Interpretation & Management of Hypercalcaemia & Hypocalcaemia

GP notebook Shortcuts

- **PTH (or parathyroid hormone) is the main regulator of calcium homeostasis & is secreted by the parathyroid glands in response to low calcium levels**
- **Normal serum calcium ranges from 2.15-2.60mmol/L**
- **Abnormal calcium levels can be a medical emergency; if calcium >3.5mmol/L or <1.9mmol/L or severe symptoms consider hospital admission**

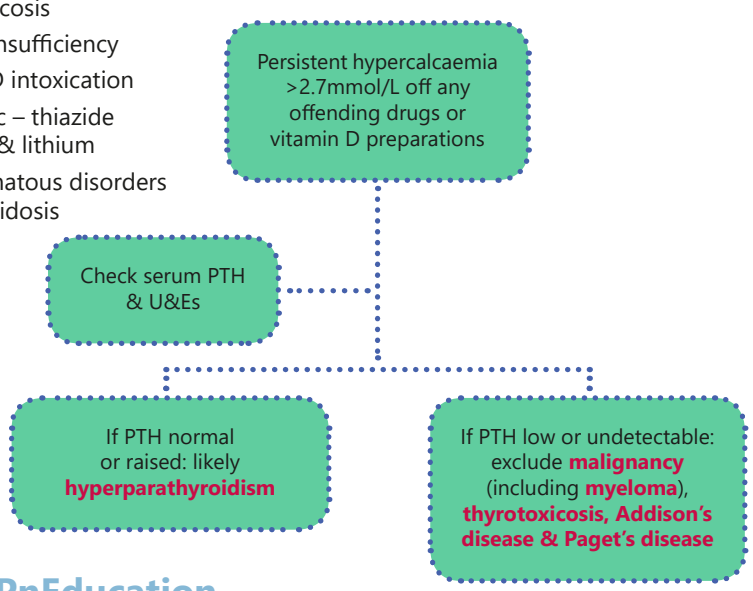
Hypercalcaemia

Hypercalcaemia is common in primary care – the well-known adage "bones, stones, moans & abdominal groans" summarises the classical signs & symptoms of hypercalcaemia:

- Bone-related pain & complications e.g. osteomalacia
- Kidney stones
- Lethargy, fatigue, depression, cognitive impairment & ataxia
- Constipation, dyspepsia, nausea & vomiting

Causes:

- Primary hyperparathyroidism & malignancy account for around 90% of all cases
- Thyrotoxicosis
- Adrenal insufficiency
- Vitamin D intoxication
- Iatrogenic – thiazide diuretics & lithium
- Granulomatous disorders e.g. sarcoidosis



Hypocalcaemia

Chronic hypocalcaemia is often due to hypoparathyroidism or vitamin D deficiency but can also be iatrogenic e.g. bisphosphonate or denosumab therapy or due to low magnesium levels.

Hypocalcaemia is frequently asymptomatic, but symptoms & signs can include:

- Mood change, muscle spasm (e.g. carpo-pedal spasm) & tingling or numbness