

DIGESTIVE SYSTEM



The digestive (gastrointestinal) tract is the one system in the human body we are most aware of— especially if it is not working well. Being hungry or having an upset stomach are two situations that cannot be ignored.

Because there are so many organs that make up the digestive system, it is common for many disorders to occur within this system. Symptoms can sometimes be the result of stress, anxiety, or psychological problems that are not easily diagnosed. In these cases, seeking emotional assistance may be beneficial if evidence of a direct physical cause cannot be found through standard medical diagnostic tests.

Over the last 25 years, the medical world has made great progress in understanding disorders of the intestinal tract. We know that fiber-rich diets assist in the digestive process. Another important finding is the strain of bacteria that causes peptic ulcers, and the availability of the drugs that can cure them. The diagnostic tests that are available make use of an endoscope (a lighted tube that is inserted through the mouth and allows the physician to view the esophagus, stomach, intestines, and bile ducts). These tests have made it possible to recognize many problems at an early stage, including certain cancers.



DIGESTIVE SYSTEM ORGANS

The digestive process begins when we chew our food. The food is broken into smaller pieces by chewing, and is mixed with saliva secreted by the salivary glands. As the food is swallowed, it moves to the back part of the throat, past the opening of the voicebox (larynx), and into the upper part of the esophagus.

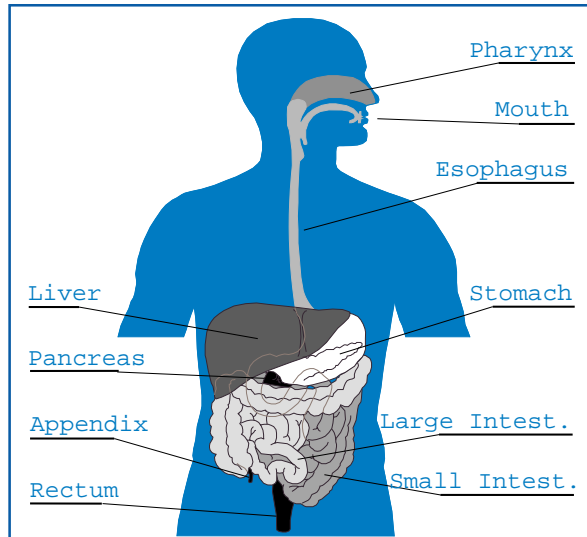
ESOPHAGUS The esophagus is approximately 10 inches long and leads directly to the stomach. Food is moved along the esophagus to the stomach by muscle contractions.

STOMACH The stomach is a hollow sac that consists of layers of powerful constricting muscles. These muscles break the food up into smaller pieces, where it mixes with gastric juices (digestive enzymes) produced by the stomach lining. Food leaves the stomach in two phases: 1) The upper portion of the stomach muscles constrict first, forcing the more liquid material into the first part of the small intestine (duodenum), and 2) The lower stomach's muscles churn the solid food into a liquid consistency, after which it goes into the first part of the small intestine.

SMALL INTESTINE The small intestine is a “tube” (about 22 feet long in adults) that consists of the duodenum (beginning of the intestine), jejunum (middle section), and ileum (final portion). As the food passes through the small intestine, it continues to mix with bile and digestive enzymes that break the food down and prepare it to be absorbed into the bloodstream. The waste by-products from the small intestine move to the large intestine.

LARGE INTESTINE The large intestine is the last part of the digestive tract and is composed of the colon, rectum, and anus. The material that is left after being processed through the small intestine is considered waste (undigested food, fiber, and water). The colon absorbs water from the undigested material and converts it into waste material (feces), which is stored in the rectum until the muscles of the anus allow it to be expelled.

LIVER The liver is the body's largest organ, performing more individual functions than any other organ. It's most important role is the processing of food elements such as carbohydrates, proteins, fats, minerals, and vitamins. Other major functions of the liver are the regulation of blood sugar levels, detoxifying harmful substances (eg, drugs) in the body, and producing bile (a substance that aids in digestion).





PANCREAS Shaped like a banana, the pancreas is located behind the stomach. This organ creates enzymes that break down and neutralize the proteins, fats, and carbohydrates that are eaten. The pancreas also produces three hormones which enable the body to use food as fuel for energy. Those hormones are insulin (stimulates muscle and fat cells to absorb the blood sugar needed as “body fuel”), glucagon (raises blood sugar levels when the body needs it), and somatostatin (regulates the production and release of insulin and glucagon).

INFECTIONS OF THE GASTROINTESTINAL TRACT

The Centers for Disease Control estimates that more than 25 million infections of the gastrointestinal tract occur each year in the United States and cause more than 10,000 deaths. Improvements in sanitation and hygiene have had a significant impact in preventing many of these infections — particularly those transmitted by contaminated food and water. Viruses are the cause of more than one-half of the infections of the gastrointestinal tract. There are also infections caused by bacteria. Infections of the gastrointestinal tract are extremely common throughout the world.

VIRAL INFECTIONS

Also called “viral gastroenteritis”, infections of this type are the second most common infections in the United States — upper respiratory tract infections being the most common. Symptoms normally consist of diarrhea, vomiting, fever, abdominal cramps, and muscle pains. Severe symptoms may result in death in children, the elderly, and those persons who are limited by either disease or medication. Generally, a viral infection goes away by itself. Antibiotic medications are not effective, and are not recommended, as they may prevent elimination of the virus and prolong the infection.

