

AVOCADO 🥑

DIGESTIVE SYSTEM

By Katie Russell

Mouth and Oesophagus

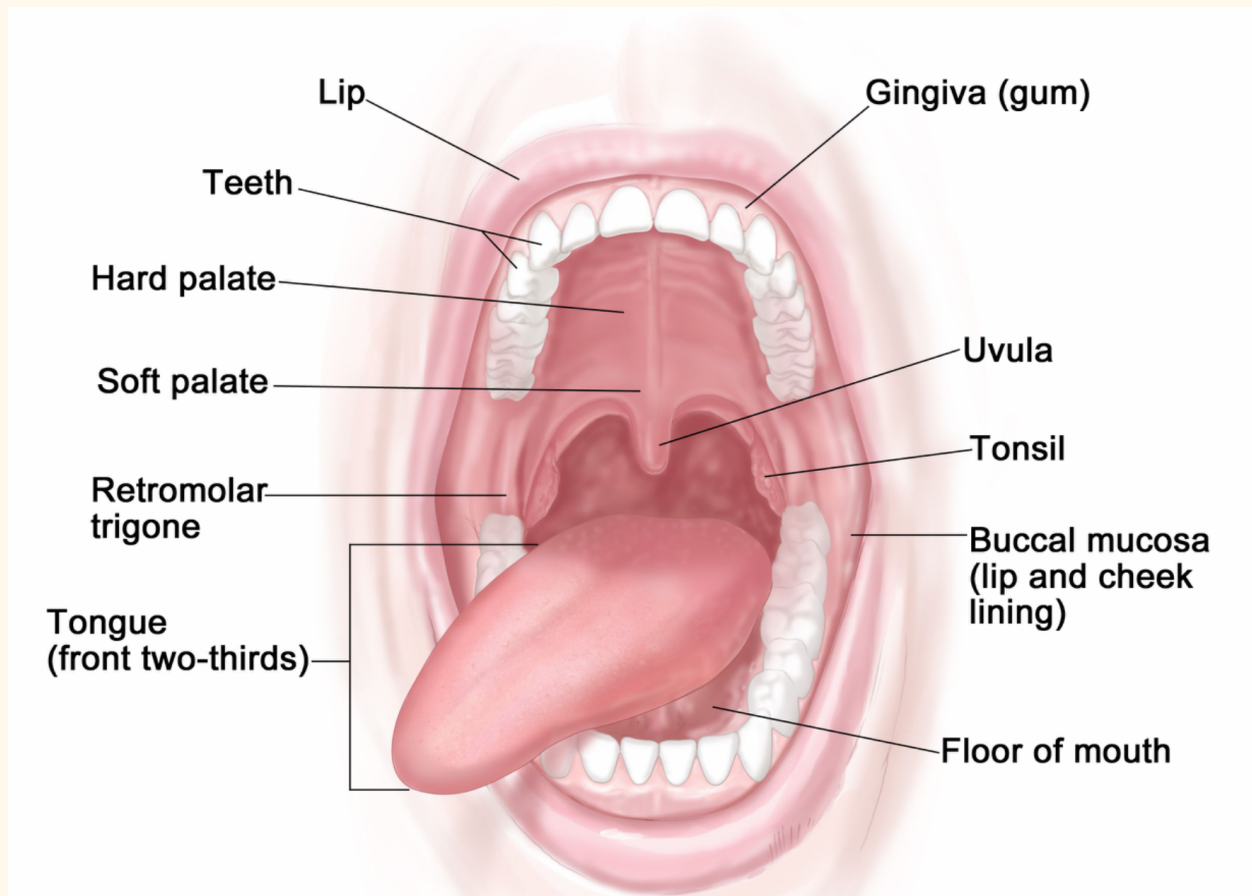


Image 1 (<https://nci-media.cancer.gov/pdq/media/images/716338.jpg>)

There are two types of breakdowns that occur in the mouth, mechanical and chemical. The mouth utilises teeth which are located in the top and bottom of the mouth (*image 1*) to chew the

avocado and mechanically breakdown into smaller pieces. Then the Parotid gland, Submandibular gland and Sublingual gland (*image 2*) most commonly referred to as the salivary glands, release saliva.

