

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 [≤ 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]	<p>Intensive management of risk factors.</p> <p>Inform patient of serious progressive nature of CKD and its risks.</p> <p>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.</p> <p>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.</p> <p>Salt restriction for patients with CKD and hypertension or prehypertension (<1500 mg/d or decrease by 1000 mg/d).</p> <p>Incorporate self-management behaviors into treatment plan at all stages of CKD. [B]</p> <p>Develop clinical plan based on disease stage. [B] Stage 1 (eGFR ≥ 90): monitor eGFR and albuminuria.</p> <p>Cardiovascular risk modification, including statins, ACE or ARB, SGLT2 inhibitors and aspirin when indicated. [A] Blood pressure target ≤130/80 as tolerated.</p> <p>Consider assessment for and management of frailty as indicated.</p>																																																																	
	Clinical plan based on CKD category based on both eGFR and ACR ² (See next page for full size)	<table border="1"> <thead> <tr> <th colspan="2" rowspan="2"></th> <th colspan="3">Albuminuria categories</th> </tr> <tr> <th>A1</th> <th>A2</th> <th>A3</th> </tr> </thead> <tbody> <tr> <td colspan="2">CKD is classified based on:</td> <td>Normal to mildly increased</td> <td>Moderately increased</td> <td>Severely increased</td> </tr> <tr> <td colspan="2">• Cause (C)</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">• eGFR (G)</td> <td></td> <td></td> <td></td> </tr> <tr> <td colspan="2">• Albuminuria (A)</td> <td><30 mg/g <3 mg/mmol</td> <td>30–299 mg/g 3–29 mg/mmol</td> <td>≥300 mg/g ≥30 mg/mmol</td> </tr> <tr> <th rowspan="6">GFR categories (mL/min/1.73 m²)</th> <th>G1</th> <td>Normal or high</td> <td>≥90</td> <td>Screen 1</td> <td>Treat 1</td> <td>Treat and refer 3</td> </tr> <tr> <th>G2</th> <td>Mildly decreased</td> <td>60–89</td> <td>Screen 1</td> <td>Treat 1</td> <td>Treat and refer 3</td> </tr> <tr> <th>G3a</th> <td>Mildly to moderately decreased</td> <td>45–59</td> <td>Treat 1</td> <td>Treat 2</td> <td>Treat and refer 3</td> </tr> <tr> <th>G3b</th> <td>Moderately to severely decreased</td> <td>30–44</td> <td>Treat 2</td> <td>Treat and refer 3</td> <td>Treat and refer 3</td> </tr> <tr> <th>G4</th> <td>Severely decreased</td> <td>15–29</td> <td>Treat and refer* 3</td> <td>Treat and refer* 3</td> <td>Treat and refer 4+</td> </tr> <tr> <th>G5</th> <td>Kidney failure</td> <td><15</td> <td>Treat and refer 4+</td> <td>Treat and refer 4+</td> <td>Treat and refer 4+</td> </tr> </tbody> </table>			Albuminuria categories			A1	A2	A3	CKD is classified based on:		Normal to mildly increased	Moderately increased	Severely increased	• Cause (C)					• eGFR (G)					• Albuminuria (A)		<30 mg/g <3 mg/mmol	30–299 mg/g 3–29 mg/mmol	≥300 mg/g ≥30 mg/mmol	GFR categories (mL/min/1.73 m ²)	G1	Normal or high	≥90	Screen 1	Treat 1	Treat and refer 3	G2	Mildly decreased	60–89	Screen 1	Treat 1	Treat and refer 3	G3a	Mildly to moderately decreased	45–59	Treat 1	Treat 2	Treat and refer 3	G3b	Moderately to severely decreased	30–44	Treat 2	Treat and refer 3	Treat and refer 3	G4	Severely decreased	15–29	Treat and refer* 3	Treat and refer* 3	Treat and refer 4+	G5	Kidney failure	<15	Treat and refer 4+	Treat and refer 4+	Treat and refer 4+
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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, 2022). 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 November 2024

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CKD is classified based on: • Cause (C) • GFR (G) • Albuminuria (A)				Albuminuria categories		
				Description and range		
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