

Nephrology Goals	Objectives by Competency and Level of Training			Assessment Methods
	PL-1	PL-2	PL-3	
<b>GOAL 1: Prevention, Counseling and Screening.</b> Understand the role of the pediatrician in preventing renal disease and in counseling and screening individuals at risk for these diseases.	<b>Patient Care:</b> Provide routine prevention counseling about kidney health and disease to all parents and patients, addressing: <ul style="list-style-type: none"> <li>•Normal voiding, toilet training and attainment of bladder control</li> <li>•Female hygiene</li> <li>•Urinary tract infections and nonspecificity of physical complaints in infants and young children</li> <li>•Strategies to assure normal bowel and bladder habits</li> <li>•Importance of routinely measuring blood pressures in children, especially overweight children and those with a family history of hypertension</li> </ul>	<b>Patient Care:</b> 1. Use blood pressures beginning at age 3 to screen for hypertension, using age- and height-specific BP norms and blood pressure cuffs appropriate for patient's height and weight; discuss criteria for repeated measurements and further evaluation or referral. 2. Obtain and accurately interpret urine for dipstick examination to screen for blood and protein at certain milestones (e.g., pre-school and pre-sports examinations). 3. Differentiate transient or physiological proteinuria and/or orthostatic proteinuria from clinically significant (i.e. pathological) persistent or intermittent proteinuria. 4. Differentiate transient hematuria from clinically significant gross or microscopic hematuria	<b>Patient Care:</b> In conjunction with a specialist, provide specific prevention counseling to parents and patients with renal diseases, addressing: <ul style="list-style-type: none"> <li>•Need for medication adjustments in patients with impaired renal function,</li> <li>•Need for prophylactic medications for certain renal conditions</li> <li>•Altered immunization schedule for children with specific renal diseases</li> <li>•Importance of continued home and office monitoring in children with specific disorders</li> <li>•Risks of contact and other sports in children with a single kidney</li> </ul>	Direct Observation Global Evaluation
	<b>Medical Knowledge:</b> Understand the normal physiological development of the kidneys and bladder, including renal concentrating ability, glomerular filtration and sodium handling, normal voiding pattern, urine output and attainment of bladder control.	<b>Medical Knowledge:</b> Know age-related changes in blood pressure and normal ranges from birth through adolescence..	<b>Medical Knowledge:</b> Know how the primary care of children with chronic kidney disease differs from routine primary care, including changes in immunization schedules, management of growth and development, and learning and behavioral issues.	Global Evaluation In-Training Exam
<b>GOAL 2: Diagnose and manage patients with common renal conditions with referral as needed</b>  1. Urinary tract infection, uncomplicated 2. Minor electrolyte disturbances 3. Dehydration 4. Orthostatic and physiologic proteinuria 5. Nonspecific urethritis 6. Hypertension, mild 7. Steroid-responsive nephrotic syndrome 8. Nocturnal enuresis 9. Urinary frequency without renal cause 10. Hematuria without proteinuria, including resolving postinfectious glomerulonephritis 11. Henoch-Schonlein purpura without persistent renal involvement	<b>Patient Care:</b> 1. Obtain accurate, relevant history efficiently, demonstrating a developmentally appropriate and prioritized approach. 2. Perform accurate, targeted but thorough PE which is developmentally appropriate 3. Synthesize all available clinical information into a treatment plan 4. Discuss findings on clinical history and examination that lead one to suspect a UTI 5. Classify a patient with hypertension as to severity according to current national guidelines, e.g., mild, moderate or severe.	<b>Patient Care:</b> 1. Obtain relevant historical subtleties that inform and prioritize differential diagnoses and diagnostic information 2. Accurately track changes in PE over time 3. Develop a prioritized differential diagnosis and diagnostic and therapeutic plan 4. Implement appropriate antibiotic treatment of a suspected UTI and list indicators that would result in changes in therapy. 5. Order the appropriate radiologic evaluation for a child presenting with a first UTI, taking into account the age and sex of the child.	<b>Patient Care:</b> 1. Role model gathering subtle and reliable information from patient and family 2. Routinely identify subtle or unusual PE findings, demonstrating an understanding of how they influence clinical decision making 3. Modify differential diagnosis and therapy based upon clinical course 4. Recognize disease patterns which deviate from common patterns and require complex decision making 5. Independently manage patient with a broad spectrum of common renal disorders 6. Describe indications for antibiotic prophylaxis for recurrent UTI and the long-term risks of recurrent UTIs.	Direct Observation Global Evaluation
