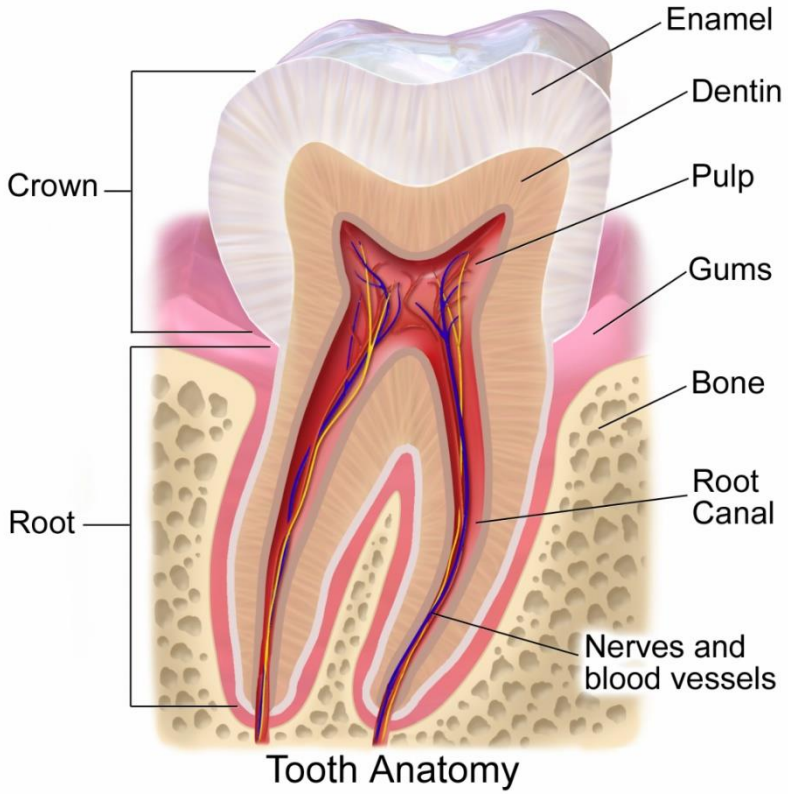
Short notes

1. TEETH

Q: What are the different parts of the Tooth?

A: A tooth is divided into two basic parts: the crown, which is the visible, white part of the tooth, and the root, which could not see. The root extends below the gum line and anchors the tooth into the bone. Teeth contain four kinds of tissue and each does a different job. These include:

1. **Enamel.** Enamel is the visible substance that covers the tooth crown. It is harder than bone, and protects the tooth from decay. Enamel is made up of phosphorous and calcium.
2. **Dentin.** It is found underneath the enamel, which is calcified and looks similar to bone. Dentin is not quite as hard as enamel, so it is at greater risk for decay.
3. **Cementum.** This tissue covers the tooth root and helps anchor it (cement it) into the bone. It is softer than enamel and dentin. Cementum has a light yellow color and is usually covered by the gums.
4. **Pulp.** Pulp is found at the center of tooth and contains the blood vessels, nerves, and other soft tissues that deliver nutrients and signals to teeth.

