

## Chapter 1 : Mouth - Human Mouth Anatomy

*The mouth provides the opening through which food and air can enter the human body. Its anatomic boundaries are defined by the lips at the front, the cheeks at the sides, the tongue and floor of mouth at the bottom, the palate at the top, and the oropharynx at the back.*

Bacteria in the large intestine can also break down food. How does food move through my GI tract? Food moves through your GI tract by a process called peristalsis. The large, hollow organs of your GI tract contain a layer of muscle that enables their walls to move. The movement pushes food and liquid through your GI tract and mixes the contents within each organ. The muscle behind the food contracts and squeezes the food forward, while the muscle in front of the food relaxes to allow the food to move. The digestive process starts when you put food in your mouth. Food starts to move through your GI tract when you eat. When you swallow, your tongue pushes the food into your throat. A small flap of tissue, called the epiglottis, folds over your windpipe to prevent choking and the food passes into your esophagus. Once you begin swallowing, the process becomes automatic. Your brain signals the muscles of the esophagus and peristalsis begins. When food reaches the end of your esophagus, a ringlike muscle—called the lower esophageal sphincter—relaxes and lets food pass into your stomach. After food enters your stomach, the stomach muscles mix the food and liquid with digestive juices. The stomach slowly empties its contents, called chyme, into your small intestine. The muscles of the small intestine mix food with digestive juices from the pancreas, liver, and intestine, and push the mixture forward for further digestion. The walls of the small intestine absorb water and the digested nutrients into your bloodstream. As peristalsis continues, the waste products of the digestive process move into the large intestine. Waste products from the digestive process include undigested parts of food, fluid, and older cells from the lining of your GI tract. The large intestine absorbs water and changes the waste from liquid into stool. Peristalsis helps move the stool into your rectum. The lower end of your large intestine, the rectum, stores stool until it pushes stool out of your anus during a bowel movement. How does my digestive system break food into small parts my body can use? As food moves through your GI tract, your digestive organs break the food into smaller parts using: The digestive process starts in your mouth when you chew. Your salivary glands make saliva, a digestive juice, which moistens food so it moves more easily through your esophagus into your stomach. Saliva also has an enzyme that begins to break down starches in your food. After you swallow, peristalsis pushes the food down your esophagus into your stomach. Glands in your stomach lining make stomach acid and enzymes that break down food. Muscles of your stomach mix the food with these digestive juices. Your pancreas makes a digestive juice that has enzymes that break down carbohydrates, fats, and proteins. The pancreas delivers the digestive juice to the small intestine through small tubes called ducts. Your liver makes a digestive juice called bile that helps digest fats and some vitamins. Bile ducts carry bile from your liver to your gallbladder for storage, or to the small intestine for use. Your gallbladder stores bile between meals. When you eat, your gallbladder squeezes bile through the bile ducts into your small intestine. Your small intestine makes digestive juice, which mixes with bile and pancreatic juice to complete the breakdown of proteins, carbohydrates, and fats. Bacteria in your small intestine make some of the enzymes you need to digest carbohydrates. Your small intestine moves water from your bloodstream into your GI tract to help break down food. Your small intestine also absorbs water with other nutrients. In your large intestine, more water moves from your GI tract into your bloodstream. Bacteria in your large intestine help break down remaining nutrients and make vitamin K. Waste products of digestion, including parts of food that are still too large, become stool. What happens to the digested food? The small intestine absorbs most of the nutrients in your food, and your circulatory system passes them on to other parts of your body to store or use. Special cells help absorbed nutrients cross the intestinal lining into your bloodstream. Your blood carries simple sugars, amino acids, glycerol, and some vitamins and salts to the liver. Your liver stores, processes, and delivers nutrients to the rest of your body when needed. The lymph system, a network of vessels that carry white blood cells and a fluid called lymph throughout your body to fight infection, absorbs fatty acids and vitamins. Your body uses sugars, amino acids, fatty acids, and glycerol to

build substances you need for energy, growth, and cell repair. How does my body control the digestive process? Your hormones and nerves work together to help control the digestive process. Signals flow within your GI tract and back and forth from your GI tract to your brain. Hormones Cells lining your stomach and small intestine make and release hormones that control how your digestive system works. These hormones tell your body when to make digestive juices and send signals to your brain that you are hungry or full. Your pancreas also makes hormones that are important to digestion. Nerves You have nerves that connect your central nervous systemâ€”your brain and spinal cordâ€”to your digestive system and control some digestive functions. For example, when you see or smell food, your brain sends a signal that causes your salivary glands to "make your mouth water" to prepare you to eat. When food stretches the walls of your GI tract, the nerves of your ENS release many different substances that speed up or delay the movement of food and the production of digestive juices. The nerves send signals to control the actions of your gut muscles to contract and relax to push food through your intestines. What are clinical trials, and are they right for you? Clinical trials are part of clinical research and at the heart of all medical advances. Clinical trials look at new ways to prevent, detect, or treat disease. Researchers also use clinical trials to look at other aspects of care, such as improving the quality of life for people with chronic illnesses. Find out if clinical trials are right for you. What clinical trials are open? Clinical trials that are currently open and are recruiting can be viewed at [www.clinicaltrials.gov](http://www.clinicaltrials.gov). The NIDDK translates and disseminates research findings through its clearinghouses and education programs to increase knowledge and understanding about health and disease among patients, health professionals, and the public.

