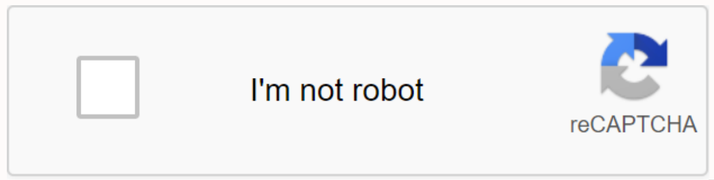

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Gi tract anatomy pdf

The system of internal bodies of humans and other animals involved in the stomach and intestines of the intestine is diverted here. For other uses, see Enteric (orientation). Guts divert here. For other uses, see Guts (orientation). GastrointestinalDiagram stomach, intestines and rectum in humans Average detailH digestive systemDigestiveIdentifiersLatinTractus digestorius (mouth to anus), canalis alimentarius (anesentery to the large intestine), digestive canalis (stomach to large intestine)MeSHD041981 Anatomical terminology[edit on Wikidata] Major parts of the gastrointestinal tract Gastrointestinal tract on the Mouth Gastroesooorum Duodenum Low Gastrointestinal Tract Jejunum Ileum Large Intestine Sigmoid Direct Bowel Anal Colon See Also Gastrointestinal Tract Anatomical Terminology Outlines Gastrointestinal vte Anatomy, (Gastrointestinal Tract, GIT, Gastrointestinal Tract, Gastrointestinal Tract, Digestive Canal) is the oral to anal route that covers all the bodies of the digestive system in humans and other animals. Food that is introduced through the mouth is digested to extract nutrients and absorb energy, and waste is expelled as feces. The mouth, esoenter, stomach and intestines are all parts of the gastrointestinal tract. Digestion is an antholytic meaning or related to the stomach and intestines. A line is a set of related anatomical structures or a series of connected body bodies. All vertebrates and most inebrates have a gastrointestinal tract. The sponges, cnidarians, and ctenophores are early inteebrates with an incomplete gastrointestinal tract with only one opening instead of two, where food is brought in and waste is expelled. [2] The human gastrointestinal tract consists of the esentery, stomach, and intestines, and is divided into upper and lower gastrointestinal tracts. [3] The gastrointestinal tract consists of all structures between the mouth and anus,[4] which form a continuous passage that consists of the main digestive bodies, namely the stomach, small intestine, and large intestine. However, the complete human digestive system is made up of the gastrointestinal tract plus the accessory bodies of the digestion (tongue, salivary glands, pancreas, liver and gallbladder). [5] Sugar can also be divided into foregut, midgut, and hindgut, reflecting the embryonic origin of each segment. The entire human gastrointestinal tract is about nine meters (30 feet) long during an autopsy. It is significantly shorter in the living body because of the intestines, which are smooth muscle tissue tubes, maintaining constant muscle tone in a semi-tense state but being able to relax at points to allow local obstruction and peristalsis. [7] The gastrointestinal tract contains trillions of bacteria, with about 4,000 different strains of bacteria playing a diverse role in maintaining immune and digestive health. [10] The cells of the gastrointestinal tract release hormones to help regulate digestion. These digestive hormones, including gastrin, secretin, and ghrelin, mediaed through intracrine or autocrine mechanisms, indicates that cells that release hormones are structurally preserved throughout evolution. [11] Structure of the human gastrointestinal tract The structure of the upper and lower human gastrointestinal tract Illustrates the human gastrointestinal tract Structure and function that can be described both as overall anatomy and as anatomical or micro hissology. The sugar itself is divided into upper and lower regions, and the intestines are small and large. [12] The gastrointestinal tract on the main articles: The gastrointestinal tract, stomach and duodenum the upper gastrointestinal tract includes the mouth, pharynx, oresenter, stomach and duodenum. [13] The correct determination between the upper and lower regions is the suspensory muscle of the duodenum. This distinguishes the embryonic border between foregut and midgut, and is also the division commonly used by clinicians to describe gastrointestinal bleeding as of over or lower origin. After dissection, the duodenum may appear to be a unified body, but it is divided into four segments based on function, location and internal anatomy. The four segments of the duodenum are as follows (starting from the stomach, and moving towards jejunum): bulbs, descending, horizontal and ascending. The suspensory muscle attaches the upper border of the ascending duodenum to the diaphragm. Suspensory muscles are an important anatomical landmark that shows the official division between the duodenum and jejunum, the first and second parts of the small intestine, respectively. [14] It is a thin muscle derived from the embryonic mesoderm. The lower