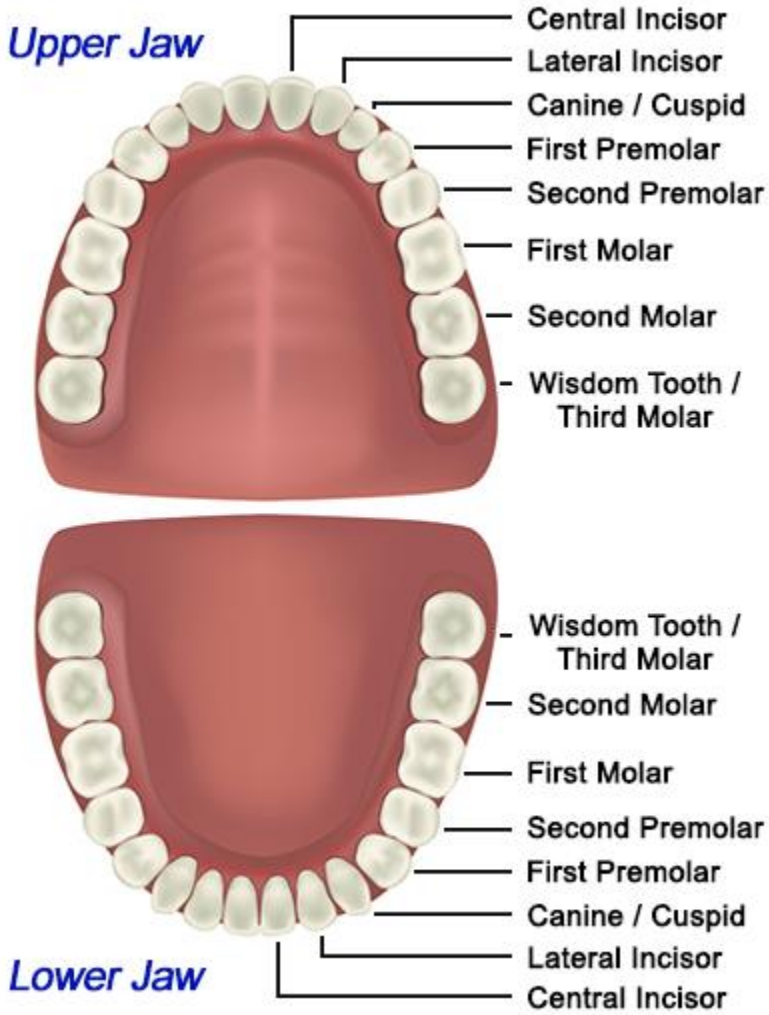


Tooth Anatomy

Q: What are the types of Teeth and What They Do?

A: Each type of tooth has a slightly different shape and performs a different job. Types of teeth include:

- **Incisors.** Incisors are the eight teeth in the front and center of mouth (four on top and four on bottom). These are the teeth that used to take bites of food.
- **Canines.** They are 4 in numbers. These are the sharpest teeth and are used for ripping and tearing food apart.
- **Premolars.** Premolars, or bicuspids, are used for chewing and grinding food. We have four premolars on each side of our mouth, two on the upper and two on the lower jaw.
- **Molars.** Primary molars are also used for chewing and grinding food. These appear between 12 and 15 months of age. These molars, also known as decidious molars.

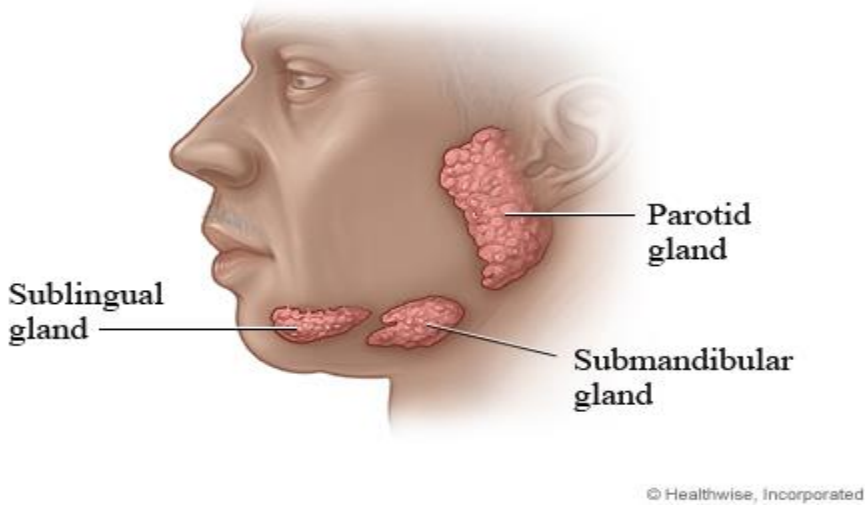


2. SALIVA

Q: What is saliva? Write a short notes on salivary glands.

A: Saliva is an important part of a healthy body. It is mostly made of water. But saliva also contains important substances that body needs to digest food and keep teeth strong. There are six major salivary glands and hundreds of minor ones. Saliva moves through tubes called salivary ducts.

The glands are found in and around our mouth and throat, are the major salivary glands: parotid, submandibular, and sublingual glands.