BACTERIAL INFECTIONS

These infections are easier to identify than viral infections. They are often caused by a bacteria in food that has been at room temperature for too long. The symptoms start with vomiting and may be followed by diarrhea. These usually resolve within 24 to 48 hours. Most cases of bacterial gastroenteritis do not need specific treatment. In severe or prolonged cases, antibiotics may be useful.



DISORDERS OF THE ESOPHAGUS

■ ACHALASIA

This is a rare disorder caused by the lack of coordinated movements of the muscle surrounding the esophagus and the failure of the muscles to relax. This makes it difficult for food to pass to the stomach.

SIGNS AND SYMPTOMS	Difficulty or inability to swallow; chest discomfort.
TREATMENT	The condition is treated with medication or surgery that stretches the muscles of the esophagus with a dilator and a water-filled balloon.
SURGICAL TREATMENT	A less common treatment is surgical incision of the constricted part of the esophagus.

■ FOREIGN BODIES

If something lodges in the throat after swallowing, the esophagus may be obstructed. Elderly persons with dentures may have difficulty chewing their food. Children and the mentally ill also may swallow objects that stick in the esophagus. If it causes breathing difficulties, it is an emergency. The Heimlich maneuver, a lifesaving technique, is usually done to remove the object and restore breathing. Some objects pass into the stomach without difficulty, but may scratch a membrane and cause bleeding. It rarely perforates the stomach or intestine.

SIGNS AND SYMPTOMS	Difficulty or complete inability to swallow; difficulty or complete inability to breathe.
SURGICAL TREATMENT	A foreign object in the pharynx is removed by a fiberoptic endoscope with the aid of a sedative and local anesthesia.



■ HEARTBURN

Heartburn is a frequent complaint which often occurs from stomach contents flowing back up into the esophagus. This is occasionally due to the type of food eaten, the amount of alcohol used, or a muscle malfunction. It can also occur from a peptic ulcer or too much acid in the stomach. A pregnant woman, due to hormonal changes and abdominal pressure, experiences more heartburn than the general population. Occasional heartburn is uncomfortable, but is usually not a serious problem.

SIGNS AND SYMPTOMS

A burning sensation in the chest that may start in the upper abdomen and radiate into the neck; regurgitation of sour or bitter tasting material into the throat and mouth, especially when lying down.

TREATMENT

If you are a smoker, stop smoking. Cigarettes relax the esophageal sphincter, and create a susceptibility to heartburn. Eat three balanced meals a day, but reduce the portions. Do not eat two hours before bedtime to reduce the acid in your stomach. If you are overweight, lose weight to decrease pressure on the stomach. Elevate the head of your bed at least six inches to help gravity keep stomach acid where it belongs. Avoid tight clothing and tight belts. Decrease the intake of alcohol, chocolate, fats, and peppermints -- they all relax the esophageal muscle.

DRUG TREATMENT

(over the counter)

Liquid antacids, especially after meals and at bedtime.

Histamine H₂-receptor agonists (cimetidine, ranitidine, famotidine) have been released for sale over the counter and act to reduce acidity in the stomach of a person with more severe symptoms.

DRUG TREATMENT

Omeprazole blocks acid production; Bethanechol or metoclopramide increases the strength of the esophageal muscle.

SURGICAL TREATMENT

Fundoplication (reducing the size of the opening into the stomach and suturing it to the esophagus) creates a high pressure in the lower esophagus to prevent food backup.

■ PHARYNGEAL DIVERTICULA

This is a condition where the muscles of the pharynx are weak, caused mostly by aging. Enlarged pouches are formed, which trap food. There is a danger of aspirating food and liquids and irritating the throat. Tumors, scar tissue, or congenital disorders (from birth) may also cause swallowing difficulties. Stress, anxiety, and psychological conditions may also be a factor.

SIGNS AND SYMPTOMS

Swallowing difficulties.

SURGICAL TREATMENT

If large enough to cause symptoms, the pouches may be removed surgically.



■ RUPTURE

The lower esophagus can be torn by forceful vomiting or swallowing a sharp object. This is called esophageal rupture and is an emergency condition.

SIGNS AND SYMPTOMS	Chest pain; rapid and shallow breathing; sweating; blood in the vomit.
DRUG TREATMENT	Antibiotics and intravenous fluids are often used to treat or prevent infection and to sustain enough fluids in the body.
SURGICAL TREATMENT	If the tear is extensive, surgical stitching is done. If the tear is not large or does not penetrate through the wall of the esophagus, a balloon-like object may be used to control bleeding and allow the esophagus to heal. A tube is inserted and is passed into the stomach to deliver nutrition.

■ STRICTURES

An esophageal stricture is a narrowing of the passageway so that food and liquids cannot pass easily. In adults, the main cause is prolonged exposure to gastric acid from the backup of food (see Heartburn section). Scar tissue from a past surgery or caustic chemicals (eg, lye) also cause narrowing.

SIGNS AND SYMPTOMS	Difficulty swallowing.
TREATMENT	The stricture may be dilated, and the ability to swallow returns. This is done with sedation. Rarely is a surgical procedure necessary.

