**PEDIATRIC NEPHROLOGY**

**Pediatric Resident Goals & Objectives**

## GENERAL OBJECTIVES

To gain general competence in management of Pediatric Nephrology patients and the understanding of the pathophysiology of renal diseases.

## EDUCATIONAL

1. OBJECTIVES

(a) The program provides residents with the opportunity to review the normal development and physiology of the kidney. The resident will also learn about the natural history, clinical manifestations, pathophysiology and treatment of renal disease.
(Medical Expert, Scholar, Collaborator)

(b) The resident will gain an understanding of the indications for performing and interpretations of renal function tests. The resident will also gain an understanding of the indications for as well as advantages and risks of other tests required to investigate and manage patients with renal disease (voiding cystourethrograms, renal scan, renal ultrasound, urodynamics, renal angiography, renin studies and renal biopsy).
(Medical Expert, Collaborator, Scholar)

(c) The resident will acquire knowledge of kidney development during infancy & childhood. The resident will learn about the physiologic basis of renal homeostatic mechanisms.
(Medical Expert, Collaborator, Manager)

(d) Residents will also obtain an appreciation of the role of other health professionals in the medical and/or urological management of patients. They will have the opportunity to exercise personal responsibility appropriate to their level of competence in all aspects of the investigations and treatment of children referred to the service in both an inpatient and ambulatory care setting.
(Medical Expert, Communicator, Collaborator, Manager)

(e) Daily work rounds will be scheduled by the residents and staff physician as needed. On most Tuesdays from 08:00 to 09:00, the Nephrology Section has Pediatric Nephrology Education Rounds. These are either a Journal Club, Case of the Month or, on the fourth Tuesday of the block, Resident Teaching rounds. **At these Resident Teaching rounds, the resident is expected to present a case, give a basic overview of the presenting complaint and research a clinical question associated with the presenting complaint (see Neph Resident Presentation Guideline Letter).** City-wide Renal Rounds are held at 0745h each Thursday at the Health Sciences Center (Telehealth connection to a room at ACH). You are encouraged to attend this educational activity and a schedule can be found in the Nephrology Clinic with a poster of the title for the week.
(Scholar, Manager)

(f) By the completion of the rotation, the resident should be able to understand and manage most of the following renal diseases/problems:

* Enuresis and incontinence
* Congenital and acquired hydronephrosis
* Hematuria and nephritic syndromes
* Urinary tract infection
* Renal failure (acute and chronic)
* Congenital structural anomalies of the urinary tract (e.g. duplex kidneys)
* Vesicoureteral reflux and obstructive uropathies (e.g. ureteropelvic junction obstruction, posterior urethral valves)
* Proteinuria and nephrotic syndromes
* Hypertension
* Renal stones/nephrocalcinosis
* Fluid and electrolyte requirements in normal and abnormal states
* Renal tubular disorders, Fanconi syndrome

(g) By the completion of the rotation, the resident should understand the indications, complications and contraindications of

* Dialysis (both peritoneal and hemodialysis)
* Renal transplant patient follow-up

(h) Residents are expected to read the most current literature regarding their cases. Suggested references for reading around your patients include (see library in Skills Lab):

1. The chapters on renal disease in the standard pediatric textbooks;
2. Pediatric Nephrology - Editors: Avner et al.
3. Comprehensive Pediatric Nephrology – Editors: Geary and Schaefer
4. Pediatric Nephrology Handbook – Editors: Rees et al.
5. Scholarly review articles, UptoDate.

(Scholar, Manager)

2. DUTIES

(a) Inpatients and Consults

 The pediatric resident or pediatric nephrology fellow will be the first to see and assess any inpatient admitted under or referred to the pediatric nephrology service. The resident will be responsible for obtaining a history, performing a physical examination and documenting the encounter in the medical record. This documentation should include an appropriate differential diagnosis and a plan of management which will be reviewed, discussed and approved by the staff physician on service. While the patient remains in hospital, the resident will evaluate and document the patient’s clinical condition, status of investigations, and any proposed additional investigation or management. The resident will regularly contribute to the discharge summary documentation throughout the admission and will complete the discharge summary at the time of discharge.

