

How Diabetes Affects the Digestive System

While we may hesitate to associate our mouths with certain other parts of the gastrointestinal tract, make no mistake: Your mouth is where food processing begins. As the jaws move up and down, teeth chop and mince your meals into smaller pieces, while your [tongue](#) shapes bits of food into little balls that will fit down your windpipe. Digestion actually begins the instant you chomp on a hot dog or bagel, as enzymes in saliva are already at work, turning big, bulky molecules into smaller ones. In particular, the enzyme amylase starts to break down starchy carbohydrates.

As little chunks of food move to the back of the mouth, they enter a chamber called the pharynx, continuing south into the [esophagus](#). Once they enter this narrow tube, food and drink move through the digestive tract thanks to the contractions of tiny smooth muscles, the process known as peristalsis. After a quick trip through the esophagus, your most recent meal drops into the [stomach](#). Digestion continues in this big pouch, which -- when you're really pigging out -- can hold up to three pints of food and drink. The stomach produces acids that start breaking down proteins. What's more, muscles in the stomach contract and relax, churning food and converting it into a semi-liquidlike substance. (Extra credit: This goo is known as chyme, which is pronounced "kime" and rhymes with "slime.")

After about four hours, your lunch empties from the stomach into the intestines. Now the serious digestion begins. In the uppermost section of the small intestine, known as the duodenum, fat is dissolved by bile, which is made by the liver. Meanwhile, digestive juices (produced in the lining of the intestines and by our old friend the pancreas) break down carbohydrates, fats, and protein. After these nutrients are converted to smaller molecules, they are absorbed into the bloodstream through the walls of the small intestine, along with vitamins, minerals, and water.

After all that usable material has been extracted from the food making its way through the digestive tract, the leftovers are pushed into the colon, where they form feces. This waste product (also known as stool, along with countless other unprintable synonyms) is made up of water, used-up bile and digestive juices, old cells sloughed from the walls of the intestines, and anything you eat that your body can't digest, namely dietary fiber. (What's more, rest assured that if your child swallows a crayon you will likely see it again before long.)

After a day or so, the feces continue through the remainder of the large intestine, into the rectum, and out of your body through the anus. That assumes, of course, that all of the parts of this complex system are in working order. Unfortunately, diabetes can lob a wrench into the works, causing gastrointestinal discomfort and distress.

Digestion and Diabetes

Since it takes a meal 24 hours or so to travel from one end of the gastrointestinal tract to the other, it wouldn't be practical if you had to spend all day thinking about digesting the waffles you had for breakfast. Instead, the autonomic nervous system oversees food processing. The autonomic nervous system is a complex of [brain](#) cells and nerves that controls breathing, body temperature regulation, and all the critical functions that occur inside you without your conscious thought. Elevated blood sugar damages nerves throughout the body, and your gut is no exception. However, digestive problems like heartburn, constipation, diarrhea, and more can also be caused or worsened by aging, poor diet, obesity, and lack of exercise.

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