**Chronic Kidney Disease (CKD) Algorithm**

**How to check kidney function**

- **Measure eGFR**
  - If eGFR is the first test of <=59 ml/min estimated within 14 days.
  - If identifying progression to stage 3 chronic kidney disease or higher.
  - Advise patient to avoid fasting for 12 hours prior to eGFR test.

**Reduce cardiovascular disease risk**

- Offer advice for the primary prevention of cardiovascular disease in the same way as in people without CKD.
- Use statins for the primary prevention of cardiovascular disease irrespective of baseline lipids.
- Use statins in people with diabetes (following NICE/local guidelines).

**Progressive CKD**

- **Stage 1**
  - ACR < 30 mg/mmol.
  - No haematuria.
  - Consider referral for renal specialist opinion.
- **Stage 2**
  - ACR > 30 mg/mmol.
  - No haematuria.
  - Consider referral for renal specialist opinion.
  - If eGFR < 60 ml/min follow same as stage 3.

**Anemia**

- Check haemoglobin in people with eGFR > 45 ml/min.
- Offer advice to improve the quality of life.
- Consider referral when haemoglobin ≤10 g/dl.

**Renal Ultrasound**

- Offer a renal ultrasound to all people with CKD stage 1:
  - Have progressive CKD.
  - Have an unexplained raised serum creatinine.
  - Have a history of urinary tract stones.
  - Have a history of polycystic kidney disease and are aged over 25 years.
  - Have stage 4 CKD.
- Advise people with a family history of inherited kidney disease about the implications of an abnormal result before arranging the scan.

**End-of-life care**

- **Renal failure**
  - ACR > 30 mg/mmol.
  - No haematuria.
- **Stage 5**
  - ACR > 30 mg/mmol.
  - Haematuria.
  - Consider referral for renal specialist opinion.

**Diagnosis and Management of Chronic Kidney Disease**

- **Optimal blood pressure control**
  - Use of ACEIs/ARBs where tolerated.
- **Reduce cardiovascular disease risk**
  - Identify patients with cardiovascular disease.
- **Offer nephrological advice**
  - The peritoneal route is usually recommended for diabetics.
- **Medication review**
  - Avoid nephrotoxic agents.

**Hypertension**

- **Stage 1**
  - Blood pressure >130/80 mmHg.
  - If systolic pressure >160 mmHg.
  - If diastolic pressure >80 mmHg.
- **Stage 2**
  - Blood pressure >140/90 mmHg.
  - If systolic pressure >170 mmHg.
  - If diastolic pressure >90 mmHg.

**Diabetes**

- **Stage 1**
  - ACR < 30 mg/mmol.
  - No haematuria.
  - Offer ACEI.
- **Stage 2**
  - ACR > 30 mg/mmol.
  - No haematuria.
  - Offer ACEI.

**Immunisation**

- **Joint Immunisation Advisory Group (JCVI)**
  - Refer to JCVI guidelines for all patients.
  - Refer to the NICE Immunisation guideline for immunisation.

**Reference**

- Joint Committee on Vaccination and Immunisation. Joint Committee on Vaccination and Immunisation (2011) Immunisation: advice to healthcare professionals and patients from the Joint Committee on Vaccination and Immunisation. London: Department of Health.