RENAL GUIDELINES - ADULTS WITH CHRONIC KIDNEY DISEASE

University Hospitals of Leicester NHS
NHS Trust
Working in partnership with PCT's across Leicestershire and Rutland

Chronic Kidney Disease (CKD) is now staged according to the estimated Glomerular Filtration Rate (eGFR). eGFR is calculated from the age, sex and serum creatinine level and will be reported alongside any creatinine measurement by the chemical pathology laboratory. The normal range is >90 ml/min. The stages of CKD are as follows:-

Over the age of 40 eGFR normally declines at a rate of 1ml/min/year

CLASSIFICATION OF CKD ACCORDING TO eGFR

Stage	eGFR	Description	
1	≥ 90	Kidney damage with normal or increased eGFR	} Stage 1-2 must have haematuria or proteinuria to be classified as CKD
2	60-89	Kidney damage with mild eGFR fall	
3	30-59	Moderate fall in eGFR	
4	15-29	Severe fall in eGFR	
5	<15 or RRT*	Established renal failure	

* Renal Replacement Therapy

SUMMARY GUIDANCE FOR RENAL DISEASE

Renal function (eGFR) should be measured annually in all patients
in the following risk groups:

- Vascular disease
  (coronary heart disease, stroke, peripheral vascular disease)
- Heart failure
- Patients on ACE inhibitors (ACEi) or
  angiotensin receptor blockers (ARBs)
- Hypertension
- Diabetes with microalbuminuria or overt proteinuria
- Bladder outflow obstruction
- Recurrent urinary tract infections
- Metabolic disorders causing recurrent kidney stones
- Neurogenic bladder and patients with surgical urinary diversion
- Patients maintained on long-term NSAIDs (>12 months).

ASSESSMENT OF PROTEINURIA

Protein:creatinine ratio (PCR) on a spot urine sample (preferably early morning) should be measured in any patient with greater than + proteinuria on dipstick. 24 hour urine collections are no longer required. (PCR multiplied by a factor of 10 approximates to protein excretion over 24 hours).

SAFE USE OF ACEi AND ARB

- Check eGFR and potassium within 2 weeks of starting/dose change
- A fall in eGFR of <15% is acceptable.
  If >15% stop ACEi or ARB and consider seeking specialist advice
- If potassium >6mmol/l stop ACEi or ARB. Consider arranging low potassium diet and re-instituting ACEi or ARB once potassium normalised
- If eGFR falls by 5-15% recheck in 2-3 weeks to ensure decline is not progressive.

INFORMATION REQUIRED FOR REFERRAL OR LETTER OF ADVICE

As a minimum, the following information is required with any referral:

- List of dates and results of previous renal function measurements to assess stability
- Past medical and drug history
- Blood pressure
- Dipstick results, and protein-creatinine ratio if more than + protein present
- FBC, Bicarbonate, Calcium, Phosphate, Albumin
- Renal ultrasound (if performed).

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CKD 1, 2 & 3

Medicine management
FBC + full biochemical profile

PCR <30 mg/mmol

PCR 30-100 mg/mmol

PCR >100 mg/mmol
Microscopic Haematuria +ve or -ve

Microscopic Haematuria -ve

Microscopic Haematuria +ve*

Consider glomerulonephritis especially if symptoms/signs suggestive of systemic disease or PCR >30

Follow urology guideline

DIAGNOSIS

NO DIAGNOSIS

* Microscopic haematuria defined by 2 positive test results in a 2 month period

Perform renal ultrasound only if history suggestive of urological disease of if +ve FH of polycytsic kidney disease

Discuss with or refer to nephrologist
See Referral Guidelines Information

DIAGNOSIS

Manage in Primary Care

- Patient Information leaflets and advice including lifestyle information, stopping smoking, exercise, weight management
- Treat hypertension according to guidelines:
  - Threshold for Rx 140/90
  - Target 130/80 (125/75 if PCR >100 mg/mmol)
  - ACEi or ARB as first line agents
  - Suggest patient buys own BP meter
- Treat hyperlipidaemia according to guidelines
- Aspirin if indicated
- Influenza/pneumococcal vaccination
- Review medications. Avoid NSAIDs.

CKD 1 & 2 → Annual eGFR and PCR → •Fall in eGFR >15ml in 12 months or 5ml/year over 3 years •PCR > 100 •Fall in eGFR of >15% after starting ACEi or ARB

CKD 3 → 6/12 eGFR and PCR → •Fall in eGFR > 5mls in 12 months •PCR > 100 •Fall in eGFR of >15% after starting ACEi or ARB

CKD 4

- Medicine management - no NASIDs. Discuss with or refer to nephrologist if clinically indicated. (See box overleaf).

CKD 5

- **Urgent referral to nephrologist if clinically appropriate.**

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