

# The Alimentary Canal

by Sophia



## WHAT'S COVERED

In this lesson, you will learn to identify the parts of the alimentary canal and the roles they play. Specifically, this lesson will cover:

## 1. Alimentary Canal Overview

The alimentary canal is a scientific name for your **digestive tract**. The digestive tract consists of the organs that perform the main functions of the digestive system: ingestion, digestion, absorption, and excretion. The organs of the digestive tract include the mouth, esophagus, stomach, small intestine, colon (large intestine), rectum and anus.



### TERMS TO KNOW

#### Digestive Tract

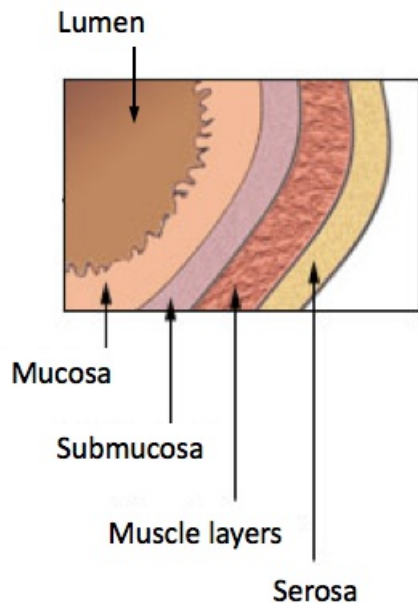
Also known as the alimentary canal, it consists of the organs that perform the main functions of the digestive system: ingestion, digestion, absorption, and excretion. The organs of the digestive tract are the mouth, esophagus, stomach, small intestine, colon (large intestine), rectum and anus.

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## 2. Alimentary Canal Layers

The alimentary canal is composed of four layers and a lumen. The four layers are:

- Mucosa
- Submucosa
- Smooth muscle
- Serosa



## 2a. Lumen & Mucosa

The **lumen** is the hollow part of the digestive tract that the food we consume travels through. The actual first layer of our digestive tract is the **mucosa**. The mucosa is the innermost layer of the digestive tract. The mucosa has contact with the lumen.



### TERMS TO KNOW

#### Lumen

The name used to describe the hollow part of a hollow/tubular organ.

#### Mucosa

The mucous membranes of the alimentary canal; this is the layer of tissue of the alimentary canal that is in direct contact with its lumen.

## 2b. Submucosa

Our second layer of the digestive tract is the **submucosa**, which is a form of connective tissue. This connective tissue contains blood vessels and nerve cells. This is how nutrients from food can move into the bloodstream and also how the mucosa receives blood.



### TERM TO KNOW

#### Submucosa

The layer of tissue just below the mucosa, the submucosa contains glands that secrete onto the mucosa; the submucosa also contains capillaries and lymph vessels.

## 2c. Smooth Muscle

**Smooth muscle** makes up the third layer of the alimentary canal and is actually composed of two sublayers that run perpendicular to each other. The purpose of these smooth muscles in the digestive tract is that they aid in peristalsis. Peristalsis is the muscle contractions that help push food through the digestive tract.



### TERM TO KNOW

#### Smooth Muscle

A form of muscle that contains short, tube-like (fusiform) single-nucleated cells; smooth muscle range from having many layers to a single layer of cells; smooth muscle is found in the walls of hollow organs.

## 2d. Serosa

Our last layer is the **serosa**, which is a very thin layer. It's a thin outer covering of the digestive tract and is moist and slippery. The function of the serosa is to reduce friction because the digestive tract is bunched up inside your abdomen. Digesting food is constantly moving via peristalsis and is coming in contact with some of your other organs.



### TERM TO KNOW

#### Serosa

The outermost layer of tissue of the alimentary canal that produces a watery secretion to reduce friction while digestive organs are moving.

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## 3. Sphincter

**Sphincters** are basically smooth muscles that are found between the various sections of the digestive tract.

Sphincters help manage or control the movement of food through the digestive tract. An example is the sphincter between our esophagus and our stomach. This sphincter will allow food from the esophagus into the stomach but doesn't allow food to move in reverse. We also have another one that connects the stomach to the small intestine. Again, sphincters are helping to control the movement of food through the digestive tract.



### TERM TO KNOW

#### Sphincters

Muscles that control the openings between organs; sphincters control what enters and exits various organs.



### SUMMARY

This lesson has been an **overview on the layers of alimentary canal**. Specifically, you learned about the layers of the **lumen**, **mucosa**, **submucosa**, **smooth muscular**, and the **serosa**. You also learned a little about the **sphincter**.

Keep up the learning and have a great day!

Source: THIS WORK IS ADAPTED FROM SOPHIA AUTHOR AMANDA SODERLIND



### ATTRIBUTIONS

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## TERMS TO KNOW

### **Digestive Tract**

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### **Lumen**

The name used to describe the hollow part of a hollow/tubular organ.

### **Mucosa**

The mucous membranes of the alimentary canal. This is the layer of tissue of the alimentary canal that is in direct contact with its lumen.

### **Serosa**

The outermost layer of tissue of the alimentary canal that produces a watery secretion to reduce friction while digestive organs are moving.

### **Smooth Muscle**

A form of muscle that contains short, tube-like (fusiform) single-nucleated cells; smooth muscle range from having many layers to a single layer of cells; smooth muscle is found in the walls of hollow organs.

### **Sphincters**

Muscles that control the openings between organs; sphincters control what enters and exits various organs.

### **Submucosa**

The layer of tissue just below the mucosa, the submucosa contains glands that secrete onto the mucosa. The submucosa also contains capillaries and lymph vessels.