

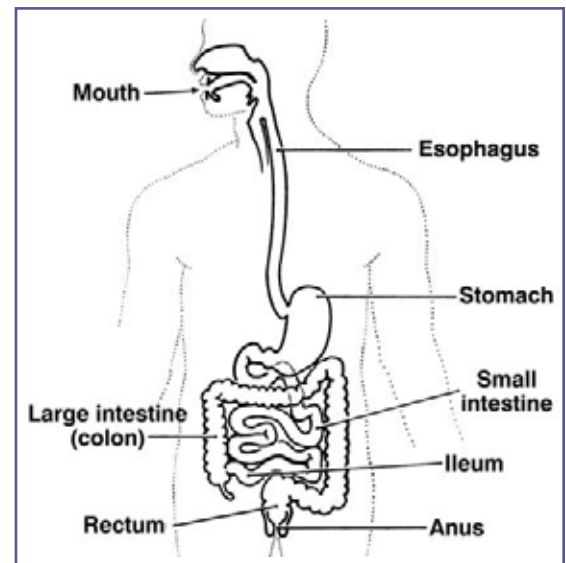
Bleeding in the Digestive Tract

Bleeding in the digestive tract is a symptom of a disease rather than a disease itself. Bleeding can occur as the result of a number of different conditions, some of which are life threatening. Most causes of bleeding are related to conditions that can be cured or controlled, such as ulcers or hemorrhoids. The cause of bleeding may not be serious, but locating the source of bleeding is important.

The digestive or gastrointestinal (GI) tract includes the esophagus, stomach, small intestine, large intestine or colon, rectum, and anus. Bleeding can come from one or more of these areas, that is, from a small area such as an ulcer on the lining of the stomach or from a large surface such as an inflammation of the colon. Bleeding can sometimes occur without the person noticing it. This type of bleeding is called occult or hidden. Fortunately, simple tests can detect occult blood in the stool.

What causes bleeding in the digestive tract?

Stomach acid can cause inflammation that may lead to bleeding at the lower end of the esophagus. This condition, usually associated with the symptom of heartburn, is called esophagitis or inflammation of the esophagus. Sometimes a muscle between the esophagus and stomach fails to close properly and allows the return of food and stomach juices into the esophagus, which can lead to esophagitis. In another, unrelated condition, enlarged veins (varices) at the lower end of the esophagus may



rupture and bleed massively. Cirrhosis of the liver is the most common cause of esophageal varices. Esophageal bleeding can be caused by a tear in the lining of the esophagus (Mallory-Weiss syndrome). Mallory-Weiss syndrome usually results from vomiting but may also be caused by increased pressure in the abdomen from coughing, hiatal hernia, or childbirth. Esophageal cancer can cause bleeding.

The stomach is a frequent site of bleeding. Infections with *Helicobacter pylori* (H. pylori), alcohol, aspirin, aspirin-containing medicines, and various other medicines (NSAIDs, particularly those used for arthritis) can cause stomach ulcers or inflammation (gastritis). The stomach is often the site of ulcer disease. Acute or chronic ulcers may enlarge and erode through a blood vessel, causing bleeding.

Also, patients suffering from burns, shock, head injuries, cancer, or those who have undergone extensive surgery may develop stress ulcers. Bleeding can also occur from benign tumors or cancer of the stomach, although these disorders usually do not cause massive bleeding.

A common source of bleeding from the upper digestive tract is ulcers in the duodenum (the upper small intestine). Duodenal ulcers are most commonly caused by infection with *H. pylori* bacteria or drugs such as aspirin or NSAIDs.

In the lower digestive tract, the large intestine and rectum are frequent sites of bleeding. Hemorrhoids are the most common cause of visible blood in the digestive tract, especially blood that appears bright red. Hemorrhoids are enlarged veins in the anal area that can rupture and produce bright red blood, which can show up in the toilet or on toilet paper. If red blood is seen, however, it is essential to exclude other causes of bleeding since the anal area may also be the site of cuts (fissures), inflammation, or cancer.

Benign growths or polyps of the colon are very common and are thought to be forerunners of cancer. These growths can cause either bright red blood or occult bleeding. Colorectal cancer is the third most frequent of all cancers in the United States and often causes occult bleeding at some time, but not necessarily visible bleeding.

Inflammation from various causes can produce extensive bleeding from the colon. Different intestinal infections can cause inflammation and bloody diarrhea. Ulcerative colitis can produce inflammation and extensive surface bleeding from tiny ulcerations. Crohn's disease of the large intestine can also produce bleeding.

What are the common causes of bleeding in the digestive tract?

Esophagus

- inflammation (esophagitis)
- enlarged veins (varices)
- tear (Mallory-Weiss syndrome)
- cancer
- liver disease

Stomach

- ulcers
- inflammation (gastritis)
- cancer

Small intestine

- duodenal ulcer
- inflammation (irritable bowel disease)
- cancer

Large intestine and rectum

- hemorrhoids
- infections
- inflammation (ulcerative colitis)
- colorectal polyps
- colorectal cancer
- diverticular disease

Diverticular disease caused by diverticula—pouches in the colon wall—can result in massive bleeding. Finally, as one gets older, abnormalities may develop in the blood vessels of the large intestine, which may result in recurrent bleeding.

Patients taking blood thinning medications (warfarin) may have bleeding from the GI tract, especially if they take drugs like aspirin.

How is bleeding in the digestive tract recognized?