## Chapter 2 : Inside the Human Body - Healthy Living Center - Everyday Health

*The mouth is one of the principal organs in your body. Also it is a complementary structure of many systems. Therefore, the ailments of mouth not only disturb the vital mechanisms but also give rise to several other diseases.*

Sore throat When to see a doctor Make an appointment with your doctor or dentist if you have any persistent signs and symptoms that bother you and last more than two weeks. Your doctor will likely investigate other more common causes for your signs and symptoms first, such as an infection. When to see a doctor Make an appointment with your doctor or dentist if you have any persistent signs and symptoms that bother you and last more than two weeks. These mutations allow cancer cells to continue growing and dividing when healthy cells would die. The accumulating abnormal mouth cancer cells can form a tumor. With time they may spread inside the mouth and on to other areas of the head and neck or other parts of the body. Mouth cancers most commonly begin in the flat, thin cells squamous cells that line your lips and the inside of your mouth. Most oral cancers are squamous cell carcinomas. But doctors have identified factors that may increase the risk of mouth cancer. Risk factors Factors that can increase your risk of mouth cancer include: However, you can reduce your risk of mouth cancer if you: If you use tobacco, stop. Using tobacco, whether smoked or chewed, exposes the cells in your mouth to dangerous cancer-causing chemicals. Drink alcohol only in moderation, if at all. Chronic excessive alcohol use can irritate the cells in your mouth, making them vulnerable to mouth cancer. Eat a variety of fruits and vegetables. Choose a diet rich in fruits and vegetables. The vitamins and antioxidants found in fruits and vegetables may help reduce your risk of mouth cancer. Avoid excessive sun exposure to your lips. Protect the skin on your lips from the sun by staying in the shade when possible. Wear a broad-brimmed hat that effectively shades your entire face, including your mouth. Apply a sunscreen lip product as part of your routine sun protection regimen. See your dentist regularly. As part of a routine dental exam, ask your dentist to inspect your entire mouth for abnormal areas that may indicate mouth cancer or precancerous changes.

Chapter 3 : Mouth - Wikipedia

*In human anatomy, the mouth is the first portion of the alimentary canal that receives food and produces saliva. The oral mucosa is the mucous membrane epithelium lining the inside of the mouth.*

You might also like these other newsletters: Please enter a valid email address Sign up Oops! Please enter a valid email address Oops! Please select a newsletter We respect your privacy. Your mouth is made up of more than just teeth, so good oral health goes beyond simply brushing and flossing. In addition to your teeth, your mouth is made up of gums, oral mucosa, the upper and lower jaw, the tongue, salivary glands, the uvula, and the frenulum. All of these structures play an important role when it comes to good dental health and are routinely examined when you receive dental care. The oral mucosa plays an essential role in maintaining your oral health, as well as your overall health, by defending your body from germs and other irritants that enter your mouth. A tough substance called keratin, also found in your fingernails and hair, helps make the oral mucosa resistant to injury. The Gums Your gums are the pinkish tissue that surrounds and supports your teeth. Also covered by oral mucosa, gums play a critical role in your oral health. Healthy gums are firm, cover the entire root of the tooth, and do not bleed when brushed, poked, or prodded. Gum disease can ultimately lead to tooth loss, so taking care of your gums by flossing daily is just as essential to dental care as brushing your teeth. The Upper and Lower Jaw Your jaws give your face its shape and your mouth the structure it needs for chewing and speech. Human jaws are made up of several bones: The upper jaw contains two bones that are fused to each other and to the rest of your skull, while the lower jawbone is separate from the rest of the skull, enabling it to move up and down when you speak and chew. The Tongue The tongue is a powerful muscle covered in specialized mucosal tissue that includes your taste buds. In babies, the tongue and the jaw work together to enable the infant to breastfeed. Additionally, the tongue plays an essential role in the ability to speak by shaping the sounds that come out of your mouth. The Salivary Glands You have three sets of salivary glands in your mouth and neck: These glands produce saliva, which contains special enzymes that help break down food, making it easier for you to swallow. Saliva is critical to good oral health, because it protects your teeth and gums by rinsing away food particles and bacteria and by helping to counteract acidic foods that can wear down the protective enamel on your teeth. The Uvula The uvula is the small flap of tissue which hangs down at the back of your throat. The uvula is composed of muscle fibers as well as connective and glandular tissues. Like other soft tissue structures in the mouth, the uvula is covered by oral mucosa. The uvula has long been a source of curiosity for scientists as all of its functions are not yet fully understood. However, it seems to play some role in speech and in keeping the mouth and throat moist. The Frenulum Linguae The frenulum is a flap of oral mucosa that connects the tongue to the floor of the mouth. This tissue allows the tongue to move about as it does its job. If an infant is born with a frenulum that is too short, or not elastic enough, he or she can have trouble breastfeeding. A short frenulum can also affect speech. Knowing what these structures do and what they look like can help you to maintain optimal oral health.

