

Bleeding in the Digestive Tract

National Digestive Diseases Information Clearinghouse



National Institute of
Diabetes and Digestive
and Kidney Diseases

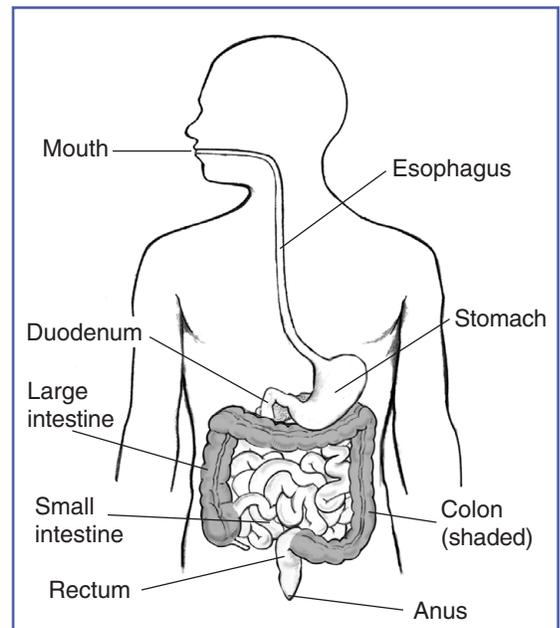
What is bleeding in the digestive tract?

Bleeding in the digestive tract is any type of bleeding that starts in the digestive tract. Bleeding in the digestive tract is a symptom of a disease rather than a disease itself. Health care providers describe two types of bleeding:

- acute bleeding—sudden and sometimes severe bleeding
- chronic bleeding—slight bleeding that lasts for a long time or may come and go

What is the digestive tract?

The digestive tract, also called the gastrointestinal (GI) tract, is a series of hollow organs joined in a long, twisting tube from the mouth to the anus. Food enters the mouth and passes to the anus through the hollow organs of the GI tract. The upper GI tract includes the mouth, esophagus, stomach, and duodenum. The duodenum is the first part of the small intestine. The lower GI tract consists of the large intestine—which includes the colon and rectum—and anus.



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What causes bleeding in the digestive tract?

A variety of conditions can cause bleeding in the digestive tract. Locating the source of bleeding is an important step to help the health care provider find the cause of the bleeding. Different conditions can cause bleeding in the upper or lower GI tract.

Causes of bleeding in the upper GI tract may include

- peptic ulcers—sores in the lining of the esophagus, stomach, or duodenum. The bacteria *Helicobacter pylori* (*H. pylori*) and use of nonsteroidal anti-inflammatory drugs (NSAIDs) can cause peptic ulcers. Peptic ulcers can wear away the mucosa, or the stomach or duodenal lining, and cause bleeding. Read more in *What I need to know about Peptic Ulcer Disease, Peptic Ulcer Disease and H. pylori, and Peptic Ulcer Disease and NSAIDs* at www.digestive.niddk.nih.gov.
- esophageal varices—enlarged blood vessels in the esophagus that can leak blood or even rupture, causing life-threatening bleeding. Esophageal varices are usually associated with a chronic liver condition called cirrhosis. Read more in *Cirrhosis* at www.digestive.niddk.nih.gov.
- a Mallory-Weiss tear—tears in the lower end of the esophagus. A person can have more than one Mallory-Weiss tear. Severe vomiting causes these tears.
- gastritis—a condition in which the stomach lining is inflamed. Some common causes of gastritis include the use of NSAIDs and other medications, infections, Crohn’s disease, critical illnesses, and severe injuries. If untreated, gastritis can lead to ulcers or erosions in the stomach lining that can bleed. Read more in *Gastritis* at www.digestive.niddk.nih.gov.
- esophagitis—an irritation of the esophagus. The most common cause of esophagitis is gastroesophageal reflux (GER), a condition that occurs when stomach acid flows back up into the esophagus. GER happens when the muscle between the esophagus and the stomach—the lower esophageal sphincter—is weak or relaxes when it should not. Stomach acid can damage the esophagus and cause sores and bleeding. Read more in *Gastroesophageal Reflux (GER) and Gastroesophageal Reflux Disease (GERD) in Adults* at www.digestive.niddk.nih.gov.

