

## Digestive System: what can go wrong

As an individual ages, the activity of the digestive system slows down. Fewer digestive juices are produced and secreted. Peristalsis slows. The sensations of taste and smell **wane**, and eating becomes less **appealing**. When less food is ingested, the body receives fewer nutrients. All body systems then weaken and become **susceptible to** disease. The following are just a few of the number of diseases that can **affect** the many parts of the digestive system.

### Appendicitis

Appendicitis is an inflammation of the appendix. It is the most common abdominal emergency found in children and young adults. Because of the appendix's position at the bottom of the cecum, scientists believe one of the main causes of appendicitis is an invasion of bacteria. When infected with bacteria, the appendix may become **swollen** and filled with **pus**. It may then eventually rupture. Symptoms of the condition include pain that begins above or around the **navel**. The pain, which may be severe or only slight, then moves into the right corner of the abdomen. In this position, the pain often becomes more steady and severe. If left untreated, appendicitis is fatal. The treatment for the condition is an immediate **appendectomy** or surgical removal of the inflamed and ruptured appendix.

### Bulimia

Bulimia is an eating disorder that occurs chiefly in women in their teens and twenties. Bulimia comes from the Greek word *boulimos*, meaning "great hunger." Individuals who are bulimic go on eating binges (often desiring **junk food**), then purge their bodies of the food by making themselves **vomit** or by taking large amounts of **laxatives** (medicines or foods that stimulate bowel movements).

The self-induced vomiting after a **binge** can cause damage to the stomach and esophagus. Acid in the vomit from the stomach can irritate the throat and erode **tooth enamel**. Blood vessels in the eyes can burst. The overuse of laxatives can cause muscle **cramps**, stomach pains, dehydration, and even poisoning. Over time, bulimia causes vitamin deficiencies and an imbalance of critical body fluids. **Seizures** and kidney failure can ultimately result.

Bulimics know that their eating habits are abnormal. They often suffer from depression. Bulimics may also suffer from anxiety and low self-esteem. Most research on bulimia, however, focuses on psychological factors. Treatment for bulimia generally involves psychotherapy and, sometimes, the use of antidepressant medications.

### Cavities

A dental cavity or **tooth decay** is the destruction of the enamel or outer surface of a tooth. It is a common health problem, second only to the common cold. It results from the action of bacteria that live in **plaque**. Plaque is a whitish film that forms on teeth, composed of a

protein in saliva, sugars from foods, and bacteria. The bacteria use the sugars and **starches** from pieces of food in the mouth to produce acid that disrupts tooth enamel, creating cavities or holes. If the decay reaches deep, the tooth becomes sensitive to temperature and touch. If the decay reaches the **pulp cavity**, inflammation and pain (toothache) develop.

If left untreated, the decay can eventually destroy the entire tooth. Usually, a dentist is able to treat most cases of tooth decay by removing all decayed parts of the tooth and then filling the cavity with a hard material (so called **filling**).

### **Cirrhosis**

Cirrhosis is a chronic disease in which cells of the liver are damaged and then replaced by **scar** tissue. The disease obviously affects the liver's ability to perform its many functions. The condition worsens over time and may lead to death. **Long-term** alcoholism is the primary cause of cirrhosis in the United States. Throughout the digestive system, alcohol **interferes with** the absorption of nutrients. Alcohol provides calories but no **nourishment** to the body. Because alcohol is detoxified within the liver, a constant level of alcohol in the organ severely affects it. During the **early stages** of cirrhosis, the liver enlarges. The **palms** of the hands then turn red. Other symptoms include **constipation** or **diarrhea**, dull abdominal pain, fatigue, loss of appetite, nausea, vomiting, weakness, and weight loss. If left untreated, the symptoms increase and worsen, leading to liver failure and death.

### **Diabetes**

Diabetes mellitus is a complex, long-term metabolic disorder. A person suffering from it can not effectively use a natural chemical called insulin. Management of diabetes mellitus requires an effective healthy regular lifestyle including a regular balanced diet, regular exercise and sensible weight control.

Diabetes mellitus patients break down stored fat for energy with difficulty. They also have a difficult time breaking down proteins. The difficulty in breaking down fats can lead to production of acids and poisonous chemical substances called ketones, a condition known as ketoacidosis. It is a severe condition which can lead to coma.

When diabetes mellitus is detected, your doctor is sure to tell you to make changes in your eating habits: as a diabetes mellitus patient, you should try to reduce overall fat. Refined carbohydrates and sugar from your diet should be avoided as they increase the blood sugar immediately. Fruit should be the major source of sweetness in your diet. Glycemic Index shows how much your blood sugar increases after eating different foods. Higher glycemic index means that the food you had eaten increases your blood sugar. With the help of it, you can always keep the blood sugar level under control. Protein should be minimized from your diet. Instead, use meat substitutes or non-animal protein foods such as tofu. Red meat should be avoided and fish should be increased in your diet. Some vegetables such as celery, bitter melon, onion, garlic, asparagus and spinach are vegetables that lessen diabetes mellitus.

