

Sample essay on our fantastic voyage begins in the gastrointestinal tract

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A time has come whereby, I as the video reporter will embark on an exciting voyage piloting a mini sub in the process of miniaturization. In this journey, I and my sub are 8 microns long. This man hungrily sips the beer swallowing me and my associates. In this trip, I am tasked to describe the process of digestion of the consumed carbohydrates, proteins and fats. When we reach the distal ileum, we will enter the blood stream via the mucosal membrane through the superior Mesenteric vein. After getting into the blood stream, we will proceed with our journey to the kidney. We will then find our way from the superior mesenteric vein via the renal artery towards the left through the hepatic portal vein. On reaching the kidney, we will have to get into the nearest nephron via crossing the membrane found in the glomerular, into the Bowman's capsule while describing all the structures we have come across. We will then be able to narrate our experience as we move from the body through the urinary tract.

The gastrointestinal tract which can also be called the alimentary canal is wide consisting of the mouth, pharynx, stomach, esophagus the small and large intestines all the way to the anus. The accessorized organs include the pancreas, liver, gall bladder, the tongue as well as the glands that are found in the mouth. Each of the stated organs together with the accessory glands plays a vital role in the process of digestion.

As this 55 year old man puts food in his mouth, the hamburger and French fries are partly broken down through chewing. This process of breaking down food into smaller particle in the mouth is known as mastication, and is done by the teeth whereby large food particles are broken down into small food particles. Important enzymes known as amylase which are generated from

the salivary glands; play an important role in converting starch (polysaccharides) into sugars those are less complex (oligosaccharides). Food is broken down into small particles so that it can be easily swallowed. Before swallowing the food, the muscles found in the tongue as well as his mouth directs the food towards the pharynx which is the passage for both food together with air. A small cap known as the epiglottis then blocks the pharynx with the aim of preventing the entry of food in the trachea that will in turn cause choking. The food is then swallowed through a long tube known as the esophagus which connects the mouth and the stomach. This organ is composed of the muscles and the nerves that help in the process of gastrointestinal motility.

In the gastrointestinal tract, I can feel some muscle movements in a wave like form. Such muscular movement forces us from the throat all the way to the stomach. I then decided to pass by the liver with the aim of adventure where I realized that the gall bladder which is positioned just below the liver, had entered an organ that looks like a sack called the stomach

In this organ that is connected to the throat by the gastrointestinal tract, the mixture of food is facilitated in this part. There is some fluid in this organ known as the gastric acid. This fluid facilitates the churning process as it wets the food particles. My counterparts which are the swallowed hamburger and the French fries had been partially digested and were also mixed by the acid found in the stomach . The mixing and digestion process in the stomach is known as chime. We then decided to take a break in the stomach for a while before proceeding with my journey.

In the stomach, there was no active digestion of the carbohydrates. The

carbohydrates that had not been converted by pancreatic amylase then moved to the small intestines. We entered the small intestines through the duodenum which is right after the stomach, and which is the first portion to the small intestines. From the duodenum we then moved to the jejunum and finally the ileum which is the last part as far as the small intestines are concerned. The remaining carbohydrate is then broken down into minute molecules that were later absorbed in the blood via the membranes (Mullin & Swift, 2011).

Food is then absorbed and the veins originating from the ileum eventually drain into the mesenteric veins that are superior. These superior mesenteric veins in conjunction with splenic veins form the hepatic portal vein. The portal system that is venous is found in the liver transports blood to the capillary system which is hepatic sinusoid of the liver. This blood then enters the inferior venacava, the atrium on the right, the ventricle on the left then followed by the pulmonary artery and finally to the lungs.

Cortical blood, which is blood from an organ called cortex is then moved to the kidney's medulla. Urine is then produced and thereby collected through the urethra. Urethral urine then gets to the urinary bladder for storage and leaves the body through the urethra. Urine in this case is one of the byproducts of digestion and may contain various substances with urea being in plenty (Kurzweil & Grossman, 2005).

Homeostasis of the body can be described as a state of balance. All the system's in the body work together with the aim of maintaining a state of balance in the body, with each system playing its specific role. For instance, the digestive system is mandated to undertake both digestion as well as

absorption of food nutrients. Absorption may also take place in the lymphatic system. Therefore, homeostasis can be maintained through the absorption of toxins from the digestive system by the lymphatic system. The urinary system on the other hand is tasked with removing excess body wastes and finally the circulatory system enhances blood flow in the body together with the transportation of hormones.

Reference

Kurzweil, R., & Grossman, T. (2005). *Fantastic voyage: Live long enough to live forever*. New York: Penguin.

Mullin, G. E., & Swift, K. M. (2011). *The inside tract: Your good gut guide to great digestive health*. New York, NY: Rodale.