Digestion and Hormone Control

MMHS Science
Chitraroff
Hormone Regulation in Digestive System

1. **Gastrin** (stomach) = Stimulates the release of gastric juice when food is in the stomach.
2. **Histamine** (Stomach) = Activates parietal cells to secrete HCL when food is present.
3. **Secretin** (Duodenum) = Increases output of pancreatic juice with bicarbonate ions when acidic chyme is present in duodenum.
4. **Cholecystokinin “CCK”** (Duodenum) = stimulates gall bladder to expel stored bile when fatty, protein-rich chyme is present in S.I.
#1: See, Smell, Taste Food

#4: When food enters the stomach, **Histamine** activates Parietal Cells release **Hydrochloric Acid (HCl)**

#2: Medulla controls release of **Acetylcholine** into blood (AcH).

#3: **AcH** stimulates the Chief cells to secrete gastric juice in stomach.

#5: Acidic chyme in the duodenum triggers nerves to stop gastric secretions and releases **Secretin** into bloodstream.

#6: **Secretin** stimulates the pancreas to release pancreatic juice rich in high pH bicarbonate ions => this neutralizes the acidic chyme.

#7: Proteins and Fats in the S.I. trigger intestinal cells to release the peptide hormone **CCK** into the bloodstream.

#8: **CCK** stimulates gall bladder to release bile.