

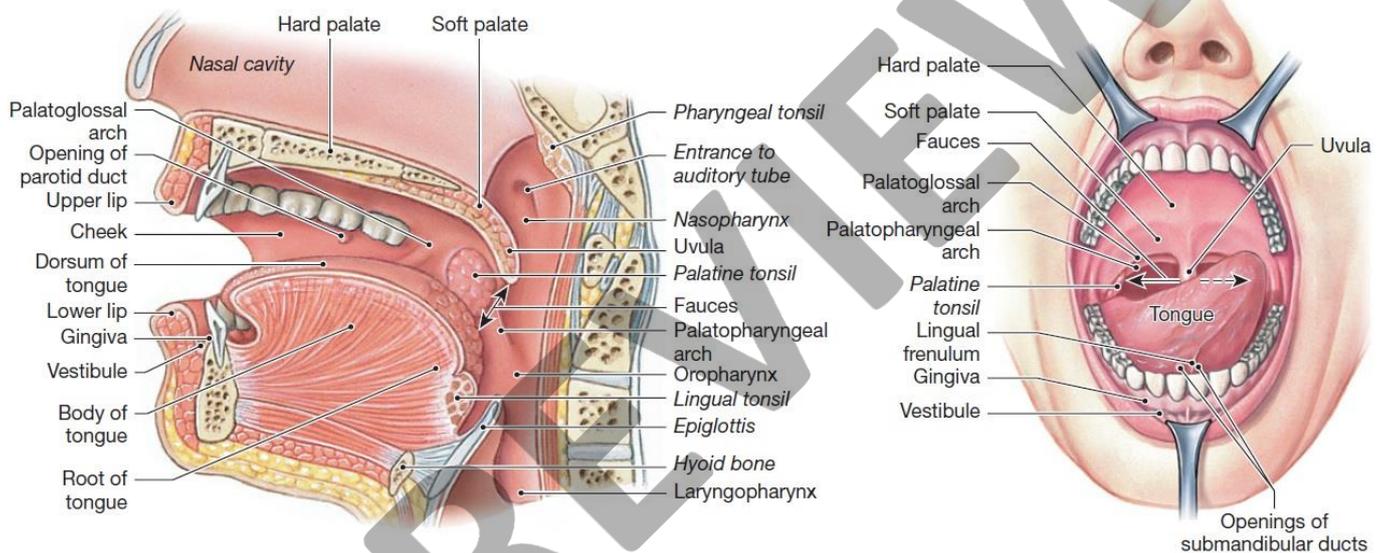
Digestive (Gastrointestinal) System

1. Describe the gross anatomy of the digestive (gastrointestinal) system including the mouth, pharynx, oesophagus, stomach, small intestine, large intestine and anus

4. Describe the gross anatomy of the abdominal circulatory system

**Oral Cavity - Mouth**

- **Vestibule:** space between the cheeks (or lips) and teeth
- **Oral Cavity Proper:** from the teeth posteriorly
- **Tongue:**
  - Moves food across opposing surfaces of the teeth (occlusal surfaces)
  - Mechanical processing of food
  - Manipulates food ready for swallowing
  - Sensory – taste, texture, temperature
  - Movements involved in speech
- **Lingual frenulum:** ties the tongue to the floor of oral cavity
- **Dorsum of tongue:** top surface of tongue contains lingual papillae



**Pharynx:** common passageway for food, liquids air

- **Nasopharynx**
- **Oropharynx**
- **Laryngopharynx**

**Oesophagus:** hollow smooth muscular tube (~25cm long) between pharynx and stomach and enters through the oesophagus hiatus

