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A-Z Health Guide from WebMD: Medical Tests

Stool Analysis



Test Overview

A stool analysis is a series of tests done on a stool (feces) sample to help diagnose certain conditions affecting the [digestive tract](#). These conditions can include infection (such as from [parasites](#), [viruses](#), or [bacteria](#)), poor nutrient absorption, or cancer.

For a stool analysis, a stool sample is collected in a clean container and then sent to the laboratory. Laboratory analysis includes microscopic examination, chemical tests, and microbiologic tests. The stool will be checked for color, consistency, weight (volume), shape, odor, and the presence of mucus. The stool may be examined for hidden (occult) blood, fat, meat fibers, [bile](#), [white blood cells](#), and sugars called reducing substances. The [pH](#) of the stool also may be measured. A stool [culture](#) is done to find out if bacteria may be causing an infection.

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Why It Is Done

Stool analysis is done to:

- Help identify diseases of the digestive tract, [liver](#), and [pancreas](#). Certain [enzymes](#) (such as trypsin or elastase) may be evaluated in the stool to help determine how well the pancreas is functioning.
- Help find the cause of symptoms affecting the digestive tract, including prolonged diarrhea, bloody diarrhea, an increased amount of gas, nausea, vomiting, loss of appetite, bloating, abdominal pain and cramping, and fever.
- Screen for [colon cancer](#) by checking for hidden (occult) blood.
- Look for parasites, such as [pinworms](#) or [Giardia lamblia](#).
- Look for the cause of an infection, such as bacteria, a [fungus](#), or a virus.
- Check for poor absorption of nutrients by the digestive tract (malabsorption syndrome). For this test, all stool is collected over a 72-hour period and then checked for the fat and meat fibers. This test is called a 72-hour stool collection or quantitative fecal fat test.

Talk to your doctor about any concerns you have regarding the need for the test, its risks, how it will be done, or what the results will indicate. To help you understand the importance of this test, fill out the [medical test information form](#) (What is a [PDF](#) document?).

How To Prepare

Many medicines can change the results of this test. You will need to avoid certain medications, such as antacids, antidiarrheal medications, antiparasite medications, antibiotics, [enemas](#), and laxatives for 1 to 2 weeks before you have the test. Be sure to tell your doctor about all the nonprescription and prescription medicines you take.

Be sure to tell your doctor if you have:

- Recently had an [X-ray](#) test using barium [contrast material](#), such as a [barium enema](#) or [upper gastrointestinal series](#) (barium swallow). Barium can interfere with test results.

- Traveled in recent weeks or months, especially if you have traveled outside the country. Parasites, fungi, viruses, or bacteria from other countries may affect the test.

If your stool is being tested for blood, you will need to follow a special diet for 2 days before the stool collection period begins. Your doctor will give you a list of recommended foods.

- Do not eat red meat, turnips, cauliflower, broccoli, bananas, cantaloupe, beets, or parsnips.
- Do not drink alcohol, including wine and beer.
- Do not take aspirin, ibuprofen, or vitamin C.
- Do not eat red Jell-o or drink anything that contains red dye, such as sports drinks.

How It Is Done

Stool samples can be collected at home, in your doctor's office, at a medical clinic, or at the hospital. If you collect the samples at home, you will be given stool collection kits to use each day. Each kit contains applicator sticks and two sterile containers.

You may need to collect more than one sample during 1 to 3 days. Follow the same procedure for each day.

Collect the samples as follows:

- Urinate before collecting the stool so that you do not get any urine in the stool sample.
- Put on gloves before handling your stool. Stool can contain material that spreads infection. [Wash your hands](#) after you remove your gloves.
- Either solid or liquid stool can be collected. Pass stool (but no urine) into a dry container. Your health professional may give you a special container for the test. Do not collect the sample from the toilet bowl. Do not mix toilet paper, water, or soap with the sample.
- Using one of the applicator sticks, place a small amount of stool in each of the two containers.
- Replace the lids and label each with your name, your doctor's name, and the date the stool was collected. Use one kit for each day's collection, and collect a sample only once a day unless your doctor gives you other directions.

Take the sealed container to your doctor's office or the laboratory within 1 hour.

If the stool is collected in your doctor's office or the hospital, you will pass the stool in a plastic container that is inserted under the toilet seat or in a bedpan. A health professional will package the sample for laboratory analysis.

- Do not urinate while passing the stool.
- If you have diarrhea, a large plastic bag taped to the toilet seat may make the collection process easier; the bag is then placed in a plastic container.
- If you are constipated, you may be given a small enema.

You will need to collect stool for 3 days in a row if the sample is being tested for quantitative fats. You will begin collecting stool on the morning of the first day. The samples are placed in a large container and then refrigerated.

