

Module 4 LO10

Calcium Homeostasis

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9. Calcium Homeostasis

- Body regulates calcium homeostasis with two pathways
 1. Signaled to turn on when blood calcium levels drop below normal
 - body releases calcium from bones
 2. Signaled to turn on when blood calcium levels are elevated
 - body deposits calcium in the bones

Hypocalcemia

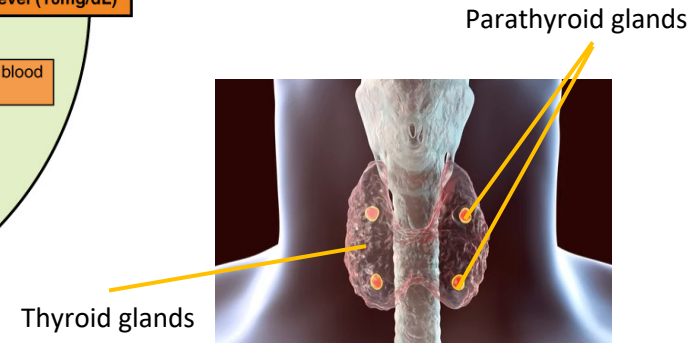
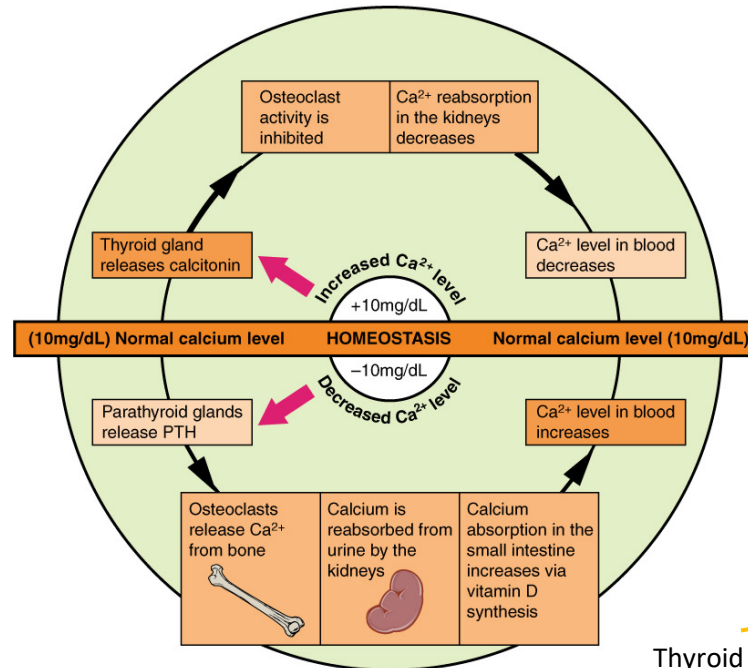
Low Ca^{+2} levels - PTH

- Stimulates osteoclasts
- Promotes reabsorption from urine
- Stimulates synthesis of vitamin D

Hypercalcemia

High Ca^{+2} levels - calcitonin

- Inhibits osteoclasts
- Stimulates Ca^{+2} uptake by bones
- Decreases Ca^{+2} reabsorption by kidneys



Synthesis of Vitamin D

