CKD Risk Assessment Tool

CLASSIFY patients with chronic kidney disease (CKD) based on Cause (C), GFR (G), and Albuminuria (A).

CONSULT the "CKD Heat (Risk) Map" to help evaluate patients by GFR and albuminuria categories.

- **Colors:** Represent the risk of CKD progression, cardiovascular disease (CVD), and mortality (from lowest to highest).
- **Numbers:** a guide to the frequency of monitoring (number of times per year).
- **Screen:** if no other markers of kidney disease are present, CKD is not established – repeat eGFR and ACR annually. If CKD is present, this represents the lowest-risk category – continue annual monitoring of eGFR and ACR.
- **Treat:** initiate and/or intensify therapy, along with optimizing lifestyle modifications to reduce CV risk and slow CKD progression
- **Refer:** Indicates referral to nephrology services should be considered.

KNOW that the "CKD Heat (Risk) Map" reflects general parameters based on expert opinion and underlying comorbid conditions, disease state, and likelihood of impacting a change in management for any individual must be considered.

LEARN more about classifying, evaluating, and managing patients with CKD at
www.kidney.org/ckdintercept

ACCESS more tools and resources by scanning the QR code to the left or visiting:
www.kidney.org/professionals/clinician-tools-resources

CKD Heat (Risk) Map
Risk of CKD progression, cardiovascular (CV) disease, and mortality by GFR and albuminuria category

CKD is classified based on: • GFR (G) • Albuminuria (A)				Albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<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 m²) Description and range	G1	Normal or high	≥90	Screen 1	Treat 1	Treat and refer 2
	G2	Mildly decreased	60-89	Screen 1	Treat 1	Treat and refer 2
	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+

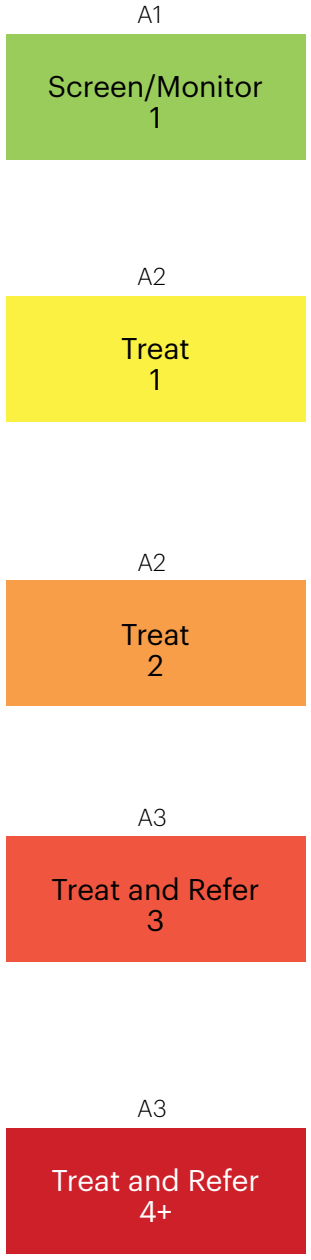
Low risk (if no other markers of kidney disease, no CKD)
Moderately increased risk
High risk
Very high risk

Diabetes management in chronic kidney disease: a consensus report by the American Diabetes Association (ADA) and Kidney Disease: Improving Global Outcomes (KDIGO). *Kidney Int.* 2022;102(5):974-989.

Example Considerations for Nephrology Referral

- Consistent eGFR <30 or consistent uACR >300 mg/g despite therapy
- Consistent uACR >300 (or uPCR ≥500) with hematuria
- Sustained >20% decrease or loss of 5 mL/min/1.73m² in eGFR over 1 year
- Nephrotic albuminuria uACR ≥2000 or uPCR ≥3500
- CKD and HTN refractory to treatment with ≥4 antihypertensive agents
- Persistent hyperkalemia, metabolic acidosis, anemia, CKD-MBD, and/or malnutrition
- Recurrent or extensive kidney stones
- Hereditary or uncertain cause of CKD
- Urinary red cell casts, RBC >20/high power field, sustained and not readily explained
- >3–5% 5-year risk of requiring kidney failure replacement therapy (KFRT)