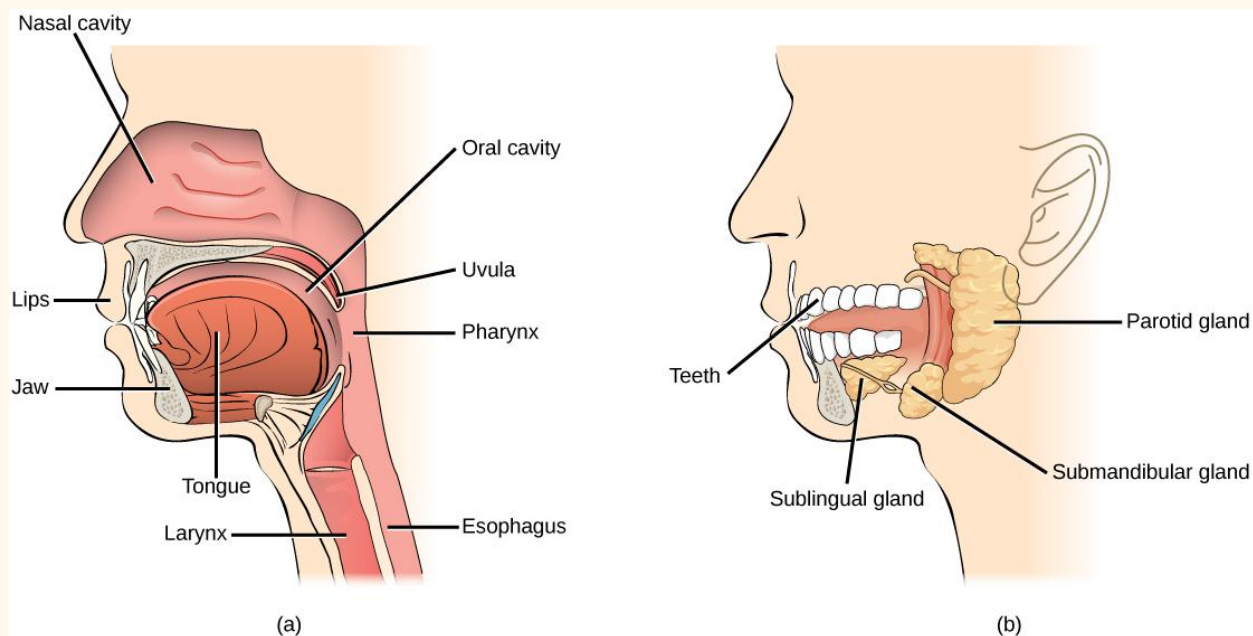


Image 2

(<https://courses.lumenlearning.com/wm-biology2/chapter/parts-of-the-digestive-system/>)

The release of saliva is chemical breakdown. Whilst the saliva is being released the tongue mixes it with the avocado to form a mass of food, called a bolus. Saliva contains immunoglobulins and lysozymes that help in neutralising foreign pathogenic bacteria and or viruses as they act as an antibacterial and also prevent tooth decay. Saliva additionally possesses numerous enzymes known as salivary amylase and lipase, lipase is produced from the cells within the tongue. These enzymes allow the food to be broken down and or converted into useful components for the body. Once the avocado bolus is soft and swallowable, the tongue pushes it through the epiglottis which is a tiny flap of muscle, which prevents food from traveling down the larynx and airway, and instead down the oesophagus (*image 3*). The oesophagus is made up of circular muscle that contracts to ensure the bolus can effectively travel to the stomach, this is known as peristalsis.