1. Parotid gland
    - The two parotid glands are major salivary glands wrapped around the mandibular ramus in humans.
    - They are the largest of the salivary glands
    - They secrete saliva to facilitate swallowing, and amylase to begin the digestion of starches.
    - They produce 20% of the total salivary content in the oral cavity.
2. Submandibular gland
    - The submandibular glands are a pair of major salivary glands located beneath the lower jaws.
    - The secretion produced is a mixture of both serous fluid and mucus.
    - Approximately 65-70% of saliva in the oral cavity is produced by the submandibular glands.
    - They are much smaller than the parotid glands.
3. Sublingual glands
    - The sublingual glands are a pair of major salivary glands located inferior to the tongue, anterior to the submandibular glands.
    - The secretion produced is mainly mucous in nature.
    - Approximately 5% of saliva entering the oral cavity comes from these glands.

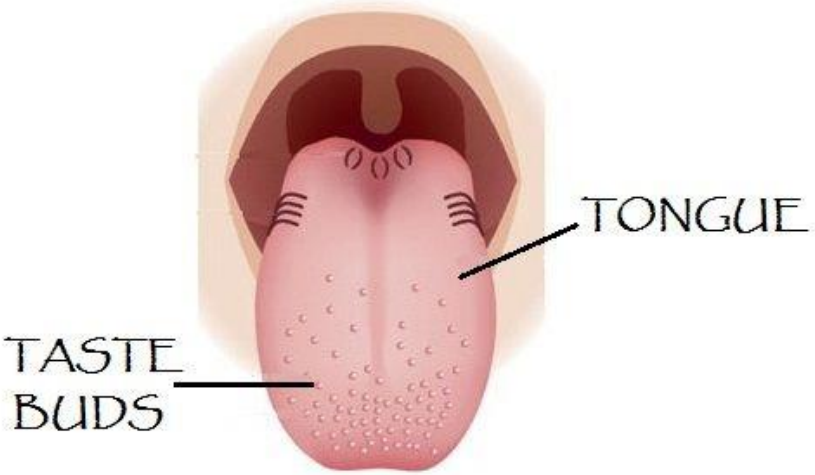
Q: Write down the function of saliva.

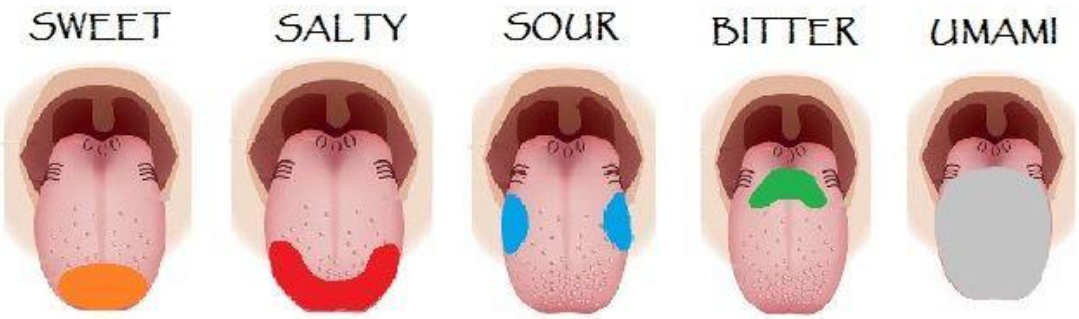
1. Chemical digestion: breaks down starch by the function of "salivary amylase"
2. Helps chewing and swallowing
3. Lubricating effect: moisturizes the inside of the mouth and creates smoother speech
4. Solvent effect: dissolves food and allows the tongue to taste food
5. Cleaning effect: washes away food debris and bacteria remaining in the mouth
6. Antibacterial effect: Lysozyme, peroxidase and lactoferrin fight against pathogenic microorganisms
7. pH buffering effect: Prevents sudden changes in pH
8. Supplies minerals, including calcium and phosphorus, to teeth

3. TONGUE

Q: Write a short notes on tongue.