■ TUMORS

The obstruction of the esophagus from a tumor usually occurs in the middle or lower part of the esophagus. These tumors can continue to grow and may cause weight loss and anemia. If undiagnosed, the tumor becomes large and may metastasize (spread to other body parts). This requires immediate attention as most tumors of the esophagus are malignant (cancerous).

SIGNS AND SYMPTOMS	Progressive difficulty in swallowing; unexplained weight loss; regurgitation or vomiting of blood.
SURGICAL TREATMENT	If the tumor is confined to the esophagus, surgery is the primary treatment, with or without radiation therapy and/or chemotherapy.
OTHER TREATMENT	If surgery is not possible, dilating (enlarging) the esophagus or laser destruction of the tumor is available to temporarily open the passageways.



STOMACH AND SMALL INTESTINE DISORDERS

■ GASTRITIS

Gastritis is an inflammation of the stomach lining and can be caused by alcohol, nonsteroidal anti-inflammatory drugs, and/or smoking. Bacteria is thought to be another cause. Generally, gastritis causes only discomfort and is not serious. Rarely does it cause gastrointestinal bleeding, but if it does, it would require immediate medical attention.

SIGNS AND SYMPTOMS	Upper abdominal discomfort; nausea, and occasional vomiting.
TREATMENT	Avoid using tobacco, large amounts of alcohol, and drugs that affect the lining of the stomach.
DRUG TREATMENT	Antacids in liquid or tablet form are suitable and a common treatment for mild gastritis. Over the counter drugs (cimetidine, ranitidine, or famotidine) are very effective in shutting down acid production to allow acute gastritis to heal.

■ HERNIAS

Inguinal Hernia (groin) - In men, a hernia commonly develops at the point where the spermatic cord that suspends the testicle passes out of the abdomen into the scrotum. If the ring of tissue around this opening becomes weakened, part of the intestine may push through, producing a noticeable bulge in the groin area.

Femoral Hernia (thigh) - In women, especially if overweight or pregnant, a hernia develops often in the upper thigh. This forms along the canal that carries the principal blood vessels into the thighs, and produces a bulge that is slightly lower than the inguinal hernia. Strangulation of the intestine can occur.

Incisional Hernia - This occurs following abdominal surgery where the scar formed by the incision breaks down. They are often large, do not trap the bowel, and are often without symptoms.

Hiatal Hernia - A protrusion of part of the stomach through a normal opening in the diaphragm into the chest. It occurs in people who are overweight and most often in middle-aged or elderly people. Symptoms specific to a hiatal hernia usually include heartburn, but may include vomiting, pain, or bloating. If the stomach protrudes through an abnormal part of the diaphragm, it is called a diaphragmatic hernia and is treated with immediate surgery, as it can be life-threatening.

SIGNS AND SYMPTOMS	Discomfort over the area of the hernia, usually when bending over or lifting; tender lump over the site of the hernia.
SURGICAL TREATMENT	Most often, hernias are repaired by surgery. The surgical treatment can be done with an incision or through a laparoscope.



■ INDIGESTION

Indigestion (dyspepsia) is a general term used to describe the many symptoms associated with abdominal distress, particularly noticeable after eating. Indigestion is not a disease, but is commonly experienced by most people at one time or another.

Some people have indigestion after eating a heavy meal or drinking an excessive amount of alcohol.

SIGNS AND SYMPTOMS	Discomfort or feeling of fullness in the upper abdomen; heartburn; nausea; bloated sensation, often relieved by belching.
TREATMENT	Avoid alcohol and cigarettes. Occasionally, stress plays a role in contributing to the symptoms — try to relax.
DRUG TREATMENT (over the counter)	Antacids may be taken between meals, after meals, or an acid-reducing medication may be taken prior to meals.
DRUG TREATMENT	Prescription drugs may include Sucralfate (which coats the stomach lining and protects it from acid), metoclopramide (which speeds the emptying of the stomach), and Omeprazole (which shuts down the acid production of the stomach lining).

■ LACTOSE INTOLERANCE

Lactose, the principal sugar in cows' milk and dairy products, requires the enzyme "lactase" for its digestion. Lactose intolerance occurs when the lining of the small intestine does not produce normal amounts of lactase to allow for normal digestion.

SIGNS AND SYMPTOMS	Bloating, cramps, excessive gas.
TREATMENT	Avoid all dairy products, however, a small amount of milk usually does not cause symptoms.
DRUG TREATMENT (over the counter)	Lactaid (a registered trademark of Lactaid, Inc.), contains the enzyme lactase, and taken with the first swallow of a dairy product will relieve the symptoms of lactose intolerance.



■ PEPTIC ULCERS

Peptic ulcers are breaks or holes in the lining of the lower stomach and duodenum. Although there is not one single cause for these ulcers, the accumulation of bacteria is associated with 90 percent of peptic ulcers. Other causes are nonsteroidal anti-inflammatory drugs (NSAIDs), smoking, stress, alcohol, and a family (genetic) history.

SIGNS AND SYMPTOMS

Burning, aching, gnawing in the upper abdomen or lower chest relieved by milk, food, or antacids; bloating after meals; nausea; vomiting of bright red blood.

TREATMENT

If you smoke, stop. Smoking increases the risk for ulcers and slows the healing process. Avoid alcohol, aspirin, and some NSAID medications (acetaminophen does not cause drug-induced ulcers). If you have a history of ulcers, be sure to inform your physician.

