output measurements and blood pressure for most children with genitourinary dysfunction and those who might be at risk for developing renal complications (e.g., children in shock, postoperative patients). For example, any significant degree of renal disease can diminish the glomerular filtration rate (GFR), a measure of the amount of plasma from which a given substance is totally cleared in 1 minute. A number of substances can be used, but the most useful clinical estimation of glomerular filtration is the clearance of **creatinine**, an end product of protein metabolism in muscle and a substance that is freely filtered by the glomerulus and secreted by renal tubular cells. The nurse's responsibility in this test is collection of urine, usually a 12- or 24-hour specimen.

Genitourinary Tract Disorders and Defects

Urinary Tract Infection

Urinary tract infection (UTI) is a common and potentially serious problem in children. The overall prevalence is approximately 7% in infants and young children, although there is some variability based on age, gender, race, and circumcision status (Shaikh, Morone, Bost, et al, 2008). Caucasians, females, and uncircumcised boys have the highest rates. Specifically, girls have a twofold to fourfold higher prevalence than do circumcised boys. Uncircumcised males younger than 3 months old and females younger than 12 months old have the highest baseline prevalence of UTI (Shaikh, Morone, Bost, et al, 2008). UTI may involve the urethra and bladder (lower urinary tract) or the ureters, renal pelvis, calyces, and renal parenchyma (upper urinary tract). Because of the difficulty in distinguishing upper from lower tract infection, particularly in young children, UTI is often broadly defined. Upper UTIs or kidney infections tend to present with fever and may lead to renal scarring that may be associated with decreased kidney function, hypertension, and renal disease over time. Diagnosis of UTI is made based on the presence of both pyuria and at least 50,000 colonies per ml of a single uropathic organism in an appropriately collected specimen (American Academy of Pediatrics Subcommittee on Urinary Tract Infection, Steering Committee on Quality Improvement and Management, and Roberts, 2011).