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Absorption definition digestive system

Definition of sec, plural: absorption The process of absorption or assimilation of substances into cells or through tissues and organs by diffusion or osmosis, as when absorbing nutrients by the digestive system, or absorption of drugs into the bloodstream The addition of absorption, in general terms, is an act or process of absorption or assimilation. In biology, absorption is especially related to the process of absorption or assimilation of substances into the cell or through tissues and organs. It's diffusion or osmosis. For example, absorption through the skin is how substances can enter the body. Called dermal absorption, the absorption process after exposure to certain toxic substances is one of the means (the other, through inhalation and inhalation) through which they could enter the body. Dermal absorption can also be used as a route of administration of certain drugs. Another example of biological absorption is the absorption of digested food especially through the wall of the intestine (especially the small intestine). Digested food in the small intestine passes through the walls of the small intestine into the blood vessels by diffusion or active transport. In other related disciplines, such as physics, absorption refers to the act or process of retaining light energy without reflection or transmission when passing through the medium, as in the absorption of light by atoms. In chemistry, absorption refers to the process in which the substance permeates the other, as in the liquid that permeates or absorbs solid. Origin of the word: Latin *apsorptio*, from *absorption* Compare: See also: Related term(s): Related form(s): absorb (verb, take liquid or other substance) This lesson speaks of methods used for ecological research, such as sampling squares and transectates, blurbing canopies, an. One of Mendel's laws of succession is the law of dominance. Read this guide to know more about this form and.. The sensory system is a part of the nervous system consisting of sensory receptors that receive stimulus from the internal. Mātauranga Māori is a life knowledge system of the indigenous people of New Zealand, including Lt. relations. Hormones are chemical messengers produced by specialized glands and were formed by including gene design. Multicellular organisms have evolved. The first were probably in the form of sponges. Multicellularity has led to evolution.. Digestion is a chemical breakdown of nested food into absorbent molecules. Absorption refers to the movement of nutrients, water and electrolytes from the lumens of the small intestine to the cell, and then to the blood. In this article we will look at the digestion and absorption of carbohydrates, proteins and lipids. Digestion of carbohydrates There are three carbohydrate products that absorb the small intestine: glucose, galactose and fructose. Digestion of starch is triggered in the mouth, facilitates Amilazing drooling. Most digestion of carbohydrates occurs in the small intestine. The main enzyme is pancreatic amylase, which gives starch disaccharides by digesting alpha 1-4 glycoside bonds. Produced disaccharides (maltose, maltotriosis and α -dextrin) are converted into glucose by the enzymes of the border with a brush. Disaccharides that occur naturally in food do not require amylase to break them down. The boundary enzymes of the brush (lactase, sucrasid, trehalase) hydrologize these compounds into molecules of glucose, galactose and fructose. Glucose absorption and galactose are absorbed via the apical membrane by secondary active transport (along with Na⁺) via sodium glucose co-ormater (SGLT1). Both glucose and galactose exit the cell via glut2 receptors via the basolateral membrane into the blood. Fructose enters the cell by eased diffusion via GLUT5 and is transported to the blood via glut2 receptors. [caption id=attachment_14453 align=aligncenter width=725] Fig 1 - Sodium moves down its concentration gradient, bringing glucose to the cell. [description] Protein digestion Protein digestion begins in the stomach with the action of pepsin, which breaks down proteins into amino acids and oligopeptides. The process of digestion is completed in the small intestine with a brush border and pancreatic enzymes. They divided oligopeptides into amino acids, dipeptides and tripeptides. The absorption of Amino acids is absorbed through sodium co-motorsporter, in a similar mechanism to monosaccharides. They are then transported over the basolateral membrane via a facilitated diffusion. Di and tripeptides are absorbed through separate H⁺ dependent co-drivers and once inside the cell are hydrolysed to amino acids. [caption id=attachment_14457 align=aligncenter width=1024] Fig 2 - Transporter sodium-amino acid, which is almost identical to the transporter of sodium and glucose. [description] Lipids digestion Lipids are hydrophobic, and thus poorly soluble in the aquatic environment of the digestive tract. Digestion is started by lingual and gastric lipasia, but this digests only 10% of the contracted lipids. The rest of the lipid is digested in the small intestine. Here, bile helps digestion by emulsifying fatty cups into smaller pieces, called mycelium, which have a much larger surface