

Always follow local guidelines and discuss with Senior if unsure
Especially patients with significant fluid / electrolyte losses or those with co-morbidities such as Heart / Renal Failure

Normal range: 2.2 - 2.7mmol/L

Normal range ionized: 1.1 - 1.3mmol/L - reported on ABG

SIGNS AND SYMPTOMS

- Polyuria and Thirst
- Anorexia and Nausea
- Abdominal pain
- Muscle weakness
- Nephrolithiasis
- Neprocalcinosi
- Mood disturbance
- Confusion

- Dysrhythmias:
 - Shortened QT
- Cardiomyopathy
- Hypertension
- Pancreatitis
- Peptic ulceration
- Renal impairment
- Coma

MILD 2.7-3.0 mmol/L

Usually asymptomatic

Does not require urgent correction

MODERATE 3.0-3.5mmol/L

Symptomatic if acute rise

Prompt correction indicated

SEVERE >3.5mmol/L

Symptomatic

Urgent correction required

SEVERE > 3.5 is a MEDICAL EMERGENCY as at risk of DYSRHYTHMIA or COMA - CONTACT SENIOR IMMEDIATELY

CAUSES

ENDOCRINE / MALIGNANCY

Primary Hyperparathyroidism or Malignancy

- 90% cause

MEDICATION / VITAMINS

OTHER

High Vitamin D

High Vitamin A

Medications:

- Thiazide diuretics
- Lithium
- Theophylline toxicity

Milk-alkali syndrome

Endocrine / Malignancy:

- Thyrotoxicosis
- Tertiary Hyperparathyroidism
- Adrenal insufficiency
- Phaeochromocytoma
- Familial hypocalciuric hypercalcaemia
- Myeloma
- Sarcoid

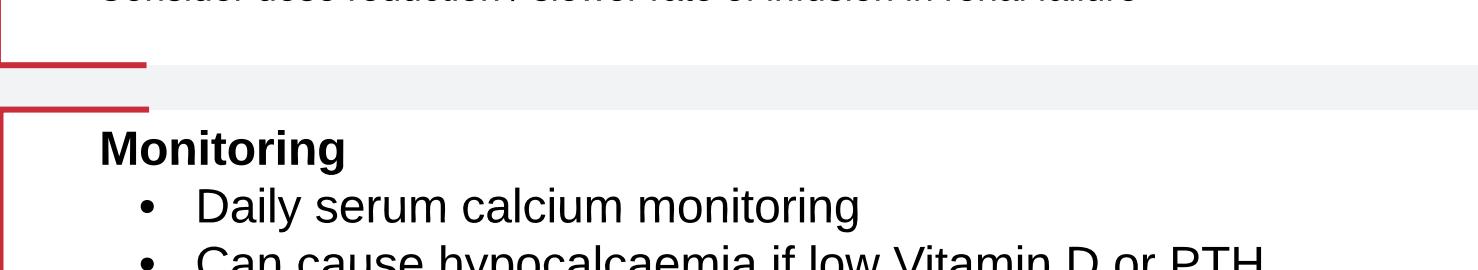
Dehydration

IMMEDIATE MANAGEMENT

If patient is oligo/anuric or has advanced CKD or severe AKI seek Senior advice immediately

REHYDRATION

IV 0.9% SALINE 4-6 LITRES OVER 24 HOURS



Dose to be adjusted to degree of Hypercalcaemia

Monitoring

- Daily serum calcium monitoring
- Can cause hypocalcaemia if low Vitamin D or PTH suppressed

CONSIDER MYELOMA / MALIGNANCY SCREENING

Always consult BNF for dose / administration and contraindications for all above medications