

## **Inpatient Nephrology Team**

The renal service includes the inpatient and outpatient management of those patients with various stages of kidney disease including dialysis and renal transplantation, electrolyte disorders, acid/base disorders, and stone disease. The service also provides consultative service to University Hospital, Crouse Hospital, and the VA Hospital. The nephrology division includes the following individuals:

William C. Elliott, MD – Interim Division Chief  
Margaret MacDougall, MD – Fellowship Director  
Steven Scheinman, MD – Dean of College of Medicine  
Sylvia Betcher, MD – Chief of Nephrology at the VA Hospital  
Rose Giammarco, MD – VA Nephrologist  
John Todd Leggat, MD – Director of Transplant Center  
Sri Narsipur, MD – Director of Outpatient Dialysis Services  
Stephen Knohl, MD – Associate Program Director for Department of Medicine  
Richard Hoopes, PhD

### **I. Educational Purpose**

The general internist should be competent to evaluate and appropriately refer patients with glomerular disorders, asymptomatic urine abnormalities, tubulointerstitial diseases, renal vascular disease, renal failure, nephrolithiasis, tubular defects, and infections and neoplasms of the kidneys, bladder, and urethra, and should also be able to provide principle treatment for some of these conditions. He or she should be able to manage fluid, electrolyte, and acid-base disorders; understand the ways in which systemic diseases may affect the kidneys; and recognize the potential nephrotoxicity of various therapeutic and diagnostic agents. The general internist must also be familiar with guidelines for pre-dialysis management of patients with renal failure and be able to recognize indications for dialysis and for referral to a nephrologist.

### **II. Learning Venue**

The inpatient nephrology service is a University Hospital-based service that will allow the housestaff officer to see patients ages 16 and older, of male and female gender, and of varying ethnicities/cultures. The service averages 8-12 patients and consists of the attending, a senior resident, an intern, 1-2 3<sup>rd</sup> year medical students, and, possibly, a 4<sup>th</sup> year medical student.

Expectations of the Intern: The intern will complete detailed history and physicals of all admitted patients and complete progress note on a daily basis. The intern will have detailed knowledge of every patient on the service (up to 12 patients). The intern will be expected to examine the urine (via dipstick and microscopically) as well as interpret basic laboratory and radiographic tests of renal function. Interns will also be expected to teach the medical students on the service as well as further his/her own learning through the use of reading materials outlined below.

Expectations of the Senior Resident: The senior resident is expected to be the leader of the team. He/she will serve as supervisor and educator to the intern and students as well as have the team prepared for daily attending rounds. If the service exceeds 12 patients, the senior resident will serve as "intern" for those additional patients. The senior resident will continue to expand their knowledge of renal disease with the aid of the reading materials outlined below.

Teaching Methods:

Daily Attending Rounds

Here the entire team (students, housestaff, fellow, and attending) will discuss patient issues and formulate daily plans. The team will be expected to have seen each of their assigned patients, collected all relevant data, and present in a concise, logical format to the attending.

#### Teaching Rounds

Here the attending will lead the team in various exercises to expand their knowledge of nephrology. Radiology rounds will also be conducted where the attending will teach the fellow, housestaff, and students the various radiologic techniques employed in nephrology. Ordered studies should be viewed daily.

#### Bedside Rounds

Here the attending will supervise and guide the housestaff and students in regards to proper history and physical exam techniques.

#### Recommended Reading:

-Therapy in Nephrology and Hypertension: A Companion to Brenner and Rector's "The Kidney" edited by Hugh Brady and Christopher Wilcox

-Fluids and Electrolytes edited by Juha P. Hokko, Richard L. Tannen

-The Principles and Practice of Nephrology edited by Harry Jacobson, Gary E. Striker,

Saulo Klahr

-Primer in Kidney Diseases

-Massry & Glassock's Textbook of Nephrology edited by Shaul G. Massry, Richard J.

Glassock

-The Kidney by Brenner and Rector

-Replacement of Renal Function by Dialysis edited by C. Jacobs... [et al.]