**Chapter 4 : Structures of the Mouth (Digestion)**

*Parts Of A Throat. Based on anatomy, throat can be divided into 3 parts namely, the upper part, the middle part and the lower part called as nasopharynx, oropharynx and laryngopharynx respectively.*

Your gym bag full of dirty clothes. How do you smell these smells and thousands more? Nose Parts The nose has two holes called nostrils. The nostrils and the nasal passages are separated by a wall called the septum say: Deep inside your nose, close to your skull, your septum is made of very thin pieces of bone. Closer to the tip of your nose, the septum is made of cartilage say: Behind your nose, in the middle of your face, is a space called the nasal cavity. It connects with the back of the throat. The nasal cavity is separated from the inside of your mouth by the palate roof of your mouth. Getting the Air in There When you inhale air through your nostrils, the air enters the nasal passages and travels into your nasal cavity. The air then passes down the back of your throat into the trachea say: TRAY-kee-uh , or windpipe, on its way to the lungs. Your nose is also a two-way street. When you exhale the old air from your lungs, the nose is the main way for the air to leave your body. But your nose is more than a passageway for air. The nose also warms, moistens, and filters the air before it goes to the lungs. The inside of your nose is lined with a moist, thin layer of tissue called a mucous membrane say: This membrane warms up the air and moistens it. The mucous membrane makes mucus, that sticky stuff in your nose you might call snot. Mucus captures dust, germs, and other small particles that could irritate your lungs. If you look inside your nose, you will also see hairs that can trap large particles, like dirt or pollen. If something does get trapped in there, you can probably guess what happens next. Sneezes can send those unwelcome particles speeding out of your nose at mph! Further back in your nose are even smaller hairs called cilia say: SILL-ee-uh that you can see only with a microscope. The cilia move back and forth to move the mucus out of the sinuses and back of the nose. Cilia can also be found lining the air passages, where they help move mucus out of the lungs. It does this with help from many parts hidden deep inside your nasal cavity and head. Up on the roof of the nasal cavity the space behind your nose is the olfactory epithelium say: Olfactory is a fancy word that has to do with smelling. The olfactory epithelium contains special receptors that are sensitive to odor molecules that travel through the air. These receptors are very small – there are about 10 million of them in your nose! There are hundreds of different odor receptors, each with the ability to sense certain odor molecules. Research has shown that an odor can stimulate several different kinds of receptors. The brain interprets the combination of receptors to recognize any one of about 10, different smells. How Signals Get Sent When the smell receptors are stimulated, signals travel along the olfactory nerve to the olfactory bulb. The olfactory bulb is underneath the front of your brain just above the nasal cavity. Signals are sent from the olfactory bulb to other parts of the brain to be interpreted as a smell you may recognize, like apple pie fresh from the oven. Have you ever smelled your toast burning? In an instant, your brain interpreted the smell and a problem and you knew to check on your toast. You learned to associate a certain smell with burning and now your brain remembers that smell so you recognize it. Your sense of smell also can help you keep safe. For example, it can warn you not to eat something that smells rotten or help you detect smoke before you see a fire. Most people just think of the tongue when they think about taste. The ability to smell and taste go together because odors from foods allow us to taste more fully. Take a bite of food and think about how it tastes. Then pinch your nose and take another bite.

