

Definitions

- **Oliguria:** Decreased urine output values
- **Uraemia:** Raised level of urea in the blood
- **Azotaemia:** Raised level of nitrogenous compounds in the blood
- **NSAIDs:** Non-steroidal anti-inflammatory drugs
- **Intrinsic:** Originating due to factors caused within the body
- **Benign:** No harmful effects
- **Malignant:** Dangerous/harmful effects
- **Hypoperfusion:** Sudden reduction to blood flow to the kidneys
- **GFR:** Glomerular Filtration Rate
- **Eosinophiluria:** Eosinophils in the urine
- **Haematuria:** Blood in the urine

Useful equations

Creatinine clearance (U/P) mL/min

U = Urine creatinine conc. $\mu\text{mol/L}$

V = Urine flow rate mL/min**

P = Plasma creatinine conc. $\mu\text{mol/L}$

** urine collection is the main source of error in calculating creatinine

concentration/remember to calculate flow rate per minute – usually expressed in 24 hrs (aka 1440 minutes) ($V/1440 = V \text{ mL/min}$)

Estimated GFR (eGFR aka Cockcroft-Gault equation): $((140 - \text{AGE in years}) \times \text{WEIGHT in kg}) / \text{plasma creatinine } \mu\text{mol/L} = X \text{ mL/min}$

eGFR is invalid for people who are pregnant, >18yo, or extremes in body mass (anorexia/obesity)

Underweight BMI = <18.5

Normal BMI = 18.5 - 24.9

Overweight BMI = >25

Diagnosis example

This patient is suffering from acute kidney injury (AKI). The aetiology of AKI is pre-renal/intrinsic/post-renal. Despite rapid loss of renal function AKI is potentially reversible and normal renal function can be regained if patient survives initial acute illness.