gastrointestinal tract consists of most of the small intestine and all large intestines. [15] In human anatomy, intestines (intestines, or intestines. Greek: éntera) is a segment of the gastrointestinal tract that extends from the gastrointestinal syst ring to the anus and, as in other mammals, consists of two segments, the small intestine and the large intestine. In humans, the small intestine is further divided into duodenum, jejunum and ileum while the large intestine is divided into, cecum, ascending, horizontal, descending and sigmoid colon, rectum, and canal. [17] Small intestine Primary: The small intestine begins in the duodenum and is a tectular structure, usually 6 to 7 m long. [18] Its mucosal area in adults is about 30 m2. [19] The combination of round folds, capillary velvet and microvilli increases the absorption area of the mucosa by about 600 times, making the total area about 250 square meters for the entire small intestine. [20] Its main function is the absorption of digestive products (including carbohydrates, proteins, lipids and vitamins) into the bloodstream. There are three main divisions: Duodenum: A short structure (about 20 to 25 cm long[18]) receives chyme from the stomach, with pancreatic juice containing digestive enzymes and bile from the gallbladder. Digestive enzymes break down proteins, and bile emulsifies fat into micelles. The duodenum contains glands of Brunner that produce an alkaline excretion rich in mucus containing bicarbonate. These secretion substances, in combination with bicarbonate from the pancreas, neutralize the stomach acids that are in the chyme. Jejunum: This is the middle part of the small intestine, which connects the duodenum to the intestine. It is about 2.5 m long, and contains round folds also known as plicae circles, and capillary velvet increases its surface area. Digestive products (sugar, amino acids and fatty acids) are absorbed into the bloodstream here. Ileum: The last part of the small intestine. It is about 3 m long, and contains villi similar to jejunum. It absorbs mainly vitamin B12 and bile acids, as well as any remaining nutrients. Large intestine Main article: Large intestine Is also known as colon, including cecum, rectum and tube. It also includes the appendix, which is attached to the cecum. The colon is further divided into: Cecum (the first part of the colon) and appendix Ascending colon (ascending in the back wall of the abdomen) Bending the right abdomen (the bending part of the colon ascending and horizontally clear to the liver) Horizontal colon (passing underneath the diaphragm) Left abdominal pain bending (the bending part of the colon horizontally and clearly descending for the spleen) The colon gradually decreases (descending downwards the left side of the abdomen) Sigmoid colon (a loop of the colon closest to the rectum) rectum The main function of the large intestine is water absorption. The area of the large intestinal mucosa of an adult human is about 2 m2. [19] The development of the Main Post: The development of the intestinal digestive system is a structure of endodermal origin. At about the sixteenth day of human development, the embryo begins to fold the abdomen (with the abdominal surface of the embryo becoming concave) in two directions: the sides of the embryo fold into each other and the head and tail fold towards each other. The result is a piece of the yolk scath, a structure lined with endoderm that exposed the abdominal aspects of the embryo, which began to be pinched off to become primitive intestines. The yolk sling is still connected to the intestinal tube through the vitelline tube. Most often, this structure regresses during development; in case it does not, it is called meckel's excess pocket. In the life of the fetus, the primitive intestine is gradually modeled into three segments: foregut, midgut, and hindgut. Although these terms are often used in reference to segmentation of the primitive intestine, they are also used frequently to describe areas of the intestine definitively as well. Each segment of the intestine is further defined and giving birth to specific intestinal and intestinal-related structures in later development. Ingredients derived from the proper intestine, including the stomach and colon, develop as or dilation in the cells of the primitive intestine. On the contrary, the intestinal-related consyction - that is, those structures that originate from the primitive intestine but are not part of the proper intestine, in general, develop as out-pouchings of the primitive intestine. The blood vessels that supply these structures remain constant throughout development. [21] Partly in adults Giving arises arterial supply Foregut the anus to the first 2 parts of the duodenal, stomach, duodenal (part 1 and part 2), liver, gallbladder, pancreas, upper part of the pancreas (Note that although the spleen is supplied by the celiac trunk, it is derived from the dorsal mesentery and therefore not a foregut ion) celiac stem Lower duodenal midgut, up to the first two-thirds of the duodenum under the horizontal colon, jejunum, ileum, cecum, appendix, ascending colon, and the first two-thirds of the horizontal colon branch of the hindgut upper mesenteric artery last third of the horizontal colon, to the upper part of the third end of the horizontal tube of the horizontal colon , descending colon, rectum, and upper part of the canal branches of the inferior mesenteric artery : Gastrointestinal wall The general structure of the intestinal wall 1: Mucosa: Mucosa: Lamina propria3: Mucosa: Muscular mucosa4: Lumen5: Lymphatic tissue6: Tract7 external gland: Gland in mucosa8: Submucosa9: Glands in submucosa10 : Meissner11's mucosal effusion: Veins12: Muscularis: Round muscles13: Muscles: Longitudinal muscles14: Serosa: Connective tissue areolar15: Serosa: Myothology16: Auerbach17 mesostatic effusion: Nerve18: Artery19: Gastrointestinal mesostatic mesoactic with a number of differences that reflect functional anatomy. [22] The gastrointestinal tract can be divided into four conc centered layers in the following order: the muscle layer under the Adventitia mucosa or the serosa mucosa Further: The oral mucosa and gastric mucosa The mucosa is the top layer of the gastrointestinal tract. The mucosa surrounds the heart, or open space in the tube. This class is in direct contact with digestive food (chyme). The mucosa is made up of: Epitho-top layer. Responsible for most processes of digestion, absorption and excretion. Lamina propria - a layer of connective tissue. Cellular anoformity compared to most connective tissue Muscularis mucosae - a thin layer of smooth muscle supports passing of the material and enhances the interaction between the epithal layer and the contents of the pleasing by agitation and peristalsis. The mucosa has high expertise in each body of the gastrointestinal tract to cope with different conditions. The most variant is seen in the tissue. Submucosa Main Article: Submucosa Submucosa consists of an uneven dense layer of tissue associated with large blood vessels, lymph, and nerves branching into the mucosa and muscles that are externa. It contains the angled under the mucosa, an intestinal nerve located on the inner surface of externa muscularis. Muscle layer Muscle layer consists of an inner round layer and a longitudinal outer layer. The round layer prevents food from going backward and the longitudinal layer shortens the sugar. The layers are not really vertical or round, instead the muscle layers are helical with different nodules. The inner circle is helical with a steep pitch and the outer vertical is helical with a much shallower pitch. [23] While muscles are externa similar throughout the entire gastrointestinal tract, one exception is that the stomach has an extra layer of oblique muscle inside to aid grinding and mixing food. The muscles are externa of the stomach consisting of the inner oblique layer, the middle round layer, and the outer longitudinal layer. Between the rounded and longitudinal muscle layers are myenteric angleds. This controls peristalsis. The operation is started by pacemaker cells, (Cajal's mesocardia cells). The intestine has inland peristaltic activity (basic electrical rhythm) due to its closed intestinal nervous system. The ratio can be adjusted by the rest of the autonomic nervous system. [23] The coordinated contractions of these classes are called peristalsis and push food through the road. Food in the gastrointestinal tract is called bolus (food balls) from the mouth down to the stomach. After the stomach, food is partly digested and semi-liquid, and is called chyme. In the large intestine, the remaining semi-solid is called feces. [23] Adventitia and serosa Main articles: Serum membranes and Adventitia The outer outer layer of the gastrointestinal tract consists of several layers of connective tissue. The parts in the mesoaccharize of the gastrointestinal tract are covered with serosa. These include most of the stomach, the first part of the

