weaknesses. He or she will be invited to provide feedback regarding the rotation, as well, to both the staff of record and the medical education coordinator for nephrology. The appropriate written evaluation form will then be completed by the staff in a timely fashion and forwarded to the appropriate department. Any trainee deficiencies should be identified early by the staff of record, so as to enable adequate time to make corrections and improve performance.

Any other problems or questions that arise during the month's rotation can be directed to the rotation coordinator.

I have read these rotation goals and objectives.

Resident's Signature: _____ Date: _____

Staff's Signature: _____ Date: _____

Nephrology Resident Rotation Checklist

- _____ Pretest taken
- _____ Pretest discussed with staff
- _____ Lab orientation
- _____ UA online tutorial
- _____ *Choices* video (used to teach patients about the types of renal replacement therapy, see PD nurses)
- _____ Nutritional aspects of renal care (Ms. Gibbs, Renal Dietician)
- _____ Peritoneal dialysis instruction with Mr. Oliver, Ms. Johnson or Ms. Li (PD nurses)
- _____ Hemodialysis instruction (procedure, vascular access, etc) from HD nurses to include speaking with a patient
- _____ Attend Attending dialysis rounds (M-T 1400, W-Th 0800, optional)
- _____ Observe a renal biopsy (optional)
- _____ Mid-rotation feedback (N/A for two-week rotation)
- _____ Give a short talk on a nephrologic subject of your choice at a Friday morning post clinic conference (N/A for two-week rotation)
- _____ Post-test received (N/A for two-week rotation)
- _____ Feedback

Chalk-talks: Please list the lectures received (and who gave them) and evaluate any teaching you receive using clinical teaching form.

Subject	Lecturer
1.	
2.	
3.	
4.	
5.	
6.	

Type of patients seen (circle each)

CKD3	CKD4	Peritoneal dialysis	Hemodialysis	Transplant
Diabetic nephropathy	Glomerulonephritis	Nephrolithiasis	AKI	Renal biopsy
Proteinuria	Hematuria	Electrolyte/Acid-Base disturbance	Hypertension	