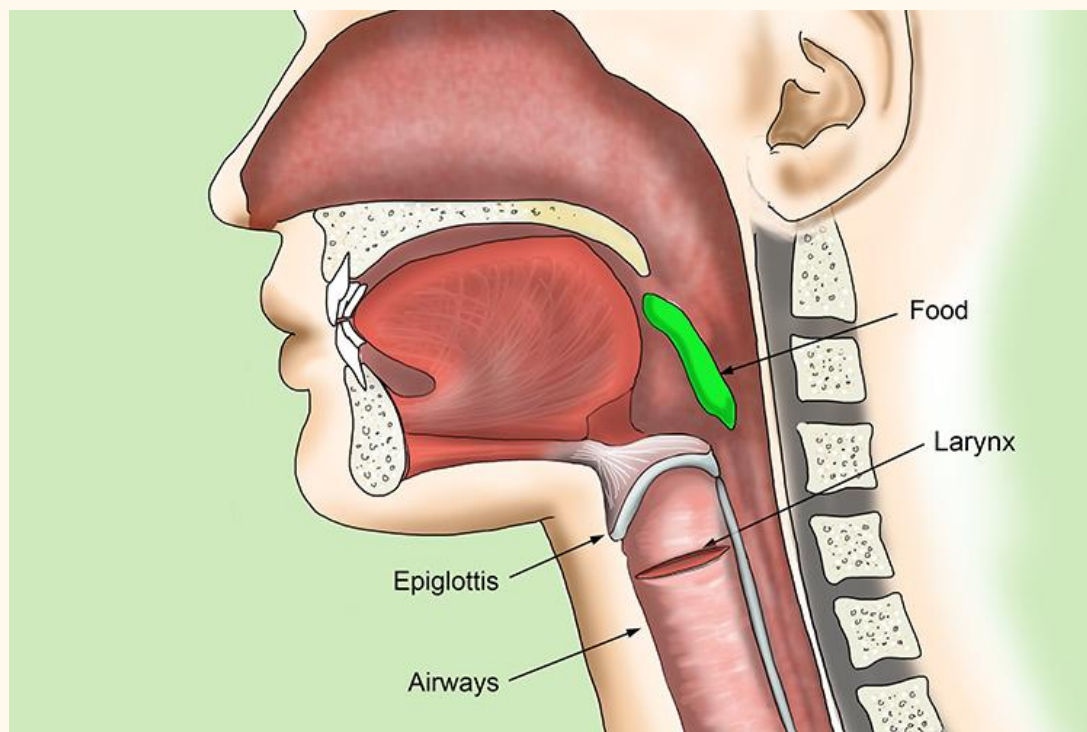


Image 3

(<https://mammothmemory.net/biology/organs-and-systems/the-pulmonary-system/epiglottis.html>)

Stomach

The food bolus enters the stomach, via the path of the oesophagus. The stomach utilises both mechanical and chemical digestion. The stomach isn't a site in which nutrients are absorbed, as that isn't possible due to the thick mucus lining of its walls. The stomach has muscles that are significantly strong and contract, which enables successful breakdown of the bolus. To assist this mechanical process, chemical reactions also occur. The stomach facilitates the secretion of gastric juices through glands that encompass specific enzymes. A vital enzyme is pepsin. Pepsin breaks bonds between amino acids, which are simpler components of proteins, into smaller chains of polypeptides. Pepsin works cohesively with acidic solutions, hence there is hydrochloric acid in the stomach as well (*image 4.*) Hydrochloric acid also assists in killing unwanted bacteria. However, pepsin isn't an essential enzyme in the digestion of avocado as avocado consists of lipids, rather than proteins.

