

Diabetic Kidney Disease

Practical bedside approach • Adults

01 RECOGNISE AND STAGE THE DISEASE

- Diabetic kidney disease (DKD) is CKD attributed to diabetes: **persistent albuminuria and/or reduced eGFR for ≥ 3 months**. Albuminuria may be absent.
- Measure **urine albumin-to-creatinine ratio (ACR) and eGFR**. Confirm raised ACR with repeat samples; exclude transient elevation from UTI, exercise or marked hyperglycaemia.
- ACR categories: **A1 <30, A2 30-300, A3 >300 mg/g**. Assess both GFR and albuminuria to estimate risk.
- Consider another diagnosis with active urine sediment, rapid eGFR decline, abrupt heavy proteinuria or systemic features; biopsy may be needed.

02 SET INDIVIDUAL TREATMENT GOALS

- **Protect the kidneys and cardiovascular system, not only lower glucose.** Control blood pressure, glycaemia, lipids and smoking.
- A practical BP goal is **<130/80 mmHg if tolerated**; individualise for frailty, orthostatic symptoms and measurement method.
- Individualise HbA1c, usually within **6.5-8.0%** in non-dialysis CKD. Avoid hypoglycaemia; HbA1c is less reliable in advanced CKD.

03 LAYER KIDNEY-PROTECTIVE THERAPY

- **ACE inhibitor OR ARB:** use in diabetes with hypertension and albuminuria; titrate to the highest tolerated dose. **Do not combine ACE inhibitor and ARB.**
- **SGLT2 inhibitor:** e.g. empagliflozin or dapagliflozin, for **type 2 diabetes + CKD with eGFR ≥ 20 mL/min/1.73 m²**, subject to product eligibility. Kidney protection is independent of glucose lowering.
- **Finerenone:** consider in type 2 diabetes with persistent ACR ≥ 30 mg/g despite maximal tolerated ACE inhibitor/ARB, **eGFR ≥ 25** and normal potassium; it can be added to an SGLT2 inhibitor.
- **Long-acting GLP-1 receptor agonist:** e.g. semaglutide, for appropriate patients with type 2 diabetes; improves glycaemia and weight and offers cardiovascular/kidney benefit.
- **Metformin:** use in type 2 diabetes if eGFR ≥ 30 ; reduce dose at eGFR 30-44 and reassess during acute illness. Use insulin when indicated, with CKD-aware dosing.
- **SGLT2 inhibitors and finerenone recommendations above apply to type 2 diabetes;** do not automatically extrapolate them to type 1 diabetes.

04 MONITOR SAFETY AND SUPPORT SELF-MANAGEMENT

- Check **creatinine and potassium 2-4 weeks** after starting/increasing an ACE inhibitor or ARB. A creatinine rise >30% needs assessment for reversible causes.
- With finerenone, check potassium at baseline, after about **4 weeks** and regularly thereafter. Review interactions and hyperkalaemia risk.
- An initial small eGFR dip with SGLT2 treatment is expected. Temporarily withhold during prolonged fasting, surgery or critical illness; teach dehydration and ketoacidosis warning signs.
- Limit sodium to **<2 g/day** (about 5 g salt). Aim for protein intake around **0.8 g/kg/day** in non-dialysis CKD; avoid high-protein diets and NSAIDs.
- Encourage exercise, healthy weight and smoking cessation. Use statin-based therapy when indicated for cardiovascular prevention.

05 FOLLOW-UP AND NEPHROLOGY REFERRAL

- Monitor ACR and eGFR at least annually, more often with established CKD or treatment changes.
- Refer for **eGFR <30, rapid decline, marked/rising albuminuria, uncertain diagnosis, resistant hypertension or persistent electrolyte disturbances.**

KEY MESSAGE

Combine kidney-protective treatment with blood pressure and glucose control. Follow both ACR and eGFR, and monitor potassium when using RAS blockade or finerenone.

REFERENCE

KDIGO 2022 Diabetes Management in CKD Guideline. Kidney Int. 2022;102(Suppl):S1-S127. KDIGO 2024 CKD Guideline. Kidney Int. 2024;105(Suppl):S117-S314. ADA-KDIGO Consensus Report. Diabetes Care. 2022;45:3075-3090.