DRUG TREATMENT

Omeprazole (Prilosec) with Clarithromycin (Bactrin) is currently the most effective treatment. Other treatments may be considered using an omeprazole /amoxicillin combination. Adding bismuth (eg, Pepto Bismol) is often successful. The long term use of an anti-secretory drug alone is expensive and does not ensure healing — it merely eases the symptoms.

SURGICAL TREATMENT

For a severe condition, it may be necessary to suture the ulcer to stop the bleeding.

Vagotomy - a procedure to decrease acid production may be done by clipping branches of the vagus nerve.

Gastrectomy - a more radical type of surgery is removing the portion of the stomach which is causing complications. The stomach is then connected to the jejunum (a bypass procedure).



■ STOMACH TUMORS

The majority of stomach (gastric) tumors are malignant (cancerous). Stomach cancer is the cause of almost three percent of the deaths caused by cancer in the United States, however, the numbers are declining. Stomach tumors most commonly are found in men between the ages of 50 and 70. The cause of malignant tumors is unknown.

Some bacteria are thought to be associated with these tumors. Genetic factors increase the risk within families. It has been found that there are more gastric cancers in certain countries than others, possibly due to diet. The earliest and most common sign of a tumor is microscopic bleeding in the stools; this is detected by a guaiac screening test, a common test for gastrointestinal cancers and tumors. Stomach cancer is difficult to treat. If the cancer is isolated within the stomach, the chance of a cure is quite good.

SIGNS AND SYMPTOMS Discomfort in the upper or middle region of the abdomen that is not relieved by milk or antacids; black-colored stools; vomiting of blood; vomiting after meals; weight loss; anemia; bloated feeling after meals.

EMERGENCY SYMPTOMS Shock - Cold and clammy skin and fainting suggests excessive blood loss.

DRUG TREATMENT Chemotherapy and radiation therapy treatments may not cure the cancer but can control the bleeding and provide pain relief.

SURGICAL TREATMENT Gastrectomy (stomach removal) or partial gastrectomy could result in a cure if the cancer has not spread to other sites of the body. The success depends on discovering the tumor while it is small. Metastasis (spreading of the cancer) occurs early in this disease.



INTESTINAL DISORDERS

■ ACUTE APPENDICITIS

The appendix is a worm-shaped structure that projects out from the first section of the large intestine (cecum). It is three inches long and has a cavity running down its center. The appendix has no known function of importance in humans. It is not clear why the appendix becomes inflamed, swollen, and filled with pus, causing appendicitis. The most likely ages for acute appendicitis are between 10 and 30 years of age. Appendicitis is more difficult to diagnose in children than adults. If the diagnosis is established during the acute phase, and surgery is performed to remove the appendix before it ruptures, the prognosis (outcome) is favorable. Peritonitis, a serious infection of the lining of the abdominal cavity (peritoneum), may develop if the appendix bursts, and is a serious life-threatening condition.

SIGNS AND SYMPTOMS Pain starting in the upper abdomen or around the navel and settling in the lower right side of the abdomen; nausea and vomiting; urge to empty bowels; loss of appetite; possible fever.

SURGICAL TREATMENT The standard procedure is to surgically remove the appendix through an open incision in the right lower abdomen or by a specialized instrument performed through small openings in the abdominal wall (laparoscopy).

■ COLON CANCER

Cancers of the colon and rectum are two of the more common forms of cancer among adult men and women. These are collectively referred to as colorectal cancer. The most important risk factor is the family history (or prior personal history) of polyps and ulcerative colitis. Although the exact cause of colon cancer is not known, there are studies suggesting diet as an important factor. The importance of fiber (vegetables, fruits, grains) in the diet is emphasized. Colon cancer accounts for about 20 percent of deaths due to malignancies in the United States. When detected and treated at an early stage, colon cancer is considered curable. Unfortunately, many people ignore the warning signs, and do not seek medical evaluation when symptoms appear.

SIGNS AND SYMPTOMS Rectal bleeding; altered bowel habits; abdominal cramps or pain; microscopic amounts of blood in the stool; unexplained anemia; unexplained weight loss. Sometimes, there are no symptoms.

SURGICAL TREATMENT The treatment for colon cancer is surgery. In about one-half of the diagnosed cases, surgery can cure the disease.

OTHER TREATMENT Chemotherapy is used to treat widespread disease, or occasionally to prevent a reappearance following surgical excision. Most postoperative patients are followed with colonoscopies to determine the effectiveness of the treatment. Some tumors are susceptible to laser destruction, particularly to relieve obstruction and for control of a tumor growth. Early detection is the best treatment.



■ COLON POLYPS

Benign (noncancerous) tumors of the colon or large intestine are common, especially in families. Americans over the age of 60, may be at risk for having polyps or benign growths of the colon. Some polyps arise from the colon and may become malignant. Cancer of the colon must always be a considered risk when polyps are found. Once the presence of polyps is established, periodic screening is necessary for any signs of developing malignant tumors.

SIGNS AND SYMPTOMS Often, there are no symptoms; change in bowel habits; blood in the stool; mucus discharge.

SURGICAL TREATMENT The removal of benign polyps is a relatively simple and curative surgical procedure.