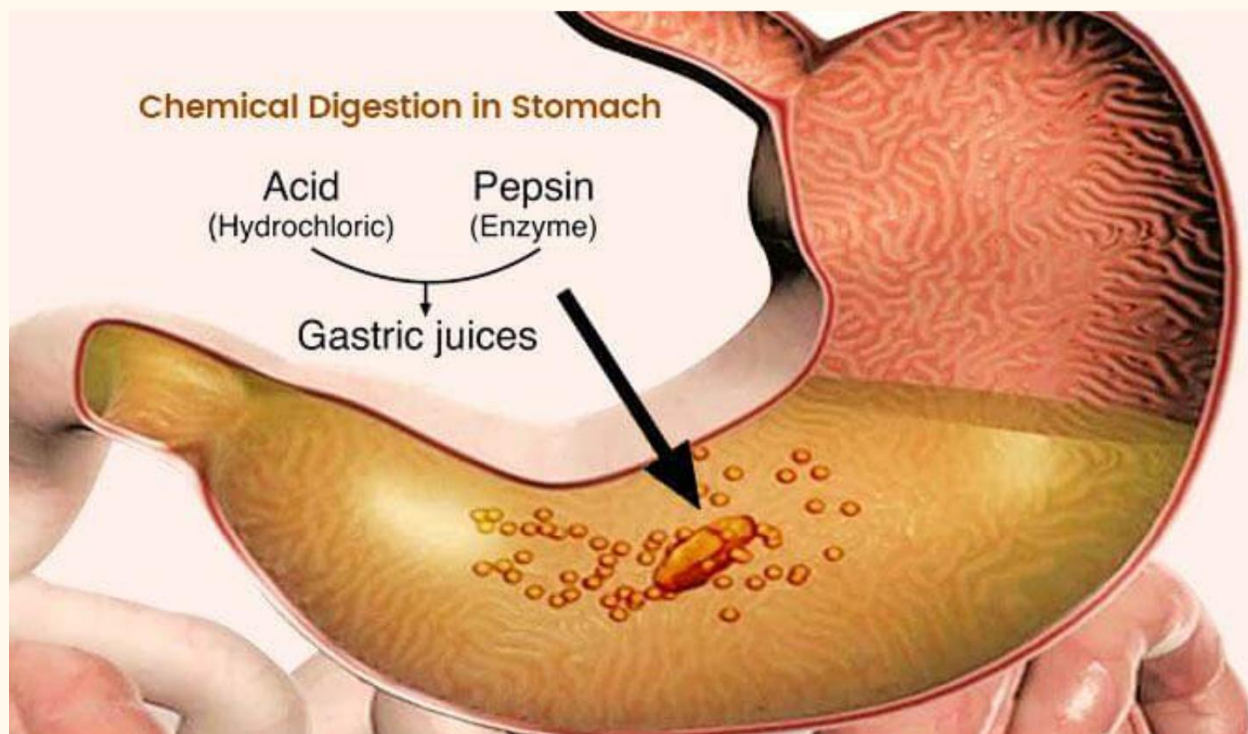


Image 4

(<https://teacher.desmos.com/activitybuilder/teacherguide/5d07685234bfe67bdf6ec5a2?collection=60f02b676c4d46185daf457f>)

Small Intestine

The duodenum is the first section of the small intestine, it curves around the pancreas. Digestion is still occurring here, because of the intentional juices secreted by glands in the lining. The pancreas also produces juices and bile is created from the liver. The bile from the liver is stored in the gallbladder and that works to neutralise acid from the stomach. In the case of avocado, avocado is high in omega three fatty acids and non saturated fats, which are highly recommended and are assets in healthy eating. Chyme can describe a pulpy mix of all of these juices working in unison, in which they do in order to break down fats, like in avocados. Then the workings move to the location of the jejunum, which is the middle part of the small intestine. Vitamins and minerals are separated into smaller particles here and being absorbed into the blood stream, via the villi. The small intestine is folded in; mucosa and is covered in tiny finger like projections; villi, that increase surface area, thusly increasing productivity of absorption. Microvilli them cover villi. A singular villus is covered in blood capillaries, so nutrients can enter the blood stream. The capillaries and veins pump nutrients to the heart and

other important organs and functions in the body. As avocado contains fats, the nutrients are usually stored in adipose tissue (also known as body fat), it is found under the skin and surround organs, however avocado wouldn't have negative health impacts, like other unhealthy fats, such as saturated animal fats. When the fats are required to be converted into energy the process of lipolysis occurs, the fats are removed from the tissues and are further broken down into glycerol, so they can be helpful.



Image 5 (<https://pin.it/1ecwPVX>)

Large Intestine

The remaining moisture and water is absorbed from the digesting avocado, so the substance becomes more solid. Some of the remaining organic compounds are broken down by the bacteria. A result of doing this is more vitamins are produced, in which are absorbed through the walls of the large intestine and infused with the blood. The substance then journeys towards the rectum (*image 6.*)

