

Clinical Practice Guidelines for the Management for the Evaluation, Classification and Stratification of Chronic Kidney Disease

Source: K/DOQI Clinical Practice Guidelines for Chronic Kidney Disease; Evaluation, Classification, and Stratification, 2002. Clinical Practice Guidelines for Chronic Kidney Disease in Adults: Part I. Definition, Disease Stages, Evaluation, Treatment, and Risk Factors 2004, American Academy of Family Physicians 2004:70:869-76.

Definition and Stages of Chronic Kidney Disease:

- Chronic kidney disease is defined as a GFR <60 mL/min/1.73m² for ≥ 3 months with or without kidney damage. Kidney damage is defined as pathologic abnormalities or markers of damage, with or without decreased GFR, including abnormalities in the blood or urine tests or imaging studies. Kidney damage is ascertained by the presence or absence of certain markers (i.e. proteinuria), rather than by kidney biopsy.
- Kidney failure is not synonymous with end-stage renal disease (ESRD). Kidney failure is defined as a GFR below 15mL per minute per 1.73 m², usually accompanied by signs and symptoms or uremia, or as the need for initiation of kidney replacement therapy for management of the complications of a decreased GFR.
- NKF Classification of Chronic Kidney Disease:
 - Stage 1=Kidney damage with normal or increased GFR (≥ 90)
 - Stage 2=Kidney damage with mild or decreased GFR (60-89)
 - Stage 3=Moderately decreased GFR (30-59)
 - Stage 4=Severely decreased GFR (15-29)
 - Stage 5=Kidney failure (GFR <15 or dialysis)

Risk Factors for Kidney Disease:

- During routine check-ups, all patients should be assessed for increased risk based on clinical and socio-demographic factors.

Type:

Definition:

- **Susceptibility Factors** **Factors that increase susceptibility to kidney damage.**
Example: older age, family hx., of CRF, reduction in kidney mass, low birth weight, U.S. racial or ethnic minority status, low income or educational level.
- **Initiation Factors** **Factors that directly initiate kidney damage.**
Example: Diabetes, HTN, autoimmune diseases, systemic functions, urinary tract infections, urinary stones, obstruction of lower urinary tract, drug toxicity.
- **Progression Factors** **Factors that cause worsening and faster decline in kidney function after kidney damage has started.**
Example: higher level of proteinuria, HTN, poor glycemic control in diabetes, smoking.
- **End-Stage Factors** **Factors that increase morbidity and mortality in kidney failure.**
Example: lower dialysis dose (Kt/v), * temporary vascular access, anemia low serum albumin level, later referral for dialysis.

Evaluation and Treatment of Chronic Kidney Disease:

- Evaluate patients' specific type of kidney disease, co-morbid conditions, disease severity (assessed by kidney function), complications (related to the level of kidney function), risk for loss of kidney function, and risk for the development of cardiovascular disease.
- Therapy is based on the specific kidney diagnosis, prevention, diagnosis, evaluation and treatment of co-morbid conditions; measures to slow the progression of kidney damage.
- Review of patient medications should be performed at each office visit. Careful consideration should be rendered to dosages based on the level of kidney function. Assessment of potential drug interactions that can also lead to adverse effects of kidney function. If possible, therapeutic drug monitoring should be performed.
- Patients with chronic kidney disease should be referred to a Nephrologist for consultation and/or co-management if there is question about preparing a clinical action plan. Patients presenting with a GFR below 30mL per minute per 1.73² should also be referred to a Nephrologist.

Follow-Up:

- Patient should have an action plan based on the stage of kidney disease and the presence of other risk factors and/or co-morbidities.
- Track patient's GFR regularly to determine the stage of disease, in accordance with the NKF Classification for Chronic Kidney Disease. Measurements of serum creatinine for estimation of GFR should be rendered at least yearly and more frequently in those patients with GFR <60mL/min/1.73m².
- Ascertain risk factors for faster versus slow GFR decline including type (diagnosis) of kidney disease, non-modifiable and modifiable factors.
- Intervene accordingly to slow progression of kidney disease in all patients with chronic kidney disease.
- Interventions that have been proven effective include:
 - Strict glucose control in diabetics
 - Strict blood pressure control
 - Angiotensin-converting enzyme inhibitor or angiotensin-2 receptor blockade with close monitoring of serum sodium and creatinine levels
- Dietary assessment and evaluation; limitation dietary protein
- Consider lipid lowering therapy as indicated
- Correction of anemia
- Consider all patients with chronic kidney disease to be at high risk for cardiovascular disease including coronary artery disease and cerebrovascular, peripheral vascular disease and heart failure and should be assessed routinely for cardiovascular risk factors.

Patient Education:

- Patient should receive written management plans that are reviewed and revised accordingly based on changes the staging of kidney damage. The plan should include the following facets of care:
- Assessment and management of cardio and cerebrovascular risk factors
- Monitoring of dietary protein and/or nutrition therapy (if diabetic) with referral to registered dietician as indicated
- Pharmacology education regarding medications contraindicated with kidney damage (example: NSAIDs, Ace Inhibitors and Angiotensin-2 receptor blockers)
- Instruct patients and their caregivers as appropriate on signs and symptoms for central and peripheral neurologic involvement

Legal Disclaimer:

These clinical practice guidelines were developed to assist practitioners in making decisions about appropriate health care for specific clinical circumstances. These guidelines are not fixed protocols that must be followed, but are intended for health care professionals and providers to consider. While they identify and describe generally recommended courses of intervention, they are not presented as a substitute for the advice of the physician or other knowledgeable health care professional or provider service provider treating the patient. Individual patients may require different treatments from those specified in a given guideline. Guidelines are not entirely inclusive or exclusive of all methods of reasonable care that can obtain/produce the same results. While guidelines can be written that take into account variations in clinical settings, resources, or common patient characteristics, they cannot address the unique needs of each patient nor the combination of resources available to a particular community or health care professional or provider. Deviations from clinical practice guidelines may be justified by individual circumstances. Thus, these guidelines must be applied based on individual patient needs and are not a substitute for the professional medical judgment of the provider of care.