



Michigan Quality Improvement Consortium Guideline

Diagnosis and Management of Adults with Chronic Kidney Disease

The following guideline recommends diagnosis and aggressive management of chronic kidney disease by clinical stage.

Eligible Population	Key Components	Recommendation and Level of Evidence	Frequency
All adults at increased risk for CKD	Screening & Diagnosis	For patients at increased risk for CKD (e.g., diabetes, hypertension, family history of kidney failure, etc.) assess for markers of kidney damage: <ul style="list-style-type: none"> ♦ Measure blood pressure [A] ♦ Obtain serum creatinine and estimated GFR¹. If <60, repeat within 90 days. ♦ Protein-to-creatinine ratio or albumin-to-creatinine ratio (first morning or random spot urine specimen) ♦ Urinalysis, fasting lipid profile, electrolytes, BUN 	<ul style="list-style-type: none"> ♦ Semi-annual blood pressure monitoring; more frequent monitoring if indicated ♦ Monitor GFR every 1-2 years
	Risk Factor Management & Patient Education	<ul style="list-style-type: none"> ♦ Evaluation and management of comorbid conditions (e.g. diabetes, hypertension, urinary tract obstruction, cardiovascular disease)² ♦ Educate on therapeutic lifestyle changes based on GFR: weight maintenance if BMI < 25, weight loss if BMI ≥ 25, exercise and physical activity, moderation of alcohol intake, smoking cessation 	At each routine health exam
Adults with CKD	Core Principles of Treatment [D]	<ul style="list-style-type: none"> ♦ Review medications for dose adjustment, drug interactions, adverse effects, therapeutic levels ♦ Update vaccines: HBV, influenza, Tdap and Pneumovax ♦ Dietary sodium intake < 2.4 g/d recommended for patients with CKD and hypertension [A] ♦ Incorporate self-management behaviors into treatment plan at all stages of CKD [B] ♦ Develop clinical action plan for each patient, based on disease stage as defined by the National Kidney Foundation, Kidney Disease Outcomes Quality Initiative (K/DOQI³) [B] 	As indicated
		<ul style="list-style-type: none"> ♦ Stage 1 (GFR >90): Monitor GFR annually, smoking cessation, consider ACE and/or ARB therapy, BP goal <130/80, LDL-C goal < 100 ♦ Stage 2 (GFR 60-89): Nephrology referral if GFR decline > 4ml/min/yr, maintain BP and lipid goals as above. ♦ Stage 3 (GFR 30-59): Nephrology consult to include abnormalities of PTH, VitD, Ca, and phosphorus, or GFR <45. Avoid contrast, if possible. Avoid NSAIDs, low-dose ASA allowed. ♦ Stage 4 (GFR 15-29): Nephrology referral. CKD education classes. Avoid ASA and NSAIDs. ♦ Stage 5 (GFR < 15): Renal replacement therapy 	

¹ If not calculated by lab, refer to the National Kidney Foundation website for GFR calculator (<http://www.kidney.org/professionals/tools/>)

² Reference MQIC guidelines on diabetes, hypertension, hyperlipidemia and obesity (www.mqic.org).

³ <http://www.kidney.org/professionals/kdoqi/>

Levels of Evidence for the most significant recommendations: A = randomized controlled trials; B = controlled trials, no randomization; C = observational studies; D = opinion of expert panel

This guideline lists core management steps. Individual patient considerations and advances in medical science may supersede or modify these recommendations.