area. Pancreatic lipase, phospholipiasid A2 and cholesterol hydrolase (3 main enzymes included in lipid digestion) of mycelium hydrolysis, diluting into fatty acids, monoglycerides, cholesterol and lisolectihin. Absorption Products from digestion are released into the apical membrane and diffused into enterocytes. Inside the cell, the products were re-esterified in the form of native lipids, triglycerides, cholesterol and phospholipids. Lipids are then packed inside the apoprotein to form chylomicron. Chylomicrons are too large to enter the circulation, so they enter the lymphatic system via the lacteal. [Description align=aligncenter width=300] Sl 3 - The action of bile acids. By shrouding lipids, bile increases absorption. [description] Water absorption The average adult usually ingests 1-2 L of water every day, but the fluid load in the small intestine is 9 to 10 L, 8 to 9 L is added to the secretion of the GI system. Most of the absorption of water and electrolytes occurs in the small intestine, with some water absorbed in the large intestine. Water absorption depends on the absorption of soluts such as (Na⁺ and Cl⁻). Na⁺ is absorbed from intestinal lumens, most use coransport with glucose and amino acids and on +/H exchange, which allow Na⁺ ions to move from lumens to enterocytes. Na⁺ is quickly removed from enterocytes via Na⁺ pumps, allowing water via osmosis to follow transcellular or paracellular (between the narrow compounds of enterocytes). Water as well as Na⁺ es can then be diffused into capillaries. [initial-clinical] Clinical relevance - Steatorrhea Steatorrhea is due to disruption of normal lipid absorption, which leads to a fat-filled outfly. There are numerous root causes for this such as pancreatitis, which prevents the correct secretion of pancreatic lipase and so lipids remain undigested. Another cause is gallstones that prevent bile from entering the duodenum and again prevent the maximum absorption of lipids. However, absorption in the small intestine can be compromised, such as inflammatory bowel disease. To distinguish the root causes of Steatorrhea, the small intestine and the biliard tree must be visualized. The small intestine can be visualized by endoscopy or radiography, while the biliary tree can be visualized by endoscopic retrograde cholegiopancreatography. [ultimately clinical] The digestive system includes the digestive tract and its additional organs, which process food into molecules that the body's cells can absorb and use. Food is stretched, little by little, until the molecules are small enough to be absorbed and waste products are eliminated. The digestive tract, also called the alimony canal or gastrointestinal (GI) tract, consists of a long continuous tube that extends from the mouth to the anus. Includes mouth, foies, esophagus, stomach, small intestine and colon. The tongue and teeth are the accomplices found in the mouth. Salivary glands, liver, gallbladder and pancreas are the main supplements that play a role in digestion. These organs secrete fluids into the digestive tract. Food undergoes three types of processes in the body: Digestion Absorption Elimination digestion and absorption occur in the digestive tract. Once nutrients are absorbed, they are available to all cells in the body and are used by body cells in metabolism. The digestive system prepares nutrients for use by body cells through six activities, or functions. Ingestion The first activity of the digestive system take it into the food through your mouth. This process, called ingestion, must happen before anything else can happen. Mechanical digestion Large pieces of food that are ingested must be broken down into smaller particles that can be affected by various enzymes. It is a mechanical digestion, which begins in the mouth by chewing or mastication and continues to churn and mix actions in the stomach. Chemical digestion Complex molecules of carbohydrates, proteins and fats are converted by chemical digestion into smaller molecules that cells can absorb and use. Chemical digestion, through a process called hydrolysis, uses water and digestive enzymes to break down complex molecules. Digestive enzymes accelerate the process of hydrolysis, which is otherwise very slow. Movements After intake and mastication, food particles move from the mouth to the pharynx, and then into the esophagus. This movement is deguttion, or ingestion. Mixing movements occur in the stomach as a result of smooth muscle contraction. These repetitive contractions usually occur in small segments of the digestive tract and mix food particles with enzymes and other liquids. Movements that move food particles through the digestive tract are called peristalsis. These are rhythmic waves of contractions that move food particles through different regions where mechanical and chemical digestion takes place. Absorption Simple molecules resulting from chemical digestion pass through the cell membranes of the mucous membranes in the small intestine into the blood or lymphatic capillaries. This process is called absorption. Elimination Food molecules that cannot be digested or absorbed must be eliminated from the body. Removing indigestible waste through the anus, in the form of faeces, is defecation or elimination. « Previous (review)Next (General Structure) »