Statins are recommended to reduce cardiovascular risk. Most people with CKD die of cardiovascular disease before they reach end-stage renal disease.

Renin-angiotensin-aldosterone system (RAAS) inhibitors are recommended as first-line therapy to slow CKD progression and reduce cardiovascular risk, especially in individuals with hypertension and proteinuria.

Sodium-glucose cotransporter 2 (SGLT2) inhibitors slow the progression of CKD, reduce the incidence of cardiovascular events and improve mortality.

Blood pressure controlled within the target range reduces the risk of cardiovascular disease, CKD progression and mortality.

Finerenone, a selective nonsteroidal mineralocorticoid receptor antagonist, reduces the risk of kidney and cardiovascular events for patients with CKD and type 2 diabetes

Hyperkalaemia
Patients with CKD often have hyperkalaemia, these patients should be managed appropriately as per local and national guidance. The following may be required:

- Dietary potassium restrictions
- Sodium bicarbonate
- Potassium binders (e.g sodium zirconium cyclosilicate or patiromer)
- Diuretics

Immunisations
To prevent infection, offer immunisations for influenza, pneumococcal, covid and hepatitis B as the national guidelines.

Acute Illness
If any of the four pillar medications have been discontinued during an acute illness, ensure the affected person and their healthcare provider know when they will restart.

Failure to restart these medications after the event/procedure may lead to unintentional harm.

Referral criteria

Patients should be referred to a nephrology specialist if there is:

- A five-year risk of needing renal replacement therapy of greater than 5% (measured using the 4-variable Kidney Failure Risk Equation)
- Accelerated progression of CKD (a sustained decrease in eGFR of 25% or more within 12 months)
- A uACR of ≥70 mg/mmol, unless associated with diabetes mellitus
- A uACR of ≥30 mg/mmol, together with persistent haematuria, after exclusion of a UTI
- Uncontrolled hypertension
- A rare or genetic cause of CKD
- Suspected renal artery stenosis
- A suspected complication of CKD

Further reading:

1. Chronic kidney disease: assessment and management. (2021). National Institute for Health and Care Excellence (NICE). *https://www.nice.org.uk/guidance/ng203*
2. KDIGO 2024 Clinical Practice Guideline for the Evaluation and Management of Chronic Kidney Disease. (2024). Kidney Disease Improving Global Outcomes (KDIGO). *https://kdigo.org/wp-content/uploads/2024/03/KDIGO-2024-CKD-Guideline.pdf*
3. Management of patients with CKD. (2025). UK Kidney Association. https://www.ukkidney.org/health-professionals/information-resources/uk-eckd-guide/management-patients-ckd

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Chronic Kidney Disease (CKD)

Delaying progression

UKRPG

CKD is defined as abnormalities of kidney structure or function, present for a minimum of 3 months, with implications for health. CKD is classified based on the Cause, GFR category (G1–G5) and Albuminuria category (A1–A3). CKD is progressive with increasing risk of cardiovascular events as kidney function deteriorates.

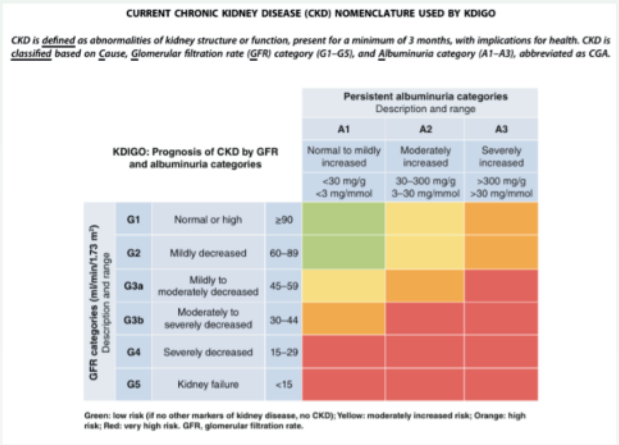
Many of those who reach end-stage kidney disease experience a poor quality of life. The identification of CKD begins a long journey for patients that has a direct impact on their lifestyle and future health outcomes.

This leaflet suggests evidence-based strategies to delay the progression of CKD and reduce the risk of kidney failure. A controlled managed CKD decline and optimising medication throughout the journey, is beneficial to patients.

CKD Background

There are many patients living with CKD, including those who have yet to be diagnosed. Early identification requires greater testing of Albumin Creatinine Ratio (ACR) and improved coding in primary care.

