

CKD Quick Reference Toolkit for PCPs



CKD Screening

- CKD can be silent, without symptoms during the early stages
- Detected with simple blood and urine tests for glomerular filtration rate and urine albumin

Screening Recommendations: Specialty Societies¹⁻³

- KDIGO and International Society of Nephrology recommend screening groups with at-risk factors
 - Hypertension, diabetes, cardiovascular disease, older age, or family history of CKD
- American Diabetes Association and KDIGO recommend:
 - UACR and eGFR for patients with T1D (starting at 5 years) and T2D (at diagnosis) annually or more if at high risk
 - Of 1.8 million people with T2D, 85% had ≥1 serum creatinine test in 1 year, but only 44% had UACR ordered (based on claims data)

Using an Online Calculator: Simple and Beneficial⁴

NKF and the American Society of Nephrology have convened a Task Force to focus on the use of race to estimate GFR. Read more about the task force [here](#).

Serum Creatinine: 1
 Serum Cystatin C:
 Age: 40
 Gender: ☐ Male ☒ Female
 Standardized Assays: ☒ Yes ☐ No ☐ Not S
 Adjust for body surface area: ☐ Yes ☒ No ☐ Not S

CKD-EPI creatinine equation (2021): 73 mL/min/1.73m²
 CKD-EPI creatinine-cystatin equation (2021): N/A mL/min/1.73m²
 CKD-EPI cystatin C equation (2021): N/A mL/min/1.73m²

For persons under 18 years of age, use the pediatric GFR calculator.

Is it CKD?
 Either of the following must be present for ≥3 months to be CKD:
 • GFR less than 60 mL/min/1.73m²
 • ACR ≥30 mg/g or other markers of kidney damage
 Click to learn more.

Equation used to estimate GFR?
☒ CKD-EPI Creatinine (2021)
☐ CKD-EPI Creatinine-Cystatin C (2021)
☐ CKD-EPI Cystatin C (2021)

What is the patient's ACR?
☒ <30 mg/g ☐ <9 mg/100mL
☐ 30-300 mg/g ☐ 3-30 mg/100mL
☐ >300 mg/g ☐ >30 mg/100mL

Based on the information supplied:
 GFR category is*: G2
 ACR category is**: A2
 CKD classification is: G2/A2
 Risk of progression is: Moderate
 Frequency of monitoring should be: Once per year
 Referral to a nephrologist is: Not needed

*Neither the category of GFR nor the category of albuminuria alone can fully capture prognosis of CKD. Persistent and increased albuminuria has been shown to be an independent risk factor for CKD progression.
 **In the absence of evidence of kidney damage, neither GFR category G1 nor G2 fulfill the criteria for CKD.
 ***ACR 30-300 mg/g for ≥3 months indicates CKD.

Diagnosis

Think in Stages, but Talk in Percentages⁵

	eGFR (mL/min/1.73 m ²)	Normal to Mild Albuminuria (A1) (<30 mg/g)	Moderate Albuminuria (A2) (30-299 mg/g)	Severe Albuminuria (A3) (≥300 mg/g)
1	Normal or high ≥90	Low risk	Moderately increased risk	High risk
2	Mildly decreased 60-89	Low risk	Moderately increased risk	High risk
3a	Mildly to moderately decreased 45-59	Moderately increased risk	High risk	Very high risk
3b	Moderately to severely decreased 30-44	High risk	Very high risk	Very high risk
4	Severely decreased 15-29	Very high risk	Very high risk	Very high risk
5	Kidney failure ≤15	Very high risk	Very high risk	Very high risk

