Ontario Health
Cancer Care Ontario

KidneyWise Clinical Toolkit

The **KidneyWise Clinical Toolkit** (KidneyWise) is intended to provide guidance on the identification and management of chronic kidney disease (CKD) in primary care. KidneyWise also helps inform which individuals are likely to benefit from a referral to nephrology. KidneyWise is not appropriate for diagnosis or treatment of Acute Kidney Injuries due to an acute illness.

The Ontario Renal Network, an agency of the provincial government, now part of Ontario Health, is responsible for overseeing and funding the delivery of CKD services across Ontario. By establishing consistent standards and guidelines based on the best available evidence, along with information systems that measure performance, the Ontario Renal Network supports a continuously improving kidney care system in Ontario.

Clinical Algorithm

Can be used by primary care providers (PCPs) at point of care to:

- Identify high risk populations
- Order the appropriate tests to confirm diagnosis
- Best manage the disease

Evidence Summary

Offers PCPs further details regarding the Clinical Algorithm content including references that were used in the development of KidneyWise.

Outpatient Nephrology Referral Form

Outlining appropriate clinical scenarios that may require PCPs to request consultation with a nephrologist, as well as the appropriate investigations that should accompany the referral.

For more information on KidneyWise, visit **KidneyWise.ca**

For information on the Kidney Failure Risk Equation visit **ontariorenalnetwork.ca/en/kidney-care-resources/clinical-tools/primary-care/kfre**

List of acronyms used in this resources:

ACEI, angiotensin converting enzyme inhibitors
ACR, albumin-to-creatinine ratio
ARB, angiotensin-receptor blockers
BP, blood pressure
BPH, Benign prostatic hyperplasia
CBC, complete blood count
CKD, chronic kidney disease
eGFR, estimated glomerular filtration rate
GN, glomerulonephritis
HTN, hypertension
LTC, long-term care
NSAIDs, nonsteroidal anti-inflammatory drugs
PCP, Primary Care Provider
RAS, renin-angiotensin system
R+M, Routine and Microscopic
RBC, red blood cell
SGLT2, sodium-glucose transport protein 2

Need this information in an accessible format? 1-877-280-8538, TTY 1-800-855-0511, info@ontariohealth.ca

KidneyWise Algorithm

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DISCLAIMER: This tool is not appropriate for diagnosis or treatment of Acute Kidney injuries.

IDENTIFY high-risk CKD populations

- Hypertension (HTN)
- Diabetes mellitus
- Cardiovascular disease
- First degree relative with CKD
- First Nations, Inuit, Métis, or urban Indigenous people(s)

MEASURE eGFR and urine ACR

- If eGFR < 60, re-measure in 3 months, or sooner if clinical concern dictates (rapid decline or very low)
- If urine ACR ≥ 3, re-measure 1 or 2 times over next 3 months (abnormal result: at least 2 of 3 results ≥ 3)

CKD detection should be done in the absence of acute intercurrent illness or self-limited illness. Consider reversible causes prior to re-measuring (e.g. NSAIDs, contrast diagnostic imaging dye, BPH/urinary retention).

CONFIRM CKD diagnosis after 3 months

eGFR < 30 and/or ACR > 60
Person has CKD

Check electrolytes and urine R+M

Check CBC, Calcium, Phosphate, Albumin

Refer to nephrology

with co-morbid conditions and lab values with trends of urine ACR, eGFR, and BPs

Cardiovascular disease

First degree relative of CKD

eGFR 30–59 and/or ACR 3–60
Person has CKD

Monitor in Primary Care

Check electrolytes and urine R+M

Follow eGFR & urine ACR every 6 months

- If eGFR remains stable for 2 years, follow both measures yearly
- **FLAG:** If any of the following, refer to nephrology with co-morbid conditions and lab values with trends of urine ACR, eGFR, BPs
  - › eGFR < 30 or ACR > 60
  - › eGFR < 45 and rapid decline of > 5 ml/min within 6 months, repeated in 2-4 weeks
  - › 5-year Kidney Failure Risk Equation ≥ 5%
  - › Inability to achieve BP targets
  - › Significant electrolyte disorder
  - › RBC casts or hematuria (> 20 RBC/hpf) suggestive of GN/renal vasculitis

eGFR ≥ 60 and ACR < 3
Person does not have CKD

Re-measure annually for people with diabetes mellitus

Otherwise, re-measure less frequently unless clinical circumstances dictates

MANAGE in primary care

- Manage Hypertension
- Slow CKD progression
- Reduce risk factors
- Minimize further kidney injury

Managing CKD Patients in Primary Care

	Patients with CKD	Patients with CKD & Diabetes
Manage Hypertension	• Target BP < 120/90; • Consider a higher target (< 140/90) in frail individuals, LTC residents, previous stroke, limited life expectancy (< 3 years), polypharmacy (> 5 meds), and standing systolic BP < 110	• Target BP < 130/80 • using RAS inhibition, salt restriction and other anti-hypertensives as required
	• Use caution when treating systolic BP to target; risks may outweigh benefits when diastolic BP < 60	
Slow CKD progression	• **If ACR > 30 and BP not at target,** use an ACEI or ARB as first-line therapy for HTN	• **If ACR > 3,** use an ACEI or ARB as first-line therapy. • If BP already < 130/80, use ACEI or ARB cautiously, monitoring for signs and symptoms of hypotension
Manage Hyperlipidemia and Diabetes	• Lipid management: use statin if › Age ≥ 50, or › Age ≥ 18 with known coronary artery disease, prior stroke, or 10-year Framingham risk >10%	• Lipid management: use statin if › Age ≥ 18 • Diabetes management: › Target HbA1c to appropriate level using recommended therapies as per Diabetes Canada guidelines › Treat with SGLT2 inhibitors if type 2 diabetes and eGFR over 30
	• Lifestyle modifications including smoking cessation	
Minimize further kidney injury	• If eGFR <60, avoid nephrotoxins whenever possible (e.g., NSAIDS, IV, intra-arterial contrast) • If contrast necessary, consider oral hydration, withholding diuretics	

Refer to Sick Day Medication List (see Evidence Summary)