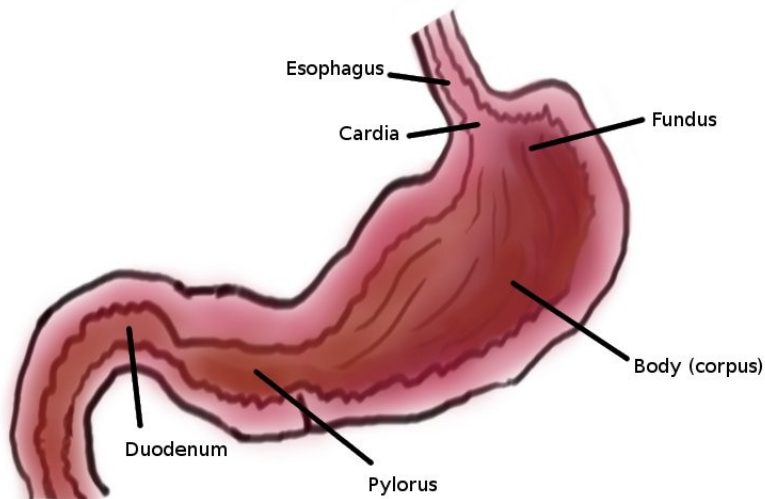


Biography of the Stomach

Partially digested food enters the stomach through the one-way esophageal sphincter, pouring into the cardia, the first section of the stomach. There, gastric juice is secreted to help with digestion, and the food is partially broken down. After that, the food bolus enters the fundus, the second section, which will store food until it can be moved on. The food is then passed in the corpus of the stomach, which is the largest section, before it can finally move on into the pylorus, which is where the stomach connects to the duodenum (the first part of the small intestine). All this time, the gastric juice and other chemical secretions are working to dissolve the food so that the intestines can absorb nutrients from it.



Organ	Functions
Mouth	Reduces the food pieces in size, starch digestion starts to happen, transportation of food pulp through the esophagus.
Stomach	Dissolves partially digested food using protein-digesting enzymes and strong acids, kills bacteria.
Small Intestine	Uses digestive enzymes to digest and absorb nutrients from food back into the body, which are absorbed into the blood.
Large Intestine	Absorbs water from remaining food matter before it is excreted.
Rectum and Anus	Rectum stores feces before they can be excreted, and the anus excretes the feces from the body.

Comparison of small intestine and the colon

Small Intestine	Feature	Colon
Center of abdominal cavity, connected to the stomach	Position	Starts just below right waist inside abdominal cavity, continues up the abdomen and then drops down to end in the anus.
5-6 meters on average	Length	1.5 to 2 metres on average
25000 sq cm ¹ , made greater by intestinal villi and epithel cells	Inner Surface Area	2440 sq cm, made greater by crescent-shaped folds
Digests food and absorbs nutrients	Functions	Absorbs water from digested food
Passed using peristalsis.	Passing on the Chyme	Passed using peristalsis.

Sections of the Brain

Section	Function
Cerebellum	Contributes to coordination, precision and accurate timing, as well as some emotional functions.
Corpus Callosum	A wide, flat bundle of axons between the cerebrum, which connects the left side to the right side.
Medulla (Brain Stem)	The medulla contains the cardiac, respiratory, vomiting and vasomotor centers and deals with autonomic functions, such as breathing, heart rate and blood pressure.
Pons	The pons contains nuclei that relay signals from the cerebrum to the cerebellum, along with nuclei that deal primarily with sleep, respiration, swallowing, bladder control, hearing, equilibrium, taste, eye movement, facial expressions, facial sensation, and posture.

What is a reflex?

A reflex is an involuntary and nearly instantaneous movement in response to a stimulus, such as the doctor hitting you on the knee with a hammer.

¹ These were the best results I could find for quite a lot of searching, so I'm not sure if they are exactly right.

Describe a goalkeeper's reaction when the ball comes towards him.

When the ball comes towards him, the goalkeeper sees the ball coming, leaps towards to the ball and tries to grab it, something that is so instantaneous it isn't something he thinks about. However, his brain is helping him make that complex movement and coordinate it properly.

Brain		
Sensory Nerve Fibers	Stimulus Conduction	Motor Nerve Fibers
Eye	Sense organ or organ that acts in response	Arm
Visible Object	Stimulus or reaction	Jumping, stretching out arms

Excitations run from the organs through the spinal cord to the brain or from the brain through the spinal cord to the organs. The brain and the spinal cord together form the central nervous system.

Organs	Parasympathetic Nervous System	Sympathetic Nervous System
Pupils	Widening	Narrowing
Lungs	Widening	Narrowing
Heart	Beat Faster	Beat Slower
Small Intestines	Inhibiting	Stimulating
Emptying the Bladder	Inhibiting	Stimulating

Protein Digestion in the Pancreas

Method: We first created a pancreatin solution by mixing a spoon tips worth of Digest (our pancreatin substitute) with 10ml of water. We also created dilute sodium hydroxide. We set up two test tubes, one with 10ml of pancreatin solution and 1 drop of dilute sodium hydroxide; the other with 10ml water and 1 drop of dilute sodium hydroxide. Lastly, we dropped a piece of egg about the size of a pea into each test tube.

Hypothesis: We hypothesized that the egg would dissolve in the pancreatin and hydrochloric acid solution, but not in the hydrochloric acid solution, as the stomach requires both hydrochloric acid and pancreatin to dissolve food.

Results: The egg in the pancreatin and hydrochloric acid solution was almost completely dissolved by this morning, while no change was visible in the hydrochloric acid solution.

Conclusions: Hydrochloric acid kills bacteria that would otherwise break down food but cannot digest food on its own. It appears that pancreatin and hydrochloric acid working together form the acid solution that the stomach uses for digestion.