duodenum, all the small intestine, caecum and appendix, horizontal colon, sigmoid colon and rectum. In the parts of the intestine there is a clear boundary between the intestine and the surrounding tissues. These parts of the road have mesoome. The lateriometrial parts are covered with adventitia. They blend into the surrounding tissues and are fixed in place. For example, the lateral part of the duodenum usually passes through the transpyloric plane. These include the anesthetic, the monimen of the stomach, the distant duodenum, the ascending colon, the descending colon, and the tube. In addition, the oral cavity has adventitia. Gene and protein expression Approximately 20,000 protein-encoding genes are expressed in human cells and 75% of these genes are expressed in at least one of the different parts of the digestive system. [25] More than 600 of these genes are expressed more specifically in one or more parts of the gastrointestinal tract, and the corresponding proteins have functions related to food digestion and nutrient absorption. Examples of specific proteins with such functions are pepsinogen PGC and LIPF, expressed in the chief cells, and ATPase ATP4A stomach and gif intries in the stomach, expressed in the finished cells of the gastric mucosa. Specific proteins expressed in the stomach and duodenum involved in defense include the mucin protein, such as mucin 6 and intelectin-1. [26] The duration of food time for gastrointestinal transport varies by many factors, including age, ethnicity, and gender. [medical citation needed] A number of techniques have been used to measure shipping times, including post-meal x-rays labelled barium, breath hydrogen analysis and post-meal syrradiation analysis labeled radioactive. [medical citation needed] It takes 2.5 to 3 hours for 50% of the contents to leave the stomach. [medical citation needed] The speed of digestion also depends on the material that is digested, since the food composition from the same meal can leave the stomach to varying degrees. [medical citation needed] The total pouring of the stomach takes about 4-5 hours, and transit through the colon takes 30-50 hours. [28] Immune function The immune barrier of the gastrointestinal tract makes up an important part of the immune system. [30] The surface area of the gastrointestinal tract is estimated at 32 square meters, or about half the badminton court. [19] With such a large exposure (three times larger than the exposed surface of the skin), these immune components work to prevent the pathogen from entering the blood and lymphatic circulatory system. [31] The basic components of this protection are provided by the intestinal mucosal barrier consisting of physical, bio biobiy, and immune elements built up by the intestinal mucosa. [32] Microorganisms are also kept at bay by an extensive immune system consisting of intestinal lymphatic tissue (GALT) There are additional factors that contribute to protection from the penetration of pathogens. For example, the low pH (ranging from 1 to 4) of the stomach is fatal for many microorganisms that enter it. [33] Similarly, mucus (containing IgA antibodies) neutralizes many pathogens. [34] Other factors in the gastrointestinal tract that contribute to immune function include enzymes secreted in saliva and bile. Immune system homeostasis beneficial bacteria can also contribute to the homeostasis of the gastrointestinal immune system. For example, Clostridia, one of the most dominant groups of bacteria in the gastrointestinal tract, plays an important role in influencing the dynamics of the immune system of the intestine. [35] It has been shown that eating a diet high in fiber may be responsible for indusing T-conditioning cells (Tregs). This is due to the production of short chain fatty acids during fermentation of plant-derived nutrients such as butyrate and propionate. Basically, butyrate causes the difference of Treg cells by enhancing histone H3 acetylation in promoter and preserving the decrypted order zone of locus FOXP3, thus regulating T cells, the result reduces the inflammatory and allergic response. The large intestine microbiota stores certain types of bacteria that can cope with molecules that the human body cannot break down. [36] This is an example of sym births. These bacteria also account for the production of gases in the host pathogen interface, inside our intestines (this gas is released as flatulence when removed through the anus). However, the large intestine is mainly associated with the absorption of water from the digestive material (regulated by the hypothyudic region) and the resuming of sodium, as well as any nutrients that may have escaped the main digestion in the ileum. [to quote] Intestinal bacteria enhance the health of the intestinal flora that serve to prevent the over growth of potentially harmful bacteria in the intestine. These two bacteria compete for space and food, as there are limited resources in the intestinal tract. A rate of 80-85% beneficial for 15-20% of potentially harmful bacteria is generally considered normal in the intestine. [to quote] Detoxify and convert enzyme drugs such as CYP3A4, along with antiporter activities, are also instruments in the role of intestinal drug transformation in antigen detoxification and