

# Anatomy & A&P 23 Digestive System Essay

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## 4. Chapter: A&P 23 Digestive System Essay

### 1. A&P 23 Digestive System Essay Questions

4.1.1. By clicking on this link (<http://openstaxcollege.org/l/fooddigestio...>

Author: OpenStax College

By clicking on this link (<http://openstaxcollege.org/l/fooddigestion>) , you can watch a short video of what happens to the food you eat as it passes from your mouth

to your intestine. Along the way, note how the food changes consistency and form. How does this change in consistency facilitate your gaining nutrients from food?

- Answers may vary.

Check the answer of this question online at QuizOver.com:

Question: [By clicking on this link http://openstaxcollege](http://openstaxcollege.org/l/fooddigestion) OpenStax College

4.1.2. Visit this site (<http://openstaxcollege.org/l/fooddigestion2>) for a...

Author: OpenStax College

Visit this site (<http://openstaxcollege.org/l/fooddigestion2>) for an overview of digestion of food in different regions of the digestive tract. Note the route of

non-fat nutrients from the small intestine to their release as nutrients to the body.

- Answers may vary.

Check the answer of this question online at QuizOver.com:

Question: [Visit this site http://openstaxcollege](http://openstaxcollege.org/l/fooddigestion2) OpenStax College Anatomy Quest

4.1.3. Watch this animation (<http://openstaxcollege.org/l/swallowing>) to s...

Author: OpenStax College

Watch this animation (<http://openstaxcollege.org/l/swallowing>) to see how swallowing is a complex process that involves the nervous system to coordinate the actions

of upper respiratory and digestive activities. During which stage of swallowing is there a risk of food entering respiratory pathways and how is this risk blocked?

- Answers may vary.

Check the answer of this question online at QuizOver.com:

Question: [Watch this animation http://openstaxcollege](http://openstaxcollege.org/l/swallowing) OpenStax College Anatomy



4.1.4. Watch this animation (<http://openstaxcollege.org/l/stomach1>) that d...

Author: OpenStax College

Watch this animation (<http://openstaxcollege.org/l/stomach1>) that depicts the structure of the stomach and how this structure functions in the initiation of protein digestion.

This view of the stomach shows the characteristic rugae.

What is the function of these rugae?

- Answers may vary.

Check the answer of this question online at [QuizOver.com](http://QuizOver.com):

Question: [Watch this animation http://openstaxcollege.org/l/stomach1](http://openstaxcollege.org/l/stomach1) OpenStax College Anatomy

#### 4.1.5. Watch this animation (<http://openstaxcollege.org/l/sintestine>) that...

Author: OpenStax College

Watch this animation (<http://openstaxcollege.org/l/sintestine>) that depicts the structure of the small intestine, and, in particular, the villi. Epithelial cells continue the

digestion and absorption of nutrients and transport these nutrients to the lymphatic and circulatory systems. In the small intestine, the products of food digestion are absorbed

by different structures in the villi. Which structure absorbs and transports fats?

- Answers may vary.

Check the answer of this question online at QuizOver.com:

Question: [Watch this animation http://openstaxcollege.org/l/sintestine](http://openstaxcollege.org/l/sintestine) OpenStax College Anatomy

#### 4.1.6. By watching this animation (<http://openstaxcollege.org/l/foodgroups...>)

Author: OpenStax College

By watching this animation (<http://openstaxcollege.org/l/foodgroups>) , you will see that for the various food groups-proteins, fats, and

carbohydrates-digestion begins in different parts of the digestion system, though all end in the same place. Of the three major food classes (carbohydrates, fats, and proteins),

which is digested in the mouth, the stomach, and the small intestine?

- Answers may vary.

Check the answer of this question online at QuizOver.com:

Question: [By watching this animation http:// OpenStax College Anatomy Physiology](http://openstaxcollege.org/l/foodgroups)

4.1.7. Watch this video (<http://openstaxcollege.org/l/liver>) to see the st...

Author: OpenStax College

Watch this video (<http://openstaxcollege.org/l/liver>) to see the structure of the liver and how this structure supports the functions of the liver, including the processing of

nutrients, toxins, and wastes. At rest, about 1500 mL of blood per minute flow through the liver. What percentage of this blood flow comes from the hepatic portal system?

- Answers may vary.

Check the answer of this question online at QuizOver.com:

Question: [Watch this video http://openstaxcollege](http://openstaxcollege.org/l/liver) OpenStax College Anatomy

#### 4.1.8. Explain how the enteric nervous system supports the digestive syste...

Author: OpenStax College

Explain how the enteric nervous system supports the digestive system. What might occur that could result in the autonomic nervous system having a negative impact on digestion?