- The tongue is a muscular organ in the mouth.
- It is covered with moist, pink tissue called mucosa.
- Tiny bumps called papillae give the tongue its rough texture.
- Thousands of taste buds cover the surfaces of the papillae.
- The tongue is anchored to the mouth by webs of tough tissue and mucosa.
- In the back of the mouth, the tongue is anchored into the hyoid bone.
- The four common tastes are sweet, sour, bitter, and salty. A fifth taste, called umami, results from tasting glutamate.
- Taste buds are collections of nerve-like cells that connect to nerves running into the brain.
- The tongue is vital for chewing and swallowing food, as well as for speech.
- The tongue has many nerves that help detect and transmit taste signals to the brain. Because of this, all parts of the tongue can detect these four common tastes.

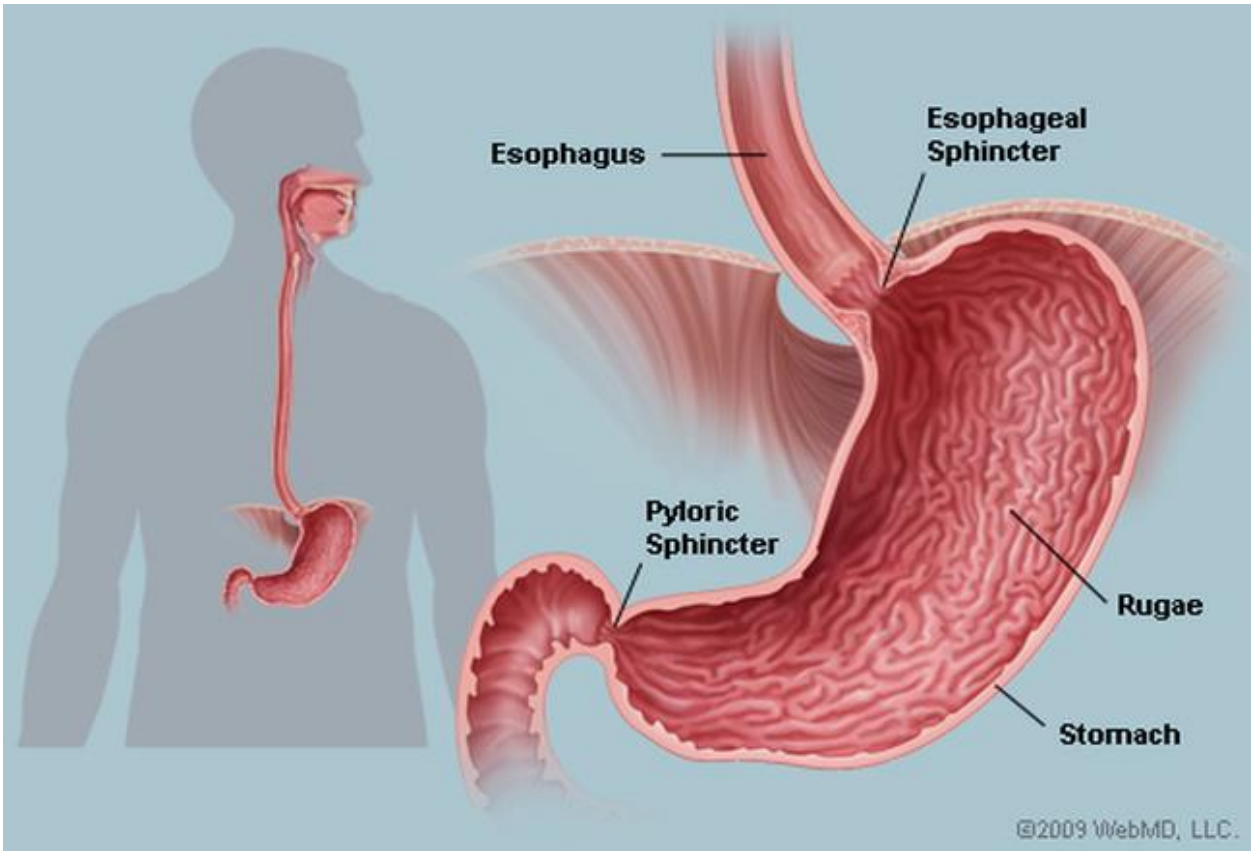




4. STOMACH

The stomach is a muscular organ located on the left side of the upper abdomen. The stomach receives food from the esophagus. As food reaches the end of the esophagus, it enters the stomach through a muscular valve called the lower esophageal sphincter.