## Gallstones

Gallstones are solid crystal **deposits** that form in the gall bladder. They can vary in size from as small as a **grain of sand** to as large as a golf ball. Eighty percent of all gallstones are composed of cholesterol, a fatlike substance produced by the liver. They usually develop in adults between the ages of twenty and fifty. The condition of developing gallstones tends to **run in families**. In addition, high levels of estrogen (female hormones), insulin (hormone that regulates sugar levels), and cholesterol in the body **increase the risk** of developing gallstones. A diet high in fat and low in fiber, heavy drinking, and smoking may also play a part. Gallstones may block the common **bile duct**, preventing bile from flowing into the duodenum. Symptoms of a gallbladder attack include pain that begins in the abdomen and moves to the chest and back, **chills** and **sweating**, nausea and vomiting, and **gas** and **belching**. Gallstones of a small size may pass out of the body through the urine. So they may more easily pass out, doctors may use high-frequency sound waves to break up the gallstones. To treat painful, severe cases, doctors may surgically remove the gall bladder and gallstones.

## Hepatitis

Hepatitis is an often fatal disease that causes inflammation of the liver. There are various types of hepatitis, most of which are caused by a virus. The viral forms include hepatitis A, B, C, D, E, and G. The assorted symptoms marking hepatitis include **jaundice** (yellowing of the skin), nausea, vomiting, fever, weakness, loss of appetite, abdominal and joint pain, and cirrhosis (scarring of the liver).

Two viral forms of hepatitis are most common: A and B. Hepatitis A (commonly known as infectious hepatitis) is spread through direct contact with contaminated excrements, food, or water. Once infected, an individual usually recovers within two months. Hepatitis B (commonly called serum hepatitis) is much more severe. It is transmitted by sexual activity, blood transfusions, and the use of shared syringes by drug users. Hepatitis B may destroy the liver through cirrhosis or it may lead to cancer of the liver.

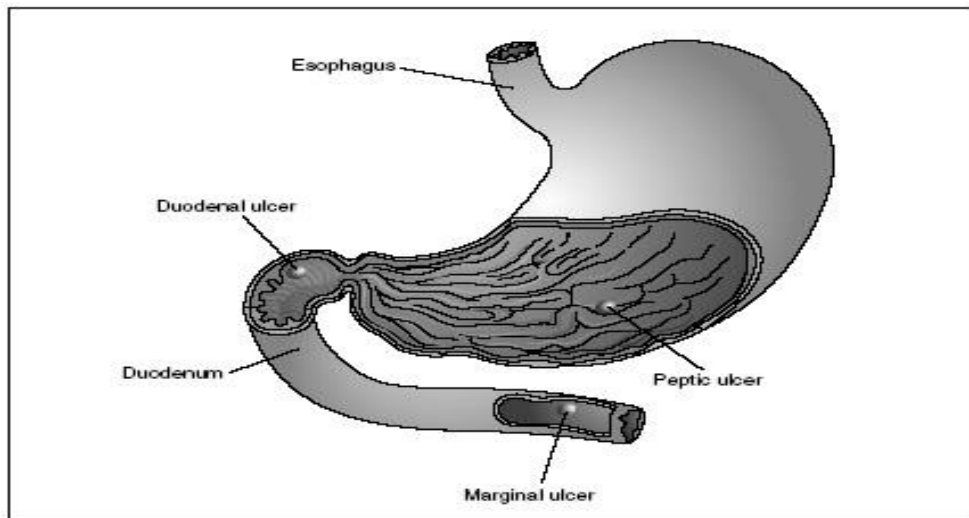
Hepatitis C causes acute (rapidly developing) and chronic (long-term) disease. It is spread mainly through blood transfusions. Medical researchers believe hepatitis C may be caused by several viruses. As with hepatitis B, hepatitis C may lead to cirrhosis of the liver and, eventually, liver cancer.

## Ulcers (digestive)

A digestive ulcer is any **sore** that develops in the lining of the stomach or duodenum (sores in the lower esophagus occur less frequently). Because these sores form in areas where gastric juice is present, they are generally referred to as **peptic ulcers** (pepsin is an enzyme in gastric juice). Peptic ulcers found in the stomach are more specifically called gastric ulcers. Those in the duodenum are called duodenal ulcers. Of the two, duodenal ulcers are the most common

type, accounting for about 80 percent of all digestive ulcers. They **tend to** be smaller than gastric ulcers and heal more quickly. Any ulcer that heals leaves a scar.

The symptoms for gastric ulcers include feelings of **heartburn**, nausea, weight loss, and stomach pain. Citrus juices, coffee, and aspirin bring on pain more quickly. Before the 1980s, physicians believed ulcers were caused by several factors—including stress and a poor diet—that resulted in excess stomach acid. Medical research has since shown that a certain bacterium that can live undetected in the **mucous membrane** of the digestive tract is the **culprit**. This bacterium irritates and weakens the lining, making it more **susceptible to**



Common sites of ulcers in the human stomach.

damage by gastric juice. About 95 percent of duodenal ulcers and 70 percent of gastric ulcers are caused by this bacterium. Treatment for peptic ulcers includes antibiotics to eliminate the bacterium and other drugs to reduce the amount of gastric juice secreted in the stomach.