- The enteric nervous system helps regulate alimentary canal motility and the secretion of digestive juices, thus facilitating digestion. If a person becomes overly anxious, sympathetic innervation of the alimentary canal is stimulated, which can result in a slowing of digestive activity.

Check the answer of this question online at QuizOver.com:

Question: [Explain how the enteric nervous system OpenStax College Anatomy Quest](#)

#### 4.1.9. What layer of the alimentary canal tissue is capable of helping to ...

Author: OpenStax College

What layer of the alimentary canal tissue is capable of helping to protect the body against disease, and through what mechanism?

- The lamina propria of the mucosa contains lymphoid tissue that makes up the MALT and responds to pathogens encountered in the alimentary canal.

Check the answer of this question online at QuizOver.com:

Question: [What layer of the alimentary canal tissue OpenStax College Anatomy](#)

#### 4.1.10. Offer a theory to explain why segmentation occurs and peristalsis s...

Author: OpenStax College

Offer a theory to explain why segmentation occurs and peristalsis slows in the small intestine.

- The majority of digestion and absorption occurs in the small intestine. By slowing the transit of chyme, segmentation and a reduced rate of peristalsis allow time for these processes to occur.

Check the answer of this question online at [QuizOver.com](http://QuizOver.com):

Question: [Offer a theory to explain why segmentation OpenStax College Anatomy](#)

#### 4.1.11. It has been several hours since you last ate. Walking past a bakery...

Author: OpenStax College

It has been several hours since you last ate. Walking past a bakery, you catch a whiff of freshly baked bread. What type of reflex is triggered, and what is the result?

- The majority of digestion and absorption occurs in the small intestine. By slowing the transit of chyme, segmentation and a reduced rate of peristalsis allow time for these processes to occur.

Check the answer of this question online at QuizOver.com:

Question: [It has been several hours since you last OpenStax College Anatomy](#)



#### 4.1.12. The composition of saliva varies from gland to gland.

Discuss how s...

Author: OpenStax College

The composition of saliva varies from gland to gland.

Discuss how saliva produced by the parotid gland differs in action from saliva produced by the sublingual gland.

- Parotid gland saliva is watery with little mucus but a lot of amylase, which allows it to mix freely with food during mastication and begin the digestion of carbohydrates. In contrast, sublingual gland saliva has a lot of mucus with the least amount of amylase of all the salivary glands. The high mucus content serves to lubricate the food for swallowing.

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [The composition of saliva varies from OpenStax College Anatomy Quest](#)

#### 4.1.13. During a hockey game, the puck hits a player in the mouth, knocking...

Author: OpenStax College

During a hockey game, the puck hits a player in the mouth, knocking out all eight of his most anterior teeth.

Which teeth did the player lose and how does this loss affect food ingestion?

- The incisors. Since these teeth are used for tearing off pieces of food during ingestion, the player will need to ingest foods that have already been cut into bite-sized pieces until the broken teeth are replaced.

Check the answer of this question online at QuizOver.com:

Question: [During a hockey game the puck hits a player OpenStax College Anatomy](#)

#### 4.1.14. What prevents swallowed food from entering the airways?

Author: OpenStax College

What prevents swallowed food from entering the airways?

- The incisors. Since these teeth are used for tearing off pieces of food during ingestion, the player will need to ingest foods that have already been cut into bite-sized pieces until the broken teeth are replaced.

Check the answer of this question online at QuizOver.com:

Question: [What prevents swallowed food from entering OpenStax College Anatomy](#)

#### 4.1.15. Explain the mechanism responsible for gastroesophageal reflux.

Author: OpenStax College

Explain the mechanism responsible for gastroesophageal reflux.

- If the lower esophageal sphincter does not close completely, the stomach's acidic contents can back up into the esophagus, a phenomenon known as GERD.

Check the answer of this question online at [QuizOver.com](http://QuizOver.com):

Question: [Explain the mechanism responsible for OpenStax College Anatomy Quest](#)

#### 4.1.16. Describe the three processes involved in the esophageal phase of de...

Author: OpenStax College

Describe the three processes involved in the esophageal phase of deglutition.

- Peristalsis moves the bolus down the esophagus and toward the stomach. Esophageal glands secrete mucus that lubricates the bolus and reduces friction. When the bolus nears the stomach, the lower esophageal sphincter relaxes, allowing the bolus to pass into the stomach.

Check the answer of this question online at QuizOver.com:

Question: [Describe the three processes involved in OpenStax College Anatomy](#)

#### 4.1.17. Explain how the stomach is protected from selfdigestion and why thi...

Author: OpenStax College

Explain how the stomach is protected from selfdigestion and why this is necessary.

