

TYPE 2 DIABETES AND CHRONIC KIDNEY DISEASE



PRIMARY CARE
MANAGEMENT OF

CKD



T2D remains the leading cause of CKD

Approximately 30–40% of patients with T2D will develop CKD



CKD + T2D leads to a worse prognosis than T2D alone, including a higher risk of cardiovascular morbidity and all-cause mortality



CKD screening in people with T2D

How? UACR and eGFR

In the early stages of CKD, there are typically no symptoms, so screening is vital

Frequency? At least once a year, up to 4 times a year dependent on presence of other risk factors e.g. hypertension/CVD

Diagnosis and classification of CKD in people with T2D

CKD is defined as persistent (for at least 3 months) eGFR <60 mL/min/1.73 m², albuminuria (ACR ≥30 mg/g), or other markers of kidney damage.

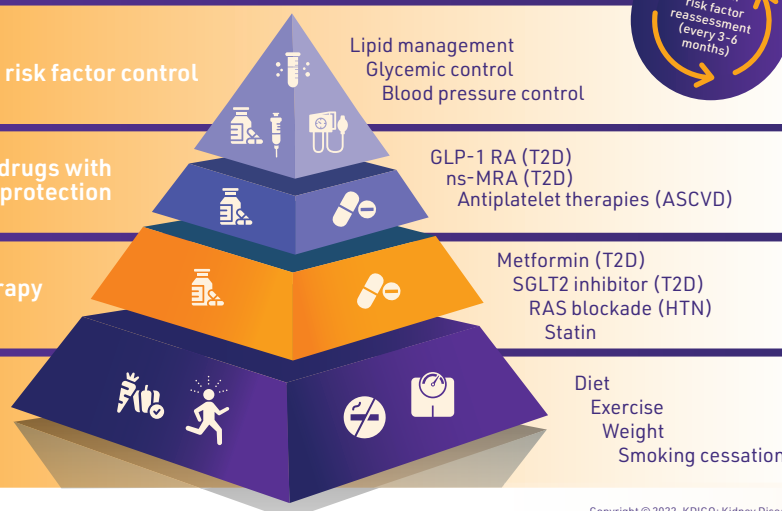
Low risk (if no other markers of kidney disease, no CKD)	High risk
Moderately increased risk	Very high risk

GFR categories (mL/min/1.73m ²) Description and range	Albuminuria categories Description and range			Action		
	A1	A2	A3			
G1	Normal or high	<30 mg/g <3 mg/mmol	30–299 mg/g 3–29 mg/mmol	≥300 mg/g ≥30 mg/mmol	Screen (1)	Treat (1)
G2	Mildly decreased				Screen (1)	Treat (1)
G3a	Mildly to moderately decreased				Treat (1)	Treat (2)
G3b	Mildly to severely decreased				Treat (2)	Treat and refer (3)
G4	Severely decreased				Treat and refer (3)	Treat and refer (4+)
G5	Kidney failure				Treat and refer (4+)	Treat and refer (4+)

Numbers: Indicate how often (per year) you should be screening or monitoring. Monitor, treat, or refer: Indicates the recommended course of action. CKD is classified based on Cause (C), GFR (G), Albuminuria (A).

Management of T2D + CKD in primary care

Aim of treatment: Slow CKD progression and reduce complications.



Management pearls

- Targets for HbA1c should be individualized considering CKD severity, ranging from <6.5% to <8.0%
- SGLT2 inhibitor should be introduced independent of HbA1c in those with T2D + CKD
- RAS inhibitors (ACEi or ARB) should be initiated/continued as first-line therapy at the maximal tolerated dose in those with hypertension and albuminuria
- Moderate- or high-intensity statin is advised for patients with T2D + CKD

Refer to or consult nephrology

Consult/refer to nephrology if:



Developing a treatment plan and primary care practitioner not confident in the recommended first-line treatment



Unexplained decline in eGFR (≥5 mL/min/1.73m²) over 12 months or sudden decline over days to weeks



Unexplained significant albuminuria or hematuria



Persistent hyperkalemia



Resistant hypertension



Hereditary kidney disease



Recurring kidney stones

References: Jittraknatee J, et al. *Sci Rep* 2020; 10(1): 6205; Shlipak MG, et al. *Kidney Int* 2021; 99: 34–47; De Boer IH, et al. *Diabetes Care* 2022; 45(12): 3075–3090; Kidney Disease: Improving Global Outcomes (KDIGO) Diabetes Work Group. *Kidney Int.* 2022; 102(5S): S1–S127.

Acronyms: ACEi: angiotensin-converting enzyme inhibitor; ARB: angiotensin receptor blockers; ASCVD: atherosclerotic cardiovascular disease; CKD: chronic kidney disease; eGFR: estimated glomerular filtration rate; GLP-1RA: glucagon-like peptide-1 receptor agonist; HbA1c: glycated hemoglobin; HTN: hypertension; RAS: renin-angiotensin-system; ns-MRA: non-steroidal mineralocorticoid receptor antagonist; SGLT2: sodium-glucose co-transporter-2; T2D: type 2 diabetes; UACR: urine albumin-creatinine ratio.

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