Once a diagnosis of CKD is confirmed, monitoring for disease progression should include, measuring eGFR and urine ACR; blood pressure; a full blood count to exclude renal anaemia; and serum calcium, phosphate, vitamin D, and parathyroid hormone tests to exclude renal metabolic and bone disorders, depending on the severity of CKD.



CURRENT CHRONIC KIDNEY DISEASE (CKD) NOMENCLATURE USED BY KDIGO

CKD is defined as abnormalities of kidney structure or function, present for a minimum of 3 months, with implications for health. CKD is classified based on Cause, Glomerular filtration rate (GFR) category (G1–G5), and Albuminuria category (A1–A3), abbreviated as CGA.

KDIGO: Prognosis of CKD by GFR and albuminuria categories

GFR categories (ml/min/1.73 m²) Description and range				Persistent albuminuria categories Description and range		
				A1	A2	A3
				Normal to mildly increased	Moderately increased	Severely increased
				<30 mg/g <3 mg/mmol	30–300 mg/g 3–30 mg/mmol	>300 mg/g >30 mg/mmol
	G1	Normal or high	≥90			
	G2	Mildly decreased	60–89			
	G3a	Mildly to moderately decreased	45–59			
	G3b	Moderately to severely decreased	30–44			
	G4	Severely decreased	15–29			
	G5	Kidney failure	<15			

Green: low risk (if no other markers of kidney disease, no CKD); Yellow: moderately increased risk; Orange: high risk; Red: very high risk. GFR, glomerular filtration rate.

The key aims of CKD management are to:

1. Slow the progression of CKD
2. Reduce the risk of cardiovascular disease
3. Treat and manage complications
4. Prepare for dialysis or transplantation

For this to happen, people must be identified and appropriately referred to specialist kidney services.

This leaflet will focus on aims 1 and 2.

Identify those at risk of CKD progression

Risk factors for CKD progression:

- Cardiovascular disease
- AKI
- Hypertension
- Diabetes
- Medications that can affect kidney function, such as calcineurin inhibitors, lithium and long-term NSAID use
- Multisystem diseases, such as SLE
- Family history of End-Stage Kidney Disease
- Structural urological conditions
- Minority ethnic groups
- Smoking
- Obesity

Delaying the progression of CKD

Offer lifestyle advice to those with or at risk of CKD and signpost to local resources where required:

- Regular exercise
- Maintain healthy weight
- Support smoking cessation
- Healthy diet
- Alcohol within healthy limits
- Mental health support

In addition to lifestyle advice as above, **the four pillars of CKD management** should be utilised where applicable to help **delay the progression of CKD**:

1. Statins
2. Renin-angiotensin-aldosterone system (RAAS) inhibitors
3. Sodium-glucose cotransporter 2 (SGLT2) inhibitors
4. Finerenone

Offer to adults with Type 2 diabetes and CKD (eGFR 20–90ml/min/1.73m^2):

1. A statin to reduce cardiovascular risk. Atorvastatin is often chosen.
2. Renin-angiotensin-aldosterone system inhibitors (ACE-inhibitor or Angiotensin receptor blocker) titrated to the maximum tolerated dose.
3. SGLT-2 inhibitor according to NICE guidance if uACR ≥ 3 mg/mmol. Counsel on risks of diabetic ketoacidosis, sick day rules, risk of UTI/fungal infections. Consider adjusting sulfonylureas/insulin where eGFR > 45ml/min and HbA1c < 58mmol/mol to mitigate risk of hypoglycaemia.
4. A further blood pressure agent to target blood pressure (BP) < 140/90mmHg, unless uACR greater than 70mg/mmol when BP should be less than 130/80mmHg.
5. Consider Finerenone as an add on therapy in patients with an eGFR 25-60ml/min, uACR > 3mg/mmol and potassium ≤ 5mmol/l

Offer to adults without Type 2 diabetes and CKD (eGFR 20–45ml/min/1.73m^2) or CKD (eGFR 45–90ml/min/1.73m^2) and uACR >22.6mg/mmol)

1. A statin to reduce cardiovascular risk. Atorvastatin is often chosen.
2. Renin-angiotensin-aldosterone system inhibitors (ACE-inhibitor or Angiotensin receptor blocker) titrated to the maximum tolerated dose.
3. SGLT-2 inhibitor according to NICE guidance if uACR ≥ 3 mg/mmol. Counsel on risks of ketoacidosis, sick day rules, risk of UTI/fungal infections.
4. A further blood pressure agent to target blood pressure (BP) < 140/90mmHg, unless uACR greater than 70mg/mmol when BP should be less than 130/80mmHg.