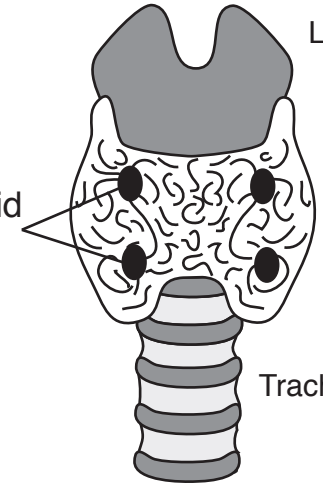
Calcium Regulation in the Blood

Hypocalcemia

Hypercalcemia



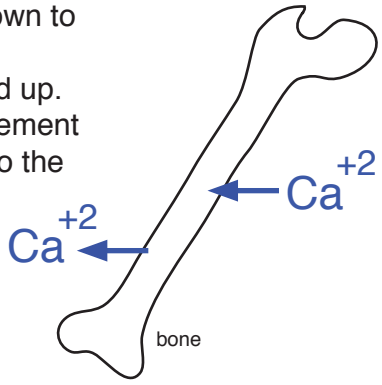
Parathyroid glands

Thyroid Gland (Parafollicular Cells)

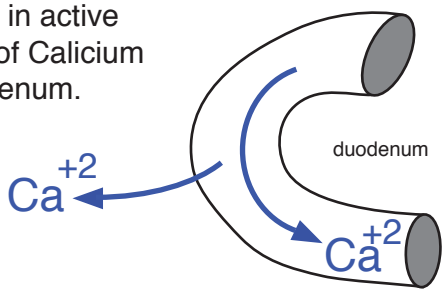
Parathyroid Hormone

Parathyroid Hormone
- stimulates osteoclasts

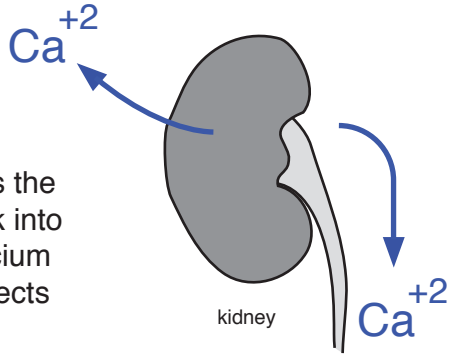
This causes bone breakdown to proceed at a faster pace that bone build up. The result is a movement of calcium from the bone to the blood.



Parathyroid hormone promotes Vitamin D activation by kidneys. This results in active absorption of Calicium from deuodenum.



Parathyroid Hormone stimulates the kidney to reabsorb calcium back into the blood, thereby reducing calcium loss in the urine. The above effects of parathyroid hormone help to restore homeostasis!



Calcitonin

Calcitonin
- inhibits osteoclasts
- stiumlates osteoblast longevity

This results in bone buildup proceeding at a faster rate than bone breakdown. As mineralization occurs, calcium is removed from the blood.

Calcitonin *may* decrease appitite which *may* decrease calcium intake indirectly

Calcitonin stimulates the excretion of calcium into the urine. Therefore calcium leaves the body, and this helps to restore homeostasis.