Causes of bleeding in the lower GI tract may include

- hemorrhoids or fissures. Hemorrhoids are swollen and inflamed veins around the anus or in the lower rectum. Constipation and straining during bowel movements cause the veins to swell. Hemorrhoids cause itching, pain, and sometimes bleeding. Fissures are small tears in the anus that can cause bleeding. Read more in *Hemorrhoids* at www.digestive.niddk.nih.gov.
- diverticular disease—a condition that occurs when a person has problems from small pouches, or sacs, that have formed and pushed outward through weak spots in the colon wall. Each pouch is called a diverticulum. Multiple pouches are called diverticula. Sometimes a small blood vessel in a diverticulum bursts and causes bleeding in the lower GI tract. Read more in *Diverticular Disease* at www.digestive.niddk.nih.gov.
- colitis—inflammation of the colon. A complication of colitis is ulcers in the large intestine that can cause bleeding. Read more in *Ulcerative Colitis* at www.digestive.niddk.nih.gov.

- angiodysplasia—abnormal or enlarged blood vessels in the lower GI tract that can become fragile and bleed.
- colon polyps—abnormal growths of tissue in the lining of the colon. A person can have more than one colon polyp. Some colon polyps are benign, which means they are not cancerous. Some types of polyps may already be cancerous or can become cancerous. People who have colon polyps may be more likely to develop colorectal cancer. Colorectal cancer is the third most common cancer in the United States and often causes occult bleeding—blood in the stool that is not visible to the naked eye.¹ Sometimes polyps in the lower GI tract and rectum can cause bleeding. Read more in *What I need to know about Colon Polyps* at www.digestive.niddk.nih.gov.

Causes of bleeding in both the lower and upper GI tract may include

- benign tumors and cancer. Benign tumors and cancer in the esophagus, stomach, colon, or rectum may cause bleeding when they weaken the lining of the GI tract. A benign tumor is an abnormal tissue growth that is not cancerous. Read more at www.cancer.gov.

¹Common cancer types. National Cancer Institute website. www.cancer.gov/cancertopics/commoncancers. Updated January 25, 2013. Accessed March 12, 2014.

What are the signs and symptoms of bleeding in the digestive tract?

The signs and symptoms of bleeding in the digestive tract depend on the location and severity of bleeding.

Signs and symptoms of bleeding in the upper or lower GI tract may include

- acute bleeding, which may include abdominal cramps
- black or tarry stool
- bright red blood in vomit
- dark or bright red blood mixed with stool
- dizziness or faintness
- fatigue, or feeling tired
- paleness
- shortness of breath
- vomit that looks like coffee grounds
- weakness

A person with acute bleeding may go into shock, which is an emergency condition. A person in shock may have additional signs and symptoms that may include

- a rapid pulse
- a drop in blood pressure
- little or no urine output
- unconsciousness

When a person has any signs or symptoms of shock, 911 should be called immediately.

Chronic bleeding. A person with chronic bleeding may develop anemia, a condition in which red blood cells are fewer than normal, which prevents the body's cells from getting enough oxygen. Symptoms of anemia may include fatigue and shortness of breath, which can develop over time.

Some people may have occult bleeding. Occult bleeding may be a sign of inflammation or a disease such as colorectal cancer. A simple lab test can detect occult blood in the stool.

How is the cause of bleeding in the digestive tract diagnosed?

To diagnose bleeding in the digestive tract, the health care provider will first determine the site of the bleeding based upon the following:

- medical and family history
- physical exam
- lab tests
- nasogastric lavage
- upper GI endoscopy, enteroscopy, and capsule endoscopy
- colonoscopy and flexible sigmoidoscopy
- imaging tests
- other tests

Medical and Family History

Taking a medical and family history is one of the first things a health care provider may do to help determine the cause of digestive tract bleeding. Patients should report all medications they are taking to their health care provider.

Physical Exam

A physical exam may help diagnose the cause of bleeding in the digestive tract. During a physical exam, a health care provider usually

- examines a patient's body
- uses a stethoscope to listen to sounds in the abdomen
- taps on specific areas of the patient's body

Lab Tests

The health care provider may use the following lab tests to help determine the cause of digestive tract bleeding:

- **Stool test.** A stool test is the analysis of a sample of stool. The health care provider will give the patient a container for catching and storing the stool. The patient will return the sample to the health care provider or a commercial facility that will send the sample to a lab for analysis. Stool tests can show occult bleeding.
- **Blood test.** A blood test involves drawing blood at a health care provider's office or a commercial facility and sending the sample to a lab for analysis. The blood test can help determine the extent of the bleeding and whether the patient has anemia.