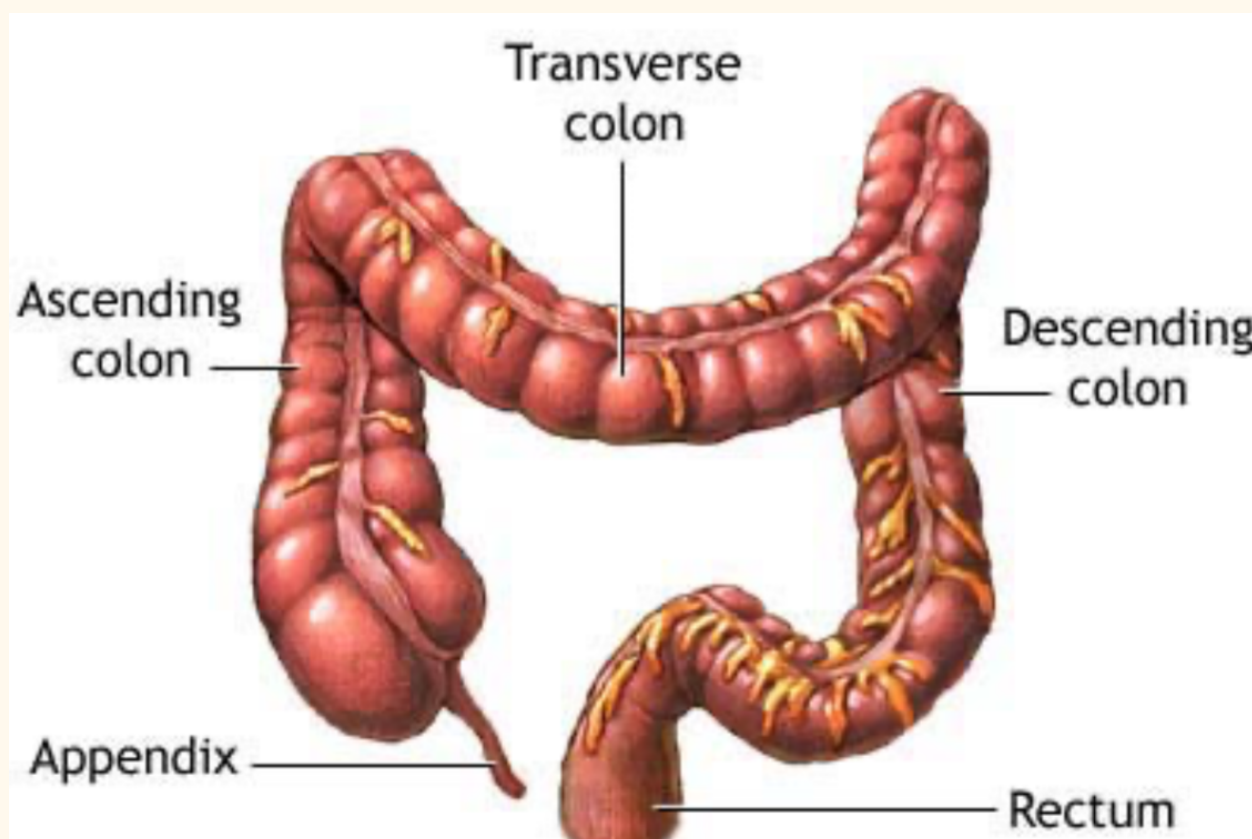


Image 6

(https://www.google.com.au/url?sa=i&url=https%3A%2F%2Fmedlineplus.gov%2Fency%2Fimages%2F8832.htm&psig=AOvVaw2NPpzhAY_vnxKwqc9mbos_&ust=1683813255768000&source=images&cd=vfe&ved=0CBIOjhxqFwoTCLiTOanz6v4CFOAAAAAdAAAAABAS)

Elimination

Once all useful materials and nutrients are absorbed throughout the digestive process, a semi solid material known as a stool is left. The stool travels from the large intestine via the colon to the rectum by peristalsis of the muscles. The muscles of the rectum contract, then the internal anal sphincter relaxes. Faeces (*image 7*) are then eliminated out of the body via the anus, as it is unwanted waste. If the waste were to build up, that can cause serious health complications.

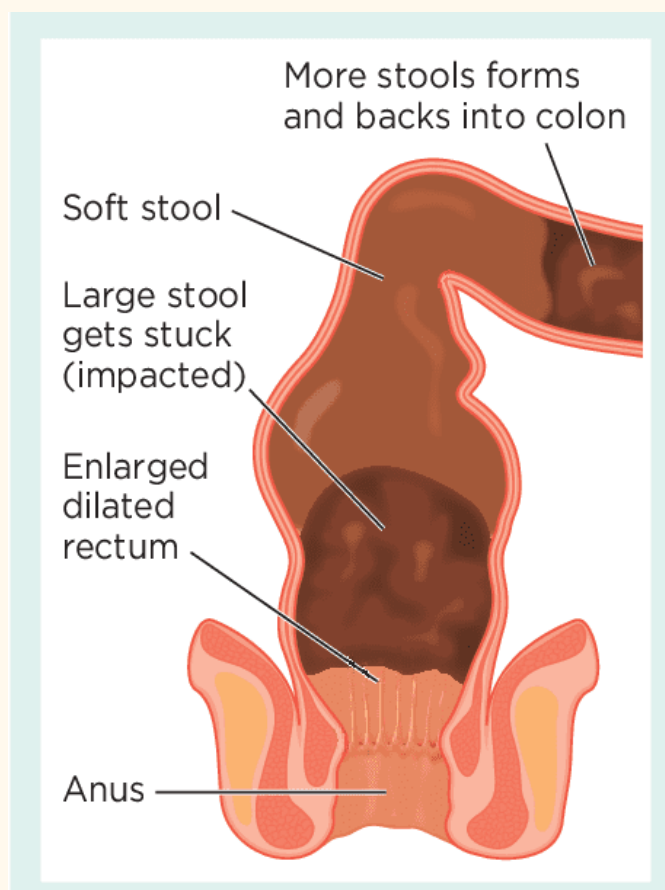


Image 7

(<https://www.semanticscholar.org/paper/Harmful-effects-of-prolonged-bedrest-on-appetite-%2C/b0f258e56e43bd2a348a0ee7306ffe4b9314933>)



Image 8 (<https://pin.it/5pnOcH1>)

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