TEST

Fecal fat

A fecal fat test measures how much dietary fat passes into your stool.

WHAT IT MEASURES
Fat passed in stool during the collection period

SAMPLE
Stool

FASTING NEEDED?
No

HOW LONG IT TAKES
Minutes for spot testing; usually 48-72 hours for collection

RESULTS IN
Several days; timing varies by laboratory

USED FOR
Diagnosing and monitoring fat malabsorption

MAIN LIMITATION
Incomplete collection or incorrect dietary fat can mislead results

Overview

A fecal fat test measures fat in your stool. It helps assess whether your body is digesting and absorbing dietary fat as expected.

Normally, digestive enzymes and bile break down fat so it can be absorbed through the small intestine. If that process is disrupted, extra fat may remain in the stool. This is called fat malabsorption .

There are two main versions of the test:

A timed quantitative collection gives more information about the amount of fat lost. A spot test is easier but is less precise.

The test cannot identify the cause by itself. An abnormal result may lead to tests of the pancreas, small intestine, liver, or bile ducts.

- A quantitative test measures the total amount of fat passed during a timed stool collection, often over 48 to 72 hours

- A qualitative test examines a small stool sample for visible fat droplets, usually using a stain and microscope

Why the test is ordered

Your healthcare professional may order fecal fat testing when there is concern that you are not absorbing fat properly. Possible reasons include ongoing greasy or unusually bulky stools, unexplained weight loss, poor growth in a child, or low levels of fat-soluble vitamins.

It may also be used when investigating conditions that can interfere with digestion or absorption. These include pancreatic enzyme problems, disorders affecting the lining of the small intestine, reduced bile flow, or changes after intestinal surgery.

In some situations, the test is used to monitor whether treatment has improved fat absorption. It is not generally used as a routine screening test for people without symptoms or related medical concerns.

Other stool tests are now often used first when a specific problem is suspected. For example, fecal elastase is usually more convenient when checking how well the pancreas produces digestive enzymes.

Who should have the test

You may be offered this test if your symptoms, medical history, or earlier results suggest possible malabsorption. The decision usually takes into account your diet, medicines, previous digestive surgery, and any known pancreatic or intestinal condition.

A timed collection can be difficult for young children or anyone who cannot reliably collect every bowel movement. A spot sample or another test may be more practical in those situations.

Reference values and collection methods differ for adults, infants, and children. Pregnancy, diet, medicines, and the reason for testing may also influence how the result is interpreted.

How to prepare

Fasting is not usually required. Preparation depends on whether you are providing one sample or completing a timed collection.

For a quantitative test, the laboratory may ask you to eat a specified amount of fat before and

during the collection. Many protocols use a high-fat diet so the test can show how well fat is absorbed under a known dietary load. Follow the amount and timing given by your laboratory rather than choosing your own target.

Tell the healthcare professional who ordered the test about medicines, supplements, laxatives, pancreatic enzymes, and recent imaging tests. Mineral oil, fat substitutes, rectal suppositories, and some laxatives can interfere with measurement. Barium used for some imaging procedures may also affect stool testing.

Do not stop prescribed medicines or pancreatic enzymes unless you are specifically told to do so. Whether they should be continued depends on whether the test is checking your untreated digestion or your response to treatment.

Ask for written instructions about:

- When the collection begins and ends
- Whether your diet needs to contain a set amount of fat
- Which medicines or products to avoid
- How to store and transport the container

What happens during the test

For a spot test, you collect part of one bowel movement in the container supplied by the laboratory. The sample should not touch toilet water or become mixed with urine, toilet paper, or cleaning products.

For a timed test, you must collect every bowel movement during the stated period. This may be 24, 48, or 72 hours, although laboratory protocols differ. The collection usually begins at a recorded time and ends at the same time of day after the required number of hours.

You may receive one large container or several smaller containers. Store them exactly as instructed, which may involve refrigeration or freezing. Wash your hands well after handling the container.

At the laboratory, a quantitative collection is mixed so the sample is even throughout. The total fat is then measured and reported for the collection period, often as an amount per 24 hours. A qualitative sample is treated with a stain and examined for fat droplets.

Understanding your results

Your report should include the laboratory's reference range. Interpretation varies by laboratory, testing method, age, sex, pregnancy status, medicines, diet, and clinical context.

A result within the laboratory's range means the test did not find excess fat under the collection conditions. It makes substantial fat malabsorption less likely, but it does not rule out a mild, intermittent, or specific digestive problem.

A raised quantitative result means more fat than expected passed into the stool. This supports fat malabsorption but does not show where the problem is. Conditions involving pancreatic enzymes, bile, or the small intestine can produce similar findings.

A positive qualitative result means visible fat was found in the sample. Because this method does not measure total daily fat loss, it may need confirmation with a timed collection or a different test.