Nasogastric Lavage

During this procedure, a health care provider uses a nasogastric tube to remove the stomach contents. The health care provider will spray a numbing medication on the back of the patient's throat before the procedure. The health care provider inserts a nasogastric tube through the nose or mouth, down the esophagus, and into the stomach. The procedure helps determine the cause of upper GI tract bleeding. A health care provider performs a nasogastric lavage in an outpatient center or a hospital.

Upper Gastrointestinal Endoscopy, Enteroscopy, and Capsule Endoscopy

- **Upper GI endoscopy.** This procedure involves using an endoscope—a small, flexible tube with a light—to see the upper GI tract. A gastroenterologist—a doctor who specializes in digestive diseases—performs the test at a hospital or an outpatient center. The gastroenterologist carefully feeds the endoscope down the esophagus and into the stomach and duodenum. A small camera mounted on the endoscope transmits a video image to a monitor, allowing close examination of the intestinal lining. A health care provider may give a patient a liquid anesthetic to gargle or may spray anesthetic on the back of the patient's throat. A health care provider will place an intravenous (IV) needle in a vein in the arm to administer a sedative or general anesthesia.
- **Enteroscopy.** This procedure examines the small intestine with a special, longer endoscope. A gastroenterologist usually performs the test at an outpatient center or a hospital. The gastroenterologist carefully feeds the endoscope down the esophagus, into the stomach and duodenum, and then into the small intestine. Types of enteroscopy procedures may include
 - push enteroscopy, which uses a long endoscope to examine the upper portion of the small intestine
 - single- or double-balloon enteroscopy, which use balloons to help move the endoscope through the entire small intestine
 - spiral enteroscopy, which uses a tube attached to an enteroscopy that is rotated and acts as a cork screw to move the instrument into the small intestine

During the procedure, a gastroenterologist may obtain a biopsy to help diagnose the bleeding. A biopsy is a procedure in which a tiny piece of the GI tract lining is removed for examination with a microscope. The endoscopy may show the source of bleeding, such as an ulcer or esophageal varices. When the health care provider cannot see the source of the bleeding during the endoscopy, the patient has obscure bleeding. The gastroenterologist may repeat the endoscopy or use other procedures to find the cause of obscure bleeding. Read more in *Upper GI Endoscopy* at www.digestive.niddk.nih.gov.

- **Capsule endoscopy.** Although this procedure can examine the entire digestive tract, it is used mostly to examine the small intestine. The patient swallows a capsule containing a tiny camera. As the capsule passes through the GI tract, the camera will transmit and record images to a small receiver device worn by the patient. When the recording is done, the images stored in the receiver are downloaded to a video monitor and reviewed by a gastroenterologist.

Colonoscopy and Flexible Sigmoidoscopy

- **Colonoscopy.** Colonoscopy is a procedure that uses a long, flexible, narrow tube with a light and tiny camera on one end, called a colonoscope, to look inside the rectum and entire colon. Colonoscopy can show irritated and swollen tissue, ulcers, and polyps. A gastroenterologist performs this procedure at a hospital or an outpatient center. In most cases, light anesthesia and pain medication help patients relax for the test. Health care providers will monitor patients' vital signs and try to make patients as comfortable as possible.

A health care provider places an IV needle in a vein in the arm to give the patient a sedative or anesthesia. For the test, the patient will lie on a table while the gastroenterologist inserts a colonoscope into the anus and slowly guides it through the rectum and into the colon. The scope inflates the large intestine with air to give the gastroenterologist a better view. The camera sends a video image of the intestinal lining to a video monitor,

allowing the gastroenterologist to carefully examine the intestinal tissues. The gastroenterologist may move the patient several times and adjust the scope for better viewing. Once the scope has reached the opening to the small intestine, the gastroenterologist slowly withdraws it and examines the lining of the large intestine again. The gastroenterologist can see and treat any bleeding in the lower GI tract during a colonoscopy. Read more in *Colonoscopy* at www.digestive.niddk.nih.gov.

