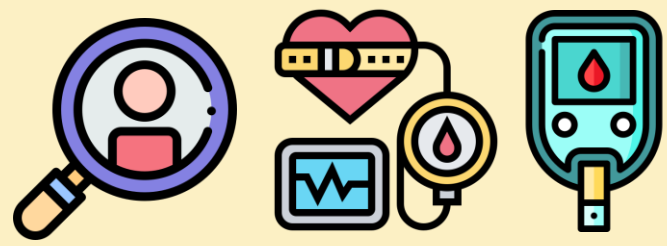# Chronic Kidney Disease (CKD) Early Identification and Intervention

CKD causes a global burden

CKD disproportionately affects socially disadvantaged populations

Determine At-Risk Individuals and Populations

Screen for CKD in individuals with hypertension, diabetes, and/or cardiovascular disease

Consider other factors including
Demographics, older age, race/ ethnicity
Other systemic diseases that impact kidneys
Genetic risk factors
Environmental exposures

Screening and Diagnosis of CKD

Measure kidney function
Serum creatinine
Serum Cystatin C if available for more accurate staging

Measure kidney injury
Urine albumin-to-creatinine ratio (UACR)
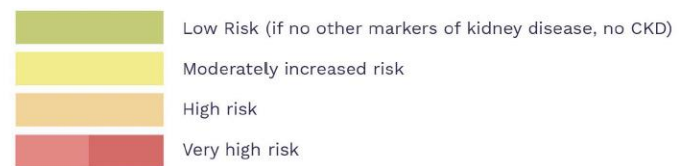Urine dipstick if UACR not available

Chronic Kidney Disease (CKD) Early Identification and Intervention

Risk stratify for appropriate staging

			Albuminuria categories Description and range		
			A1	**A2**	**A3**
CKD is classified based on: *Cause (C) *GFR (G) *Albuminuria (A)			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
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+

GFR categories (ml/min per 1.73 m²) Description and range

*Referring clinicians may wish to discuss with their nephrology service depending on local arrangements regarding monitoring or referring.

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

Use the KDIGO "heat map" to stage CKD based on estimated glomerular filtration rate (eGFR) and UACR

Individualized Re-screening
Based on individualized risk of progression

Risk reduction for CKD & CVD progression and complications

Lifestyle modification (e.g., physical activity; lower sodium intake)
Smoking cessation
Optimize blood pressure control
Optimize glycemic control
SGLT2 inhibitors in diabetic kidney disease
RAAS inhibition
Statins
Treat metabolic acidosis
Treat underlying cause of CKD
Avoid nephrotoxins (e.g., NSAIDs)
Adjust dosing of medications based on eGFR