NHS South West London

Visual Summary of Pathway for Managing and Treating Chronic Kidney Disease for Adults in Primary Care

CKD Classification by eGFR and Albuminuria

eGFR (mL/min/1.73 m²)	Albuminuria categories (albumin : creatinine ratio) A 1 < 3 mg/mmol	A 2 3–30 mg/mmol	A 3 > 30 mg/mmol
G1 ≥ 90	No CKD	G1 A2	G1 A3
G2 60–89	No CKD	G2 A2	G2 A3
G3a 45–59	G3a A1	G3a A2	G3a A3
G3b 30–44	G3b A1	G3b A2	G3b A3
G4 15–29	G4 A1	G4 A2	G4 A3
G5 < 15	G5 A1	G5 A2	G5 A3

- Green: Low or no risk – test once/year
- Yellow: Moderately increased risk: Test once/year
- Orange: High risk – Test 2 times/year
- Red: Vey high risk – Test 3 times/year
- Deep red: Extremely high risk – Test 4+ times/year

Chronic kidney disease is defined as abnormalities of kidney function or structure present for more than 3 months, with implications for health. This includes all people with markers of kidney damage and those with a glomerular filtration rate (GFR) of less than 60mL/min/1.73m² on at least 2 occasions separated by a period of at least 90 days (with or without markers of kidney damage)

Offer testing for CKD using estimated Glomerular Filtration Rate (eGFR), serum creatinine and urinary ACR (uACR) to people with any of the following risk factors (see CKD classification table above for eGFR testing frequency if CKD diagnosis confirmed). Confirm an eGFR result of less than 60 ml/min/1.73 m² in an adult not previously tested by repeating the test within 2 weeks. Allow for biological and analytical variability of serum creatinine (±5%) when interpreting changes in eGFR. If diagnosis confirmed, identify the rate of progression with a minimum of 3 GFR estimations over a period of not less than 90 days.

- Diabetes
- Hypertension –every 1-5 years, yearly if BP uncontrolled
- History of acute kidney injury (monitor for 3 years even if function back to baseline)
- Cardiovascular disease (ischaemic heart disease, chronic heart failure, peripheral vascular disease or cerebral vascular disease)
- Structural renal tract disease, recurrent renal calculi or prostatic hypertrophy
- Multisystem disease e.g., systemic lupus erythematosus (SLE)
- Family history of end-stage kidney disease (GFR category G5) or hereditary kidney disease
- Gout
- Incidental detection of haematuria or proteinuria
- On nephrotoxic agents such as, lithium, calcineurin inhibitors, sulphasalazine, long term chronic use of Non-steroidal anti-inflammatory drugs (NSAIDS)
- Solitary functioning kidney

eGFR ≥60
CKD G1 or G2
eGFR ≥ 60 normal unless evidence of kidney disease
- Structural abnormality or
- Albuminuria or
- Haematuria with albuminuria

eGFR 45-59
CKD G3a

eGFR 30-44
CKD G3b

Moderate decrease in GFR, with or without other evidence of kidney damage. If new, confirm with repeat within 2 weeks

eGFR 15-29
CKD G4

Severe decrease in GFR +/- other evidence of kidney damage

eGFR <15
CKD G5

Kidney failure

Do not adjust eGFR for ethnicity
See NICE CKD guidance

Measure proteinuria with uACR (not standard reagent strips) in all patients at risk of or with confirmed CKD
If new & uACR 3-70mg/mmol repeat early morning sample

uACR 3-30 mg/mmol
Albuminuria (A2)

uACR >30 mg/mmol
Albuminuria (A3)

Albuminuria confirms CKD and increased cardiovascular risk

uACR >70 / PCR 100

High risk of CKD progression

uACR>250 / PCR >300

Nephrotic range Urgent Referral

Ensure CKD SNOMED code is entered to patients records- see below table

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Investigations

- All: Blood pressure, U&Es, eGFR, uACR, HbA1C (to exclude diabetes or assess control if known diabetes), Lipids
- FBC in CKD 3b-5 to check Hb in target 100-120 g/L. If below target exclude other causes including iron deficiency, folate/B12 deficiency, haemolysis

Is a renal ultrasound required?