- **Flexible sigmoidoscopy.** Flexible sigmoidoscopy is a test that uses a flexible, narrow tube with a light and tiny camera on one end, called a sigmoidoscope, to look inside the rectum and the lower, or sigmoid, colon. A gastroenterologist performs a flexible sigmoidoscopy at a health care provider's office, a hospital, or an outpatient center. The patient usually does not need anesthesia. For the test, the patient will lie on a table while the gastroenterologist inserts a sigmoidoscope into the anus and slowly guides it through the rectum and into the sigmoid colon. The scope inflates the large intestine with air to give the gastroenterologist a better view. The camera sends video images of the intestinal lining to a video monitor, allowing the gastroenterologist to carefully examine the tissues lining the sigmoid colon and rectum. The gastroenterologist can see and treat any bleeding in the sigmoid colon and rectum during a flexible sigmoidoscopy. Read more in *Flexible Sigmoidoscopy* at www.digestive.niddk.nih.gov.

Imaging Tests

To help find the cause of digestive tract bleeding, a health care provider may order one or more of the following imaging tests. An x-ray technician performs these tests in an outpatient center or a hospital, and a radiologist—a doctor who specializes in medical imaging—interprets the images. Patients do not need anesthesia.

- **Abdominal computerized tomography (CT) scan.** An abdominal CT scan uses a combination of x rays and computer technology to create images. For a CT scan, a health care provider may give the patient a solution to drink and an injection of a special dye, called contrast medium. CT scans require the patient to lie on a table that slides into a tunnel-shaped device where the technician takes x rays. Abdominal CT scans can help find the cause of digestive tract bleeding.
- **Lower GI series.** A lower GI series is an x-ray exam that a health care provider uses to look at the large intestine. The health care provider may provide written bowel prep instructions to follow at home before the test. The health care provider may ask the patient to follow a clear liquid diet for 1 to 3 days before the procedure. A patient may need to use a laxative or an enema before the test. A laxative is medication that loosens stool and increases bowel movements. An enema involves flushing water or laxative into the rectum using a special squirt bottle.

For the test, the patient will lie on a table while the radiologist inserts a flexible tube into the patient's anus. The x-ray technician will fill the large

intestine with barium, a chalky liquid, making the signs of underlying problems show up more clearly on x rays. The test can show problems with the large intestine that are causing the bleeding.

Barium liquid in the GI tract causes white or light-colored stools for several days or longer. Enemas and repeated bowel movements may cause anal soreness. A health care provider will provide specific instructions about eating and drinking after the test. Read more in *Lower GI Series* at www.digestive.niddk.nih.gov.

- **Upper GI series.** This test is an x-ray exam that provides a look at the shape of the upper GI tract to help determine the cause of digestive tract bleeding. A patient should not eat or drink before the procedure, as directed by the health care provider. Patients should ask their health care provider about how to prepare for an upper GI series.

During the procedure, the patient will stand or sit in front of an x-ray machine and drink barium. Barium coats the esophagus, stomach, and small intestine so the radiologist and a gastroenterologist can see the organs' shapes more clearly on x rays. A patient may experience bloating and nausea for a short time after the test. For several days afterward, barium liquid in the GI tract causes white or light-colored stools. A health care provider will give the patient specific instructions about eating and drinking after the test. Read more in *Upper GI Series* at www.digestive.niddk.nih.gov.

Other Tests

A health care provider also may order one or more of the following tests to determine the cause of digestive tract bleeding:

