PROCEDURE

Rectal biopsy

A rectal biopsy removes a small tissue sample from the rectum for laboratory examination.

PURPOSE
Sample rectal tissue for microscopic diagnosis

PROCEDURE TYPE
Diagnostic, endoscopic, surgical, or bedside biopsy

WHERE IT IS DONE
Clinic, endoscopy suite, operating theatre, or bedside

ANAESTHESIA
None, sedation, or general anaesthesia, based on method

HOW LONG IT TAKES
5-30 minutes; longer when combined with colonoscopy

PREPARATION
Bowel preparation, fasting, and blood-thinner review when needed

RECOVERY
Same day; no driving after sedation

MAIN RISKS
Bleeding, infection, rectal injury, sedation reactions

RESULTS
Visual findings immediately; pathology usually within several days

Overview

A rectal biopsy is the removal of a small piece of tissue from the rectum. The rectum is the final part of the large bowel, just above the anus. A laboratory specialist called a pathologist examines the sample under a microscope.

The biopsy may be taken during an examination with a short viewing instrument, such as an anoscope or proctoscope. It can also be taken during flexible sigmoidoscopy or colonoscopy, which use a thin, flexible camera to examine the bowel.

A suction biopsy is often used when checking a baby or child for Hirschsprung disease, a condition in which some bowel nerves are missing. A deeper or larger biopsy may require an operation through the anus.

Why the procedure is performed

A biopsy can show changes that are not clear from symptoms, scans, or the appearance of the rectum alone. It may be recommended to investigate:

The reason for your biopsy affects how it is done and how much tissue is needed. For example, a surface sample may be enough to assess an abnormal area seen during colonoscopy. Testing for Hirschsprung disease requires tissue deep enough to include the bowel layer containing nerves.

- An unusual growth, ulcer, narrowing, or area of abnormal tissue
- Ongoing rectal bleeding without a clear explanation
- Inflammation, including possible inflammatory bowel disease
- Changes that could be precancerous or cancerous
- Certain infections or other disorders affecting rectal tissue
- Possible Hirschsprung disease, especially in babies and children

Who should and should not have it

A rectal biopsy may be appropriate when examining tissue is likely to clarify a diagnosis or guide treatment. Your healthcare team should explain what question the biopsy is meant to answer and how the result could change your care.

The procedure may need to be delayed or adjusted if you have:

These issues do not always rule out a biopsy. The team may change the timing, biopsy method, preparation, or anaesthetic plan. Do not stop a prescribed blood thinner on your own, because stopping it can also cause harm.

Tell the team if you are pregnant or could be pregnant, have medication or latex allergies, or have previously reacted to sedation or anaesthesia.

- A blood-clotting disorder that is not controlled
- Treatment with a blood thinner like warfarin or apixaban that has not been reviewed
- Severe active inflammation or marked swelling of the bowel
- A suspected hole in the bowel or severe abdominal infection
- An illness that makes sedation or anaesthesia unsafe at that time

- Inadequate bowel preparation when a clear endoscopic view is required

How to prepare

Your treating facility's own instructions take priority because preparation differs according to the biopsy method.

A small biopsy through an anoscope or proctoscope may require only an enema to empty the lower rectum. A biopsy during sigmoidoscopy or colonoscopy may require a liquid diet and bowel-cleansing medicine. Follow the instructions carefully so the clinician can see the bowel lining.

If you will receive sedation or general anaesthesia, you may need to stop eating and drinking for a set period. The facility will tell you when to stop.

Give the team an up-to-date list of medicines and supplements. In particular, mention blood thinners, aspirin, diabetes medicines, and medicines that affect bowel movements. Take or pause them only as instructed.

If sedation is planned, arrange for a responsible adult to take you home and follow any facility requirements about staying with you afterward.

What happens during the procedure

You will usually change into a gown and lie on your side with your knees bent. For some short examinations, another position may be used.

The clinician may first examine the anus and rectum with a gloved, lubricated finger. A lubricated viewing instrument is then passed gently through the anus. Air or carbon dioxide may be introduced to open the bowel, which can cause pressure, bloating, or an urge to pass stool.

Small forceps can be passed through the instrument to remove tissue. The biopsy itself is often brief. You may feel pressure, cramping, or a short pinch.

For a suction rectal biopsy, a small instrument draws tissue into an opening before removing the sample. This is commonly used in babies and young children. A full-thickness biopsy removes a deeper piece of the rectal wall and is usually performed in an operating theatre with anaesthesia.

The sample is labelled and sent to a pathology laboratory. If you are having an endoscopy, the clinician may take several samples from different areas.

