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IMPORTANT ANOTOMIC PECULIARITIES OF THE DIGESTIVE SYSTEM

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Annotation: Stomach, saclike expansion of the digestive system, between the esophagus and the small intestine; it is located in the anterior portion of the abdominal cavity in most vertebrates. The stomach serves as a temporary receptacle for storage and mechanical distribution of food before it is passed into the intestine. In animals whose stomachs contain digestive glands, some of the chemical processes of digestion also occur in the stomach.

Key words: stomach, liver, ilium, blood, nerve,intestine.

The human stomach is subdivided into four regions: the fundus, an expanded area curving up above the cardiac opening (the opening from the stomach into the esophagus); the body, or intermediate region, the central and largest portion; the antrum, the lowermost, somewhat funnel-shaped portion of the stomach; and the pylorus, a narrowing where the stomach joins the small intestine. Each of the openings, the cardiac and the pyloric, has a sphincter muscle that keeps the neighbouring region closed, except when food is passing through. In this manner, food is enclosed by the stomach until ready for digestion. The stomach has the ability to expand or contract depending upon the amount of food contained within it. When contracted, the interior walls form numerous folds (rugae), which disappear when the walls are distended. The thick mucous-membrane lining of the walls is densely packed with small gastric glands; these secrete a mixture of enzymes and hydrochloric acid that partly digest proteins and fats.

The stomach muscles are rarely inactive. Upon entry of food, they relax briefly, then begin to contract. Periodic contractions churn and knead food into a semifluid mixture called chyme; rhythmical pumping (peristaltic) waves move food toward the pylorus

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and small intestine. Peristaltic contractions persist after the stomach empties and, increasing with time, may become painful. Such hunger pangs may also be related to the amount of sugar in the blood. If the level of sugar decreases significantly, hunger can be experienced without the stomach's intervention.

The absorption of food, water, and electrolytes by the stomach is practically negligible, but iron and highly fat-soluble substances such as alcohol and some drugs are absorbed directly. Secretions and movements of the stomach are controlled by the vagus nerve and the sympathetic nervous system; emotional stress can alter normal stomach functions. Common stomach disorders include peptic ulcer, cancer, and gastritis.

Esophagus, relatively straight muscular tube through which food passes from the pharynx to the stomach. The esophagus can contract or expand to allow for the passage of food. Anatomically, it lies behind the trachea and heart and in front of the spinal column; it passes through the muscular diaphragm before entering the stomach. Both ends of the esophagus are closed off by muscular constrictions known as sphincters; at the anterior, or upper, end is the upper esophageal sphincter, and at the distal, or lower, end is the lower esophageal sphincter.

The upper esophageal sphincter is composed of circular muscle tissue and remains closed most of the time. Food entering the pharynx relaxes this sphincter and passes through it into the esophagus; the sphincter immediately closes to prevent food from backing up. Contractions of the muscles in the esophageal wall (peristalsis) move the food down the esophageal tube. The food is pushed ahead of the peristaltic wave until it reaches the lower esophageal sphincter, which opens, allowing food to pass into the stomach, and then closes to prevent the stomach's gastric juices and contents from entering the esophagus.

Disorders of the esophagus include ulceration and bleeding; heartburn, caused by gastric juices in the esophagus; achalasia, an inability to swallow or to pass food from

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the esophagus to the stomach, caused by destruction of the nerve endings in the walls of the esophagus; scleroderma, a collagen disease; and spasms of the esophageal muscles.

In some vertebrates the esophagus is not merely a tubular connection between the pharynx and the stomach but rather may serve as a storage reservoir or an ancillary digestive organ. In many birds, for example, an expanded region of the esophagus anterior to the stomach forms a thin-walled crop, which is the bird's principal organ for the temporary storage of food. Some birds use the crop to carry food to their young. Ruminant mammals, such as the cow, are often said to have four "stomachs." Actually, the first three of these chambers (rumen, reticulum, and omasum) are thought to be derived from the esophagus. Vast numbers of bacteria and protozoans live in the rumen and reticulum. When food enters these chambers, the microbes begin to digest and ferment it, breaking down not only protein, starch, and fats but cellulose as well. The larger, coarser material is periodically regurgitated as the cud, and after further chewing the cud is reswallowed. Slowly the products of microbial action, and some of the microbes themselves, move into the cow's true stomach and intestine, where further digestion and absorption take place. Since the cow, like other mammals, has no cellulose-digesting enzymes of its own, it relies upon the digestive activity of these symbiotic microbes in its digestive tract. Much of the cellulose in the cow's herbivorous diet, which otherwise would have no nutritive value, is thereby made available to the cow.

Small intestine, a long, narrow, folded or coiled tube extending from the stomach to the large intestine; it is the region where most digestion and absorption of food takes place. It is about 6.7 to 7.6 metres (22 to 25 feet) long, highly convoluted, and contained in the central and lower abdominal cavity. A thin membranous material, the mesentery, supports and somewhat suspends the intestines. The mesentery contains areas of fat that help retain heat in the organs, as well as an extensive web of blood

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vessels. Nerves lead to the small intestine from two divisions of the autonomic nervous system: parasympathetic nerves initiate muscular contractions that move food along the tract (peristalsis), and sympathetic nerves suppress intestinal movements.

