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COURSE TITILE: Histopathology Techniques and Museum

COURSE CODE: MLS 408 Answer

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| SECTIONS OF THE GIT | Oral cavity | Esophagus | Stomach | Small intestine | Large intestine | Appendix |
| Serosa | The oral cavity is divided in a vestibule, the area "outside" the teeth, and an oral cavity proper. The entire oral cavity is lined by a stratified a squamous epithelium. The epithelial lining is divided into two broad types: Masticatory epithelium covers the surfaces involved in the processing of food | The esophagus is lined by  stratified  squamous epithelium without glands. In  fish, the esophagus is often lined with columnar epithelium, and in amphibians, sharks and  rays, the esophageal  epithelium  is ciliated, helping to  wash food along, in addition to the action of muscular peristalsis.T he tunica adventitia is the shifting outer fascial layer that allows for free mobility of the esophagus | Lined by simple columnar  epithelium,G astric folds and gastric fluids which are 5 in  number:pine  al cells,chief cells,mucous secreting  cells,oxyintic cells,zymoge nic cells.  Serosa consists of a secretory epithelial layer and a thin connective tissue layer that reduce  the friction from muscle movements. | The outermost layer of the intestine, the serosa, is a smooth membrane  consisting of a thin layer of cells that secrete serous fluid, and a thin  layer of connective tissue. In the small intestine, the epithelium (particularly the ileum)  is  specialized for absorption, with villi and  microvillii increasing surface area.  Comprised of loosely arranged fibroblasts | The serosa is a thin layer of simple  squamous  epithelial tissue that secretes watery serous fluid to lubricate the surface of the large intestine, protecting it from  friction  between abdominal organs and the surrounding muscles and bones of the lower torso. | The appendix is contained within the visceral peritoneum that forms the serosa, and its exterior layer is longitudinal and derived from the taenia coli; the deeper,  interior  muscle layer is circular.  Beneath these layers lies the  submucosal layer, which contains  lymphoepit  helial tissue. Outside of the muscular  layers there is a  subserosa containing loose |

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|  | (tongue, gingivae and hard palate). The epitheliu m is keratinize d to different degrees  dependin g on the extent of physical forces exerted on it. Lining epitheliu m, i.e.  nonkeratinise d stratified  squamous epitheliu m, covers the remaining surfaces of the oral cavity. | while swallowing. It surrounds the esophagus  and fills the spaces between the esophagus and surrounding organs such as the trachea, bronchi, and pleural. The following are located here:  Large supply vessels  Lymphatic vessels Nerve  fascicles of the vagus nerve and the esophageal sympathetic plexus The esophagus has no serosa which makes it unique to the rest of the gastrointesti nal tract. |  | and collagen, with the vessels and nerves passing through it. The majority of the small intestine adventitia is covered by mesotheliu m and is commonly  called the serosa. |  | connective tissue, vasculature and nerves. The outermost located  peritoneum  consists of a thin lining of mesothelial cells |
| Muscul  aris | The oral mucosa has no  musculari  s  mucosae, and  clearly | Muscularis mucosae  consists of scattered bundles of longitudinal muscle fibers and is thickest in | Contains loose connective tissues,blood vessels and the muscularis in the stomach differs from | The muscularis in the small intestine is made up of a double layer of smooth muscle: an | Considerabl y amount of fat and muscularis mucosae has two layers and extends into the | There is often fatty tissue in the submucosa although it has no function in digestion the |

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|  | identifyin g the boundary between  it and the underlyin g tissues is difficult. | the esophagus, where it consists of  relatively conspicuous bundles of longitudinal muscle  fibers. The muscularis mucosae is thinner in the rest of the tract. | that of other GI organs in that it has three layers of muscle instead of two. Under these muscle layers is the  adventitia— layers of connective tissue that are continuous with the omenta. The stomach has a third layer of muscularis externa: the inner oblique layer. This helps churn the chyme in the stomach. | inner circular layer and an outer longitudinal layer. The contraction s of these layers  promote mechanical digestion, expose more of the food to digestive chemicals, and move the food along the canal. Consists of two smooth muscle layers; the outer longitudinal layer and inner circular layer. The myenteric  plexus lies between them. | intestinal villi, where the smooth muscle cells form a longitudinal bundle in the centre of the villi.  The appearance of the muscularis externa is different from that of the small intestine. The muscularis layer surrounds the submucosa and contains many layers of visceral muscle cells that contract and move the large intestine. Continuous contraction of smooth muscle bands in the muscularis produces lumpy, pouch-like structures known as haustra in the large intestine. | appendix is a significant  component of the MALT with abundant lymphocyte s and lymphoid  follicles in its laminar propria and  submucosa |