-Dialysis Therapy edited by A. Nessonson and R. Fine

-Principles and Practice of Dialysis edited by William L. Henrich

-Primer on Transplantation edited by D. Norman and L. Turka

-Clinical Physiology of Acid-Base and Electrolyte Disorders by B.D. Rose

-Pathophysiology of Renal Disease by B.D. Rose

-The Kidney: Physiology and Pathophysiology edited by D. Seldin and G. Giebisch

-Handbook of Dialysis edited by J. Daugirdas and T. Ing

-Handbook of Kidney Transplantation edited by G. Danovitch

-Up-To-Date Online

#### Unique Learning Opportunities:

Renal Conference (Tuesdays from 4-5PM) – didactic sessions covering all aspects of nephrology provided by the attending and fellows from the division as well as the pediatric division of nephrology, division of transplant nephrology, and the division of renal pathology.

Journal Club/Physiology Conference (Wednesdays from 8-9AM) – critical evaluation of articles relevant to nephrology. Once a month, the fellow will present a topic on renal physiology.

Case Conference (Thursdays from 12-1PM) – the fellows present renal cases to the division.

Dialysis and Transplantation Committee Meeting (Fridays 8-9AM) – discussion of currently hospitalized patients with end-stage renal disease or dialysis-requiring acute renal failure as well as any relevant transplant issues.

#### Mix of Diseases and Patient Characteristics

#### Common Clinical Presentations and Diseases:

Urine Abnormalities

Bladder Outlet Disease

Dysuria

- Edema
- Suprapubic/Flank Pain
- Changes in Urinary Habits
- Hematuria
- Hypertension
- Incontinence
- Uremia
- Renal Mass or Bruit
- Acute Renal Failure
- Chronic Kidney Disease
- Nephrotic Syndrome
- Glomerulonephritides
- Electrolyte Dyscrasias (Natreurias, Kalemias, Calcemias, Magnesemias, Phosphatemias)
- Acid-Base Disorders
- Renal Transplantation
- Nephrolithiasis

**Patient Characteristics:**

Ages 16 and older, of male and female gender, and of varying ethnicities/cultures.

**Procedures:**

- Calculation of Creatinine Clearance
- Calculation of Fractional Excretion of Sodium
- Dipstick of Urine
- Microscopic Analysis of Urine
- Femoral Placement of Temporary Dialysis Access (optional)

**III. Educational Content**

Acid-base disorders
<i>Acute renal failure</i>
Acute (ischemic) tubular necrosis
Atheroembolic
Drug-induced (radiocontrast, analgesics, etc.)
Interstitial
<i>Chronic renal failure</i>
Conservative management (before dialysis)
Hemodialysis
Peritoneal dialysis
Transplantation
Fluid and electrolyte disorders
<i>Glomerular diseases</i>
Acute glomerulonephritis
Chronic glomerulonephritis
Nephrotic syndrome
<i>Hypertension (see also Cardiology)</i>
Hypertensive crisis
Secondary hypertension
<i>Inherited diseases</i>
Polycystic kidneys
<i>Kidney disease in systemic illness</i>

Diabetes mellitus
Hypertension
Other systemic diseases
<i>Neoplasia (see also Oncology)</i>
Bladder carcinoma
Renal cell carcinoma
<i>Nephrolithiasis</i>
Diagnosis of renal stone disease
Management of acute renal colic
Obstructive uropathy
Renal disease in pregnancy (see Medical Consultation)
<i>Urinary tract infection</i>
Cystitis
Pyelonephritis
<i>Urologic disorders</i>
Bladder outlet obstruction
Cancer of the prostate (detection)
Erectile dysfunction
Incontinence
Prostate disease

#### IV. Method of Evaluation

Evaluations are based on the six core competencies. All team members are expected to complete formal evaluations at the end of each rotation using the web-based E-Value evaluation software. While our electronic evaluation offers timely feedback for improvement, mid and end of rotation feedback in person is strongly encouraged.

#### V. Rotation Specific Competency Objectives

- A. **Patient care** – generic link to competency document
- B. **Medical knowledge** – generic link to competency document
- C. **Professionalism** – Frequent discussions relevant to end of life care and discontinuation of dialysis are relevant to the care of end stage renal patients and will be evaluated. - Generic link to competency document
- D. **Interpersonal and Communication skills** –generic link to competency document
- E. **Practice Based Learning** – generic link to competency document
- F. **Systems Based Practice** – This rotation offers a unique opportunity to work in a cross specialty environment including ICU, transplant, surgical and psychiatric hospitalized services. In addition some patients will have long-term dialysis needs that need to be understood and coordinated with the outpatient dialysis team.

Reviewed 9/05 by Dr William Elliot, Dr Sath Poobalasingham, Dr Imad Ahmed, and Dr Kismatkumar Detroja