



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
All adults at increased risk for CKD	Screening	For patients at increased risk for CKD (e.g., diabetes mellitus, prediabetes, hypertension, family history of kidney disease, age ≥ 60 , history of acute kidney injury, obesity): measure blood pressure [A] , measure serum creatinine to determine estimated glomerular filtration rate [eGFR] – recommend using the CKD-EPI Creatinine Equation (2021) to estimate eGFR, and urine albumin-to-creatinine ratio (ACR) [A] at least annually.
	Testing for diagnosis and staging	Assess for markers of kidney damage, including the following: Spot urine for ACR to detect albuminuria especially for those at higher risk (diabetes, hypertension), Serum creatinine and eGFR to trend over a 3-month period (if < 60 ml/min/1.73m ² , and no prior eGFR, repeat within 90 days to establish trend). If “unexpected” eGFR < 30 ml/min/1.73m ² or symptoms/history consistent with structural kidney disease, obtain renal ultrasound and consider nephrology referral. [B] Fasting lipid profile, CBC, glucose, electrolytes, BUN; review prior lab results. [B]
	Risk Factor Management & Patient Education	At each routine health exam: Optimize management of comorbid conditions (e.g., diabetes mellitus [A1C], hypertension [$\leq 130/80$, if tolerated], urinary tract obstruction, cardiovascular disease) ¹ . Educate on therapeutic lifestyle changes: weight maintenance if BMI < 25 , weight loss if BMI ≥ 25 , exercise and physical activity, moderation of alcohol intake, smoking cessation, nutrition counseling with focus on sodium restriction. For adults with hypertension or prehypertension, adequate sodium intake is <1500 mg/d, but aim for at least 1000 mg/d reduction from baseline.
Adults with CKD	Core Principles of Treatment [D]	Intensive management of risk factors. Inform patient of serious progressive nature of CKD and its risks. Review medications for polypharmacy, dose adjustment, drug interactions, adverse effects, and therapeutic levels. Modify dosage for medications excreted by the kidneys, e.g., Metformin, antibiotics. Avoid NSAIDs if CKD Stage 3, 4 or 5, or albuminuria. Minimize iodinated contrast exposure (consider alternative measure if possible but not a complete avoidance necessary). Update/maintain vaccines: HBV series, influenza, Tdap, Pneumococcal, Shingles, COVID. Salt restriction for patients with CKD and hypertension or prehypertension (<1500 mg/d or decrease by 1000 mg/d). Incorporate self-management behaviors into treatment plan at all stages of CKD. [B] Develop clinical plan based on disease stage. [B] Stage 1 (eGFR ≥ 90): monitor eGFR and albuminuria. Cardiovascular risk modification, including statins, ACE or ARB, SGLT2 inhibitors and aspirin when indicated. [A] Blood pressure target $\leq 130/80$ as tolerated. Consider assessment for and management of frailty as indicated.
	Clinical plan based on CKD category based on both eGFR (G1-G5) and ACR (A1 <30 mg/g, A2 30-300 mg/g, A3 >300 mg/g)	Stage 1 (GFR ≥ 90): Monitor eGFR and persistent albuminuria at least annually based on risk, smoking status. Nephrology referral if albuminuria is A3. Stage 2 (GFR 60-89): Consider nephrology referral if eGFR decline is > 5 mL/min/yr, or if albuminuria is A3. Stage 3a (GFR 45-59): Nephrology referral if eGFR decline is 5 mL/min/yr, or if albuminuria A3 (>30 mg/mmol), if anemic or abnormal PTH, Vit D, Ca, or phosphorus. Low-dose ASA allowed. Stage 3b (GFR 30-44): Nephrology referral if A2 or A3. Stage 4 (GFR 15-29): Nephrology co-management; recommend case management if available. CKD education and discussion of choices and options, dialysis access, advance care planning especially for patients >80 y.o. Referral for transplant evaluation. Avoid contrast. Stage 5 (GFR < 15): Nephrology co-management. Renal replacement therapy when needed, shared decision making on intensity of medical management and palliative care in lieu of renal replacement in patients >80 y.o. and/or severe frailty [C] Avoid contrast.

¹Reference MQIC guidelines on diabetes, hypertension, lipids, and obesity

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. It is based on Chronic Kidney Disease Assessment and Management NICE guideline: <https://www.nice.org.uk/guidance/ng203> (published August 25, 2021) Individual patient considerations and advances in medical science may supersede or modify these recommendations.

Approved by MQIC Medical Directors November 2008, 2010, 2012, 2014 (rev. May 2013), 2016, 2018, 2020, 2022

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