

HYPOKALAEMIA

$K^+ < 3.5$

IMPORTANCE

- Potassium (K^+) is essential in normal electrical activity of the heart.
- Low K^+ results in Hyperexcitability of the myocardium.
- Hyper-excitability can develop into re-entry arrhythmias.
- Iatrogenic and GI disease most common causes

DIAGNOSIS

Mild - Often asymptomatic

Moderate - Muscle weakness, hypotonia, hyporeflexia, cramps, palpitations, light-headedness, constipation

Severe - Palpitations, reduced peripheral sensation, arrhythmias



MANAGEMENT

MILD 3-3.5

- If Asymptomatic;
- Intervention required?
 - if yes, Sando-K (2 tabs 8hrly) until >4.0 mmol/L
 - Monitor K^+ twice weekly

MODERATE 2.5-3

- Perform ECG
- Repeat bloods
- Consider stopping medicinal cause
- Sando-K (3 tabs 8hrly) until >3 mmol/L then reduce to 2 tabs
- Monitor K^+ daily

SEVERE <2.6

- Non-acute situation
- ECG monitoring
 - Iv supplementation with 20-40mmol K^+ in 1L saline (do not exceed rate of 10mmol/hr)

- Life threatening arrhythmia
- K^+ 20mmol over 10mins
 - Mg^{2+} 10mmol/hr over 10mins

USEFUL TIPS

- Hypokalaemia is often present with Hypomagnesia
- Suspect Conn's syndrome if also hypertensive and not on a diuretic
- Hypokalaemia exacerbates digoxin toxicity

ECG CHANGES

- Small/inverted T-waves
- Prominent U-waves
- Peaked P-waves
- VT/VF
- Long QT
- Torsades de pointes