You may need to collect several stool samples over 7 to 10 days if you have digestive symptoms after traveling outside the country.

Samples from babies and young children may be collected from diapers (if the stool is not contaminated with urine) or from a small-diameter glass tube inserted into the baby's rectum while the baby is held on an adult's lap.

Sometimes a stool sample is collected using a rectal swab that contains a preservative. The swab is inserted into the rectum, rotated gently, and then withdrawn. It is placed in a clean, dry container and sent to the lab right away.

How It Feels


There is no pain while collecting a stool sample. If you are constipated, straining to pass stool may be painful.

If your health professional uses a rectal swab to collect the sample, you may feel some pressure or discomfort as the swab is inserted into your rectum.

Risks

Any stool sample may contain germs that can spread disease. It is important to carefully [wash your hands](#) and use careful handling techniques to avoid spreading infection.

Results

A stool analysis is a series of tests done on a stool (feces) sample to help diagnose certain conditions affecting the [digestive tract](#) .

Stool analysis test results usually take at least 1 to 3 days.

Stool analysis

Normal:	The stool appears brown, soft, and well-formed in consistency.
	The stool does not contain blood, mucus, pus, bacteria , viruses , fungi , or parasites .
	The stool is shaped like a tube.
	The pH of the stool is about 6.
	The stool contains less than 2 milligrams per gram (mg/g) of sugars called reducing factors.
Abnormal:	The stool is black, red, white, yellow, or green.
	The stool is liquid or very hard.
	There is too much stool.
	The stool contains blood, mucus, pus, bacteria, viruses, fungi, or parasites.
	The stool contains low levels of enzymes , such as trypsin or elastase.
	The pH of the stool is less than 5.3 or greater than 6.8.
	The stool contains more than 5 mg/g of sugars called reducing factors; between 2 and 5 mg/g is considered borderline.

Many conditions can change the results of a stool analysis. Your doctor will talk with you about any abnormal results that may be related to your symptoms and medical history.

Abnormal values

- High levels of fat in the stool may be caused by diseases such as [pancreatitis](#), [sprue \(celiac disease\)](#), [cystic fibrosis](#), or other disorders that affect the absorption of fats.
- The presence of undigested meat fibers in the stool may be caused by pancreatitis.
- A pH greater than 6.8 may be caused by poor absorption of [carbohydrate](#) or fat and problems with the

amount of bile in the digestive tract. Stool with a pH less than 5.3 may indicate poor absorption of sugars.

- Blood in the stool may be caused by bleeding in the digestive tract.
- [White blood cells](#) in the stool may be caused by bacterial diarrhea. A specific organism may be identified.
- [Rotaviruses](#) are a common cause of diarrhea in young children. If diarrhea is present, testing may be done to look for rotaviruses in the stool.
- High levels of reducing factors in the stool may indicate a problem digesting some sugars, such as sucrase and lactase.
- Low levels of reducing factors may be caused by [sprue \(celiac disease\)](#), cystic fibrosis, or malnutrition. Medicine such as colchicine (for [gout](#)) or birth control pills may also cause low levels.

What Affects the Test

Reasons you may not be able to have the test or why the results may not be helpful include:

- Taking medicines such as antibiotics, antidiarrheal medications, barium, bismuth, iron, ascorbic acid, aspirin, and magnesium.
- Eating certain foods. For example, a diet high in red meat can cause [false-positive results](#) in testing for hidden (occult) blood.
- Contaminating a stool sample with urine, menstrual blood, bleeding [hemorrhoids](#), or chemicals found in toilet paper and paper towels.
- Exposing the stool sample to air or room temperature or failing to send the sample to a laboratory within 1 hour of collection.

What To Think About

- Stool may be checked for hidden (occult) blood. For more information, see the medical test [Fecal Occult Blood Test \(FOBT\)](#).
- A stool culture is done to find the cause of an infection, such as bacteria, a virus, a fungus, or a parasite. For more information, see the medical test [Stool Culture](#).
- A bowel transit time test is done to help find the cause of abnormal movement of food through the digestive tract. For more information, see the medical test [Bowel Transit Time](#).
- The D-xylose absorption test is done to help diagnose problems that prevent the small intestine from absorbing nutrients in food. This test may be done when symptoms of malabsorption syndrome (such as chronic diarrhea, weight loss, and weakness) are present. For more information, see the medical test [D-Xylose Absorption Test](#).
- A stool analysis to measure trypsin or elastase is not as reliable as the sweat test to detect cystic fibrosis. For more information, see the medical test [Sweat Test](#).

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Credits

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