Chronic Kidney Disease (CKD) Screening & Referral

Providing insight to screening and suggested referral process to aid in improved health outcomes.

Kidney Disease affects ~ 15% of population but ~90% are unaware they there is a problem.

EARLY IDENTIFICATION and Screening: Allows for Risk Stratification
Early intervention and treatment
Reduction of Morbidity
Reduction of Mortality

This document can help you identify appropriate frequency and screening tests, and when A referral to a nephrologist may be appropriate. There are also additional resources listed.

Screen those who have risk factors

- Chronic Diabetes Type 2: Screen at time of diagnosis and then yearly.
  Type 1: Screen 5 years after diagnosis and then yearly.
  Hypertension–yearly
  Systemic Disease with renal implications (RA, HIV, Lupus, Hyper uricemia, Multiple Myeloma)
- History: Family history (first degree relative) of kidney disease
  Personal history of Acute Kidney Failure
- Urologic: Recurrent kidney stones
  Recurrent urinary tract infections (> 3 / year)
  Other problems such as structural renal tract disease
- Medications: High does or chronic NSAIDs / Nephrotoxic agents

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What screening labs should be order

Basic Metabolic Panel (BMP)
Comprehensive Metabolic Panel (CMP) or
Renal Function Panel

- Check GFR
- If <60, evaluate if urgent nephrology care is needed; if not, retest in 3 months—see guideline for more information.

Urinalysis for albuminuria (ACR)

- If after 1 test, ACR is greater than 300 mg/g, refer to nephrology.
- If ACR is 30—300 mg/g, retest in 3 months—see guidelines for more information.

- Two tests are required to confirm CKD Diagnosis
- For CKD Management, see CKD and Management Schedule on page 3 of this document.
- To access CKD Guidelines: https://kdigo.org/guidelines/ckd-evaluation-and-management

It is recommended that CKD screening and risk stratification must consist of a dual assessment of GFR and ACR. A duration of 3 months between tests in required to confirm CKD diagnosis.

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Screening outcomes and next steps

eGFR

- If > 60, continue to screen annually
- If < 60, suspect and retest in 30 months
  - If confirmed and ≥ 45, begin CKD management per CKD Risk Management Schedule (page 3 of this document).
  - If confirmed and < 45, refer to Nephrology
  - If not confirmed (i.e.> 60), continue to screen annually.

ACR

- If <30 mg/g, continue to screen annually
- If > 300 mg/g, refer to Nephrology
- If between 30—300 mg/g suspect CKD and retest in 3 months.
  - If confirmed, diagnose as Probable CKD and order a BMP.
    - If eGFR <45, refer to Nephrology
    - If eGFR ≥ begin CKD management per CKD Risk and Management Schedule
    - If not confirmed (i.e. ACR < 30mg/g), continue to screen annually.

Serum creatinine: Classification by estimated GFR

Category (CKD stage)	GFR (mL/min/1.73 m2)	Terms*
1	➢90	Normal or high
2	60 – 89	Mildly decreased
3a	45 – 59	Mildly to Moderately decreased
3b	30 – 44	Moderately to Severely decreased
4	15 – 29	Severely decreased
5	< 15	Kidney Failure

Albuminuria: Classification by ACR

Category	ACR (mg/g)	Terms*
A1	< 30	Normal to mildly increased
A2	30 – 300	Moderately increased
A3	➢300	Severely increased**

*The terms used for each category are relative to a young adult's level
** Including nephrotic syndrome (albumin excretion ACR > 2,220 mg/g

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CKD Risk and Management Schedule

CKD Risk Map
Prognosis of CKD by GFR and Albuminuria Category

				Albuminuria Category (ACR in mg/g)		
				A1	A2	A3
				Normal to Mildly increased	Moderately increased	Severely increased
				< 30 mg/g	30-299 mg/g	> 300 mg/g
eGFR Category (GFR in mL/min/1.73 m^2)	G1	Normal or high	≥90	Monitor 1X yearly	Monitor 1X yearly	Refer
	G2	Mildly decreased	60-89	Monitor 1X yearly	Monitor 2X yearly	Refer
	G3a	Mildly to moderately decreased	45-59	Monitor 2X yearly	Monitor 2X yearly / Refer*	Refer
	G3b	Moderately to severely decreased	30-44	Refer	Refer	Refer
	G4	Severely decreased	15-29	Refer	Refer	Refer
	G5	Kidney failure	<15	Refer	Refer	Refer

Monitor: Management in primary care could continue Without referral to nephrology. Monitoring is suggested Either 1x or 2x yearly per the table.
Refer*: Referral to nephrology should be consider. eConsult or other remote consultation may be prior to referring the patient.
Refer: Referral to nephrology is recommended.

Color Key

	Low risk (if no other signs, no CKD)
	Moderately increased risk
	High risk
	Very High Risk
	Highest Risk

Source: *modified from* Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease.
https://kdigo.org/guidelines/ckd-evaluation-and-management/ accessed 1/27/2022

These are general guidelines. Clinicians should use their discretion and individualize as needed for patients.

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Appropriate Referral to Nephrology and Other Resources

Refer to Nephrology when……

- Acute Kidney Infection or abrupt sustained fall in GFR.
- If eGRF < 45 (stage 3b) per guidelines
- A consistent finding of significant albuminuria
    - ACR > 300 mg/g or Albumin Excretion Rate > 300 mg/day;
    - Approximately equivalent to Protein to Creatinine Ration > 500 mg/g or
    - Protein Excretion Rate > 500 mg/24 hours
- Progress of CKD = Sustained decline if eGFR>5mL/min/1.73m2 per year.
- Urinary red cell casts, red blood cell > 20 per high field sustained and not readily explained.
- CKD and hypertension refractory to treatment with 4 or more anti-hypertensive agents.
- Persistent abnormalities of serum potassium
- Recurrent or extensive nephrolithiasis
- Heredity kidney disease.

Other Resources

CKD patients often have comorbidities, such as hypertension and diabetes. If your patients have access to local chronic care clinics focused on these comorbidities, your patient might benefit from referral to these clinics.

Kidney Smart a non-branded CKD education class that anyone can sign up for and take for free. Participants will learn about: 1) Causes of kidney disease, 2) CKD basics and lifestyle choices, 3) Basic diet and nutrition information, 4) Treatment options.
https://www.kidneysmart.org/

USCF prognosis calculator a repository of published geriatric prognostic indices where clinicians can go to obtain evidence-based information on patient's prognosis.
https://eprognosis.uscf.edu/about.php

CKD Vendor to assist in Care Management of Advanced States of CKD. For more information please contact your Highmark Representative.

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This Toolkit is intended to be a guide for practitioners to help with screening, referral, and medication management for patients that may be at risk for CKD or who are currently diagnosed with CKD. There are many risk factors that can contribute to CKD. Early detection, timely referral, and optimal medication management may reduce onset and delay progression of CKD.

References

•Kidney Disease: Improving Global Outcomes (KDIGO) Blood Pressure Work Group. KDIGO 2021 Clinical Practice Guideline for the Management of Blood Pressure in Chronic Kidney Disease. *Kidney Int*. 2021;99 (3S):S1–S87.

•Kidney Disease: Improving Global Outcomes (KDIGO) CKD Work Group. KDIGO 2012 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. *Kidney inter., Suppl*. 2013; 3:

•Kidney Disease: Improving Global Outcomes (KDIGO) Diabetes Work Group. KDIGO 2020 Clinical Practice Guideline for Diabetes Management in Chronic Kidney Disease. *Kidney Int*. 2020;98(4S):S1–S115.