Diagnosis & Management of Chronic Kidney Disease in Adults
To be used in conjunction with full local guidelines (2017 version)

Patient groups requiring annual CKD screening

Diabetes mellitus
Hypertension
Vascular disease (heart, brain, peripheral) or CCF
Risk of obstruction or structural renal disease (bladder outflow obstruction, stones, neurogenic bladder, urological surgery)
Multisystem disease (e.g. SLE, myeloma, vasculitis, rheumatoid arthritis)
Opportunistic proteinuria or haematuria on urine dipstick
Acute kidney injury – for at least 2-3 years even if back to baseline
Medications incl. NSAIDS, ACE-I or ARB, diuretics, aminosalicylates, lithium
Family history of known hereditary kidney disease or kidney failure

NICE recommend screening to include eGFR, urine dipstick and urine ACR

How to classify CKD

GFR Category	eGFR (ml/min/1.73m$^{2)}$
G1	≥90 (+ other markers of kidney disease)
G2	60-89 (+ other markers of kidney disease)
G3a	45-59
G3b	30-44
G4	15-29
G5	<15

ACR Category	ACR (mg/mmol)
A1	Less than 3
A2	3-30
A3	Greater than 30

List the GRF category first, then the ACR category, e.g. CKD category G2A3

Brief Management Guidelines

- Give lifestyle advice incl. smoking cessation, weight loss, exercise, salt restriction
- Stop NSAIDs if possible. Review medication doses. Give 'sick day rules' leaflet.
- Suggest own BP meter and recording of home BP (validated with upper arm cuff)

	Target BP
Non-DM with ACR<70mg/mmol	SBP 120-140 DBP < 90
DM **or** non-DM with ACR>70mg/mmol	SBP 120-130 DBP < 80

- Use ACE-I or ARB when:
  - *DM, and an ACR of ≥3mg/mmol (ACR category A2 or A3);*
  - *HTN, and an ACR of ≥30mg/mmol (ACR category A3);*
  - *An ACR ≥ 70mg/mmol - irrespective of HTN or cardiovascular disease*
- Cardiovascular risk reduction, incl. statin use:
  - All pre-dialysis CKD to be offered atorvastatin 20mg daily
  - Target 40% reduction in non-HDL cholesterol
  - Aspirin can be used for *secondary* prevention, but not primary
- Check Hb when eGFR<30ml/min/1.73m^2
- No need for routine bone biochemistry check until eGFR<30ml/min/1.73m^2
- Immunise against influenza yearly, pneumococcus every 5 years

Suggested Frequency of Review

<table>
<tr><td colspan="2" rowspan="2"></td><td colspan="3">ACR Category</td></tr>
<tr><td>A1</td><td>A2</td><td>A3</td></tr>
<tr><td rowspan="6">GFR Category</td><td>G1</td><td colspan="2" rowspan="3">Annually</td><td rowspan="3">6-monthly</td></tr>
<tr><td>G2</td></tr>
<tr><td>G3a</td></tr>
<tr><td>G3b</td><td colspan="2">6 monthly</td><td rowspan="2">4 monthly</td></tr>
<tr><td>G4</td><td colspan="2">4-6 monthly</td></tr>
<tr><td>G5</td><td colspan="3">At least every 3 months</td></tr>
</table>

Referral or Discussion criteria

Acute kidney injury*
Accelerated hypertension*
eGFR less than 30 ml/min/1.73m^2, i.e. GFR category G4 or G5
Accelerated progression of CKD (see full guidelines)
ACR>70mg/mmol*
Invisible haematuria + ACR>30mg/mmol
Hypertension remaining poorly controlled despite at least 4 antihypertensives*
Suspected renovascular disease (flash pulmonary oedema, > 30% rise in creatinine on ACEi/ARB, hypertension with low potassium)*
Known or suspected rare or genetic causes of CKD

*irrespective of eGFR

Criteria are not exhaustive. Some patients in these groups may not need referral e.g. if other morbidity makes intensive CKD management irrelevant or clinically inappropriate.

If your patient does not fit one of the above criteria, please state specific reason why a referral is requested or the question to be answered.

If it is not clear from the given information why your patient needs to be seen in secondary care, the referral may be dealt with by giving advice instead.

Minimum data set for referral

At least two eGFR results (to assess rate of change), with one within the last 3 months
Historical eGFR results if available
Recent urine ACR and urine dip for haematuria (within 3 months)
Blood Pressure
Past medical history
Up-to-date drug list
Ultrasound of urinary tracts is desirable in all cases, and mandatory if obstruction is suggested by history