- **Angiogram.** An angiogram is a special kind of x ray in which an interventional radiologist—a specially trained radiologist—threads a thin, flexible tube called a catheter through the large arteries, often from the groin, to the artery of interest. The radiologist injects contrast medium through the catheter so the artery and site of bleeding show up more clearly on the x ray. During the procedure, the interventional radiologist can inject medications or other materials to stop some types of bleeding. The interventional radiologist performs the procedure and interprets the images in a hospital or an outpatient center. A patient does not need anesthesia, though a light sedative may help reduce a patient’s anxiety during the procedure. This test can help diagnose the cause of digestive tract bleeding.
- **Exploratory procedures.** When a patient has acute bleeding that cannot be controlled and none of the other tests helps the health care provider diagnose the source of the bleeding, a surgeon may perform one of two operations called an exploratory laparotomy or laparoscopy.
 - During a laparotomy, a surgeon will make a cut, or incision, in the abdomen and explore the abdomen to find the cause of the bleeding. During the operation, the surgeon can treat the problems that cause the bleeding. The patient receives general anesthesia.
 - During a laparoscopy, a surgeon makes several small incisions in the abdomen and inserts special tools and a camera to try to locate and treat the source of the bleeding. The patient will receive general anesthesia.
- **Radionuclides scan.** A radionuclides scan can help find the cause of digestive tract bleeding. A specially trained technician performs this scan in an outpatient center or a hospital. The technician takes a sample of the patient’s blood, mixes it with radioactive material and injects it back into the patient’s body to highlight the area in the body that is bleeding. The dose of radioactive chemicals is small, so the chance of causing damage to cells is low. A special camera takes pictures that highlight the radioactive material. The patient does not need anesthesia.

How is bleeding in the digestive tract treated?

Treatment depends on the cause or location of the bleeding. During a laparotomy, a colonoscopy, or an endoscopy, a gastroenterologist can stop the bleeding by inserting tools through the endoscope or colonoscope to

- inject medications into the bleeding site
- treat the bleeding site and surrounding tissue with a heat probe, an electric current, or a laser
- close affected blood vessels with a band or clip

An interventional radiologist can use an angiogram to inject medications or other materials into blood vessels to stop some types of bleeding. When infections or ulcers cause the bleeding, health care providers prescribe medications to treat the problem. When a person has severe acute bleeding or bleeding that does not stop, a surgeon may need to perform a laparoscopy or laparotomy to stop the bleeding.

How can bleeding in the digestive tract be prevented?

Health care providers can prevent bleeding in the digestive tract by treating the conditions that cause the bleeding. People can prevent some of the causes of digestive tract bleeding by

- limiting the amount of NSAIDs they take or by talking with a health care provider about other medication options
- following a health care provider's recommendations for treatment of GER

Eating, Diet, and Nutrition

People can prevent digestive tract bleeding by avoiding foods and triggers, such as alcoholic drinks and smoking, that can increase stomach acids and lead to ulcers. People who have a history of diverticular disease, anal fissures, and hemorrhoids should follow the diet their health care provider recommends to help prevent repeat bleeding. Read more in *Hemorrhoids* and *Diverticular Disease* at www.digestive.niddk.nih.gov.

Points to Remember

- Bleeding in the digestive tract is any type of bleeding that starts in the digestive tract.
- Bleeding in the digestive tract is a symptom of a disease rather than a disease itself.
- A variety of conditions can cause bleeding in the digestive tract.
- Locating the source of bleeding is an important step to help the health care provider find the cause of the bleeding.
- Treatment depends on the cause or location of the bleeding.

Hope through Research

The National Institute of Diabetes and Digestive and Kidney Diseases' (NIDDK's) Division of Digestive Diseases and Nutrition conducts and supports basic and clinical research into many digestive disorders.

Clinical trials are research studies involving people. Clinical trials look at safe and effective new ways to prevent, detect, or treat disease. Researchers also use clinical trials to look at other aspects of care, such as improving the quality of life for people with chronic illnesses. To learn more about clinical trials, why they matter, and how to participate, visit the NIH Clinical Research Trials and You website at www.nih.gov/health/clinicaltrials. For information about current studies, visit www.ClinicalTrials.gov.

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You may also find additional information about this topic by visiting MedlinePlus at www.medlineplus.gov.

This publication may contain information about medications and, when taken as prescribed, the conditions they treat. When prepared, this publication included the most current information available. For updates or for questions about any medications, contact the U.S. Food and Drug Administration toll-free at 1-888-INFO-FDA (1-888-463-6332) or visit www.fda.gov. Consult your health care provider for more information.

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The National Digestive Diseases Information Clearinghouse (NDDIC) is a service of the National Institute of Diabetes and Digestive and Kidney Diseases (NIDDK). The NIDDK is part of the National Institutes of Health of the U.S. Department of Health and Human Services. Established in 1980, the Clearinghouse provides information about digestive diseases to people with digestive disorders and to their families, health care professionals, and the public. The NDDIC answers inquiries, develops and distributes publications, and works closely with professional and patient organizations and Government agencies to coordinate resources about digestive diseases.

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