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| Sub  Mucosa | The submucos  a underlyin g the lamina propria of the oral cavity is variable. At times the lamina propria  and submucos  a are substantiv ely so similar that they merge impercept  ibly. The  submucos  a will be distinguis hed from the lamina propria only by the presence of minor salivary glands in a loose textured  tissue. A  submucos a may or may not be present deep in the dense layer of the lamina propria, | The submucosa loosely connects the mucous membrane and the  muscular  coat. This layer also contains the larger blood vessels, the submucosal (Meissner) nerve plexus, and esophageal glands. | The submucosa is a dense, irregular layer of connective tissue with large blood vessels, lymphatics, and nerves that supports the mucosa. | The  submucosa  is the layer of dense irregular connective tissue or loose connective tissue that supports the mucosa; it also joins the mucosa to the bulk of underlying smooth muscle. Connective tissue layer, which contains blood vessels, lymphatics and the submucosal plexus. | The mixture of irregular connective and adipose tissue,  numerous blood vessels, and several excellent examples of ganglion cells and nerves of the submucosal plexus. the mucosa is a layer of blood vessels, nerves and connective  tissue known as the submucosa, which supports the other layers of the large intestine. | Rich  lymphoid  tissue in the submucosa that may disrupt the muscularis mucosa, obliterate the lumen and distort the crypt architecture (lymphoid tissue atrophies with age). |

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|  | dependin g on the region of the oral  cavity. If present, the  submucos  a usually contains loose connectiv e tissue and may also contain adipose tissue or salivary glands well as overlying bone or muscle within the oral cavity. |  |  |  |  |  |
| Mucosa | The oral cavity is lined by a mucous  membran  e (the oral mucosa) consisting of a stratified  squamous epitheliu m, which may or may not be keratinize d, and an underlyin g connectiv e tissue layer, the lamina | Epithelium is protective  (stratified  squamous, nonkeratinized). Lamina  propria is unspecialize  d.Is lined by epithelium which is  stratified,  squamous, and non-  keratinizing, for protective purposes. The 1/3 distal part from the stomach of | The epithelium is simple columnar, and is organized into gastric pits and glands to deal with secretion | The mucosa  is the  innermost tissue layer of the small intestines  and is a mucous membrane  that secretes  digestive enzymes and hormones. The intestinal villi are part of the mucosa. The Mucosa of the small intestine has various | The surface of the mucosa is relatively smooth as there are no plicae circulares or intestinal villi.Crypts of  Lieberkuhn are present and usually longer and straighter than those of the small intestine. The muscularis mucosa again forms two layers. | Abundant lymphocyte s and  lymphoid  follicles.The inner lining, facing the lumen of the appendix, is covered by a glandular epithelium with intestinal glands that extend into the deeper layers of the mucosa. The glands are lined with simple columnar |

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|  | propria. The surface is kept moist with mucus produced by the major and numerous  minor  salivary glands. The oral mucosa is well supplied with nerve endings and, on the dorsal surface of the tongue, special sensory endings for taste. | the esophagus is lined by skeletal muscles and the 2/3 proximal  part is lined by smooth muscle. |  | structural features which considerabl y increase the luminal surface and  consequent ly support the main function of the small intestine which is the absorption of degraded  component  s of the food.  Simple columnar epithelium contains intestinal glands  microvilli and the mucosa of the small intestine is lined by a simple columnar epithelium which consists primarily of absorptive cells  (enterocyte s), with scattered goblet cells and occasional enteroendo crine cells. In crypts, the epithelium also | It is lined by absorptive columnar epithelium with goblet  cells and some  enteroendo  crine cells and transverse colon and sigmoid colon have a serosa. The wall of the large intestine is  lined with simple columnar epithelium. Instead of having the evagination s of the small intestine (villi), the large intestine has invaginatio ns (the intestinal glands). | epithelium and a high number of mucin producing goblet cells.. |

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