Renal imaging is not routinely required in stable CKD

Criteria for ultrasound:

- Accelerated progression of CKD (fall in GFR by 25% or more in 1 year or by more than 15 mL/min/1.73m^2)
- Consider if a new diagnosis of CKD G4 or G5 if not known to CKD services
- Visible or persistent invisible haematuria (see SWL London Urology Pathways)
- Symptoms of urinary tract obstruction e.g. urinary retention, decreased or altered urine flow, hesitancy, loin pain increased urgency and nocturia, incontinence
- Family history of polycystic kidney disease and are older than 20 years old (advise adults with a family history of hereditary kidney disease about the implications of an abnormal result before a renal ultrasound scan is arranged for them)

Management in Primary Care

Agree self-management plan with patient which includes:

- Lifestyle advice: smoking cessation, maintain a health weight, exercise, healthy diet, salt reduction
- Controlling blood pressure: encourage Home BP Monitoring (HBPM). See NHSE guidance on HBPM
- Manage cardiovascular risks
- Stop/review nephrotoxic drugs such as NSAIDS, lithium, sulphasalazine
- Encourage vaccination: Influenza, Pneumococcal and COVID-19
- Consider risk of acute kidney injury, CKD progression and offer patient education
- Follow the London Kidney Network's '3 within 3 - LKN CKD Optimisation Pathway'
- See patient leaflets: Kidney Care UK. Chronic kidney disease patient information booklet

Cardiovascular

eGFR <60 mL/min/1.73 m^2 and or/albuminuria are significant risk factors for cardiovascular disease

CKD with or without Diabetes	**Step 1 Maximum intensity ACEi/ARB**	• Maximise ACEi or ARB in people with diabetes if uACR ≥ 3mg/mmol **OR** in people without diabetes if uACR ≥ 70 mg/mmol • Maximise ACEi or ARB in people with hypertension and uACR ≥ 30 mg/mmol • Do not combine ACEi and ARB	**Statin** - Offer all patients with CKD atorvastatin 20mg once daily for the primary or secondary prevention of CVD - Increase dose if a greater than 40% reduction in non-HDL cholesterol is not achieved. If patient unable to tolerate higher dose, consider dose reduction and seek specialist advice.
	Step 2 +/- SGLT2i (Either dapagliflozin OR Empagliflozin)	**Dapagliflozin** • Add-on to optimised care including the highest tolerated licensed dose of ACEi or ARBs (unless contraindicated) **AND** • eGFR 25 - 75 ml/min/1.73m^2 **AND EITHER** -have type 2 diabetes **OR** -have a uACR of ≥ 22.6 mg/mmol **Empagliflozin** • Add-on to optimised care including the highest tolerated licensed dose of ACEi or ARBs (unless contraindicated) **AND** • eGFR of 20 – 45ml/min/1.73m^2 **OR** • eGFR 45-90ml/min/1.73m^2 **AND EITHER** - a uACR≥ 22.6 mg/mmol **OR** - type 2 diabetes	
CKD with Diabetes	**Step 3 +/- Finerenone**	Recommended as an option for treating stage 3 and CKD (with albuminuria) associated with type 2 diabetes if: • It is an add-on to optimised care including the highest tolerated licensed dose of ACEi or ARBs and SGLT2i (unless contraindicated) **AND** • The person has an eGFR ≥25 ml/min/1.73m^2	

Blood pressure control

- Monitor BP at least annually
- Target BP:
  - <140/90 mmHg (uACR <70)
  - <130/80 mmHg (uACR ≥ 70)
  - < 150/90 mmHg (for over 80s)
- Tolerate a degree of systolic hypertension in the elderly and those at increased risk of falls
- If uACR ≥ 30g/mmol or patient has diabetes: offer ACEi or ARB first line (avoid if Potassium (K^+) >5 mmol/L)
- A small rise in creatinine (Cr or a mild fall in eGFR values is expected with ACEi/ARB therapy.
  - Check Cr, eGFR and K+ before start, 1-2 weeks after starting and after a dose change
- If Cr increases by ≥ 30% or eGFR falls by ≥ 25% during first 2 weeks on ACEi/ARB, repeat tests, stop drug, consider other causes (e.g. volume depletion, concurrent NSAID usage) and seek specialist advice- Follow SWL Hypertension Guidance

Mineral metabolism

Mineral metabolism is disturbed in most patients with advanced CKD (G4 and G5)

- PTH and Vit D level testing is not recommended in primary care unless requested by a specialist

Metabolic acidosis:

- Consider starting sodium bicarbonate 500mg twice daily if acidaemia present (serum bicarbonate <20 mmol/L) and eGFR <30 mL/min. Recheck level at next routine CKD check

Hyperkalaemia

- If K+ > 6 mmol/L check no haemolysis refer to UKKA Management of hyperkalaemia in the community
- Check diet and offer lifestyle- diet ,fluids and exercise sheet | Kidney Care UK
- Stop NSAIDs and LoSalt. Stop K+ retaining diuretics such as spironolactone
- Consider reducing the dose of ACEi/ARB but the benefits of continuing the drugs may outweigh the potential risks of mild-moderate high K^+)
- Seek specialist advice if serum potassium persistently >6 mmol/L
- Potassium binders may be initiated and continued in secondary care in patients with CKD 3b to G5 in line with local prescribing guidelines and NICE recommendations

Reasons for Referral to Nephrology

Refer adults with CKD for specialist assessment (considering their wishes and comorbidities) if they have any of the following:

- **5-year risk of needing renal replacement therapy of greater than 5%** (measured using the 4-variable Kidney Failure Risk Equation (KFRE). KFRE is also available as an Excel calculator.
- **Rapidly progressive fall in eGFR**
  - a sustained decrease in eGFR of 25% or more and a change in eGFR category within 12 months
  - a sustained decrease in eGFR of 15 ml/min/1.73 m^2 or more per year
- **Proteinuria:**
  - ACR of 70 mg/mmol or more, unless known to be caused by diabetes and already appropriately treated
  - ACR of more than 30 mg/mmol (ACR category A3), together with nonvisible haematuria. If urological investigations not indicated/negative and uACR ≤ 30 mg/mmol then monitor and manage as CKD in primary care
- **Uncontrolled hypertension:** Remains poorly controlled (above the person's individual target) despite the use of at least 4 antihypertensive medicines at therapeutic doses (see SWL hypertension guideline)
- **Suspected renal artery stenosis:** If ACEi or ARB induced fall in eGFR (eGFR falls by ≥ 30% or creatinine rises by ≥ 30%) during first 2 weeks on ACEi/ARB, repeat tests, stop drug, consider other causes (volume depletion, concurrent NSAID use) and seek specialist advice. If no other cause of deterioration identified, refer for further investigation of possible renal artery stenosis
- **Known or suspected rare or genetic causes of CKD** e.g. autosomal dominant polycystic kidney disease, SLE, vasculitis, myeloma

Coding of CKD in Primary Care

eGFR/uACR	Description ID	SNOMED code
eGFR>90ml/min/1.73m2	Chronic kidney disease stage 1 (interim if non-proteinuric markers of CKD)	2767383018
and		
uACR<3mg/mmol	CKD G1A1 (if non-proteinuric markers of CKD)	2426331000000114
3<uACR<30mg/mmol	CKD G1A2	2426381000000113
uACR>30mg/mmol	CKD G1A3	2426511000000114
60<eGFR<90ml/min/1.73m2	Chronic kidney disease stage 2 (interim if non-proteinuric markers of CKD)	2767384012
and		
uACR<3mg/mmol	CKD G2A1 (if non-proteinuric markers of CKD)	2426601000000111
3<uACR<30mg/mmol	CKD G2A2	2426691000000116
uACR>30mg/mmol	CKD G2A3	2426821000000118
45<eGFR<60ml/min/1.73m2	Chronic kidney disease stage 3 (interim)	2773184015
and		
uACR<3mg/mmol	CKD G3aA1	2427381000000110
3<uACR<30mg/mmol	CKD G3aA2	2427401000000110
uACR>30mg/mmol	CKD G3aA3	2427451000000111
30<eGFR<45ml/min/1.73m2	Chronic kidney disease stage 3 (interim)	2773184015
and		
uACR<3mg/mmol	CKD G3bA1	2427751000000117
3<uACR<30mg/mmol	CKD G3bA2	2427801000000112
uACR>30mg/mmol	CKD G3bA3	2427851000000113
15<eGFR<30ml/min/1.73m2	Chronic kidney disease stage 4 (interim)	2767385013
and		
uACR<3mg/mmol	CKD G4A1	2428021000000111
3<uACR<30mg/mmol	CKD G4A2	2428091000000114
uACR>30mg/mmol	CKD G4A3	2428141000000115
eGFR<15ml/min/1.73m2	End stage renal disease **OR**	3517959016
and	Chronic kidney disease stage 5 **OR**	2767154014
uACR<3mg/mmol	CKD G5A1	2428191000000113
3<uACR<30mg/mmol	CKD G5A2	2428281000000117
uACR>30mg/mmol	CKD G5A3	2428331000000110
3<uACR<30mg/mmol	Albuminuria (interim)	410631017
uACR>30mg/mmol	Grade A3 albuminuria (interim)	3515025016

References and links:

1. NICE guideline [NG203] Chronic kidney disease: assessment and management. Published: 25 August 2021. Last updated: 24 November 2021.
2. NHSE guidance on home blood pressure monitoring
3. Kidney Care UK, the UK's leading kidney patient support charity | Kidney charity
4. Combination use of medicines from different classes of renin-angiotensin system blocking agents: risk of hyperkalaemia, hypotension, and impaired renal function—new warnings - GOV.UK (www.gov.uk) Published December 2014. Available via
5. NICE Technology appraisal guidance [TA775] Dapagliflozin for treating chronic kidney disease. Published: 09 March 2022.
6. NICE Technology appraisal guidance [TA942] Empagliflozin for treating chronic kidney disease. Published: 20 December 2024.
7. NICE Technology appraisal guidance [TA775] Finerenone for treating CKD in type 2 diabetes. Published: 23 March 2023.
8. Lowering your potassium levels | Kidney Care UK Accessed 10/01/2025
9. Refer to current BNF or Summary of Product Characteristics (SPC) for full medicines information.