PROCEDURE

Nasal mucosal biopsy

A nasal mucosal biopsy removes a small tissue sample from inside the nose for laboratory testing.

PURPOSE
Obtain nasal tissue for laboratory diagnosis

PROCEDURE TYPE
Diagnostic; minimally invasive endoscopic or surgical tissue sampling

WHERE IT IS DONE
Outpatient clinic, endoscopy suite, or operating theatre

ANAESTHESIA
Usually local; sedation or general for deeper sampling

HOW LONG IT TAKES
Usually 15-30 minutes; longer with additional surgery

PREPARATION
Review medicines and follow any fasting instructions

RECOVERY
Same day; no driving after sedation or general anaesthesia

MAIN RISKS
Bleeding, infection, pain, and nearby tissue injury

RESULTS
Pathology usually takes several days; special tests take longer

Overview

A nasal mucosal biopsy removes a small piece of tissue from the lining inside your nose. The sample is sent to a laboratory, where a specialist called a pathologist examines it under a microscope.

The biopsy may be taken from the nasal septum, which divides the nostrils, or from tissue along the side or back of the nasal cavity. An ear, nose and throat specialist usually uses a thin viewing instrument called an endoscope to see the area clearly.

Most small, accessible biopsies can be done in an outpatient clinic using local anaesthetic to numb the nose. A deeper biopsy, a biopsy of a larger growth, or one in a difficult location may be done in an operating theatre with sedation or general anaesthesia.

Why the procedure is performed

A biopsy may be recommended when an examination or scan shows tissue that cannot be identified by appearance alone. Laboratory testing can help determine whether the change is inflammatory, infectious, precancerous, cancerous, or another type of abnormal growth.

Reasons for taking a nasal mucosal biopsy include:

A biopsy does not always provide a final answer. The sample may be too small, may not include the most informative tissue, or may require additional laboratory tests.

- A persistent ulcer, lump, crusted area, or abnormal patch
- A nasal mass seen during endoscopy or on a scan
- Unexplained tissue damage or inflammation
- Concern about an immune-related condition affecting blood vessels or tissue
- The need to identify an infection that other tests have not explained
- Monitoring or confirming a previously diagnosed condition

Who should and should not have it

A nasal mucosal biopsy may be appropriate when the result is likely to affect your diagnosis, treatment, or follow-up. Your specialist should explain what they are looking for and how the result could change your care.

The procedure may need to be delayed, modified, or performed in an operating theatre if you have:

Some nasal growths contain many blood vessels and can bleed heavily if sampled. If a highly vascular growth is suspected, imaging and surgical planning are usually needed before any biopsy. A routine office biopsy may not be appropriate.

Pregnancy does not automatically prevent a nasal biopsy, but it may affect the timing, medicines, imaging, or type of anaesthesia used. Tell the team if you are or could be pregnant.

- A bleeding or clotting disorder that has not been managed
- Medicines that increase bleeding risk and require a coordinated plan
- A medical condition that makes sedation or anaesthesia temporarily unsafe
- Tissue that is difficult to reach safely in a clinic
- An inability to remain still for an office procedure

How to prepare

Your treating facility's own instructions take priority because preparation differs according to the biopsy location and type of anaesthesia.

Give the team a current list of your medicines, supplements, allergies, and medical conditions. Make sure they know if you take anticoagulants or antiplatelet medicines, sometimes called blood thinners. Examples include warfarin, apixaban, rivaroxaban, clopidogrel, and aspirin. Do not stop these medicines unless the clinician managing the procedure gives you a specific plan.

You may eat and drink normally before a biopsy performed with local anaesthetic unless told otherwise. If you will receive sedation or general anaesthesia, you will be given fasting instructions. Follow them carefully.

Arrange for an adult to take you home if you will have sedation or general anaesthesia. You may also want to bring tissues or gauze because mild blood-stained drainage can occur afterward.

What happens during the procedure

For an office biopsy, you usually sit in a reclining examination chair. The clinician may spray the inside of your nose with a decongestant to reduce swelling and a local anaesthetic to numb the area. Anaesthetic may also be applied on a small cotton pad or given by injection.

A thin endoscope may be passed into your nostril. It has a light and camera that allow the clinician to inspect the nasal cavity. You may feel pressure, watering of the eyes, or the urge to sneeze.

Small forceps or another instrument are used to remove the tissue sample. You may feel pulling or pressure, but sharp pain should be limited once the anaesthetic is working. Tell the team if you are uncomfortable so they can pause or provide more numbing medicine.

Bleeding is controlled with pressure, medication, cautery, or nasal packing when needed. Cautery seals a bleeding point using heat, electricity, or a chemical. The tissue is labelled and sent to the laboratory.