The signs of bleeding in the digestive tract depend upon the site and severity of bleeding. If blood is coming from the rectum or the lower colon, bright red blood will coat or mix with the stool. The stool may be mixed with darker blood if the bleeding is higher up in the colon or at the far end of the small intestine. When there is bleeding in the esophagus, stomach, or duodenum, the stool is usually black or tarry. Vomited material may be bright red or have a coffee-grounds appearance when one is bleeding from those sites. If bleeding is occult, the patient might not notice any changes in stool color.

If sudden massive bleeding occurs, a person may feel weak, dizzy, faint, short of breath, or have crampy abdominal pain or diarrhea. Shock may occur, with a rapid pulse, drop in blood pressure, and difficulty in producing urine. The patient may become very pale. If bleeding is slow and occurs over a long period of time, a gradual onset of fatigue, lethargy, shortness of breath, and pallor from the anemia will result. Anemia is a condition in which the blood's iron-rich substance, hemoglobin, is diminished.

How is bleeding in the digestive tract diagnosed?

The site of the bleeding must be located. A complete history and physical examination are essential. Symptoms such as changes in bowel habits, stool color (to black or red) and consistency, and the presence of pain or tenderness may tell the doctor which area of the GI tract is affected. Because the intake of iron, bismuth (Pepto Bismol),

or foods such as beets can give the stool the same appearance as bleeding from the digestive tract, a doctor must test the stool for blood before offering a diagnosis. A blood count will indicate whether the patient is anemic and also will give an idea of the extent of the bleeding and how chronic it may be.

Endoscopy

Endoscopy is a common diagnostic technique that allows direct viewing of the bleeding site. Because the endoscope can detect lesions and confirm the presence or absence of bleeding, doctors often choose this method to diagnose patients with acute bleeding. In many cases, the doctor can use the endoscope to treat the cause of bleeding as well.

The endoscope is a flexible instrument that can be inserted through the mouth or rectum. The instrument allows the doctor to see into the esophagus, stomach, duodenum (esophago-duodenoscopy), colon (colonoscopy), and rectum (sigmoidoscopy); to collect small samples of tissue (biopsies); to take photographs; and to stop the bleeding.

Small bowel endoscopy, or enteroscopy, is a procedure using a long endoscope. This endoscope may be used to localize unidentified sources of bleeding in the small intestine.

A new diagnostic instrument called a capsule endoscope is swallowed by the patient. The capsule contains a tiny camera that transmits images to a video monitor. It is used most often to find bleeding in portions of the small intestine that are hard to reach with a conventional endoscope.

Other Procedures

Several other methods are available to locate the source of bleeding. Barium x rays, in general, are less accurate than endoscopy in locating bleeding sites. Some drawbacks of barium x rays are that they may interfere with other diagnostic techniques if used for detecting acute bleeding, they expose the patient to x rays, and they do not offer the capabilities of biopsy or treatment. Another type of x ray is CT scan, particularly useful for inflammatory conditions and cancer.

Angiography is a technique that uses dye to highlight blood vessels. This procedure is most useful in situations when the patient is acutely bleeding such that dye leaks out of the blood vessel and identifies the site of bleeding. In selected situations, angiography allows injection of medicine into arteries that may stop the bleeding.

Radionuclide scanning is a noninvasive screening technique used for locating sites of acute bleeding, especially in the lower GI tract. This technique involves injection of small amounts of radioactive material. Then, a special camera produces pictures of organs, allowing the doctor to detect a bleeding site.

How is bleeding in the digestive tract treated?

Endoscopy is the primary diagnostic and therapeutic procedure for most causes of GI bleeding.

Active bleeding from the upper GI tract can often be controlled by injecting chemicals directly into a bleeding site with a needle introduced through the endoscope. A physician can also cauterize, or heat treat, a bleeding site and surrounding tissue with a heater probe or electrocoagulation device passed through the endoscope. Laser therapy is useful in certain specialized situations.

Once bleeding is controlled, medicines are often prescribed to prevent recurrence of bleeding. Medicines are useful primarily for *H. pylori*, esophagitis, ulcer, infections, and irritable bowel disease. Medical treatment of ulcers, including the elimination of *H. pylori*, to ensure healing and maintenance therapy to prevent ulcer recurrence can also lessen the chance of recurrent bleeding.

Removal of polyps with an endoscope can control bleeding from colon polyps. Removal of hemorrhoids by banding or various heat or electrical devices is effective in patients who suffer hemorrhoidal bleeding on a recurrent basis. Endoscopic injection or cautery can be used to treat bleeding sites throughout the lower intestinal tract.

Endoscopic techniques do not always control bleeding. Sometimes angiography may be used. However, surgery is often needed to control active, severe, or recurrent bleeding when endoscopy is not successful.

How do you recognize blood in the stool and vomit?

- bright red blood coating the stool
- dark blood mixed with the stool
- black or tarry stool
- bright red blood in vomit
- coffee-grounds appearance of vomit

What are the symptoms of acute bleeding?

- any of bleeding symptoms above
- weakness
- shortness of breath
- dizziness
- crampy abdominal pain
- faintness
- diarrhea

What are the symptoms of chronic bleeding?

- any of bleeding symptoms above
- weakness
- fatigue
- shortness of breath
- lethargy
- faintness

Hope Through Research

NIDDK, through the Division of Digestive Diseases and Nutrition, supports several programs and studies devoted to improving treatment for patients with digestive diseases that cause bleeding in the digestive tract, including *Helicobacter pylori* and inflammatory bowel disease.

For More Information

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