**Chapter 5 : 3 Reasons Why Your Mouth Heals Faster than Other Parts of Your Body -**

*Your Body's Got It Under Control Your body knows what it's doing when it comes to healing. You shouldn't worry if you or a family member gets a cut or sore in your mouth.*

Butterfly tongue Apart from sponges and placozoans , almost all animals have an internal gut cavity which is lined with gastrodermal cells. In less advanced invertebrates such as the sea anemone , the mouth also acts as an anus. Circular muscles around the mouth are able to relax or contract in order to open or close it. A fringe of tentacles thrusts food into the cavity and it can gape widely enough to accommodate large prey items. Food passes first into a pharynx and digestion occurs extracellularly in the gastrovascular cavity. Insects have a range of mouthparts suited to their mode of feeding. These include mandibles, maxillae and labium and can be modified into suitable appendages for chewing, cutting, piercing, sponging and sucking. The buccal cavity of a fish is separated from the opercular cavity by the gills. Water flows in through the mouth, passes over the gills and exits via the operculum or gill slits. Nearly all fish have jaws and may seize food with them but most feed by opening their jaws, expanding their pharynx and sucking in food items. The food may be held or chewed by teeth located in the jaws, on the roof of the mouth, on the pharynx or on the gill arches. Many catch their prey by flicking out an elongated tongue with a sticky tip and drawing it back into the mouth where they hold the prey with their jaws. They then swallow their food whole without much chewing. Most amphibians have one or two rows of teeth in both jaws but some frogs lack teeth in the lower jaw. In many amphibians there are also vomerine teeth attached to the bone in the roof of the mouth. The crocodylians are the only reptiles to have teeth anchored in sockets in their jaws. Lacking teeth that are suitable for efficiently chewing of their food, turtles often have gastroliths in their stomach to further grind the plant material. These modifications allow them to open their mouths wide enough to swallow their prey whole, even if it is wider than they are. Their beaks have a range of sizes and shapes according to their diet and are composed of elongated mandibles. The upper mandible may have a nasofrontal hinge allowing the beak to open wider than would otherwise be possible. The exterior surface of beaks is composed of a thin, horny sheath of keratin. The upper teeth are embedded in the upper jaw and the lower teeth in the lower jaw , which articulates with the temporal bones of the skull. The lips are soft and fleshy folds which shape the entrance into the mouth. The buccal cavity empties through the pharynx into the oesophagus. Birds also avoid overheating by gular fluttering, flapping the wings near the gular throat skin, similar to panting in mammals. They may gape widely, exhibit their teeth prominently or flash the startling colours of the mouth lining. This display allows each potential combatant an opportunity to assess the weapons of their opponent and lessens the likelihood of actual combat being necessary. Some augment the display by hissing or breathing heavily, while others clap their beaks. To produce sounds, air is forced from the lungs over vocal cords in the larynx. In humans, the pharynx, the soft palate, the hard palate, the alveolar ridge , the tongue, the teeth and the lips are termed articulators and play their part in the production of speech. Varying the position of the tongue in relation to the other articulators or moving the lips restricts the airflow from the lungs in different ways producing a range of different sounds. The vocal sacs can be inflated and deflated and act as resonators to transfer the sound to the outside world. For each burst of song the bird opens its beak and closes it again afterwards. The beak may move slightly and may contribute to the resonance but the song originates elsewhere.

*The lips are the soft parts of tissue at the front edge of the cheeks that form the anterior boundary of the mouth. They are covered externally by skin and internally by the same mucous membrane (mucosa) that lines the entire oral cavity.*

The mouth anatomy features several components including the jaws, teeth, gums, tongue, palate, cheeks, lips, which all together contribute in making possible the various functions of the mouth. The mouth is also referred as oral cavity or buccal cavity. The main parts of Human Mouth Anatomy The mouth provides the opening through which food and air can enter the human body. Its anatomic boundaries are defined by the lips at the front, the cheeks at the sides, the tongue and floor of mouth at the bottom, the palate at the top, and the oropharynx at the back. The different parts of the mouth play an important role in our daily lives. They work together to chew, grind and swallow foods, distinguish tastes, speak, and express our emotions. The main parts of the mouth anatomy include the following: The Lips are the soft parts of tissue that form the anterior boundary of the mouth. They can seal the oral cavity and contribute in several behavioral expressions such as kissing or laughing. The Cheeks form the sidewalls of the mouth. The Teeth are the white colored calcified structures within the lower and upper jaws, which we use for chewing. Periodontium is a group of supporting tissues that surround teeth and keep them in place. The Gingiva Gums is the pink soft tissue that surrounds teeth and covers the jaw bone. The Periodontal Ligament is a layer of connective tissue fibers which hold the tooth anchored inside the alveolar socket of the jaw. Alveolar process is the part of alveolar bone around the tooth sockets where teeth roots are anchored. The Tongue is a muscular organ that helps us taste foods, chew and swallow them. Jaws are the two bony structures that form the skeleton of the mouth and carry the 32 human teeth. The lower jaw also known as mandible is the largest, strongest and the only movable bone of the face. Its ability to move almost in all directions is important for our ability to chew properly. Temporomandibular Joint is the joint that connects the lower jaw mandible with the skull. The Palate is the roof of the mouth, separating it from the nasal cavity. It is divided into hard and soft palate. The Salivary Glands provide our mouth with saliva. There are 3 pairs of major salivary glands, and hundreds of smaller ones around the mouth. Saliva is a biological fluid that moistens and protects the mouth, starts break down foods with its enzymes, and facilitates swallowing. The Floor of the Mouth is formed mostly by the tongue and by mucous membranes that extend from the base of the tongue to the gums of the lower jawbone. The Muscles of the mouth help us perform the controlled movements of the various parts of the mouth jaw, lips, tongue, cheeks so that we can eat, speak and express ourselves.