xenobiotics. [37] Clinical significance This section discusses related diseases, medical associations with the gastrointestinal tract and use in surgery. Article details: Gastrointestinal and Gastrointestinal diseases More information: Diseases of clinical significance There are many diseases and conditions that can affect the digestive system, including infection, inflammation and cancer. Various pathogenic agents, such as food-ing pathogenic bacteria, can cause gastroenteritis caused by gastritis and small intestines. Antibiotics for the treatment of such bacterial infections can reduce the microbiome diversity of the gastrointestinal tract, and further allow inflammatory intermediates. [38] Gastroenteritis is the most common disease of the gastrointestinal tract. Gastrointestinal cancer can occur at any time in the gastrointestinal tract, and includes oral cancer, tongue cancer, esophagus cancer, stomach cancer, and colorectal cancer. Inflammation. Inflammation of the intestine is inflammation of the small intestine, colitis is inflammation of the large intestine. Appendicitis is appendicitis located in caecum. This is a potentially fatal condition if not treated; most cases of appendicitis require surgical intervention. Excess bag disease is a very common condition in the elderly in industrialized countries. It usually affects the large intestine but has been known to affect the small intestine as well. Diverticulosis occurs when bags form on the intestinal wall. Once the s vesicers become inflamed, it is called inflammation of the excess vesicers. Inflammatory bowel disease is an inflammation that affects the intestinal wall, and includes subgroups of Crohn's and colitis. While Crohn's can affect the entire gastrointestinal tract, ulcerative colitis is limited to the large intestine. Crohn's disease is considered an autoimmune disease. Although ulcerative colitis is often treated as if it were an autoimmune disease, there is no consensus that it really is. The most common functional gastrointestinal disorder among them is irritable bowel syndrome. Functional constipation and chronic functional abdominal pain are other dysfunctions of the intestine that have a ereviable cause but do not have a structural, chemical or i.a.m. infectious pathology that is i.a. Symptoms Some symptoms are used to refer to problems with the gastrointestinal tract: Vomiting, which may include food reflux or vomiting blood Diarrhea, or passing through loose stools or more often Constipation, refers to passing through the stool less and harder Blood in the stool, including scarlet blood , maroon blood color and gastrointestinal surgery treated with tar-colored blood can often be performed in outpatient cases. In the United States in 2012, operations on the digestive system accounted for 3 of the 25 most common emergency surgical procedures and accounted for 9.1 percent of all outpatient emergency surgeries. Imaging different gastrointestinal imaging methods include the upper and lower gastrointestinal tract series: Radioactive dyes can be swallowed to create a bari swallowIng Parts of sugar can be visualized by the camera. This is called endoscopy if the upper gastrointestinal tract is checked, and colonoscopy or sigmoidoscopy endoscopy if the lower gastrointestinal tract is checked. Capsule endoscopy is where a capsule containing a camera is swallowed to check the sugar. Biosyn births can also be performed during examination. Abdominal x-rays can be used to examine the lower gastrointestinal tract. Other related diseases Giardiasis intestinal duplicate cysts Peptic ulcer Peptic ulcer Peptic ulcer Helicobacter pylori yellow fever is a gram-negative spiral bacterium. More than half of the world's population is infected, mostly in childhood; it is not certain how the disease is transmitted. It colonizes the digestive system, mainly the stomach. Bacteria have specific survival conditions that microen our stomach: it has both capnophilic and microaerophilic. Helicobacter also exhibits a tropism to the gastric epithaltic mucosa and the gastric mucosa layer about it. The invasion of the stomach of this bacterium causes a strong immune response that leads to medium to severe inflammation, called gastritis. Signs and symptoms of infection are gastritis, burning abdominal pain, weight loss, loss of appetite, flatulence, belching, nausea, vomiting of blood and black tar stools. Infection can be detected in several ways: gastrointestinal x-rays, endoscopy, blood tests for anti-Helicobacter antibodies, stool tests and urease breath tests (which are by-products of If caught early, it can be treated with three different doses of proton pump inhibitors as well as two antibiotics, which take about a week to cure. If not soon caught, surgery may