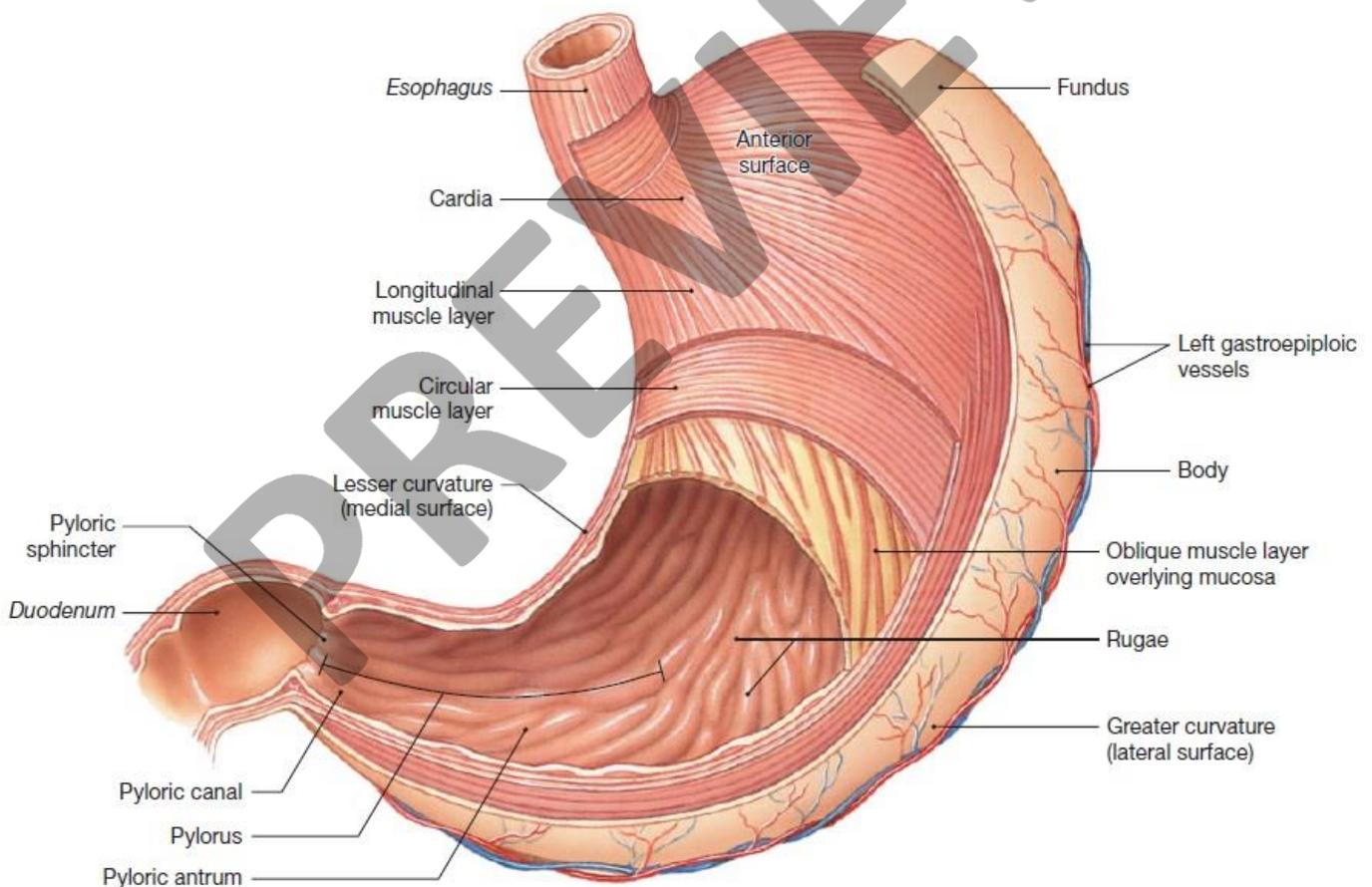
- Normal constrictions of the oesophagus
  - At the junction of the pharynx and oesophagus
  - Aortic arch
  - Tracheal bifurcation → left main bronchus crosses oesophagus
  - Left atrium

- **Cervical:** neck region
- **Upper Thoracic**
- **Mid-thoracic**
- **Lower Thoracic**

## Stomach

- Function:
  - Begins protein digestion
  - Absorption of water, salt, alcohol & some drugs
  - Kills bacteria
  - Secretes alkaline mucus
  - Mixes food & pushes small amounts into duodenum
  - Secretes factors that allows vitamin B12 absorption
    - ↳ RBC development

