Estimated Glomerular Filtration Rate (eGFR)

The Australian Creatinine Consensus Working Group 2005 recommends that an estimated GFR be calculated with every serum/plasma creatinine test performed on patients 18 years or older to detect asymptomatic renal disease. The eGFR value is calculated by the Modification of Diet in Renal Disease (MDRD) equation. For further information, see: http://www.kidney.org.au.

eGFR result ≥ 60 mL/min/1.73 m²

Stage 1: Normal or increased GFR
Stage 2: Mildly reduced GFR

- Further investigation for CKD may be indicated in those at increased risk due to hypertension, smoking, diabetes, or family history of kidney disease.
- Aboriginal and Torres Strait Islander people: assessment of proteinuria, urinalysis, blood pressure, cardiovascular risk reduction.

eGFR result 30–60 mL/min/1.73 m²

Stage 3: Moderately reduced GFR, moderate kidney failure

- Monitor eGFR progression every 3 months. Treat kidney and cardiovascular risks: blood pressure, cholesterol, blood sugar, smoking, and obesity.
- Antiproteinuria drugs: Angiotensin converting enzyme inhibitors and/or angiotensin receptor blockers, if appropriate.
- Avoid nephrotoxic drugs.
- Address anaemia, acidosis, and hyperparathyroidism.
- Referral to a nephrologist is often not required.

eGFR result 15–30 mL/min/1.73 m²

Stage 4: Severely decreased GFR, severe kidney failure

- Treatment as above, plus referral to a nephrologist is usually required for preparation for dialysis (e.g. access to surgery, education) or transplant.

eGFR result < 15 mL/min/1.73 m²

Stage 5: End-stage kidney failure

- Treatment as above, plus referral to a nephrologist.

Limitations of eGFR

The eGFR is known to be unreliable and/or misleading for:

- Patients under 18 years of age.
- Rapidly changing renal function or patients already on dialysis.
- Exceptional dietary intake (e.g. vegan, creatine supplements).
- Extremes of body size.
- Variations in skeletal muscle (e.g. paraplegia, amputees).
- Severe liver disease.

Furthermore, the MDRD eGFR has not been validated in pregnancy or in the following racial groups:

- Aboriginal or Torres Strait Islander.
- Asian (including Japanese, Chinese, or Vietnamese).
- Maori or Pacific Islander.

The MDRD eGFR is not recommended for drug-dose calculations; the Cockcroft-Gault equation should continue to be used for this purpose (supply the patient's weight in kilograms and request a GFR calculated by Cockcroft-Gault.)