Case Studies: Evaluating Risk



CASE STUDY: 44-YEAR-OLD WOMAN WITH AUTOSOMAL DOMINANT KIDNEY DISEASE (ADPKD)

Since her last follow-up 6 months ago, she has had some back discomfort. Her blood pressure is 126/76. Her eGFR has remained stable at >90 mL/min/1.73 m^2, and her ACR results are 10 mg/g. Based on the "CKD Risk Map," you know that: 1) she has CKD based on her diagnosis of ADPKD; 2) her CKD can be classified as G1/A1; 3) her risk of CKD progression and CVD is low; 4) her eGFR and ACR should be monitored at least once per year.

CASE STUDY: 55-YEAR-OLD MAN WITH OBESITY AND HYPERTENSION

He was hospitalized for acute kidney injury (AKI) in the setting of frequent ibuprofen use 6 months ago (in addition to his chronic diuretic and ACE inhibitor). His eGFR before his AKI was >90 mL/min/1.73 m^2; his prior ACR test revealed no albuminuria. However, his eGFR has now stabilized to 65 mL/min/1.73 m^2, and he has had persistent albuminuria of ~150 mg/g for over 3 months. Based on the "CKD Risk Map," you know that: 1) he has CKD based on elevated ACR for 3 months or more; 2) his CKD can be classified as G2/A2; 3) his risk of CKD progression and CVD is moderate; 4) treatment should be initiated to lower his ACR and CV risk; 5) a plan for attaining his blood pressure goal and healthy weight loss should be implemented/revisited; and 6) his eGFR and ACR should be monitored at least once per year.

CASE STUDY: 60-YEAR-OLD MAN WITH OBESITY AND LONG-STANDING HYPERTENSION

Within the past year, his eGFR results have remained ~50 mL/min/1.73m^2. His albuminuria is 50 mg/g. On exam, he has a blood pressure of 156/92. He also has obesity (BMI: 34.5 kg/m^2). The remainder of his exam is unremarkable. Based on the "CKD Risk Map," you know that: 1) his CKD can be classified as G3a/A2; 2) his risk of CKD progression and CVD is high; 3) treatment should be initiated to lower his ACR and CV risk; 4) a plan for attaining his blood pressure goal and healthy weight loss should be implemented/revisited; and 5) his eGFR and ACR should be monitored at least twice per year.

CASE STUDY: 53-YEAR-OLD MAN WITH TYPE 2 DIABETES AND HYPERTENSION

His eGFR has been around ~40 mL/ min/1.73 m^2 for the past two years. His ACR test shows he has 380 mg/g of albuminuria. On exam, his blood pressure is 150/90 with a heart rate of 78 beats per min. He has 1+ pitting edema along his lower extremities and decreased sensation along the dorsal aspect of his feet. Based on the "CKD Risk Map," you know that: 1) his CKD can be classified as G3b/A3; 2) his risk of CKD progression and CVD is very high; 3) treatment should be initiated to lower his ACR and CV risk; 4) a plan for attaining his blood glucose and blood pressure goals should be implemented/revisited; 5) referral to a nephrologist is recommended; and 6) his eGFR and ACR should be monitored at least 3 times per year.

CASE STUDY: 35-YEAR-OLD WOMAN WITH TYPE 1 DIABETES, HYPERTENSION, AND DYSLIPIDEMIA

She is on an ACE inhibitor and her blood pressure is at goal. Within the past 3 years, her eGFR has dropped from 46 mL/min/1.73m^2 to 28 mL/min/1.73m^2. Her current albuminuria consistently remains ≥300mg/g. Her lab results reveal that she has recently developed CKD-related mineral and bone disorder (CKD-MBD), with an iPTH of 220 pg/mL and serum phosphorus of 4.8 mg/dL. Based on the "CKD Risk Map," you know that: 1) her CKD can be classified as G4/A3; 2) her risk of CKD progression and CVD is very high (highest level of risk); 3) treatment should be initiated to lower her ACR and CV risk; 4) a plan for attaining her blood glucose, blood pressure, and lipid goals should be implemented/revisited; 5) referral to a nephrologist is recommended; and 6) her eGFR and ACR should be monitored 4 or more times per year.

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