If the biopsy is performed under general anaesthesia, you will be asleep. The surgical and anaesthesia teams will monitor you throughout the procedure.

Recovery and what to expect afterward

Mild soreness, tenderness, stuffiness, or a small amount of blood-stained drainage is common. Use only the pain medicine recommended by your team. Avoid putting unapproved creams, swabs, or other objects inside your nose.

You can usually eat and drink normally after a local anaesthetic procedure. Wait until numbness in your mouth or throat has worn off if these areas were affected. After sedation or general anaesthesia, restart food and drink according to your discharge instructions.

Avoid nose blowing, picking the nose, strenuous exercise, heavy lifting, or bending for the period stated by your team. Sneezing with your mouth open may reduce pressure inside the nose.

You may drive after a local-only procedure if you feel well and your clinician has not restricted it. Do not drive after sedation or general anaesthesia. Follow the facility's instructions about when driving can resume.

Many people return to desk work the same day or the next day after a small office biopsy. You may need more time away from work after general anaesthesia, a deeper biopsy, or if your job involves heavy physical activity.

Risks and possible complications

Bleeding is the main immediate risk. A small amount is expected, but some people need additional treatment to stop it. Bleeding risk may be higher with certain medicines, clotting disorders, or highly vascular tissue.

Other possible complications include:

Damage to nearby structures is uncommon but is more relevant for deep biopsies near the eye socket or the base of the skull. Your specialist should discuss risks specific to the planned biopsy location.

- Pain, swelling, or temporary nasal blockage
- Infection at the biopsy site
- Fainting or feeling light-headed during an office procedure
- Scarring or an adhesion between nearby nasal surfaces
- A hole in the septum if tissue is taken from that area
- A reaction to local anaesthetic, sedation, or general anaesthesia

Results and follow up

The pathologist describes the types of cells and tissue found in the sample. Additional stains, cultures, or molecular tests may be needed to look for infection, inflammation, or particular cell changes. These tests can take longer than the initial examination.

Your healthcare team should tell you how and when results will be shared. Do not assume that a longer wait means a serious finding.

Routine follow-up may involve a clinic appointment, telephone call, or secure message. Your specialist will explain whether the result is conclusive and whether you need treatment, monitoring, imaging, or another sample. Occasionally, a biopsy is nondiagnostic, meaning it did not contain enough useful tissue to answer the clinical question.

Alternatives

Whether there is a reasonable alternative depends on why the biopsy was proposed.

Observation with repeat nasal examinations avoids an invasive test, but it delays tissue diagnosis and may allow an important change to go unrecognised.

Nasal endoscopy can show the size and surface of an abnormal area, but it cannot reliably identify the cell type. CT or MRI scans can show the location and extent of a mass, yet imaging usually cannot replace tissue analysis.

A swab or culture is easier and may identify some infections. It samples surface material, however, and does not show what is happening within the tissue.

Blood tests may support a diagnosis involving infection or the immune system, but they may not identify the cause of a specific nasal lesion.

Complete surgical removal can provide more tissue and may also treat a small growth. It is a larger procedure, may require general anaesthesia, and can carry greater recovery and surgical risks.

When to call your healthcare team

Contact your healthcare team during normal service hours if soreness, blockage, or discharge is not improving as expected. Also call if you develop increasing redness, swelling, worsening pain, pus-like drainage, or a fever.

Seek urgent advice for bleeding that continues despite following the pressure and

bleeding-control instructions provided by your facility.

Call emergency services for heavy bleeding that will not stop, trouble breathing, fainting, confusion, chest pain, or signs of a severe allergic reaction such as swelling of the tongue or throat.

Common questions

Will I be asleep?

Usually not for a small office biopsy. Local anaesthetic numbs the nose while you remain awake. Deeper or more extensive biopsies may require sedation or general anaesthesia.

Can I drive home?

You may be able to drive after local anaesthetic alone if you feel well and have not been told otherwise. You must not drive yourself home after sedation or general anaesthesia.

How painful is it?

The numbing spray or injection may sting briefly. During the biopsy, pressure or pulling is more common than sharp pain. Mild soreness afterward can usually be managed with the pain relief recommended by your team.

When will I know the result?

The initial pathology result usually takes several days. Cultures, special stains, or molecular testing may take longer. Ask how your team plans to contact you.

Will my nose be packed afterward?

Many small biopsy sites do not need packing. Packing may be used when extra pressure is required to control bleeding. Your team will explain when and how it should be removed.

Can the biopsy spread cancer?

A properly planned nasal biopsy is a standard way to diagnose suspected cancer. Your specialist may arrange imaging before biopsy when the location or blood supply of a growth requires special planning.

Sources

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