Staging is for research or coding and guiding management

Patients are more comfortable with eGFR

eGFR is akin to a percentage (33 mL/min = 33%)



powered by cea

Risk Prediction

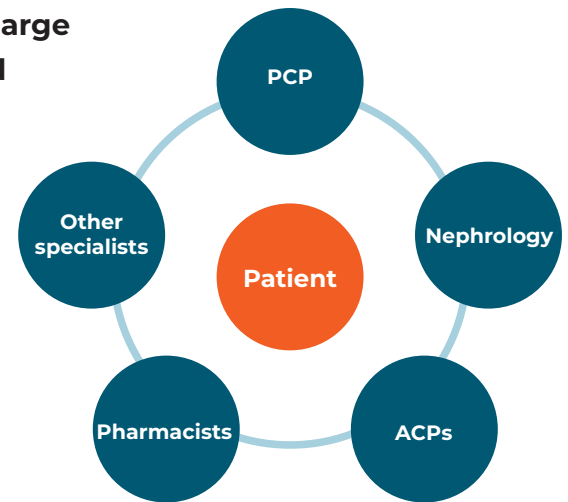
- Diabetes
- Hypertension
- Heart disease
- Obesity
- Family history of CKD
- Inherited kidney disorders
- Past damage to kidneys
- Comorbid organ disease
- Complicated pregnancy
- Premature birth
- Older age

Referral Awareness

Who should be in charge of the treatment and monitoring of CKD?

Answer:

Whoever is seeing the patient!



Referral Awareness

When to Refer to Nephrology⁶



Generally, patients with **eGFR <30 mL/min/1.73 m²** should be **comanaged with a nephrologist**

- Associated with decreased mortality and lessened need for emergent dialysis

Refer patient to nephrology earlier for:

- Rapid decrease in eGFR (rapid progression)
- Nephrotic syndrome
- Metabolic complications
- Unidentifiable cause for CKD
- Difficult-to-control hypertension
- Genetic kidney disease

What Will the Nephrologist Appreciate From the PCP?

Pertinent labs

- eGFR
- Creatinine
- Electrolytes
- UACR
- CBC

Pertinent history

- Recent symptoms
- Medical history
- Family history
- Accurate medication list and what has been tried
- Previous labs

Imaging

- Renal ultrasound

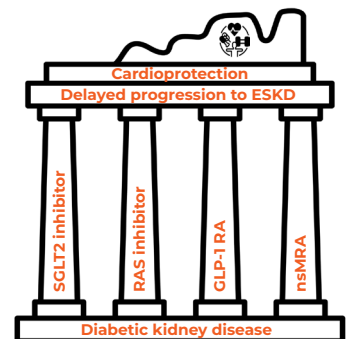
Starting medications

- SGLT2 inhibitor
- ACE inhibitor or ARB

Pillars of Treating Patients With CKD⁷

- “A patient of age 50 years with albuminuric **CKD without diabetes**, when treated with a **combination of ACE inhibitors/ARBs and SGLT2 inhibitors**, may experience about **7 additional years** free of kidney failure and death compared with a person not treated with these agents”

ACE, angiotensin-converting enzyme; ACP, advanced clinical practitioner; ACR, albumin-to-creatinine ratio; ARB, angiotensin II receptor blocker; CBC, complete blood count; CKD, chronic kidney disease; eGFR, estimated glomerular filtration rate; ESKD, end-stage kidney disease; GLP-1 RA, glucagon-like peptide-1 receptor agonist; KDIGO, Kidney Disease: Improving Global Outcomes; nsMRA, nonsteroidal mineralocorticoid receptor antagonist; PCP, primary care provider; RAS, renin-angiotensin system; SGLT2, sodium-glucose cotransporter 2; T1D, type 1 diabetes; T2D, type 2 diabetes; UACR, urine albumin-to-creatinine ratio.



References

1. kdigo.org/wp-content/uploads/2019/01/ISN_KDIGO_EarlyScreeningBooklet_WEB.pdf.
2. diabetesjournals.org/care/article/45/12/3075/147614/Diabetes-Management-in-Chronic-Kidney-Disease-A.
3. Folkerts. Mayo Clin Proc. 2021;96:975.
4. kidney.org/professionals/kdoqi/gfr_calculator.
5. kidney.org/kidneydisease/siemens_hcp_quickreference.
6. Kinchen. Ann Intern Med. 2002;137:479.
7. Vart. Clin J Am Soc Nephrol. 2022;17:1754.



powered by CEA