The stomach secretes acid and enzymes that digest food. The stomach muscles contract periodically, churning food to enhance digestion. The pyloric sphincter is a muscular valve that opens to allow food to pass from the stomach to the small intestine.



Gastric acid, gastric juice or stomach acid:

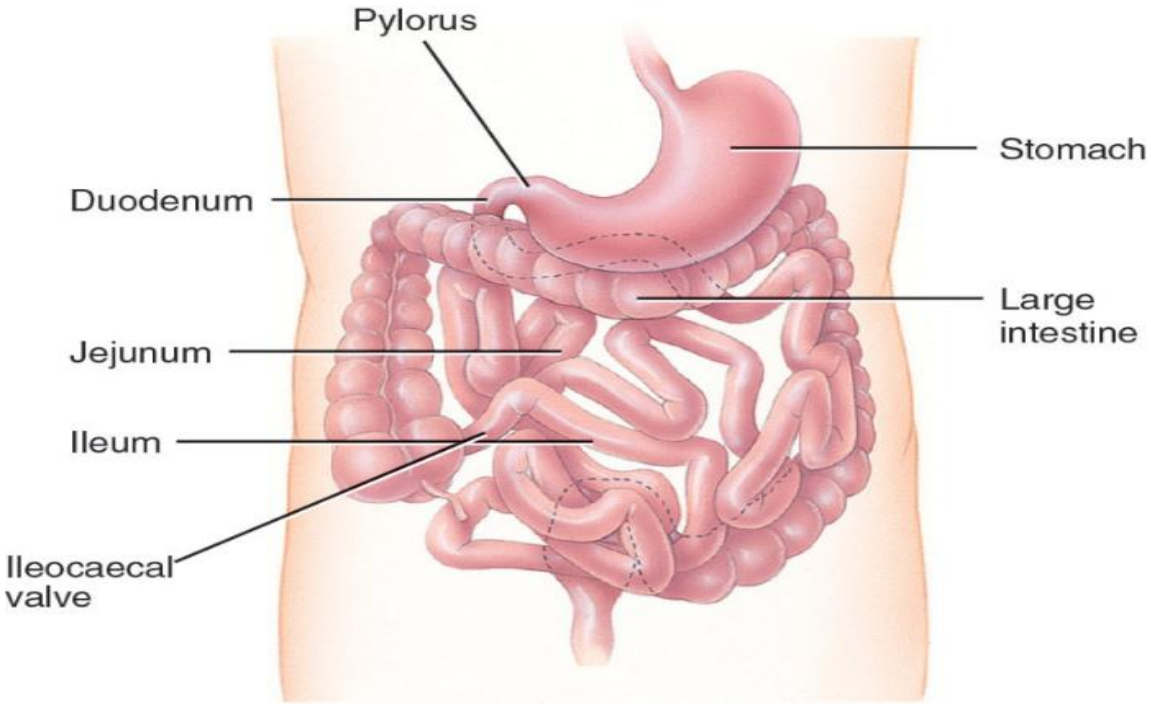
- It is a digestive fluid, formed in the stomach.
- Composed of hydrochloric acid (HCl) .05–0.1 M, potassium chloride (KCl) and sodium chloride (NaCl).
- The acid plays a key role in digestion of proteins, by activating digestive enzymes.
- Gastric acid is produced by gastric parietal cells in the lining of the stomach.
- Other cells in the stomach produce bicarbonate, a base, to buffer the fluid, ensuring that it does not become too acidic.
- These cells also produce mucus, which forms a viscous physical barrier to prevent gastric acid from damaging the stomach.

5. INTESTINE

The intestines are a long, continuous tube running from the stomach to the anus. Most absorption of nutrients and water happen in the intestines. The intestines include the small intestine, large intestine, and rectum.

The small intestine (small bowel) is about 20 feet long and about an inch in diameter. Its job is to absorb most of the nutrients from food and liquid. The small intestine, which is divided into the duodenum, jejunum, and ileum.

The large intestine (colon or large bowel) is about 5 feet long and about 3 inches in diameter. The colon absorbs water from wastes, creating stool. As stool enters the rectum, nerves there create the urge to defecate.



6. Liver