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**COURSE CODE : MLS 408**

**QUESTION**

In a tabular form only, compare and contrast sections of the Gastrointestinal Tract.

**ANSWER**

**DIFFERENCE**

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| LAYERS | SUBLAYERS | SECTIONS OF THE GASTROINTESTINAL TRACT | | | | | | | | | |
|  |  | **ORAL CAVITY** | **OESOPHAGUS.** | **STOMACH** | **SMALL INTESTINE** | | | **LARGE INTESTINE** | **APPENDIX** | **COLON** | **ANAL CANAL** |
|  |  | **DUODENUM** | **JEJUNUM** | **ILEUM** |
| SEROSA/ADVENTITIA |  |  | Serosa covers only abdominal part of the oesophagus and the rest of esophageal tube is covered by adventitia | Is a thin serous membrane made of simple squamous epithelial tissue and areolar connective tissue.  It has a smooth slippery surface and it secretes a thin watery section known as serous fluid | Generally if its part of the digestive part that is free to move then it is covered by Serosa and if its relatively rigidly fixed then it is covered. By adventitia | The Serosa forms the outermost layer of the jejunum and functions as the skin of the intestine and it is made up of simple squamous epithelium . | The ileum is entirely covered by Serosa from the outside | The Serosa forms the outer most layer, it is a thin layer of simple squamous epithelial tissue that secretes watery serous fluid to lubricate the surface of the large intestine . | The appendix is contained within the v visceral peritoneum that forms the Serosa. | This is present at the outer layer of the colon but its not found in the rectum . |  |
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| MUSCULARIS PROPRIA | OUTER LONGITUDINAL | Absent |  | Developed along curvatures (continuous with layer in oesophagus ) | Consists of an outer longitudinal musculature between which the Auerbach’s plexus lies | Has a outer longitudinal layer of smooth musculature between the Auerbach’s plexus lies | Composed of the traditional inner circular layer and outer longitudinal layer of the smooth muscle cells. | The longitudinal layer is macroscopically thickened into three longitudinal belts . | Contains outer longitudinal layers and prominent ganglion cells. | The outer longitudinal musculature is practically only found in the taeniae. | Present of outer longitudinal . |
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| INNER CIRCULAR | Absent |  | Well developed in the cardiac region | Consists of inner circular which the Auerbach’s plexus lies | Has an inner circular where the Auerbach’s plexus lies | May be modified in valves | Is composed of inner circular smooth muscle layer | Contains the inner circular layers and prominent ganglion cells. | The inner circular musculature of the Muscularis is strongly pronounced. | Circular layer is thicker in area of the anal canal which creates the inner anal sphincter . |
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| SUBMUCOSA |  | The submucosa contains minor salivary glands in the area of the hard palate is no submucosal layer. | The submucosa is highly vascular, and contains loose connective tissue. It contains esophageal glands, that secrete mucus to help ease the passage of swallowed food. | Is made up of various connective tissues, blood vessels, and nerves.the blood supply of the submucosa provides nutrients to the wall of the stomach. | The duodenum is readily distinguished from other regions of the small intestine by the presence of submucosal Brunner’s glands, which may pack the submucosa so completely the connective tissue is obscured . | The submucosa is composed of loose connective tissue. | This contains blood vessels, lymph nodes and the Meisner’s plexus . | Is a largely collagenous layer with occasional aggregations of MALT and large vasculature and lymphatic | The submucosa with prominent lymphoid tissue beneath which are the inner circular and outer longitudinal | Is a layer of connective tissue that surrounds the mucosa. It contains mucous glands, blood vessels, lymph vessels and nerves. | The connective tissue of the submucosa changes to the dense fibrous tissue of dermis |
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| MUCOSA | MUSCULARIS MUCOSA | A Muscularis mucosae is not present | is a thin, double layer of smooth muscle, more substantial in the lower part of the oesophagus. | This appears to be thin and there is prominent layer of smooth muscle . | Maybe disrupted by the submucosal glands which thus appears to extend into the lamina propria. | This is a thin flat layer of smooth muscle cells which lies just under the Botton edge of crypts and forms a border of the small intestine mucosa . | Consists off a muscle layer | This is a flat surface which lies just beneath the terminal portions of colonic glands and is composed of thin layer of smooth muscle cells . | The muscularis mucosae is thin. | This has a thin muscularis mucosae | The muscularis mucosae ends at recto-anal junction. |
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| MUCOSA | LAMINA PROPRIA | The lamina propria is unspecialized. | contains lymphatic capillaries, blood capillaries, and loose connective tissue | Occupies the cores of vill, envelops crypts, and includes numerous cells . | Is embedded with connective tissue layer | The epithelial layer is followed by a cognitive tissue layer | Consist of connective tissue layers |  | This surrounds crypts and contains many lymph nodes. | It surrounds crypts ( interstices between them ) | This is unspecialized with transition to dermis . |
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| EPITHELIUM | This consists of stratified squamous epithelium which may be keratinized and underlined by connective tissue layer. | Has tough stratified squamous epithelium without keratin.serves a protective function against abrasive effects on food. | Consist of simple columnar epithelium which consists of mucus-secreting cells for protection against self digestion. | Consists of simple columnar epithelium, a connective tissue layer and smooth muscle layer. | The mucosa is lined by simple columnar epithelium towards the lumen. | It is lined by simple columnar epithelium which consists of enterocytes and goblets cells. | It is lined with simple columnar epithelium and has goblet cells. | It is made up of simple columnar epithelial tissue | is lined by a simple columnar epithelium with a thin brush border and numerous goblet cells | Has a protective nonkeratinized stratified squamous with transition of the epidermis ( keratinized ) |
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