- **Cardia:** where the oesophagus joints with the stomach
  - gastro-oesophageal junction, oesophagastric junction or lower oesophageal sphincter
- **Fundus:** where gas accumulate
- **Body:** mixes ingested food and secretes acids and enzymes
  - Rugae allows the stomach to expand and compress
  - Greater curvature is covered with more blood vessels
  - Gastric gland: found in fundus and body secretes acids and enzymes
- **Pylorus:** changes shape during digestion
  - **Pyloric antrum:** connected to the body
  - **Pyloric canal:** empties into the duodenum
  - **Pyloric sphincter:** only opens to release chime into the duodenum

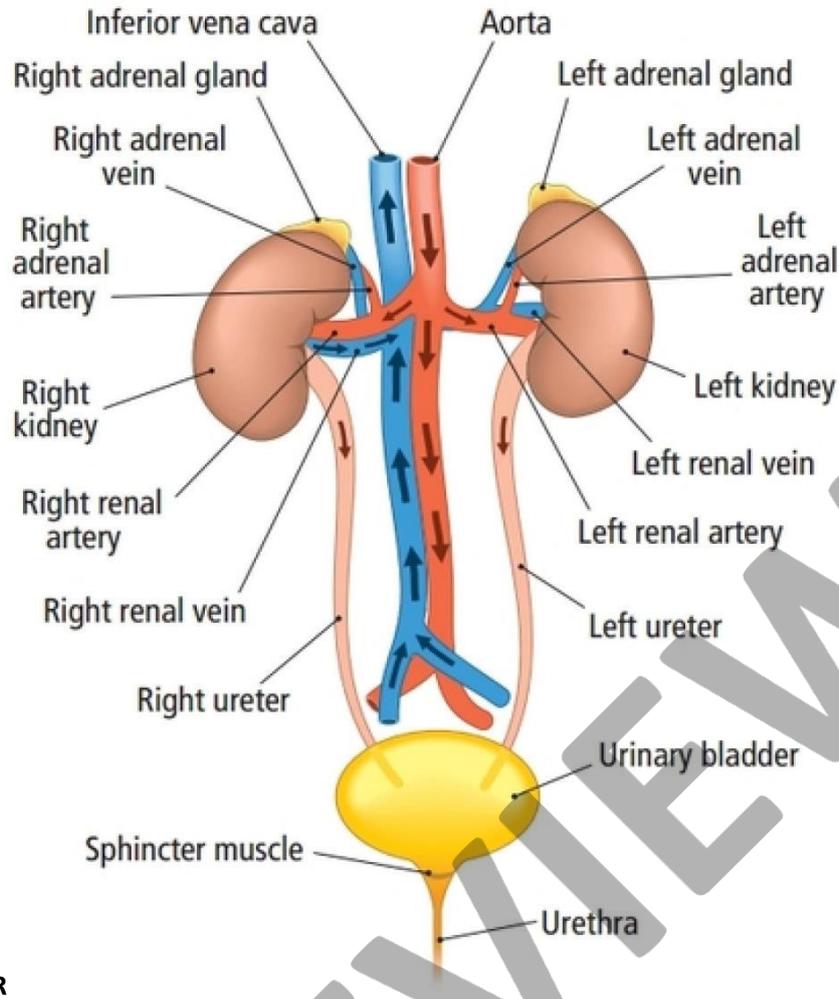


## Small Intestine

- **Duodenum:** receives chymes from the stomach & digestive secretions from the pancreases
  - Neutralise stomach acid
  - Between vertebrae L1 and L4

