PROCEDURE

# Small intestine aspirate and culture

This test collects fluid from the small intestine during an upper endoscopy to look for excess bacteria.

**PURPOSE**
Collect small-bowel fluid to test for bacterial overgrowth

**PROCEDURE TYPE**
Diagnostic endoscopic sampling

**WHERE IT IS DONE**
Endoscopy suite

**ANAESTHESIA**
Moderate or deep sedation

**HOW LONG IT TAKES**
About 15 to 30 minutes

**PREPARATION**
Fasting and a medication plan from the endoscopy unit

**RECOVERY**
Same day; no driving after sedation

**MAIN RISKS**
Sedation reactions, lung aspiration, bleeding, perforation

**RESULTS**
Endoscopy findings same day; culture results in several days

## Overview

A small intestine aspirate and culture tests fluid taken from the upper part of your small intestine. It is usually performed during an upper endoscopy.

During the endoscopy, a clinician passes a thin, flexible tube through your mouth, stomach, and into the small intestine. A small amount of intestinal fluid is drawn through a catheter. The laboratory then checks the sample for bacterial growth.

The test may help investigate small intestinal bacterial overgrowth, often shortened to SIBO. This means that more bacteria, or different types of bacteria, are present in the small intestine than expected.

Culture is a direct way to examine bacteria in small-bowel fluid, but it is not perfect. Bacterial

overgrowth may be patchy, some organisms are difficult to grow, and the sample can be contaminated by bacteria from the mouth or stomach. Results must be interpreted alongside your symptoms, medical history, and other tests.

## Why the procedure is performed

Your healthcare team may recommend this procedure when SIBO or another change in small-bowel bacteria is suspected and a direct sample may affect treatment.

Symptoms that sometimes lead to testing include ongoing bloating, abdominal discomfort, diarrhea, excess gas, or unexplained problems absorbing nutrients. These symptoms have many possible explanations, so they do not confirm bacterial overgrowth by themselves.

Direct sampling may be considered when:

The endoscopy also allows the clinician to inspect your esophagus, stomach, and upper small intestine. Biopsies, which are tiny tissue samples, may be taken if needed.

- Breath-test results are unclear or do not match your symptoms
- Previous treatment has not helped as expected
- Surgery has changed the structure of your stomach or intestines
- A condition affecting intestinal movement raises concern about overgrowth
- An upper endoscopy is already needed for another reason

## Who should and should not have it

This procedure may be suitable if obtaining a direct sample is likely to clarify your diagnosis or change your treatment. Because it requires an endoscopy and sedation, it is not routinely needed for everyone with bloating or other digestive symptoms.

The procedure may be avoided when a less invasive test can provide enough information. It should also be reconsidered if the result would not change what happens next.

It may need to be delayed if:

Antibiotics like amoxicillin or doxycycline can alter intestinal bacteria. Do not stop a prescribed antibiotic on your own, but tell the endoscopy team what you take and when you last took it. Acid-reducing medicines like omeprazole or lansoprazole , probiotics, supplements, and medicines that affect bowel movement should also be discussed.

Pregnancy does not automatically rule out endoscopy, but non-urgent procedures are often

postponed. Tell the team if you are pregnant or could be pregnant so that the need for the procedure and sedation can be reviewed.

- You have not followed the required fasting instructions
- You have an acute illness or unstable heart or lung condition
- Sedation cannot be given safely at that time
- You are taking medicine that could distort the culture result
- A bleeding problem needs assessment, particularly if biopsies are planned
- You cannot give informed consent

## How to prepare

Your treating facility's own instructions take priority because fasting times, medication plans, and sedation practices differ.

You will usually need to stop eating and drinking for a set period before the endoscopy. This lowers the chance of stomach contents entering your lungs while you are sedated.

Give the team a current list of your medicines and supplements. Make sure they know if you take blood thinners like warfarin or apixaban , diabetes medicines, antibiotics, probiotics, or medicines that affect movement through the gut. Only change or stop a medicine if the treating team tells you to.

Tell the team about allergies, previous problems with sedation or anaesthesia, heart or lung conditions, sleep apnea, and loose teeth or dental work.

If you will receive sedation, arrange for a responsible adult to take you home. Some facilities also require someone to remain with you for part of the day or overnight.

## What happens during the procedure

You will change into a gown and usually have an intravenous line placed in your arm. Monitoring equipment checks your breathing, heart rate, blood pressure, and oxygen level.

Sedation is given through the intravenous line. Moderate sedation makes you relaxed and sleepy, while deep sedation makes you less aware of the procedure. A mouth guard protects your teeth and the endoscope.

The endoscope passes through your mouth and into the upper digestive tract. It does not enter your windpipe, although you may briefly feel pressure or gagging before the sedation

takes full effect.