■ CROHN'S DISEASE

This is an inflammatory bowel disease that can occur in any part of the bowel, but most frequently involves the ileum (lower part of the small intestine) or the colon. It involves chronic inflammation and narrowing of the bowel. The typical patient is between 15 and 35 years of age. The course of Crohn's disease varies. Occasionally, some patients have no symptoms with the disease after one or two acute episodes. Others may have chronic and repetitive bouts. Debilitating problems can occur from malnourishment, increasing bowel obstruction, and weight loss.

SIGNS AND SYMPTOMS Fever; chills; diarrhea; pain; constipation; rectal bleeding.

DRUG TREATMENT Antidiarrheal pills and bulk food (fiber) are used if the disease is mild. Anti-inflammatory medications, such as sulfasalazine and corticosteroids would be prescribed if the disease is more active.

SURGICAL TREATMENT Surgery is usually performed for complications, such as obstruction, abscesses, or perforation.



■ DIVERTICULAR DISEASE

Diverticular disease most often affects the lower colon in the elderly. This disease occurs in the setting of diverticulosis (development of multiple small pouches in the intestinal wall). If these become obstructed or infected, diverticulitis (inflammation of these pouches) can occur. Diverticula are much more common in the industrialized nations, such as the United States, probably because we typically eat a low fiber diet.

SIGNS AND SYMPTOMS

Diverticulitis can cause increasing severe cramping pains; abdominal swelling; diarrhea; constipation; nausea, and fever. Sometimes there are no symptoms.

TREATMENT

Many physicians believe that medical treatment is unnecessary for diverticulitis with no symptoms. A high fiber diet, or fiber supplements may be advised.

DRUG TREATMENT

Diverticulitis requires therapy. Antibiotics are given to combat the infection along with rest, stool softeners, and a liquid diet (if diverticulitis is present and rupture has not occurred). Intravenous antibiotics and hospitalization are required if a rupture does occur.

SURGICAL TREATMENT

If attacks of diverticulitis become repetitive, surgical removal of a segment of the bowel may be advised. An emergency colostomy is performed in acute situations, when symptoms are severe and there is no time for scheduled surgery.

■ INTESTINAL OBSTRUCTION

Intestinal obstruction may be partial or complete, and can occur in either the small or large intestine. Several causes are notable. The most common are adhesions (scar tissue) from a prior operation. Hernias may cause an obstruction if the pouch is large enough to trap the bowel (incarceration). The most serious complication of obstruction is loss of blood supply to a segment of the intestine. Perforation and dehydration are also serious consequences. These are life-threatening situations.

SIGNS AND SYMPTOMS

Abdominal swelling; pain or cramping in the mid-abdomen; vomiting; inability to pass feces or gas.

TREATMENT

Initially, a nasogastric suction is done (a tube is usually inserted through the nose and suction is applied to remove intestinal secretions and gas. IV fluids and electrolyte replacements are administered).

SURGICAL TREATMENT

If conservative measures do not help, surgery may be required for other causes of the obstruction.



■ PERITONITIS

The peritoneum is a membrane that surrounds the abdominal cavity which houses the many organs of the gastrointestinal and reproductive organs. Peritonitis occurs when one of the organs rupture, bacteria penetrates a wound, or an infection occurs. The most common cause of peritonitis is perforations due to appendicitis, gastric ulcer, or diverticulitis. When obstruction of the small bowel occurs, gangrene and bowel perforation may also occur. Peritonitis is an inflammation either confined to one area or widespread to the lining of the peritoneal cavity.

SIGNS AND SYMPTOMS	Increasing abdominal pain; distended abdomen; nausea and vomiting; inability to pass feces or gas; fever; low blood pressure, shock; extreme thirst from dehydration.
DRUG TREATMENT	Antibiotics are used to combat the infection.
SURGICAL TREATMENT	Surgery is usually necessary for removal of the diseased tissue or to repair the injury of a perforated bowel.

■ ULCERATIVE COLITIS

Unlike Crohn's disease (which can affect any portion of the bowel), ulcerative colitis is confined to the rectum and colon. It is a chronic condition in which an inflammatory reaction results in tiny ulcers and abscesses in the inner lining. The condition varies in symptoms. Because there is an increased risk of colon cancer, a person with this disease should have regular checkups.

SIGNS AND SYMPTOMS	Bleeding from rectum; diarrhea; abdominal pain.
DRUG TREATMENT	The principal drugs for ulcerative colitis are anti-inflammatory agents, sulfasalazine, and corticosteroids. Sulfasalazine is used for minor flare-ups and maintaining remissions. Corticosteroid drugs are used for more severe episodes. If the inflammation is confined to the rectum, corticosteroid enemas are effective. If diarrhea is severe, hospitalization may be required to treat dehydration.
SURGICAL TREATMENT	Surgery is usually required for those who do not respond to medical management or who have severe complications. Surgery may also be indicated to eliminate the risk of developing colon cancer when the disease has been present more than 10-15 years.



ANAL AND RECTAL DISORDERS

■ ANORECTAL ABSCESS

This is an abscess around the anus. It may be caused by anal fissures (cracks or slits) and sexually-transmitted diseases, but are most often due to blocked anal glands.

SIGNS AND SYMPTOMS Discharge of pus from the anus; fever; discomfort and flank pain in or around the anal opening; tenderness or discomfort with bowel movements.

SURGICAL TREATMENT Surgery is required to provide adequate drainage. The surgery is done under either local or general anesthesia.

