# Identification of CKD in **Primary Care**



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Prevention of ESRD matters, as it has worse survival rates than colorectal, prostate, and breast cancer.[1] Microalbuminuria and eGFR <60 ml/min/1.73 m² are independent and amplifying predictors of mortality risk.[2]

1. Identify **Individuals** at Risk of CKD[3-7]

## Key Clinical Risk Factors:[3-6]

- Hypertension
- CVD
- Diabetes
- Obesity

## Other Groups at Risk of CKD:[3-5]

- Previous history of AKI
- Family history of kidney failure
- Structural renal tract disease
- Recurrent nephrolithiasis
- Prostatic hypertrophy
- Gout

Evaluate kidney function—eGFR (calculated based on sCr) AND

- Multisystem disease
- Hereditary kidney disease
- Long-term treatment with nephrotoxins (e.g. NSAIDs, lithium, CNIs)

2. Test At-risk Adults for **CKD**[3,7]

3. Diagnose

**CKD**[3,7]

4. Classify

and Code

**CKD**[3-5,8]

If uACR ≥3 mg/ mmol (≥30 mg/g)

OR eGFR <60 ml/min/1.73 m<sup>2</sup>

Retest in 3 months[B]

for >3 months,

If uACR < 3 mg/ mmol (<30 mg/g) AND eGFR ≥60 ml/min/1.73 m<sup>2</sup>

If low eGFR or high uACR is present Retest at least once per year diagnose CKD

CKD prognosis is depicted in the RAG/heatmap table (Figure 1); the recommended frequency for monitoring eGFR is represented by the numbers in the boxes (e.g. test once per year if uACR <3 mg/mmol and GFR ≥60 ml/min/1.73 m<sup>2</sup>)

Code CKD as priority 1, documenting eGFR + ACR + cause

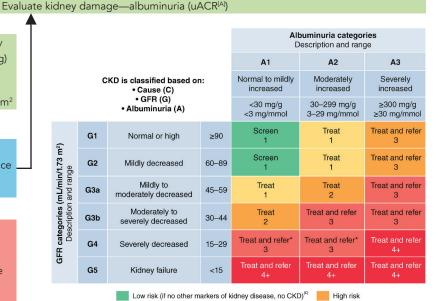


Figure 1: Risk of CKD Progression, Frequency of Monitoring, and Referral to Nephrology According to GFR and Albuminuria [8]

## 5. Refer to Secondary **Care Where Appropriate**

## Refer to Renal if:[3-5,9]

- KFRE (kidneyfailurerisk.co.uk): 5-year risk of ESRD of >5% in CKD G3 or 2-year risk exceeds 10% if eGFR <30 ml/min/1.73 m² (G4)—it may be wise to calculate likely timing of clinical outcomes (**ckdpcrisk.org/lowgfrevents**) to contextualise life expectancy and probability of CVE within 2-4 years, as referral may impact QoL
- a sustained decrease in eGFR of ≥25% and a
- change in eGFR category within 12 months
- a sustained decrease in eGFR of ≥15 ml/min/1.73 m² per year
- uACR 70 mg/mmol, unless known to be secondary to diabetes
- uACR >30 mg/mmol AND haematuria
- poorly controlled hypertension, despite the use of at least four antihypertensives
- suspected genetic causation, e.g. PKD

Very high risk

- suspected renal artery stenosis
- recurrent nephrolithiasis
- persistent anaemia (Hb <10 g/dl) in G4, as EPO and intravenous iron may help QoL
- any previous episode where serum potassium has breached 6 mmol/l.

## Urgent/immediate referral to/discussion with specialist services may be warranted if:[10]

- eGFR <15 ml/min/1.73 m<sup>2</sup>
- AKI

- nephrotic syndrome (heavy proteinuria with low serum albumin)
- hypertensive crisis: BP >180/120 mmHq
- suspicion that a systemic illness (e.g. sarcoidosis, myeloma) has renal involvement.

In patients with persistent NVH and no evidence of UTI, refer to Urology using a suspected cancer pathway referral if age ≥60 years (do not assume secondary to CKD).[11]

- [A] A spot uACR is acceptable. [3,6]
- [B] NICE suggests repeating the eGFR within 2 weeks if eGFR <60 ml/min/1.73m<sup>2|3|</sup>—this is at the discretion of the ordering clinician, based on the acuity of the presenting cause. If there is persistent invisible haematuria, also consider referring for investigation for urinary tract malignancy.[3]
- [C] Key markers of kidney disease include urine sediment abnormalities, tubular disorders, histology-proven abnormalities, imaging-proven structural abnormalities, and

ACR=albumin to creatinine ratio; AKI=acute kidney injury; BP=blood pressure; CKD=chronic kidney disease; CNI=calcineurin inhibitor; CVD=cardiovascular disease; CVE=cardiovascular event; eGFR=estimated glomerular filtration rate; EPO=erythropoietin; ESRD=end-stage renal disease; GFR=glomerular filtration rate; KFRE=Kidney Failure Risk Equation; NSAID=nonsteroidal anti-inflammatory drug; NVH=non-visible haematuria; PKD=polycystic kidney disease; QoL=quality of life; RAG=red, amber, green; sCr=serum creatinine; uACR=urine albumin to creatinine ratio; UTI=urinary tract infection