be required. [42] False intestinal obstruction is a syndrome caused by malformations of the digestive system, characterized by a severe deterioration in bowel pushing and assembling. Symptoms include daily abdominal and stomach pain, nausea, severe abdominal distention, vomiting, heartburn, difficulty swallowing, diarrhea, constipation, dehydration and malnutrition. There is no cure for fake intestinal obstruction. Different types of surgery and treatment manage life-threatening complications such as the intestines and volvulus, intestinal stasis leads to overdating of bacteria and may require removal of affected or dead parts of the intestine. Many patients need med/med diet. Ileus is a blockage of the intestine. Coeliac disease is a common form of poor absorption, affecting 1% of people of Nordic descent. An autoimmune reaction is activated in intestinal cells by digesting gluten proteins. Eating protein is found in wheat, barley and rye, causing villous atrophy in the small intestine. Avoiding the lifelong diet of these foods in a gluten-free diet is the only treatment. Enteroviruses are named after the intestinal transmission route (intestinal means intestinal), but their symptoms are not primarily related to the intestine. Endometriosis can affect the intestines, with symptoms similar to irritable bowel syndrome. Twisting the intestines (or similarly, intestinal strangulation) is a relatively rare event (usually develops sometimes after major bowel surgery). It is, however, difficult to diagnose correctly, and if not corrected can lead to intestinal infarction and death. (Singer Maurice Gibb is understood to have died of this.) Angiodysplasia of colon constipation Diarrhea Hirschsprung disease (aganglionosis) Intussusception Polyps (medicine) (see also colorectal polyps) Toxic megacolon colitis is often a complication of ulcerative colitis Using the intestines of the intestines from animals other than humans are used in some ways. From each species of livestock is a source of milk, a corresponding rennet obtained from the intestines of the edied milk calf. Pig intestines and calves are eaten, and pig intestines are used as sausage shells. The calf intestine provides calves-intestinal alkaline phosphatase (CIP), and is used to make the skin of the goldbeater. Other uses are: The use of the musicians' animal gut strings can be traced back to Egypt's third dynasty. With the advent of the modern era, musicians have tended to use wires made of silk, or synthetic materials such as nylon or steel. Some musicians, however, still use gut strings to evoke the old melody quality. Although such wires are often called catgut wires, cats have been used as a source for intestinal cords. [44] Sheep's intestines are the source of natural intestinal chains used in rackets, such as tennis. Today, synthetic cords are much more common, but the best intestinal cords are now made of beef intestines. Intestinal cords have also been used to produce wires for traps that provide the characteristic buzzing ton of a snare drum. While modern trap drums almost always use metal wires rather than intestinal wires, North African bending frame drums still use the intestines for this purpose. Natural sausage stems, or shells, are made with animal intestines, especially pork, beef and lamb. The packaging of kokoretsi, gardoubakia, and torcinello is made with lamb (or goat) intestines. Haggis is traditionally boiled in, and served in, a sheep stomach. Chitterlings, a food, consist of thoroughly washed pig intestines. The animal intestine is used to make line lines in long case clocks and for fuse movements in frame clocks, but can be replaced with metal wires. The oldest known condom, since 1640, is made from the intestines of animals. [45] Other animals Further information: The digestive system of ruminants Many other birds and animals with specialized stomachs in the gastrointestinal tract are called throats used for grinding food. Another feature not found in humans but found in a variety of other animals is the crop. In birds, this is found as a vesi pack next to the anesom. Other animals including amphibians, birds, reptiles and egg-laying mammals have large differences in their gastrointestinal tract in the place where it ends with cloaca and not anus. In 2020, the oldest known fossilized gastrointestinal tract, of an extinct worm-like organism in cloudinidae, was discovered; it lived at the end of the Ediacaran period about 550 million years ago. [47] See also This article uses the term anatomy. Gastrointestinal erology All pages able starting with Digestion All pages with a title containing Gastrointestinal Reference ^ Welcome to the CK-12 Foundation. www.ck12.org July 2, 2020. 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