**Chapter 7 : Parts of the Mouth - Dental Anatomy**

*Let us look at the various parts that you will find in your mouth. Palate: It is the hard part of the roof of your mouth. It has a thin mucous membrane covering it. The palate is divided into two parts the hard and soft palate.*

The Floor of the Mouth The Muscles of the Mouth The Lips The lips are the soft parts of tissue at the front edge of the cheeks that form the anterior boundary of the mouth. They are covered externally by skin and internally by the same mucous membrane mucosa that lines the entire oral cavity. The lips help keep saliva and food inside the mouth and move it over the teeth for chewing. They are also important in the formation of speech and in several behavioral expressions such as kissing or laughing. The surface of lips in humans is equipped with very sensitive sensory receptors that help us determine temperature and texture of food, in order to avoid the ingestion of excessively hot or cold substances, or of rough, hard, or sharp objects. The inner surface of each lip is connected in the middle line to the corresponding gum by a fold of mucous membrane, the labial frenulum. The Cheeks The cheeks form the sidewalls of the mouth and cover the area of the face below the eyes, between the nose and ears, along the front of the face to the lips. The cheek muscles are important in smiling, swallowing, compression and keeping food in the mouth for chewing and digestion. They are white colored calcified organs embedded partially in sockets of the lower and upper jaws. The crown is the visible part of the tooth above the gums, while the root of the tooth keeps it in place with the help of the periodontal ligament that anchors it to the alveolar bone. Teeth in humans and other mammals are a critical component of the digestive system performing the function of tearing and chewing foods mastication. They also contribute in speaking by helping in the formation of sounds. Finally, by supporting the lips and the cheeks, they play a role in the aesthetics of the face. The 20 primary deciduous teeth are the first to emerge; later they are replaced by the 32 permanent teeth of the adult human dentition between 6 to 13 years of age. There are 4 distinct types of adult teeth with different morphology and function: Each tooth is composed of 4 types of dental tissues: The Periodontium Periodontium is a group of supporting tissues that surround teeth and keep them in place. The Gingiva - Gums The gingiva, known as gums, is the pink soft tissue that surrounds teeth and covers the jaw bone. Gums are a delicate tissue that can easily get irritated, inflamed, and start to bleed if infected by the bacteria of dental plaque , developing a condition called gingivitis. When not treated, the condition can progress to periodontitis, a more severe form of gum disease, which leads to bone loss and possibly tooth loss. Red, swollen, bleeding gums that have lost their firm attachment with teeth are a clear sign of gum disease that needs immediate dental treatment. Careful, regular brushing and flossing are needed to avoid gum problems. The gums are a mucosal tissue that consists of collagen and elastin. They are attached to the cementum of the tooth and to the alveolar bone. Gingiva is part of periodontium; a group of tissues that support teeth in place. The Periodontal Ligament The periodontal ligament is a layer of connective tissue fibers which hold the tooth anchored inside the alveolar socket of the jaw. One end of these fibers is attached to the cementum covering the root of the tooth, while the other end is attached to the alveolar bone around the root. The periodontal ligament works also as a protective elastic cushion for the tooth, allowing it to withstand the pressure of biting and chewing. The toxins produced by the bacteria of dental plaque destroy gradually the ligament creating periodontal pockets. Teeth become loose and in advanced cases they may fall off. Alveolar process and socket Alveolar sockets are the hollow areas of the jaw bones which host the roots of the teeth. Their bony walls that develop around the teeth to support them are called alveolar process. The Tongue The tongue is a thick solid muscular organ in the mouth. Its functions include chewing, digesting, swallowing, tasting and speaking with most important its contribution in the digestive process. The tongue is attached to the back part of the floor of the mouth by a membrane called the lingual frenum, but its front tip can move freely allowing the tongue to be able to change size, shape, and position. At rest, it is positioned between the teeth and the lower jaw. It consists of voluntary muscle fibers and it is covered by a mucous membrane. The tongue is a very flexible muscle with large freedom of movement which allows it to move food around the mouth and place it between the chewing surfaces of teeth to help chewing. It mixes food with saliva, gathers the chewed food into a ball bolus , and moves it towards the pharynx for swallowing. By

adjusting the shape of the tongue and moving it in certain positions, we can form specific sounds and words that make up speech. The tongue is also a sensory organ, providing us with the sensation of taste. Finally, with the help of saliva, it assists in cleaning food residuals from teeth and the rest of the mouth.