■ HEMORRHOIDS

Hemorrhoids (also called “piles”) are clusters of veins located in the anus, just under the membrane that lines the lowest part of the rectum and anus. These veins become swollen, which causes the hemorrhoid to form. Hemorrhoids may form internally (at the beginning of the anal canal), or externally (outside of the canal). Both types are common and both may bleed, usually with bowel movements. They may be associated with pregnancy. If a clot forms in one of the dilated veins (a thrombosal hemorrhoid), it may be very painful. Itching and burning with anal pain is common.

SIGNS AND SYMPTOMS Bright red blood from the rectum; protrusion of soft tissue at the anus; tenderness, especially during a bowel movement.

TREATMENT Most patients with hemorrhoids are not bothered enough by the condition to seek any treatment. If hemorrhoids produce only mild discomfort, there are creams, topical analgesics, and witch hazel that may bring some relief. If the hemorrhoid is thrombosal, it may be drained under local anesthesia.

SURGICAL TREATMENT Occasionally, hemorrhoids are removed surgically. Despite removal, there is a tendency for recurrence.

■ PROCTITIS

Proctitis is inflammation of the rectum that may result from infection, ulcerative colitis, Crohn’s disease, or sexually-transmitted diseases. Occasionally, poor dietary habits or excessive alcohol intake may aggravate the burning and irritation of proctitis. Depending on the cause, the infection may not be easily treated. History of anal intercourse causes increased risk of bacterial (gonorrhea) or viral (herpes) infections. Bacterial infections respond to antibiotics, but viral infections rarely do.

SIGNS AND SYMPTOMS Mucus, blood, or pus in the stool; repetitive urge to defecate.

DRUG TREATMENT Acyclovir may be used for herpes (a viral infection). Tetracycline is the most common antibiotic treatment for bacterial proctitis.



LIVER DISORDERS

■ CIRRHOSIS

Cirrhosis is a condition in which liver tissue has been irreversibly and progressively destroyed as a result of infection, poison, or some other disease. When damaged, the liver may compensate by enlarging and forming more cells. If cell death continues, they will be replaced with scarring. If the liver cannot process the blood and remove waste, there may be an adverse effect on the brain with development of tremors, mental confusion, and ultimately, coma. When the liver is obstructed, portal hypertension occurs. This occurs in about 30 percent of people with cirrhosis and is caused by impairment of the portal vein that supplies the liver with blood circulation. When obstructed, it causes enlargement of the spleen, and dilates the veins of the esophagus and stomach, backing up the venous system and causing twisted or swollen veins that may rupture and cause massive hemorrhage.

Alcohol-induced Cirrhosis Alcohol abuse is the most common cause of cirrhosis in the United States, and occurs in 15 percent of alcoholics. The condition usually occurs in persons who consume a pint or more of alcohol (liquor), or several quarts of wine or beer per day. An alcoholic usually does not complain of these symptoms, and it may be obvious only to close observers.

Primary Biliary Cirrhosis This disease is characterized by chronic inflammation and scarring of the microscopic bile ducts within the liver. The cause is unknown.

SIGNS AND SYMPTOMS

There may be none; loss of appetite; weight loss; nausea and vomiting; general fatigue and weakness; jaundice (yellowing of the skin and eyes); abdominal pain; intestinal bleeding; small, red, spider-like blood vessels under the skin with easy bruising; no interest in sex; men may be impotent, women may cease menstruating; itching; swelling of the abdomen and legs.

EMERGENCY SIGNS

Mental confusion; vomiting blood; black colored stools.

TREATMENT

There is no specific treatment of cirrhosis other than management of the symptoms and complications. Avoiding alcohol is required for alcohol-induced cirrhosis.

SURGICAL TREATMENT

Liver transplantation is required when the symptoms can no longer be controlled.



■ HEPATITIS

Hepatitis is an inflammation of the liver caused by a virus, or by certain medications or toxins (alcohol and/or drugs). Acute viral hepatitis occurs in one of three different forms: hepatitis A, hepatitis B, or hepatitis C (each form described below), and has a wide range of accompanying symptoms. In specific circumstances, hepatitis can be fatal.

Viral Hepatitis - Type A is the most common form of hepatitis, and is acquired by eating or drinking contaminated food or water. Hepatitis A is highly infectious. Anyone who may directly come in contact with the blood or feces of an infected person during the contagious stage (two to three weeks before symptoms are noticed), is at high risk for acquiring the virus.

Viral Hepatitis - Type B is acquired by direct contact with the blood, nasal mucus, sperm, or saliva of someone who carries the virus. People most likely to get Hepatitis Type B are: intravenous drug users who share contaminated (infected) needles, those who have sexual contact with someone who has the virus, health care workers, and those who receive tattoos and acupuncture treatments from contaminated needles. Type B hepatitis is more serious than Type A hepatitis, mostly due to the greater possibility of permanent liver damage. Some people, called “carriers” of the virus, may have no symptoms of having Type B hepatitis, but are capable of passing it on and infecting others.

Viral Hepatitis - Type C is spread through the same methods as Type B hepatitis: contact with the body fluids of someone who has the virus. The symptoms of this type are similar to those of Type A and Type B, or they can be more severe. Hepatitis C is extremely difficult for a health care provider to diagnose, however, it is often found in those with AIDS and other immunosuppressive (immune system) diseases.