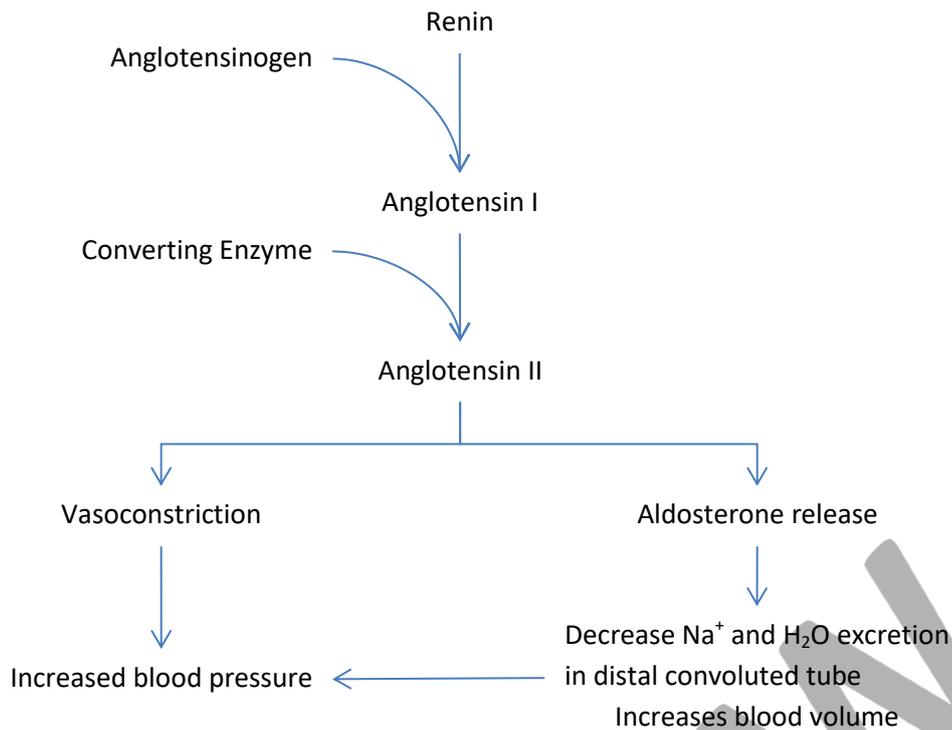
Breakdown of fat molecules Renal System

1. Describe the gross anatomy of the renal system including the kidney, ureters, urinary bladder and urethra and describe their location in the body.



**Kidney**

- Function:
  - Homeostasis
  - Acid Base regulation
  - Elimination of waste
  - Water balance → Water is 45 – 75% of bodyweight
  - Endocrine Function → Hormone Producing
    - Erythropoetin: increases the production of red blood cells (erythrocyte) in bone marrow
      - ↳ Deficiency causes a non-regenerative anaemia commonly found in renal failure patients
      - ↳ Most dialysis patients receive a synthetic supplement
    - Vitamin D: increases Ca<sup>+</sup> absorption from intestine & kidney
      - ↳ Kidney metabolises vitamin D to most active form
      - ↳ Increases remodelling in bone
    - Renin: released from macula densa affect concentration of Na<sup>+</sup> & Cl<sup>-</sup>
      - ↳ part of tubule system that measures amount of Na<sup>+</sup> & Cl<sup>-</sup> in tubules
      - ↳ ↓ electrolytes in tubule = ↓ glomerulus filtration = ↓ blood pressure



- Located between T12 (last rib) & L3 (above iliac crest)
  - In retroperitoneum → no movement
  - Right kidney is slightly lower than left kidney
    - ↳ Renal artery and veins also not symmetrical
  - Can move up to 10cm with respiration
- Size: ~12cm height, 6cm length, 4-5cm breadth
- Represents ~0.5% of body weight

- **Renal Cortex:** superficial portion of kidney beneath fibrous capsule
- **Renal medulla:** middle region of the kidney contains 6 – 18 renal pyramids
- **Renal Pyramids:** where collecting duct drains through
- **Renal Papilla:** central tip of renal pyramids
- **Renal columns:** cortical tissue between renal pyramids
- **Renal Lobe:** consists of a renal pyramid, overlaying area and adjacent tissue
- **Minor calyx:** cup-shaped drain which ducts discharges into
- **Major calyx:** where minor calyx drains into
- **Renal pelvis:** a combination of two or three major calyces