**The Jaws** The jaws are the two bony structures that form the mouth and carry the 32 human teeth.

**Lower Jaw Mandible** The lower jaw also known as mandible is the largest and strongest bone of the face. The mandible in humans supports the 16 permanent lower teeth. The lower jaw is a mobile component of the mouth. It is a U-shaped bone structure that stretches from one ear, down to the chin area and then back up again to the other ear. The ability of mandible for 3-dimensional movement is essential for our ability to chew properly. The human mandible can move forward to engage the incisors, up and down to crush and chew, and side-to-side to grind foods. The maxilla contains the alveolar process which holds the top row of teeth. The upper jaw consists of two large facial bones maxillae one on each side of the face which are fused together at the middle of the face with a suture. The maxilla forms part of the cheeks and roof of the mouth, part of the nasal cavity and the floor of the orbital cavity where the eyeballs fit.

**Temporomandibular Joint** The temporomandibular joints TMJ are a pair of movable joints between the mandible lower jaw bone and the temporal bone of the skull, one at each side of the face located at the area just in front of the ear.

**The Palate** The palate is the term used for the roof of the mouth, which separates it from the nasal cavity. It is divided into two parts: The hard palate is the part of the palate close to the front of the mouth. It is an immovable bony structure covered by mucous membrane that forms an arch over the teeth of the upper jaw. The tongue presses the food to the hard palate to create a bolus before swallowing. The soft palate is located behind the hard palate towards the back of the mouth. It consists of muscle and connective tissue covered by mucous membrane and lacks any bone support. At its back end there is a soft projection called the uvula. The soft palate and the uvula prevent food or drinks from going into the nasal cavity by moving upward against the back of the throat during swallowing. It is also involved in speech formation.

**The Salivary Glands** The salivary glands provide our mouth with saliva. There are three pairs of major salivary glands one on each side of the face: The parotids are the largest salivary glands located near the masseter muscle below the ear. They secrete saliva on the inside of the cheek next to the upper molar teeth. The submandibular salivary glands are located deep into the mandible lower jaw bone. They release saliva underneath the front of the tongue, behind the front teeth. The sublingual salivary glands, the smallest ones, are located under the tongue secreting saliva from many small openings under the tongue. Hundreds of smaller salivary glands can be found in the oral cavity at the cheeks, lips, tongue, hard and soft palates, and the floor of the mouth.

**The Saliva** Saliva is a biological fluid secreted in the mouth by the salivary glands. Lysozyme is one of these enzymes that provide saliva with antimicrobial action against infections. Saliva contains amylase which helps in the digestive process by breaking down polysaccharides starch into short chains of glucose. Other main functions of saliva are:

**Muscles of the mouth** None of the functions of the mouth could be performed without the help of the mouth muscles. All the perfectly controlled movements of the various parts of the mouth jaw, lips, tongue, cheeks so that we may eat and speak are made possible by the many muscles which lie under the mucous membrane of the mouth. The movements of the mandible are mainly produced by the 4 muscles of mastication:

**Chapter 8 : Human mouth - Wikipedia**

*With time they may spread inside the mouth and on to other areas of the head and neck or other parts of the body. Mouth cancers most commonly begin in the flat, thin cells (squamous cells) that line your lips and the inside of your mouth.*

The mouth is the first part of the digestive system and the pharynx. Let us look at the various parts that you will find in your mouth  
**Palate:** It is the hard part of the roof of your mouth. It has a thin mucous membrane covering it. The palate is divided into two parts the hard and soft palate. The bony hard palate is in front of the mouth and the soft palate after it that is close to the throat and pharynx. If you were to open your mouth wide and look into a mirror you will notice that you will see a dangling bit of flesh. That is the uvula and on both sides of it you will find the tonsils. The tongue starts from the mouth floor. It allows us to not only taste our food but also speak well. There are three glands that allow you to secrete saliva in your mouth. They allow the mixing of the food that you eat, the helping in the carbohydrates to be broken up to start the digestive process and also be able to allow your teeth and oral cavity to be protected from the harmful effects of the bacteria and microbes to be found in it. The lips are connected with the gums on either side of the mouth. The color that your lips have got is based on the blood vessels that pass through it. There are the lip muscles which allow you to use your lips. The lips are coated with the skin on the outside and a mucous membrane on the inside. The teeth are the most important part of your mouth cavity. They not only define the shape of your mouth but also give it the functionality and the aesthetics to your face. There are different kinds of teeth and each one of them has a different function. Your teeth are made of different kinds of substances. They are the cementum, enamel, dentin and pulp. The enamel is the outermost substance and the hardest. The next layer is dentine. It is also a hard substance but is made of water and minerals completely. The dentin has a yellow tinge to it and can be noticed if your enamel is wearing off. Pulp is the most vital part which originates in the center of the tooth underneath the enamel and dentin layer. The different kinds of teeth are incisors, canines, molars, premolars and wisdom teeth. Each of these teeth is arranged in a particular order and has different functions in the eating process. The moment you know your mouth well enough you will be in a better position to understand the way it works and take better care of it. The oral cavity needs special care and attention.

