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MATRIC NMBER: 18/SCI05/003

DEPARTMENT: BIOMEDICAL ENGINEERING

COURSE: HUMAN ANATOMY II

QUESTION: Miss Egbe Amanda attended a birthday party organized by Mr. Solomon, during the party she was served fried rice, salad, fried chicken and water. **Enumerate in details the digestive processes of the above food she ate during the celebration.**

FRIED RICE (CARBOHYDRATE)

1. The mouth: Digestion of carbohydrate begins from the mouth. The saliva secreted from your salivary glands moistens food as it's chewed. Saliva releases an enzyme called amylase, which begins the breakdown process of the sugars in the carbohydrates you're eating.
2. The stomach: From there, we swallow the food now that it's chewed into smaller pieces. The carbohydrates travel through your oesophagus to your stomach. At this stage, the food is referred to as chyme. The stomach makes acid to kill bacteria in the chyme before it makes its next step in the digestion journey.
3. The small intestine, pancreas, and liver: The chyme then goes from the stomach into the first part of the small intestine, called the duodenum. This causes the pancreas to release pancreatic amylase. This enzyme breaks down the chyme into dextrin and maltose. From there, the wall of the small intestine begins to make lactase, sucrase, and maltase. These enzymes break down the sugars even further into monosaccharides or single sugars. These sugars are the ones that are finally absorbed into the small intestine. Once they're absorbed, they're processed even more by the liver and stored as glycogen. Other glucose is moved through the body by the bloodstream. The hormone insulin is released from the pancreas and allows the glucose to be used as energy.
4. Colon: Anything that's left over after these digestive processes goes to the colon. It's then broken down by intestinal bacteria. Fibre is contained in many carbohydrates and cannot be digested by the body. It reaches the colon and is then eliminated with your stools.

WATER

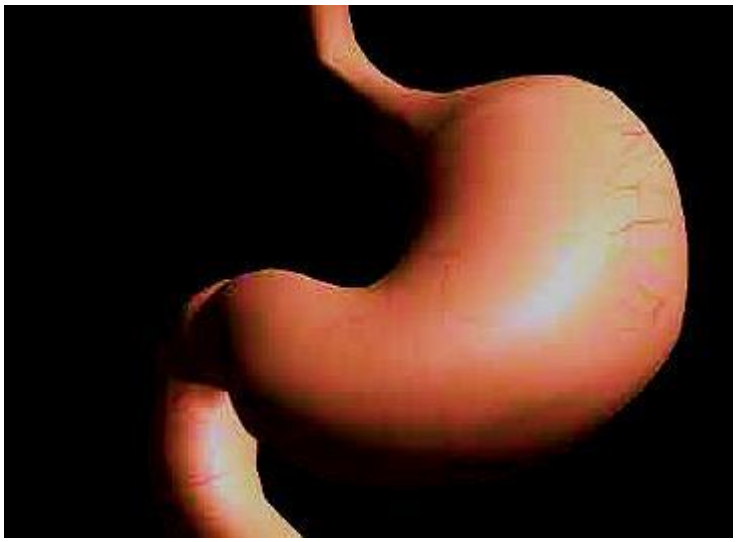
The first big step the body takes is registering hydration through your mouth. After a few gulps of water, the brain will convince the body– that the body has had enough to drink.

This is an important hydration mechanism because it takes a long time for the water that was drunk to reach cells and provide them with sufficient hydration. If the brain registered hydration only after cells received water, people would be drinking way more than the body really needs.

The communication between the brain and mouth allows someone to stop drinking at the appropriate time, even if the water hasn't fully hydrated the system yet.

The stomach is a small pipe connected to the mouth and lands in the stomach. This is where the process of water absorption to the bloodstream begins.

The amount of water absorbed in the stomach and how quickly water is absorbed depends, in part, on how much has been eaten. If someone is drinking water on an empty stomach, they are more likely to experience a faster rate of water absorption.



Whereas, if a person has eaten a lot of food before they drink water, the speed of absorption will slow down accordingly, and absorption could take up to a few hours.

Water and Your Small Intestine

The small intestine, at around 20 feet long, efficiently absorbs water into the cell membrane and bloodstream. From here, water will travel to cells across the body, providing them with the hydration to perform daily functions efficiently.

But the journey of the water you drink doesn't stop there. Once absorbed into the body, water aids some vital functions.

Water and Your Large Intestine

The large intestine is the key center for water reabsorption rather than the stomach and the small intestine because of the following reasons:

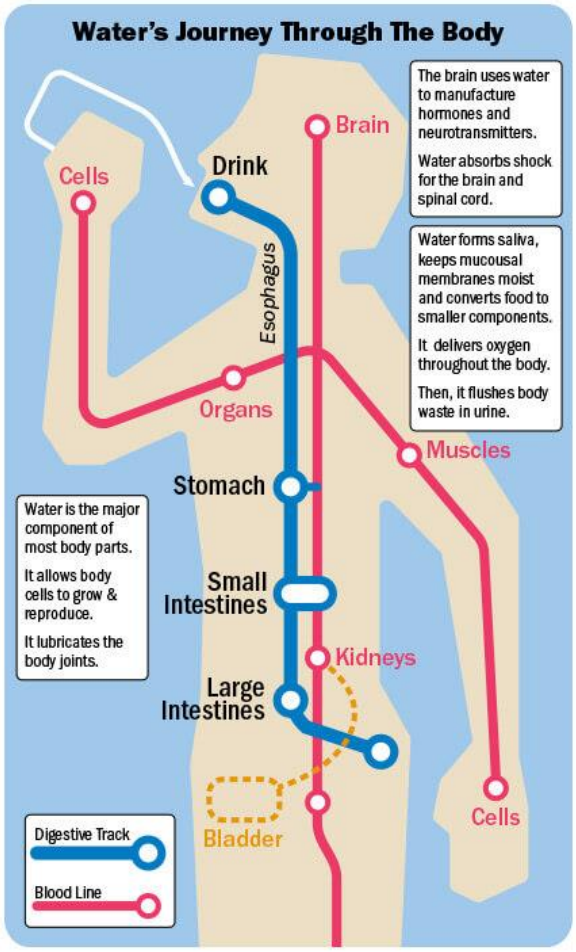
It prevents most of the *paracellular flow* of water and electrolytes because of tight junctions, unlike in the small intestine. This prevents the backflow of electrolytes and water from the chyle to the blood.

It is mainly involved in concentrating the fecal matter, so reabsorption of water and electrolytes becomes its main function.

One such task is filtering toxins. This is primarily the job of your kidneys, but to filter toxins efficiently, kidneys require a large amount of water. If the kidney does not receive enough water, it could lead to health concerns including kidney stones and other kidney-related diseases.

Fortunately, one way the kidneys inform someone of whether they're providing their body with enough water is by concentrating the amount of water expelled through urine – thus changing the colour of urine to bright yellow.

WATER



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