	<b>Medical Knowledge:</b> Compare and contrast the different methods of obtaining a urine specimen	<b>Medical Knowledge:</b> 1. Demonstrate sufficient knowledge to diagnose and treat undifferentiated or emergent medical conditions 2. Describe the method for making an appropriate diagnosis of a UTI prior to treatment and differentiate between pyelonephritis and cystitis	<b>Medical Knowledge:</b> 1. Demonstrate sufficient knowledge to evaluate complex or rare conditions and multiple co-existent conditions 2. Discuss common remedies and medications used to treat vomiting, along with indications, limitations and potential adverse effects. 3. Discuss common remedies and medications used for diarrhea, along with indications, limitations and potential adverse effects. 4. List common signs and symptoms of deficiency in the following nutritional components, and identify children at high risk for deficiency. 5. Describe the typical monitoring of a child on TPN; identify the indicators that would lead you to a nutrition consultation or referral for a child with suspected or identified nutritional deficiency and/or exogenous obesity. 6. Identify the indicators for a gastroenterology consultation 7. Differentiate IgE-mediated food allergy from non-IgE mediated food allergy.	Global Evaluation In-Training Exam
<b>GOAL 3: Recognize and initiate management of patients with renal conditions that generally require referral.</b>  1. Acute and chronic renal failure 2. Hemolytic uremic syndrome 3. Hypertension, moderate to severe 4. Renal mass, cyst, hydronephrosis, dysplasia 5. Diabetes insipidus 6. Urolithiasis and/or nephrocalcinosis/hypercalcinuria 7. Tubular defects (e.g., renal tubular acidosis, Fanconi's, Bartter's) 8. Glomerulonephritis 9. Steroid-resistant nephrotic syndrome 10. Severe electrolyte imbalance 11. Abnormal renal function in the acutely ill 12. Vesicoureteral reflux 13. Obstructive uropathy 14. Henoch-Schonlein purpura (persistent renal involvement) 15. Autoimmune diseases with potential for renal involvement (e.g., systemic lupus erythematosus, Wegener) 16. Urinary tract infections with vesicoureteral reflux, hypertension, or other renal abnormalities 17. Unexplained hematuria 18. Proteinuria, other than orthostatic and physiologic 19. Nephrotic syndrome	<b>Patient Care:</b> Create a strategy to determine if the following presenting signs and symptoms are caused by a renal disease process and determine if the patient needs treating, consultation or referral. <ol style="list-style-type: none"> <li>1. Hypertension</li> <li>2. Edema</li> <li>3. Hematuria</li> <li>4. Proteinuria</li> <li>5. Growth retardation</li> <li>6. Vasculitic ashes</li> <li>7. Arthritis and arthralgia</li> <li>8. Urinary frequency and/or dysuria</li> <li>9. Oliguria</li> <li>10. Polyuria and/or polydipsia</li> <li>11. Abdominal pain</li> <li>12. Abdominal mass</li> <li>13. Acidosis</li> <li>14. Enuresis</li> <li>15. Deteriorating school performance</li> <li>16. Nausea, poor appetite, weight loss</li> <li>17. Pruritus</li> <li>18. Unexpected fractures Unusual cravings for salt or potassium/Sore throat</li> </ol>	<b>Patient Care:</b> 1. Discuss indications for, order and interpret clinical and laboratory tests to identify renal disease. Tests should include: urinalysis (dipstick and microscopic), 24-hr urine studies, spot urine calcium/creatinine, protein/creatinine and albumin/creatinine ratios, serum electrolytes, BUN, creatinine (and methods to estimate glomerular filtration rate), calcium, phosphorous and albumin; complete renal ultrasound (kidneys, collecting systems, bladder), intravenous pyelography, voiding cystourethrogram (radiographic and radionuclide), renal nuclear scans 2. Interpret acid-base laboratory values and discuss the differential diagnosis of metabolic acidosis and alkalosis. Describe one's approach to diagnosis and treatment..	<b>Patient Care:</b> Recognize immediate life-threatening complications associated with the diagnosis and treatment of renal disorders. Refer for intensive care as indicated.	Direct Observation Global Evaluation
	<b>Medical Knowledge:</b> Discuss the normal physiology of body fluids (water) and salts, including: intracellular vs. extracellular component, composition of salt in each (Na, K), intake and output, measured and insensible losses, and normal daily requirements.	<b>Medical Knowledge:</b> Understand the indications for, basic principles and complications of substitution therapy in renal failure, e.g., hemodialysis, peritoneal dialysis and continuous hemofiltration		Global Evaluation In-Training Exam