Three successive regions of the small intestine are customarily distinguished: duodenum, jejunum, and ileum. These regions form one continuous tube, and, although each area exhibits certain characteristic differences, there are no distinctly marked separations between them. The first area, the duodenum, is adjacent to the stomach; it is only 23 to 28 cm (9 to 11 inches) long, has the widest diameter, and is not supported by the mesentery. Ducts from the liver, gallbladder, and pancreas enter the duodenum to provide juices that neutralize acids coming from the stomach and help digest proteins, carbohydrates, and fats. The second region, the jejunum, in the central section of the abdomen, comprises about two-fifths of the remaining tract. The colour of the jejunum is deep red because of its extensive blood supply; its peristaltic movements are rapid and vigorous, and there is little fat in the mesentery that supports this region. The ileum is located in the lower abdomen. Its walls are narrower and thinner than in the previous section, blood supply is more limited, peristaltic movements are slower, and the mesentery has more fatty areas.

The mucous membrane lining the intestinal wall of the small intestine is thrown into transverse folds called plicae circulares, and in higher vertebrates minute fingerlike projections known as villi project into the cavity. These structures greatly increase the area of the secreting and absorbing surface.

The walls of the small intestine house numerous microscopic glands. Secretions from Brunner glands, in the submucosa of the duodenum, function principally to protect the intestinal walls from gastric juices. Lieberkühn glands, occupying the mucous membrane, secrete digestive enzymes, provide outlet ports for Brunner glands, and produce cells that replace surface-membrane cells shed from the tips of villi.

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Peristaltic waves move materials undergoing digestion through the small intestine, while churning movements called rhythmic segmentation mechanically break up these materials, mix them thoroughly with digestive enzymes from the pancreas, liver, and intestinal wall, and bring them in contact with the absorbing surface.

Passage of food through the small intestine normally takes three to six hours. Such afflictions as inflammation (enteritis), deformity (diverticulosis), and functional obstruction may impede passage.

Ileum, the final and longest segment of the small intestine. It is specifically responsible for the absorption of vitamin B_{12} and the reabsorption of conjugated bile salts. The ileum is about 3.5 metres (11.5 feet) long (or about three-fifths the length of the small intestine) and extends from the jejunum (the middle section of the small intestine) to the ileocecal valve, which empties into the colon (large intestine). The ileum is suspended from the abdominal wall by the mesentery, a fold of serous (moisture-secreting) membrane.

The smooth muscle of the ileum's walls is thinner than the walls of other parts of the intestines, and its peristaltic contractions are slower. The ileum's lining is also less permeable than that of the upper small intestine. Small collections of lymphatic tissue (Peyer patches) are embedded in the ileal wall, and specific receptors for bile salts and vitamin B_{12} are contained exclusively in its lining; about 95 percent of the conjugated bile salts in the intestinal contents is absorbed by the ileum.

Two percent of all humans are born with a congenital ileum malformation, called Meckel diverticulum, that consists of a side channel from 1 to 12 cm (0.4 to 4.7 inches) long extending from the intestinal wall. The malformation occurs when the duct leading from the navel to the small intestine in the fetus fails to atrophy and close. A small number of cases require surgical removal because of intestinal bleeding and inflammation.

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Injury or disease affecting the terminal ileum produces vitamin B_{12} deficiency and extensive diarrhea, the latter resulting from the interference of bile salts on water absorption in the large intestine.

Intestine, tubular part of the alimentary canal that extends from the stomach to the anus. The intestine is the site of most chemical digestive processes and the place where digested food materials are either absorbed for use by the body or collected into feces for elimination. The anterior part of the intestine, which is linked to the stomach, is called the small intestine. It is followed by a shorter, wider segment called the large intestine, which terminates in the anus.

REFERENCES:

1. Nozimjon O'g'li, S. S., & Maksimovna, M. M. (2022). THE ORIGIN OF MIASTHENIA DISEASE AND METHODS USED IN TREATMENT. *Conferencea*, 31-33.
2. Nozimjon O'g'li, S. S., & Kasimjanovna, D. O. (2022, November). ORIGIN, PREVENTION OF MENINGITIS DISEASE, WAYS OF TRANSMISSION AND THE USE OF DIFFERENT ROUTES IN TREATMENT. In *E Conference Zone* (pp. 37-40).
3. Mavlonovna RD. Factors That Increase the Activity of Women and Girls in Socio-political Processes at a New Stage of Development of Uzbekistan. JournalNX.;7(07):61-6.
4. Mavlonovna, R. D. Participation of Uzbek Women in Socio-economical and Spiritual Life of the Country (on the Examples of Bukhara and Navoi Regions). *International Journal on Integrated Education*, *4*(6), 16-21.
5. Mavlonovna, R. D. (2021, May). PARTICIPATION OF WOMEN IN EDUCATION AND SCIENCE. In *E-Conference Globe* (pp. 158-163).

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6. Mavlonovna, R. D., & Akbarovna, M. V. (2021, July). PROVISION OF FAMILY STABILITY AS A PRIORITY OF STATE POLICY. In *Archive of Conferences* (pp. 34-39).

7. Mozimjon o'g'li, S. S., & Makhmudovich, A. H. (2023). Causes of the Origin of Cardiovascular Diseases and their Protection. *AMALIY VA TIBBIYOT FANLARI ILMIY JURNALI*, *2*(2), 185-187.

8. Nozimjon O'g'li, S. S. (2022). CAUSES OF THE ORIGIN OF OSTEOCHONDROSIS, SYMPTOMS, DIAGNOSIS AND TREATMENT METHODS. *Conferencea*, 76-77.