Recovery and what to expect afterward

Pain: Mild soreness around the anus, gas, or brief cramping can occur. Significant or increasing pain is not expected. Use only pain relief approved by your healthcare team, especially if bleeding is a concern.

Eating: After a biopsy without sedation, you can usually eat normally unless told otherwise. After sedation or anaesthesia, begin eating when you are fully awake and follow the facility's instructions.

Activity: Most people return to light activity the same day. Avoid strenuous activity if your team advises it, particularly after a larger or deeper biopsy.

Driving: Do not drive after sedation or general anaesthesia for the period specified by the treating facility, commonly until the following day. Sedation can affect judgment and reaction time even when you feel alert.

Work: Many people return to work the next day. You may need longer after general anaesthesia, a full-thickness biopsy, or a job involving heavy physical work.

A small streak of blood on toilet paper or a minor amount in the stool can occur. Your discharge instructions should explain what is expected for your particular biopsy.

Risks and possible complications

Rectal biopsy is generally a minor procedure, but the risks differ according to the depth of the biopsy and whether it is part of a larger endoscopic procedure.

Possible complications include:

A superficial biopsy generally has fewer risks than a full-thickness surgical biopsy. Colonoscopy and sigmoidoscopy also have risks related to the scope procedure itself. Your clinician should discuss the risks that apply to the planned method.

- Bleeding from the biopsy site
- Infection
- A tear or hole in the rectal or bowel wall
- Pain or irritation around the anus
- A reaction to sedation or anaesthesia
- An inadequate sample that requires another biopsy

Results and follow up

The clinician may tell you what the rectum looked like immediately after the examination. The biopsy result takes longer because the tissue must be prepared and examined under a microscope. Results are often available within several days, although special stains, nerve testing, or a second pathology review can take longer.

The report may describe inflammation, infection, abnormal cell growth, cancer, or the presence or absence of particular nerve cells. Sometimes the sample is too small or does not include the required tissue layer. In that situation, another biopsy may be recommended.

Ask how and when you will receive the result. A routine follow-up appointment may be arranged to explain what was found and whether you need treatment, monitoring, more tests, or no further action.

Alternatives

The realistic alternatives depend on why a biopsy has been offered.

Anoscopy, sigmoidoscopy, or colonoscopy without a biopsy can show the surface of the rectum, but cannot identify microscopic changes. It may leave uncertainty about inflammation, precancerous changes, or cancer.

CT or MRI scans can show thickening, a mass, or disease around the rectum. They do not usually replace tissue sampling because they cannot show individual cells.

Stool tests are easier and do not require a tissue sample. They can detect blood, inflammation markers, or some infections, but may miss a small or localized rectal problem and cannot confirm what abnormal tissue is.

For possible Hirschsprung disease, anorectal manometry measures how the anal muscles and rectum respond to pressure. A contrast enema shows the shape of the bowel. These tests can support the diagnosis, but a properly obtained rectal biopsy is usually needed to examine the bowel's nerve cells.

Monitoring without an immediate biopsy avoids the procedure but may delay diagnosis. Surgical removal can provide a larger sample or treat a lesion at the same time, but it is more invasive and usually has a longer recovery.

When to call your healthcare team

For routine concerns, contact the healthcare team if mild bleeding continues longer than they said to expect, discomfort is not settling, or you have questions about medicines, bowel movements, or results.

Seek prompt medical advice for fever, worsening rectal or abdominal pain, increasing swelling, pus-like discharge, or repeated bleeding.

Seek emergency care for:

Follow the discharge instructions from your facility, as they reflect the type and depth of your biopsy.

- A large amount of bleeding, blood clots, faintness, or fainting
- Severe or rapidly worsening abdominal pain
- A hard or markedly swollen abdomen
- Trouble breathing, chest pain, or difficulty waking after sedation

Common questions

Will I be asleep?

Not always. A small rectal biopsy may be done without sedation. A biopsy during colonoscopy may use moderate or deep sedation. A deeper surgical biopsy may require general anaesthesia.

Can I drive home?

You may be able to drive after a small biopsy performed without sedating medicine. You must not drive after sedation or general anaesthesia. Arrange a ride and follow the facility's specific restriction.

How painful is a rectal biopsy?

Many people feel pressure, an urge to pass stool, cramping, or a brief pinch rather than sharp pain. Deeper biopsies are performed with appropriate anaesthesia and may cause more soreness afterward.

When will I know the result?

The clinician may discuss visual findings immediately. The laboratory result usually takes several days, and specialized testing can take longer.

Is bleeding afterward normal?

A small streak or minor amount of blood can occur after a superficial biopsy. Increasing, repeated, or heavy bleeding is not expected and needs prompt assessment.

Sources

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