- The mucosal barrier protects the stomach from self-digestion. It includes a thick coating of bicarbonate-rich mucus; the mucus is physically protective, and bicarbonate neutralizes gastric acid. Epithelial cells meet at tight junctions, which block gastric juice from penetrating the underlying tissue layers, and stem cells quickly replace sloughed off epithelial mucosal cells.

Check the answer of this question online at QuizOver.com:

Question: [Explain how the stomach is protected from OpenStax College Anatomy](#)

#### 4.1.18. Describe unique anatomical features that enable the stomach to perf...

Author: OpenStax College

Describe unique anatomical features that enable the stomach to perform digestive functions.

- The stomach has an additional inner oblique smooth muscle layer that helps the muscularis churn and mix food. The epithelium includes gastric glands that secrete gastric fluid. The gastric fluid consists mainly of mucous, HCl, and the enzyme pepsin released as pepsinogen.

Check the answer of this question online at QuizOver.com:

Question: [Describe unique anatomical features that OpenStax College Anatomy](#)

#### 4.1.19. Explain how nutrients absorbed in the small intestine pass into the...

Author: OpenStax College

Explain how nutrients absorbed in the small intestine pass into the general circulation.

- Nutrients from the breakdown of carbohydrates and proteins are absorbed through a capillary bed in the villi of the small intestine. Lipid breakdown products are absorbed into a lacteal in the villi, and transported via the lymphatic system to the bloodstream.

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [Explain how nutrients absorbed in the OpenStax College Anatomy Quest](#)



#### 4.1.20. Why is it important that chyme from the stomach is delivered to the...

Author: OpenStax College

Why is it important that chyme from the stomach is delivered to the small intestine slowly and in small amounts?

- If large quantities of chyme were forced into the small intestine, it would result in osmotic water loss from the blood into the intestinal lumen that could cause potentially life-threatening low blood volume and erosion of the duodenum.

Check the answer of this question online at QuizOver.com:

Question: [Why is it important that chyme from the OpenStax College Anatomy](#)

#### 4.1.21. Describe three of the differences between the walls of the large an...

Author: OpenStax College

Describe three of the differences between the walls of the large and small intestines.

- The mucosa of the small intestine includes circular folds, villi, and microvilli. The wall of the large intestine has a thick mucosal layer, and deeper and more abundant mucus-secreting glands that facilitate the smooth passage of feces. There are three features that are unique to the large intestine: teniae coli, haustra, and epiploic appendages.

Check the answer of this question online at QuizOver.com:

Question: [Describe three of the differences between OpenStax College Anatomy](#)

#### 4.1.22. Why does the pancreas secrete some enzymes in their inactive forms,...

Author: OpenStax College

Why does the pancreas secrete some enzymes in their inactive forms, and where are these enzymes activated?

- The pancreas secretes protein-digesting enzymes in their inactive forms. If secreted in their active forms, they would self-digest the pancreas. These enzymes are activated in the duodenum.

Check the answer of this question online at [QuizOver.com](http://QuizOver.com):

Question: [Why does the pancreas secrete some enzymes OpenStax College Anatomy](#)

#### 4.1.23. Describe the location of hepatocytes in the liver and how this arra...

Author: OpenStax College

Describe the location of hepatocytes in the liver and how this arrangement enhances their function.

- The hepatocytes are the main cell type of the liver. They process, store, and release nutrients into the blood. Radiating out from the central vein, they are tightly packed around the hepatic sinusoids, allowing the hepatocytes easy access to the blood flowing through the sinusoids.

Check the answer of this question online at [QuizOver.com](http://www.quizover.com):

Question: [Describe the location of hepatocytes in OpenStax College Anatomy](#)

#### 4.1.24. Explain the role of bile salts and lecithin in the emulsification o...

Author: OpenStax College

Explain the role of bile salts and lecithin in the emulsification of lipids (fats).

- Bile salts and lecithin can emulsify large lipid globules because they are amphipathic; they have a nonpolar (hydrophobic) region that attaches to the large fat molecules as well as a polar (hydrophilic) region that interacts with the watery chime in the intestine.

Check the answer of this question online at QuizOver.com:

Question: [Explain the role of bile salts and lecithin OpenStax College Anatomy](#)

#### 4.1.25. How is vitamin B12 absorbed?

Author: OpenStax College

How is vitamin B12 absorbed?

- Intrinsic factor secreted in the stomach binds to the large B12 compound, creating a combination that can bind to mucosal receptors in the ileum.

Check the answer of this question online at [QuizOver.com](http://QuizOver.com):

Question: [How is vitamin B12 absorbed OpenStax College Anatomy Physiology 2](#)