

Chronic kidney disease

(March 2023)

Rationale

Chronic kidney disease is defined by the presence of kidney damage or decreased kidney function for three or more months, irrespective of the cause. Kidney damage refers to pathologic abnormalities (established by imaging, histology, or from markers such as urinary sediment abnormalities or increased rates of urinary protein excretion). Decreased kidney function refers to a decreased glomerular filtration rate (GFR), which is usually estimated based on serum creatinine (estimated GFR [eGFR]).

Chronic kidney disease is associated with increased morbidity (including complications such as renal bone disease, endocrine abnormalities, anemia, and increased risk of cardiovascular disease), mortality, and health care costs.

Causal Conditions

(list not exhaustive)

- Prerenal causes (e.g., blood pressure)
- Renal causes
 - a. Glomerular (e.g., IgA nephropathy, diabetic nephropathy)
 - b. Tubulointerstitial (e.g., drug toxicity)
 - c. Ischemic
 - d. Congenital (e.g., dysplasia, polycystic kidney disease)
- Postrenal (e.g., obstructive uropathy)

Key Objectives

Given a patient with chronic kidney disease, the candidate will diagnose the cause, stage, and complications, and will initiate an appropriate management plan.

Enabling Objectives

Given a patient with chronic kidney disease, the candidate will

- list and interpret critical clinical findings, including those derived from an appropriate history and physical examination aimed at determining causal conditions and manifestations of chronic kidney disease;
- list and interpret the appropriate investigations and laboratory tests, including
 - a. diagnostic imaging needed to make the diagnosis and determine potential complications;
 - b. relevant serum chemistry and urinalysis results; and
 - c. tests for potential complications of chronic kidney disease; and
- construct an effective initial management plan, including
 - a. instituting immediate measures to correct metabolic abnormalities (e.g., administration of intravenous fluids, treatment of acidosis and electrolyte abnormalities);
 - b. instituting immediate measures to prevent further loss of renal function (e.g., blood pressure control, steroids for autoimmune disorders);
 - c. determining whether the patient requires urgent or specialized care (e.g., dialysis);
 - d. determining whether the patient requires more specialized management (e.g., intensive long-term integrated care, dialysis and/or transplantation); and
 - e. counselling regarding lifestyle changes in anticipation of long-term consequences and prevention of further complications.