

# MECHANICAL DIGESTION OF FOOD

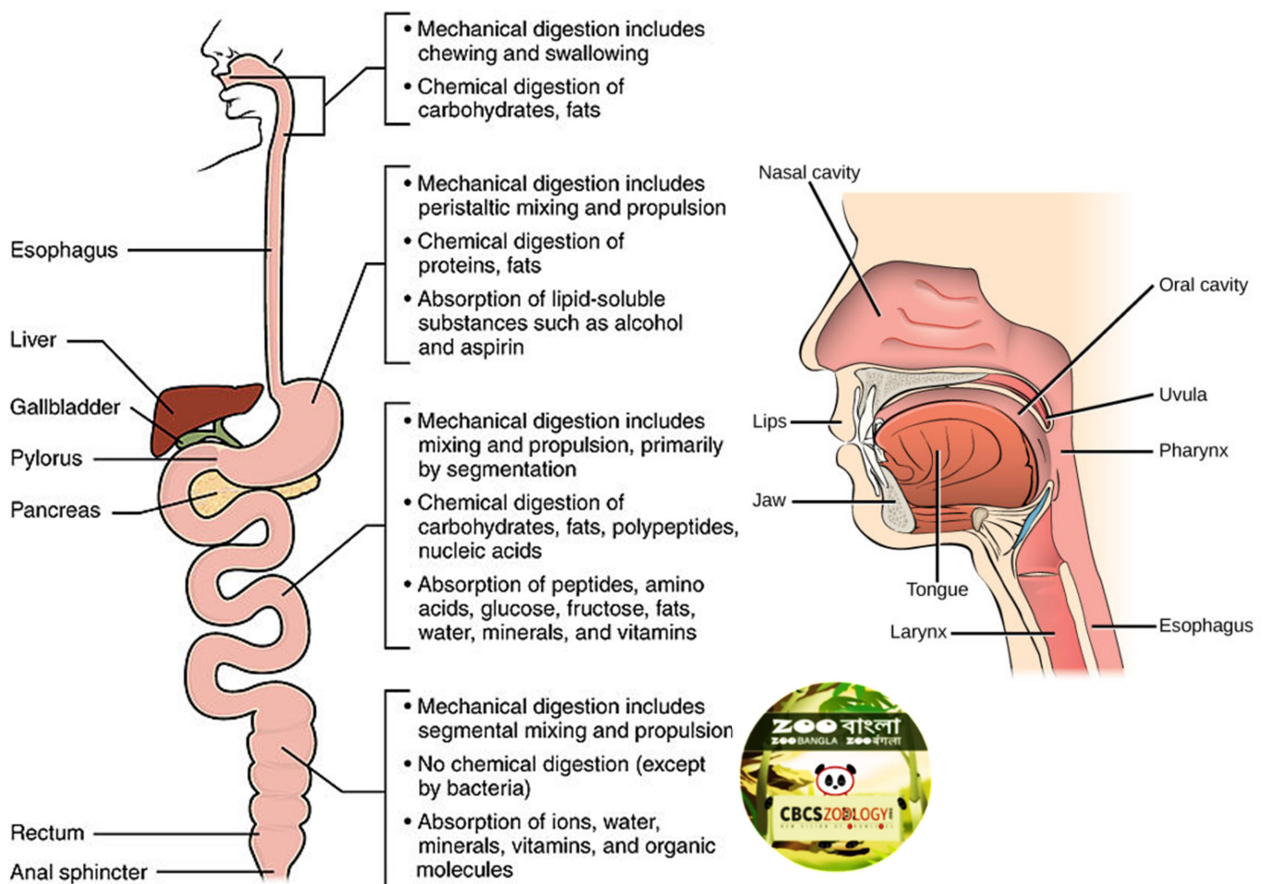
i) Mechanical digestion is the breaking down of food into digestible particles, mainly by the teeth. This means the ingested food particles are broken down into smaller particles by the acts of chewing in the mouth, churning in the stomach, and segmentation in the small intestine.

ii) By the grinding action of teeth, the initial breakdown of food occurs in the mouth. It is also called chewing or mastication.

iii) Then the *tongue pushes the mechanically digested food into the throat as bolus*. The movement of these boli into the trachea is prevented by the epiglottis.

iv) The uvula prevents the entering of the bolus into the nasal cavity. These boli then travel through the esophagus to the stomach. Peristalsis is the mechanism by which the food moves through the esophagus.

v) The rhythmic contractions and relaxation of the segments of the longitudinal smooth muscles in the wall of the esophagus are involved in the **peristalsis**, allowing the unidirectional movement of the food through the alimentary canal. The mechanical and chemical digestion in the alimentary canal is shown in figure below.



[www.cbcszoology.org](http://www.cbcszoology.org)

vi) The food is gently squeezed and mixed up with digestive juice by the muscular actions of the stomach. This process is called churning. The digestive juice contains different enzymes to chemically break down the food. Both mechanical and chemical digestion of food takes place during several hours inside the stomach, producing a creamy paste called **chime**.

vii) The chime enters the small intestine.

viii) The churning of your stomach doesn't just mix partially digested food with digestive juices. It also helps physically break down your food. According to "Nutrition and You" by Joan Salge Blake, this churning and mixing lasts for hours until the food is diminished enough to travel into the small intestine.

ix) Mechanical digestion is the physical breakdown of food through chewing, grinding, and muscular or rhythmic contractions. When your stomach churns, it's using both types of digestion to make sure that partially digested food is small enough to enter the cells of your GI tract, blood and lymph tissue.