**Chapter 9 : Parts of Mouth, Mouth Parts, Types of Mouth Parts**

*Oral cancer, which usually begins with a sore on your lips, tongue, or the inside your mouth, can affect other parts of your body as well. Some symptoms include: pain and discomfort in your jaws, throat, and ears.*

Next How much do you know about the workings of your body? The human body is endlessly fascinating, and a bit mysterious. The Circulatory System At the center of the human body is your circulatory system in particular is the heart , the fist-sized pump that pushes blood to all of your other body systems. The function of the circulatory system is to deliver oxygen and nutrients to your body and remove carbon dioxide and waste products through a system of veins, arteries, and smaller blood vessels. There are 20 major arteries, including the carotid arteries in the neck , the axillary artery in the arm , femoral artery in the thigh , and the coronary arteries that supply blood to the heart. Major veins include the external and internal jugular veins, which bring blood from the brain back to the heart, and the subclavian veins that run down each side of the body. Oxygenated blood is carried out to your body through blood vessels that decrease in size from arteries to arterioles to capillaries. Once the oxygen is used up, the blood returns to the heart through venules small blood vessels and veins. All together, these blood vessels extend for 60, miles inside your body. Circulatory System Conditions Diseases of the heart and circulatory system cause nearly one out of every three deaths in United States. The four most common problems that can occur in your circulatory system are heart disease which includes coronary artery disease and heart attack , heart failure, high blood pressure, and stroke. Heart disease can result in a heart attack if your heart is not getting enough blood. Heart failure occurs when your heart becomes too weak to pump blood effectively. High blood pressure is too much pressure inside your arteries, which can result in kidney failure or other heart health issues. Stroke is brain damage that occurs if an artery in your brain gets blocked, causing decreased flow. The Respiratory System Your respiratory system, which includes the lungs 1 , trachea 2 , bronchi 3 , and diaphragm 4 , works closely with your heart and circulatory system. When you breathe in, the air passes through your nose and mouth and down into your lungs through your windpipe. Inside your lungs, the air eventually winds up inside million tiny sacs called alveoli. It is in these air sacs that oxygen is transferred to the blood and carbon dioxide is removed from the blood. The oxygen-rich blood goes back to your heart and the carbon dioxide is exhaled out of your body. Respiratory System Conditions The most common respiratory system problem is the common cold. This infection can be caused by more than different types of virus. Pneumonia is a viral or bacterial respiratory infection that gets into your lung tissue. Asthma is a narrowing of the lung passages that may be caused by allergic reactions to triggers such as dust, pollen, or pet dander. Smoking is one of the worst things you can do to your respiratory system. Urine is excreted from your body through another tube called the urethra 4. Your urinary system works closely with your circulatory system and your digestive system. After your body has taken all the energy it needs from the food that you eat and liquids you drink, one of the waste products left over is urea. Urea is carried by your blood to your kidneys where it is filtered out and excreted through your urine. Urinary System Conditions Common problems of the urinary system include infections, blockage, and loss of function. Infections can occur in the kidneys, the bladder, or the urethra. In men, a gland called the prostate, which is part of the male reproductive system, can become enlarged and block urine flow. Stones can form inside the kidney as pictured here or the bladder and cause blockage as well as infection. Renal failure occurs when the kidneys can no longer filter waste products out of your blood. The renal system can also be affected by kidney cancer or urinary tract cancers. The Digestive System Your digestive system is made up of a series of hollow organs that connect to form a digestive tract that goes from the mouth to the anus. Food digestion starts in your mouth and then goes through your esophagus 1 , stomach 2 , small intestine 3 , large intestine 4 , colon 5 , and rectum 6. Two other organs, the liver 7 and the pancreas 8 , contribute important digestive juices. The purpose of your digestive system is to break down the foods you eat into molecules tiny enough to be absorbed by your circulatory system. These molecules can then supply your body with nutrients and energy. The upper parts of the system concentrate on digestion and the lower parts on waste removal. Waste from undigestible parts of food moves through the large intestine into the rectum and is then eliminated as a bowel