Your result should be considered alongside your diet during collection, symptoms, weight changes, blood tests, and other investigations.

What affects the results

Collection problems are the main reason a fecal fat result can be misleading even when the laboratory measurement is technically correct.

Important influences include:

A recent blood transfusion does not usually affect fecal fat directly. Pregnancy and age may change the clinical interpretation or the collection method, especially in infants and children.

- Missing one or more bowel movements: An incomplete collection can make the result falsely low
- Collecting outside the stated period: Extra stool can make the calculated daily amount inaccurate
- Eating too little fat: Malabsorption may be missed if the digestive system is not adequately challenged
- Not following the assigned diet: The result is harder to interpret if fat intake is unknown
- Mineral oil or fat substitutes: These may be measured or mistaken for dietary fat
- Laxatives or suppositories: They can alter stool content and movement through the intestine
- Severe diarrhea: Rapid movement through the bowel may increase stool fat without a primary failure of fat digestion

- Pancreatic enzyme treatment: Starting, stopping, or changing enzymes can alter the result
- Urine, water, or cleaning-product contamination: These can affect the sample or its measured weight
- Poor storage: Delayed delivery or incorrect temperature may make the sample unsuitable
- Uneven fat distribution: A spot sample may contain more or less fat than the stool as a whole
- Recent barium imaging: Residual contrast material can interfere with some stool analyses

Accuracy and limitations

A properly completed quantitative collection is a direct way to measure fat loss in stool. However, its accuracy relies heavily on collecting every bowel movement and eating the instructed amount of fat.

The test may miss malabsorption if the condition is mild, comes and goes, or if too little fat was eaten. It may show excess fat when severe diarrhea, mineral oil, or collection errors are responsible instead.

Qualitative testing is faster and easier, but a single sample may not represent your usual fat loss. It can say that visible fat is present when the total daily amount is not abnormal, or miss excess loss when fat is unevenly distributed.

Fecal fat testing also cannot identify the underlying cause. Depending on the concern, a different test may be more useful. Fecal elastase can assess pancreatic enzyme production, blood tests can look for nutritional deficiencies or immune markers associated with celiac disease, and imaging can examine the pancreas and bile ducts. Endoscopy or biopsy may be needed when a disorder of the small intestine is suspected.

Risks and complications

Collecting stool does not usually cause physical complications. The main concerns are unpleasant handling and exposure to germs, which can be reduced by using the supplied equipment and washing your hands thoroughly.

The test itself does not cause digestive symptoms. If preparation involves a prescribed high-fat diet, report any difficulty following it so the result can be interpreted correctly.

What happens next

A normal result may lead to routine follow-up or testing for another explanation for your symptoms. An abnormal result is usually reviewed with your symptoms, diet, medicines, blood tests, and medical history.

Further testing may focus on pancreatic function, the small intestine, bile flow, or nutritional status. If the collection was incomplete or preparation was not followed, repeating the test may be more useful than acting on the first number.

Contact your healthcare service promptly if you cannot keep fluids down, have signs of dehydration such as very little urine, or notice persistent blood in your stool. Seek emergency care for fainting, severe or rapidly worsening abdominal pain, or heavy gastrointestinal bleeding. These symptoms are not caused by the fecal fat test and should not wait for the result.

Common questions

Can I drink coffee before a fecal fat test?

Usually, yes, because fasting is not normally required. Milk or cream contributes dietary fat, so include it when following a prescribed diet and follow your laboratory's instructions.

Does the time of day matter?

Not for a spot sample unless the laboratory says otherwise. For a timed collection, the start and finish times matter, and every bowel movement between them must be collected.

Can I exercise during the collection?

Exercise does not directly change stool fat measurement. The practical issue is making sure you can collect every bowel movement while away from home.

Should I keep taking pancreatic enzymes?

Do not change them on your own. You may be asked to continue them if the test is checking treatment, or stop them if untreated digestion is being assessed.

What if I miss one bowel movement?

Tell the laboratory or the healthcare professional who ordered the test. Because one missed sample can make the result falsely low, you may need to restart the collection.

Does the sample need to be refrigerated?

Often, but storage requirements differ by laboratory. Use the supplied container and follow its

temperature and delivery instructions exactly.

Sources

- American Gastroenterological Association. Clinical Practice Update on the Epidemiology, Evaluation, and Management of Exocrine Pancreatic Insufficiency: Expert Review. Gastroenterology . 2023. 04780-7/fulltext)
- ARUP Laboratories Test Directory. Fat, Fecal Qualitative.
- Mayo Clinic Laboratories. FATF: Fat, Feces. Test catalog and collection guidance.
- Merck Manual Professional Edition. Overview of Malabsorption.
- National Institute of Diabetes and Digestive and Kidney Diseases. Diagnosis of Exocrine Pancreatic Insufficiency.