

- **target cells:** osteoclasts & osteoblasts
- **specific actions:**
 - inhibits osteoclasts to ↓ bone resorption
 - stimulates osteoblasts to ↑ Ca^{++} deposition from the blood to the bones
- **response:** Ca^{++} level of blood ↓ & returns to normal
- **negative feedback:** calcitonin release is inhibited once Ca^{++} levels in blood return to normal

PARATHYROID GLAND

- Four (4) small glands embedded on posterior side of thyroid gland

PARATHYROID GLAND HORMONES

1. Parathyroid Hormone (PTH)

- also called "parathormone"
- important for Ca^{++} homeostasis
- **stimulus:** hypocalcemia or ↓ Ca^{++} levels in the blood (humoral regulation)
- **target cells:** osteoclasts & kidneys
- **specific actions:**
 - stimulates osteoclasts to ↑ bone resorption & move Ca^{++} from the bones to the blood
 - stimulates kidneys to produce calcitriol, the active form of vitamin D which ↑ absorption of Ca^{++} & PO_4^- from the small intestine
 - ↑ reabsorption of Ca^{++} in the kidneys to ↓ its excretion
 - ↑ excretion of PO_4^- from the kidneys
- **response:** Ca^{++} level of blood ↑ & returns to normal
- **negative feedback:** PTH release is inhibited once Ca^{++} levels in blood return to normal

PANCREAS

- flattened organ located on LUQ of abdominal cavity, posterior to the

stomach & in curve of the duodenum

- has both exocrine & endocrine functions
- Islets of Langerhans or pancreatic islets: the endocrine portion of the pancreas w/c contains 2 types of cells w/c produce hormones that regulate metabolism of glucose

PANCREATIC HORMONES

1. Glucagon

- produced by the alpha cells of the pancreatic islets
- **stimulus:** hypoglycemia or ↓ glucose levels in the blood (humoral regulation)
- **target cells:** liver
- **specific actions:**
 - glycogenolysis (breakdown of glycogen to glucose)
 - gluconeogenesis (conversion of fatty acids & excess amino acids into glucose)
- **response:** glucose level of blood ↑ & returns to normal
- **negative feedback:** glucagon release is inhibited once glucose levels in blood return to normal

2. Insulin

- produced by the beta cells of the pancreatic islets
- **stimulus:** hyperglycemia or ↑ glucose levels in the blood (humoral regulation)
- **target cells:** various body cells
- **specific actions:**
 - ↑ diffusion of glucose into the cells & ↑ utilization by the cells
 - glycogenesis (conversion of glucose to glycogen in liver cells & skeletal muscles)
- **response:** glucose level of blood ↓ & returns to normal

Preview from Notesale.co.uk
Page 5 of 7