movement. **Digestive System Conditions** Common digestive system problems include indigestion, constipation, gas, bloating, and diarrhea. Almost everyone has experienced these conditions at some point, and they are not usually serious. Possibly more serious are infections of the digestive system caused by contaminated food that result in more serious types of diarrhea and vomiting. Appendicitis is a colon infection that is common in children and may require surgery. *Helicobacter pylori* is a bacterial infection that can cause a peptic ulcer. Cancers of the digestive tract include esophageal cancer, colon cancer, stomach cancer, rectal cancer, and anal cancer. **The Nervous System** Just as your heart is the center of your circulatory system, your brain is the center of your nervous system. Think of your brain as a three-pound supercomputer that runs all the other systems in your body. The spinal cord is an inch bundle of nerves that carries and returns messages to the computer. Your entire nervous system is built on billions of nerve cells called neurons that communicate with each other through chemicals called neurotransmitters. The nervous system is divided into two parts, the somatic nervous system which connects the brain and spinal cord with muscles and skin and the autonomic nervous system which controls internal body processes like breathing and digestion. **Nervous System Conditions** Common nervous system problems include injuries and infections. The nervous system disorder called cerebral palsy can occur before or during birth if the brain does not get enough oxygen. The brain of a child with cerebral palsy is shown at left. Your nerve cells are very sensitive and can die quickly if they are not getting enough support from your circulatory system. Mental illness can be caused by chemical imbalances of neurotransmitters in the brain that result in disorders like schizophrenia and depression. Epilepsy is an abnormal brain activity that can cause seizures. Brain cells that start to grow uncontrollably can form into a brain tumor. **The Immune System** Your immune system is a complicated network of specialized cells, organs, and tissues that communicate with each other and work together to recognize and attack foreign invaders. These invaders could be germs such as viruses, bacteria, or fungi. When an invader gets into your body, your immune system uses your lymphatic system and your circulatory system to bring specialized white blood cells to the site of the invasion one white blood cell is shown at left amid red blood cells. Your immune system then produces antibodies or special chemicals that attach to the invader to inactivate or destroy it. Some parts of the immune system include the thymus, which produces T cells that protect the body from infection; the spleen, which filters the blood and clears it of bacteria and viruses; and bone marrow, which produces new red and white blood cells. **Immune System Conditions** Problems can occur when your immune system is underactive or overactive. Some children are born with underactive immune systems, which can lead to life threatening infections. Examples of an overactive immune system include allergic reactions and autoimmune diseases. An autoimmune disease occurs when your immune system mistakes normal body tissues for foreign invaders. **The Endocrine System** Your endocrine system is made up of all the glands in your body that secrete hormones, the chemical messengers that influence all the other systems in your body. The endocrine glands include the hypothalamus 1, pituitary gland 2, thyroid gland 3, parathyroids 3, adrenals 4, pineal body 5, and the reproductive glands 6. These glands control functions such as growth, energy level, mood, and reproduction. **Endocrine System Conditions** Endocrine system problems usually occur when one of the glands produces too much or too little of its hormone. For example, if the pituitary gland produces too much growth hormone it can result in gigantism, but if it produces too little, dwarfism may be the result. An overproductive thyroid can lead to weight loss and nervousness, while an underproductive thyroid can cause weight gain and fatigue. Too much adrenal gland hormone can cause bruising and muscle weakness; too little can cause abdominal pain and fatigue. **The Lymphatic System** Your lymphatic system is a network of tiny vessels that carries an important body fluid called lymph. The lymph system includes the tonsils, adenoids, thymus, and spleen. Lymph is a clear watery fluid that contains proteins and other important substances. An important part of the lymphatic system is the spleen, an organ located under the left side of your ribcage. The spleen works with the lymphatic and circulatory systems to remove worn-out red blood cells. Your lymphatic system helps your circulatory system by collecting and returning fluid that leaks out of the bloodstream and by carrying away waste products. The lymphatic system also works with your immune system to help you fight off infections. **Lymphatic System Conditions** If your lymphatic system is not working well, fluid can collect outside your blood vessels in your tissues and cause swelling. This swelling is called lymphedema. Lymph

nodes are clusters of lymphoid tissue located mainly in the neck, groin, and armpits. These nodes may swell up when your body is fighting off an infection, but sometimes the infection overwhelms the nodes and they become a focus of infection. Tonsillitis is an example of lymphoid tissue in the throat that can become infected.