SIGNS AND SYMPTOMS

Occasionally, there are no symptoms; persistent or recurring jaundice; fatigue; loss of appetite; nausea and vomiting; “flu-like” symptoms.

TREATMENT

There is no specific treatment available for any of the forms of acute viral hepatitis. Get lots of rest, avoid the intake of all forms of alcoholic beverages, and eat proper meals. These will help your liver heal, and return it to its previously noninflamed state.



■ LIVER TUMORS

Most tumors of the liver are malignant (cancerous). Frequently, they are cancers that have spread to the liver from another part of the body (secondary cancer). If, however, the malignant tumor starts growing in the liver rather than elsewhere in the body, it is called a primary liver cancer. Liver cancer occurs most often in men. The causes are associated with chronic liver disease, hepatitis B or C infection, and exposure to certain toxins. Benign (noncancerous) tumors also occur, and are called hemangiomas. Once suspected, tumors can be located with ultrasound and CT scans. A biopsy (a small sample of the tumor) can be obtained to define the cause of the enlarged liver. There is no known cure for malignant tumors of the liver.

SIGNS AND SYMPTOMS Loss of appetite; weight loss; abdominal pain; nausea and vomiting; general fatigue; enlarged liver; jaundice; there may be only minor symptoms, or no symptoms at all.

TREATMENT For benign tumors, no treatment is required unless there is accompanying pain, in which case the tumor can be surgically removed. For malignant tumors, chemotherapy and radiation therapy may alleviate some symptoms, however, it will not provide the needed cure.

■ GALLSTONES AND CHOLECYSTITIS

Gallstones are common crystalline structures that can be as small as a grain of sand or as large as a golf ball. They also vary in number. They consist of a mass of cholesterol, calcium, and bile pigment that forms in the gallbladder. Pain begins to appear when a gallstone obstructs the bile duct and causes spasm and inflammation. The pain is usually quite sudden and may persist for several hours. If the stones obstruct the common bile duct, jaundice may also occur. The stones may cause cholecystitis (inflammation of the gallbladder) and will occur most commonly in overweight middle-aged women. If there are no symptoms, watchful observation is usually the only treatment.

SIGNS AND SYMPTOMS Sudden and persistent abdominal pain; there may be no symptoms at all.

DRUG TREATMENT Various drugs are available and may be prescribed to dissolve small or medium-sized stones.

SURGICAL TREATMENT Cholecystectomy (removal of the gallbladder) is required if symptoms occur that cannot be controlled by medications.



PANCREAS DISORDERS

■ CANCER (PANCREATIC)

Cancer of the pancreas ranks just behind lung cancer, colon cancer, and breast cancer as the most common cause of death by cancer. It is most common in men between the ages of 60 and 70 years of age. The cause of pancreatic cancer is unknown, and the long-term survival rate is poor.

SIGNS AND SYMPTOMS

Weight loss; abdominal pain; jaundice.

DRUG TREATMENT

Chemotherapy may be considered, but only for easing the pain; it will not provide a cure.

SURGICAL TREATMENT

The pancreas may be removed if the cancerous tumor has not spread from the pancreas to other parts of the body.

OTHER TREATMENT

Radiation therapy may be considered, but only for easing the pain; it will not provide a cure.

■ PANCREATITIS (ACUTE)

Pancreatitis is an inflammation of the pancreas and can be acute (short term, but severe) or chronic (persistent and lasting). The acute phase is associated with intense pain in the upper abdomen that may radiate to the back, chest, or flank. The causes of pancreatitis are chronic alcohol use, gallstones (which cause obstruction), increased triglyceride or calcium levels in the blood, and viral or bacterial infections. The main cause is usually the enzymes of the pancreas eating away at itself. The result is bleeding, swelling, and damage to the blood vessels. Acute pancreatitis, when treated effectively, should respond and heal within a week, particularly if the cause of the inflammation (such as a gallstone) is corrected. If pancreatitis worsens, it can progress to an abscess (formation of infection and pus), which could potentially leak into the abdomen and cause peritonitis (inflammation of the lining of the abdominal cavity). Peritonitis is a life-threatening condition when left untreated.

SIGNS AND SYMPTOMS

Intense pain in the upper abdomen; fever; nausea and vomiting; clammy skin; abdominal tenderness and puffiness.

TREATMENT

Rest (to avoid any stimulation of the pancreas); nasogastric suction (removal of bile, gastric contents, undigested food, etc. through a tube inserted through the nose and into the stomach); and/or intravenous fluids may be administered, to provide nutritional supplements.

SURGICAL TREATMENT

This is limited to the cause of the pancreatitis, such as removal of gallstones (the obstruction), or treatment of the complications such as draining the abscess.



■ PANCREATITIS (CHRONIC)

This type of pancreatic inflammation differs from acute pancreatitis in that it develops over a period of years and is often associated with alcohol abuse. In some persons, it is an unknown cause. In chronic pancreatitis, the pancreas eventually becomes less able to secrete the enzymes needed for proper digestion and absorption of dietary fats. In addition, the excessive production of insulin may occur, which causes diabetes mellitus.

SIGNS AND SYMPTOMS

Intense and lasting abdominal pain; fever; excessive bowel movements; nausea and vomiting; weight loss; clammy skin; enlarged abdomen; onset of diabetes.

