

Lahey Clinic Internal Medicine Residency Program: Curriculum for Nephrology

Faculty representative: Hannah Gilligan, MD
Resident representative: Cynthia Nicolaou, MD
Revision date: April 10, 2006

Overview

Internal Medicine residents have a broad exposure to Nephrology during their training years. Supervision and teaching is provided by a full time staff of nephrologists, all of whom are board certified in nephrology and internal medicine. In addition to their general exposure to patients with renal disorders, residents have the opportunity to rotate through the Nephrology Department on elective.

Educational Goals

The primary goal is to provide residents with experience in the general approach to the renal patient. Residents are exposed to a broad range of problems including acute renal failure, fluid and electrolyte disorders (dysnatremias, acid base disorders, and potassium imbalances), glomerular disease, chronic renal insufficiency, end stage renal disease, modalities of dialysis and hypertension. Residents are expected to gain facility with the general approach to the renal patient and a fundamental understanding of renal pathophysiology.

Setting

Teaching takes place in a variety of clinical settings. The staff supervises residents providing inpatient primary care of patients with renal disease, inpatient consultation including critical care and ambulatory care. The latter provides exposure to topics commonly encountered in outpatient consultation, such as chronic renal insufficiency, hematuria, nephrolithiasis, proteinuria and hypertension. The staff participates in didactic teaching conferences, which include residents' morning report, house staff noon conferences and house staff critical care conference.

Educational Methods

Individual Presentation and Discussion of Cases

Residents will see a variety of renal problems. The resident will present a focus-based detailed history and physical examination to the attending nephrologist. In each case, an attending nephrologist personally interacts with the patient and together with the resident helps to recommend a course of treatment to the referring team of physicians. For patients admitted to the Nephrology service, the residents will present the patient history and physical and develop and implement a treatment plan in conjunction with the attending nephrologist. The attending nephrologist will personally interview and examine these patients on a daily basis.

The case discussions center on the differential diagnosis, the pathophysiology involved, the interpretation of examination findings, the interpretation of laboratory

results (including urinary sediments) and imaging studies, and the decision-making process necessary to recommend and implement appropriate treatment.

Reading

A library of reference materials useful in nephrology is kept in the department, including articles, major nephrology texts and the major nephrology journals. Residents are encouraged to refer to printed and electronic resources for more in-depth information and recent research regarding specific cases encountered during the rotation.

Principle Educational Goals Based on the ACGME General Competencies

In the tables below, the principle educational goals of the Nephrology curriculum are listed for each of the six ACGME competencies:

- 1) Patient Care
- 2) Medical Knowledge
- 3) Practice-Based Learning and Improvement
- 4) Interpersonal and Communication Skills
- 5) Professionalism
- 6) Systems-Based Practice

The abbreviations for the types of learning environments and evaluation methods are defined below.

Learning Environments:

DPC:	Direct patient care
ARD:	Attending rounds/didactics
RWR:	Resident work rounds
HCCC:	Housestaff critical care conference
NC:	Noon conferences

Evaluation Methods:

GA:	Global assessment
MCX:	Mini-Cex
ISE:	In-service examination

1.) Patient Care

Objective	Learning Environment	Evaluation Method	Expected Year of Proficiency
Perform a comprehensive history and physical examination	DPC, RWR, ARD	GA, MCX	PGY-1
Formulate and carry out effective management plans	DPC, RWR, ARD	GA	PGY-2
Clearly and succinctly document patient management in the medical record	RWR, ARD	GA, MCX	PGY-1
Perform a focused physical exam	DPC, RWR, ARD	GA, MCX	PGY-2

2.) Medical Knowledge

Objective	Learning Environment	Evaluation Method	Expected Year of Proficiency
Competently identify renal issues in outpatients and inpatients especially renal emergencies (such as hyperkalemia, severe acidemia and intoxications requiring dialysis), fluid and electrolyte disorders, vasculitis, acute renal failure, glomerular disease, hypertension (primary and secondary), chronic renal insufficiency and end stage renal disease	DPC, RWR, ARD, NC, HCCC	GA, ISE	PGY-2
Accurately interpret laboratory data, including urinary sediments	DPC, RWR, ARD, HCCC, NC	GA, ISE	PGY-2

Apply basic knowledge of renal pathophysiology to the diagnostic and therapeutic process	DPC, RWR, ARD, HCCC, NC	GA, ISE	PGY-2
Formulate a broad differential diagnosis			
Acquire expeditiously relevant clinical literature to enhance direct patient care			

3.) Practice-Based Learning and Improvement

Objective	Learning Environment	Evaluation Method	Expected Year of Proficiency
Identify deficiencies in knowledge base and develop independent reading program to address these gaps	RWR, ARD	GA, ISE	PGY-2
Effectively perform a literature search to answer clinical questions	RWR, ARD	RP	PGY-1
Facilitate the learning of students and other health care providers	RWR, ARD	GA	PGY-3

4) Interpersonal & Communication Skills

Objective	Learning Environment	Evaluation Method	Expected Year of Proficiency
Communicate accurately and compassionately with patients and their families	DPC, RWR, ARD	GA, MCX	PGY-2
Clearly communicate with referring physicians and those providing direct care for the patient	DPC, RWR	GA	PGY-1
Professionally interact with entire health care team	DPC, RWR, ARD	GA	PGY-1

5) Professionalism

Objective	Learning Environment	Evaluation Method	Expected Year of Proficiency
Treat all patients, patients' families, health care providers and hospital employees with respect and integrity	DPC, RWR, ARD	GA	PGY-1
Maintain patient confidentiality at all times	DPC, RWR, ARD	GA	PGY-1

6) Systems-Based Practice

Objective	Learning Environment	Evaluation Method	Expected Year of Proficiency
Integrate case management early and effectively in patient care	RWR, ARD	GA	PGY-1
Understand the role of clinical pathways in managing disease	ARD	GA	PGY-2
Implement and review clinical pathways	RWR, ARD	GA	PGY-3

Evaluations: Residents are formally evaluated by the Nephrology attending at the end of the rotation using Myevaluations.com.

Nephrology Curriculum Checklist

	Setting: I (inpatient) O (outpatient)	Date
Acid-base disorders		
Acute renal/failure		
Acute (ischemic) tubular necrosis		

Drug-induced (radiocontrast, analgesics, etc.)		
Interstitial		
Atheroembolic		
Chronic renal/failure		
Conservative management (before dialysis)		
Hemodialysis		
Peritoneal dialysis		
Transplantation		
Fluid and electrolyte disorders		
Glomerular diseases		
Acute glomerulonephritis		
Chronic glomerulonephritis		
Nephrotic syndrome		
Hypertension		
Hypertensive crisis		
Secondary hypertension		
Inherited diseases		
Polycystic kidneys		
Kidney disease in systemic illness		
Diabetes mellitus		
Hypertension		
Other systemic diseases		
Neoplasia		
Bladder carcinoma		
Renal cell carcinoma		
Nephrolithiasis		
Diagnosis of renal stone		
Management of acute colic		
Obstructive uropathy		
Urinary tract infection		
Cystitis		