AAFP

PHYSICIAN FACT SHEET

Diabetes and Chronic Kidney Disease

SCREENING

All patients with diabetes mellitus should be screened annually for chronic kidney disease (CKD) using two measures: estimated glomerular filtration rate (eGFR) and urinary albumin/creatinine ratio (uACR).[1] For people with type 2 diabetes, screening for CKD should start at diagnosis. For people with type 1 diabetes, it should start five years after diagnosis.

> "People with diabetes and chronic kidney disease (CKD) should be treated with a comprehensive approach to improve kidney and cardiovascular outcomes. This approach should include a foundation of lifestyle modification and self-management for all patients, upon which are layered first-line drug therapies according to clinical characteristics, ... additional drugs with proven kidney and heart protection as guided by assessments of residual risk, and additional interventions as needed to further control risk factors."
>
> — Kidney Disease: Improving Global Outcomes Clinical Practice Guideline for Diabetes Management in Chronic Kidney Disease[2]

LIFESTYLE INTERVENTIONS

All patients with diabetes and CKD should be counseled to consume a healthy diet, get regular physical activity and quit tobacco use (if applicable).[2]

REFERENCES

1. de Boer IH, Khunti K, Sadusky T, et al. Diabetes management in chronic kidney disease: a consensus report by the American Diabetes Association (ADA) and Kidney Disease: Improving Global Outcomes (KDIGO). *Diabetes Care.* 2022;45(12):3075-3090.
2. Kidney Disease: Improving Global Outcomes (KDIGO) Diabetes Work Group. KDIGO 2022 clinical practice guideline for diabetes management in chronic kidney disease. *Kidney Int.* 2022;102(5S):S1-S127.
3. Kidney Disease Outcomes Quality Initiative (K/DOQI). K/DOQI clinical practice guidelines on hypertension and antihypertensive agents in chronic kidney disease. *Am J Kidney Dis.* 2004;43(5 Suppl 1):S1-290.

MEDICATIONS

First-Line Medications	
Metformin	- Initiate for patients with eGFR ≥30 mL/min/1.73 m^2 - If eGFR <45 mL/min/1.73 m^2, reduce dose - If eGFR <30 mL/min/1.73 m^2, discontinue - If dialysis is initiated, discontinue
SGLT2 inhibitor	- Initiate for patients with eGFR ≥20 mL/min/1.73 m^2 and no contraindications - Continue until dialysis or transplant
ACE inhibitor or ARB	- Initiate for patients with diabetes, albuminuria and hypertension - Consider for patients with diabetes, albuminuria and normal blood pressure - Titrate up to maximum tolerated dose - Target blood pressure in diabetic kidney disease is <130/80 mm Hg
Statin	Recommended for all patients with diabetes and CKD

ACE = angiotensin-converting enzyme; ARB = angiotensin receptor blocker; CKD = chronic kidney disease; eGFR = estimated glomerular filtration rate; SGLT2 = sodium-glucose cotransporter-2.

Information from references 1-3.

Additional Risk-based Therapies	
GLP-1 RA	- Initiate if diabetes is not controlled with metformin and SGLT2 inhibitor - Recommended due to cardiovascular benefits
Nonsteroidal MRA (finerenone)	- Initiate for patients with eGFR ≥25 mL/min/1.73 m^2, uACR ≥30 mg/g and normal potassium • 20 mg daily if eGFR ≥60 mL/min/1.73 m^2 • 10 mg daily if eGFR is 25–59 mL/min/1.73 m^2 - Monitor K^+ at 1 month after initiation and then every 4 months - Hold if K^+ is >5.5 mEq/L, and consider concomitant medication or diet adjustments - If previously held for hyperkalemia and patient's K^+ returns to ≤5.0 mEq/L, restart at 10 mg daily
Other antihypertensive medications	
Antiplatelet therapy	
Other lipid-lowering agents	

eGFR = estimated glomerular filtration rate; GLP-1 RA = glucagon-like peptide-1 receptor agonist; K^+ = serum potassium; MRA = mineralocorticoid receptor antagonist; SGLT2 = sodium-glucose cotransporter-2; uACR = urinary albumin/creatinine ratio.

Information from references 1 and 2.

This resource was developed independently by AAFP and made possible in part by financial support from Bayer.

EDU25024393