Once the endoscope reaches the small intestine, a narrow catheter is passed through it. Fluid is gently collected while the team takes steps to limit contamination from the mouth and stomach. The sample is sent promptly to the laboratory for culture.

The clinician may inspect the lining of your digestive tract or take biopsies during the same procedure. The endoscope is then removed. There are no surgical cuts.

## Recovery and what to expect afterward

You may have a mild sore throat, temporary bloating, or minor abdominal discomfort. These effects usually settle without specific treatment. Severe or increasing pain is not expected.

Once you are fully awake and swallowing safely, you can usually drink and then eat. Follow any special diet instructions if biopsies or another treatment were performed.

Plan for quiet activity for the rest of the day. Sedation can affect balance, memory, and judgment even when you feel alert.

Do not drive, operate machinery, drink alcohol, sign important documents, or make major decisions for the period stated by your endoscopy unit. You will normally need someone else to drive you home.

Many people return to work the next day. You may need longer if your work involves driving, machinery, physical exertion, or safety-sensitive decisions.

## Risks and possible complications

A sore throat, bloating, nausea, or brief discomfort can occur after upper endoscopy.

Sedation can cause low oxygen levels, changes in blood pressure or heart rhythm, or an allergic reaction. Your vital signs are monitored so the team can respond promptly.

Other possible complications include:

The sample may also be contaminated or may fail to capture bacterial overgrowth that is present elsewhere in the small intestine. This can lead to an unclear or misleading result and may require another form of testing.

- Stomach contents entering the lungs, called aspiration
- Bleeding, especially if a biopsy or treatment is performed

- A tear or hole in the digestive tract, called perforation
- Damage to loose teeth, crowns, or dental work

## Results and follow up

The clinician may explain what the digestive tract looked like before you leave. Because sedation can affect memory, written instructions or having your support person present can be helpful.

A bacterial culture usually takes several days. The laboratory reports which organisms grew and how much growth was found. Some bacteria require special handling and may not grow under routine laboratory conditions.

A positive culture does not always prove that bacteria are causing your symptoms. A negative culture does not completely rule out overgrowth. Your healthcare team will consider how the sample was collected, the amount and type of growth, your symptoms, previous surgery, medicines, and other test results.

Follow-up may involve treatment, further testing, or looking for another cause of your symptoms. If biopsies were taken, those results may arrive separately.

## Alternatives

A glucose or lactulose breath test is the main non-invasive alternative. You drink a sugar solution and provide breath samples that are tested for hydrogen and methane. It avoids endoscopy, but results can be affected by how quickly food moves through your intestines and may not match direct culture findings.

Treatment without testing is sometimes considered when suspicion is high. It avoids the procedure, but symptoms may have another cause, and treatment may alter intestinal bacteria or delay a different diagnosis.

Depending on your symptoms, other options may include blood tests for nutrient deficiencies or celiac disease, stool tests, imaging, or tests of intestinal movement. These look for related conditions or other explanations; they do not directly measure bacteria in small-intestine fluid.

Choosing among these options involves balancing the added information from direct sampling against the inconvenience, sedation, cost, and risks of endoscopy.

## When to call your healthcare team

For routine follow-up, contact the team if you have not received results within the timeframe they gave you, your usual symptoms continue, or you have questions about eating or restarting medicines.

Seek prompt medical advice for persistent vomiting, fever, increasing abdominal pain, trouble swallowing, or symptoms that are not improving after the procedure.

Seek emergency care for:

Use the emergency contact instructions provided by your endoscopy facility.

- Severe chest or abdominal pain
- Difficulty breathing
- Vomiting blood or material resembling coffee grounds
- Black, tar-like stools
- Fainting, marked weakness, or confusion

## Common questions

Will I be asleep?

You will usually receive moderate or deep sedation. With moderate sedation, you may be sleepy but able to respond. With deep sedation, you are usually unaware of most or all of the procedure. Practices differ between facilities.

Can I drive myself home?

No. If you receive sedation, arrange for someone else to drive you. Its effects can continue after you feel awake.

How painful is it?

The procedure should not be painful while you are sedated. You may notice pressure, gagging, a mild sore throat, or temporary bloating.

When will I know the result?

The clinician may discuss visual findings the same day. The culture generally takes several days because the laboratory must allow time for organisms to grow.

Does a positive culture definitely mean I have SIBO?

Not always. The amount and type of bacterial growth matter, and contamination is possible. Your result must be considered with your symptoms and other findings.

Can biopsies be taken at the same time?

Yes. If another condition is being investigated, the clinician may take tiny tissue samples through the endoscope. Biopsy results are separate from the fluid culture.

## Sources

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