(Medical Expert, Manager, Collaborator, Professional, Communicator)

(b) Outpatient Clinics

The resident will attend full day nephrology outpatient clinics on Tuesdays and Wednesdays with a morning clinic on Friday. Residents may also attend Thursday morning Chronic Kidney Disease/Transplant Clinic if the inpatient service is not busy. The resident will be responsible for performing a history and physical examination, developing a differential diagnosis, planning the investigation and management with the staff physician and dictating a clinic note to the referring physician. The resident will also interact with the multidisciplinary personnel who work in this clinical area including nurses, pharmacist, dietitian, social worker, and psychologist.
(Medical Expert, Collaborator, Manager, Professional)

c) Procedures

* Renal biopsy: If a patient requires a renal biopsy during the rotation, the resident is welcomed and encouraged to attend. The resident may be asked to perform a brief history and physical examination on these outpatients.
* Urodynamics: The Nephrology service nurses occasionally perform urodynamics. The resident is welcomed and encouraged to attend this procedure and/or participate in the subsequent interpretation of results and discussions with families.
* Hemodialysis: Outpatients are dialyzed in the dialysis unit on Mondays, Wednesdays, Fridays and one weekend day. The resident is encouraged to watch the hemodialysis nurse set-up and/or perform hemodialysis.

 (Medical Expert)

(d) On-Call

 Pediatric nephrology is a home call service. **Pediatric residents on the nephrology rotation will be scheduled for home call on a one-in-three (1:3) basis including one weekend**. As per the PARA agreement, the scheduled number of on-call shifts will reflect the total number of days on service. If a resident has a combination of in-house (i.e. cross-covering the Pediatrics service) and home call, the maximum number of nephrology call shifts will be adjusted accordingly (see PARA Agreement 23.07). The resident must contact the Nephrology administrative assistant to arrange call shifts prior to the start of the rotation.

(Professional)

(e) Other Experiences

 A resident who wishes to perform a small clinical project or prepare a case report for publication can discuss potential opportunities with members of the Section of Nephrology. Such projects could be performed throughout the year and need not be limited to the period of the rotation.
(Scholar)

The Section of Nephrology hopes you will enjoy your rotation with us. We will do our best to provide you with an excellent clinical and educational experience. Please do not hesitate to ask questions and make suggestions, so we can improve the rotation for you and others.

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| Role | Key Competencies |
| Medical Expert / Clinical Decision Maker | 1. Must recognize abnormal findings
2. Must recognize which children are ill and the urgency of each illness.
3. Must have a good understanding of general nephrology and pediatric problems presenting to the pediatric nephrologist and how they are managed
4. Must be able to obtain an accurate, focused history and a complete focused physical exam
5. Must be able to formulate an appropriate differential diagnosis or prioritized problem list
6. Must show reasonable application of the medical literature to patient care
7. Must be able to perform a dipstick urinalysis and interpret the results
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| Communicator | 1. Must be able to discuss concerns with the pediatric nephrologist
2. Must be able to explain to the patient / parent management plans and their rationale for each individual patient

3. Must communicate effectively with consultants4. Must communicate effectively with patients / parents so as to deal with all concerns5. Must communicate effectively with all members of the pediatric nephrology team and other health care professionals6. Must maintain complete and accurate medical records |
| Collaborator | 1. Must be able to participate in the management of nephrology patients
2. Must be able to involve primary care physicians in continued care when necessary
3. Must be able to interact communicate with other members of the nephrology care team.
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| Manager | 1. Must be able to balance education needs, patient care and outside activities
2. Must be able to choose appropriate investigations and utilize healthcare resources wisely.
3. Must understand the value and limitations of these investigations
4. Demonstrate an ability to utilize information technology effectively to assist in the management of patient care, learning needs and other activities.
5. Must work efficiently and effectively within the healthcare team.
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| Health Advocate | 1. Must recognize concerns and issues which patients / parents have about their kidney disease.
2. Must be able to advise on issues such as immunizations, dietary restriction, and medication benefits or side effects
3. Must be able to advise patients on lifestyle and preventative strategies when living with kidney disease
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| Scholar | 1. Must be able to identify areas of weakness and establish a comprehensive continuing education strategy.
2. Must demonstrate an ability to critically evaluate medical literature
3. Must demonstrate ability to stimulate learning by educating patients, fellow trainees and other health professionals.
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| Professional | 1. Must act in an honest, compassionate, and ethical fashion2. Must recognize self-limitations and act upon them to always optimize patient care |