TREATMENT

The treatment is to help resolve pain and correct the inability of the pancreas to absorb dietary fats. Lost enzymes can be replaced by medication. Fatty foods and alcohol should be avoided.

SURGICAL TREATMENT

Surgery is generally used only to numb the pain-causing nerves in the event of severe pain.



LIFESTYLE TIPS



DIET

Always eat a balanced diet with limitation of fats. Include an abundance of foods known as roughage (vegetables, fruits, whole grain cereals) that have shown to reduce colon diseases, including cancer and diverticulitis. In addition, adequate ingestion of liquids (2-4 quarts of water) each day is recommended, and the Institute of Medicine is recognizing the value in the recommended dietary allowances of some vitamins and minerals.



FIBER

The best diet for optimal colonic function contains about 20 grams of fiber per day, roughly the amount of fiber in three to five servings of fresh fruit and four servings of vegetables per day, and whole grain breads and cereals.



SMOKING

Smoking adds risk for esophageal and/or stomach cancer and ulcers of the stomach and duodenum.



ALCOHOL

Avoid excessive alcohol or do not drink alcohol at all. Alcohol has an effect on the esophagus, stomach, and ileum with increased inflammation. Chronic alcoholism causes esophageal varices, liver cirrhosis, pancreatitis, and ulcerations of the lining of the stomach. Alcohol and smoking together greatly increase the risk for esophageal cancer.



LAXATIVES

Laxatives that work by irritating the intestinal tract are more irritating than valuable because of washing out the electrolytes, vitamins, and other nutrients from the intestinal tract. Ultimately, if used habitually, the bowel will not respond without these laxatives and a dependence is established. This could be harmful and should be avoided. Natural, fiber-based laxatives are recommended as a safe alternative.





PROLONGED SITTING

Avoid prolonged sitting and straining during bowel movements to reduce the risk of hemorrhoids and the complications that are often associated with them.



WHAT TO DO

SEVERITY LEVEL	SYMPTOM	POSSIBLE DIAGNOSIS
 <p>Seek Medical Help Immediately!</p>	<p>Chest pain, rapid and shallow breathing, sweating, blood in vomit</p> <p>Pain in upper or middle region of abdomen (not relieved by milk or antacids), black-colored stools, vomiting blood, vomiting after meals, weight loss, anemia, bloated feeling after eating</p> <p>Inability to swallow or complete inability to breathe</p> <p>Pain in abdomen settling in lower right side, nausea and vomiting, urge to empty bowels, fever</p> <p>Cirrhosis symptoms accompanied with mental confusion</p>	<p>Ruptured or bleeding esophageal veins</p> <p>Tumor</p> <p>Foreign body in esophagus</p> <p>Acute appendicitis</p> <p>Cirrhosis</p>
 <p>Make an appointment to see your doctor</p>	<p>Diarrhea, vomiting, fever, cramps</p> <p>Difficulty or inability to swallow, chest pain</p> <p>Burning sensation in the chest beginning in upper abdomen and radiating to neck</p> <p>Difficulty swallowing in the elderly</p> <p>Progressive difficulty in swallowing, unexplained weight loss, vomiting blood</p> <p>Upper abdominal discomfort, nausea, diarrhea</p> <p>Heartburn, with vomiting, pain, or bloating</p> <p>Bloating, cramps, excessive gas</p>	<p>Viral infection</p> <p>Achalasia</p> <p>Heartburn</p> <p>Pharyngeal diverticula</p> <p>Tumor</p> <p>Gastritis</p> <p>Hernia</p> <p>Lactose intolerance</p>



Make an appointment to see your doctor

Burning, aching, gnawing in upper abdomen relieved by milk, food, antacids; bloating after meals, nausea, vomiting blood	Peptic ulcer
Rectal bleeding, altered bowel habits, abdominal cramps, microscopic amount of blood in stool, anemia, unexplained weight loss	Colon cancer
Change in bowel habits, blood in stool, mucus discharge	Colon polyps
Fever, chills, diarrhea, pain, constipation, rectal bleeding	Crohn's disease
Increasing severe cramps, abdominal swelling, constipation, nausea, diarrhea	Diverticular disease
Abdominal swelling, pain or cramp in mid-abdomen, vomiting, inability to pass feces or gas	Intestinal obstruction
Increasing abdominal pain, distended abdomen, nausea and vomiting, inability to pass feces or gas, fever, low blood pressure, extreme thirst	Peritonitis
Bleeding from rectum	Ulcerative colitis
Mucous discharge from anus, fever, discomfort around anal opening, painful bowel movements	Anorectal abscess
Mucous, blood, or pus in the stool, urge to empty bowels	Proctitis
Loss of appetite, nausea and vomiting, weight loss, fatigue, jaundice, abdominal pain, spider-like blood vessels under skin with easy bruising, itching of abdomen and legs	Cirrhosis
Recurring jaundice, flu-like symptoms, fatigue, loss of appetite, nausea and vomiting	Hepatitis
Sudden and persistent abdominal pain	Gallstones or cholecystitis



Try the home treatment outlined in this chapter

Discomfort or full feeling in upper abdomen, heartburn, nausea, bloated feeling relieved by belching

Indigestion

Bright red blood from rectum, tenderness during bowel movements, soft tissue protrusion (if protrusion is hard and extremely painful, call physician)

Hemorrhoids