PROCEDURE

Lymph node biopsy

A lymph node biopsy removes cells or tissue from a lymph node for laboratory testing.

PURPOSE
Identify disease in an abnormal lymph node

PROCEDURE TYPE
Diagnostic; needle-based or surgical tissue sampling

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

ANAESTHESIA
Local; sedation or general for some surgical biopsies

HOW LONG IT TAKES
Usually 15 to 60 minutes

PREPARATION
Medication review; fasting if sedation or general anaesthesia

RECOVERY
Usually same day; no driving after sedation or general anaesthesia

MAIN RISKS
Bleeding, infection, fluid leakage, nearby nerve injury

RESULTS
Pathology usually takes several days; special tests may take longer

Overview

A lymph node biopsy removes cells or a piece of tissue from a lymph node. Lymph nodes are small structures that help your immune system filter lymph fluid and respond to infection.

The sample is examined by a pathologist, a doctor who identifies disease by studying cells and tissues. The laboratory may also test the sample for infection, immune-system conditions, or genetic changes in the cells.

There are several biopsy methods. Fine-needle aspiration uses a thin needle to remove cells. A core needle biopsy removes small cylinders of tissue. An excisional biopsy removes an entire lymph node, while an incisional biopsy removes part of one.

Needle biopsies are less invasive and usually have a faster recovery. Surgical biopsies provide more tissue and preserve the node's structure, which may be important when lymphoma is

suspected.

Why the procedure is performed

A biopsy may be offered when a lymph node is enlarged, feels unusual, or appears abnormal on an ultrasound, CT scan, or another imaging test. It can help determine whether the change is related to infection, inflammation, lymphoma, cancer that has spread from another area, or another condition.

It may also be used to confirm a suspected diagnosis, identify the exact type of disease, or help plan treatment. A biopsy is not always needed for a swollen lymph node, especially when there is a clear short-term cause and the node is returning to normal.

Who should and should not have it

You may be offered a lymph node biopsy when the result is likely to clarify a diagnosis or affect your care. The biopsy method should match the location of the node and the condition being investigated.

Fine-needle aspiration may be suitable when only a small cell sample is needed. A core or surgical biopsy may be preferred when the laboratory needs more tissue. For suspected lymphoma, an excisional or core biopsy often provides more useful information than fine-needle aspiration because the arrangement of cells within the node matters.

The procedure may be delayed, changed, or avoided if:

These issues do not always rule out biopsy. Your team may adjust the technique, choose another node, or take extra precautions.

- There is an active skin infection over the planned biopsy site
- A bleeding disorder or blood-thinning medicine creates an unacceptably high bleeding risk
- Sedation or general anaesthesia would be unsafe until another health problem is stabilised
- The node cannot be reached safely without risking important nerves, blood vessels, or organs
- Another site would provide the same information more safely
- The result would not change your diagnosis, treatment, or monitoring plan

How to prepare

Your treating facility's own instructions take priority because preparation differs by biopsy type and anaesthesia plan.

Tell the team about all medicines, supplements, allergies, bleeding problems, and previous reactions to anaesthetics. Blood thinners and medicines that affect platelets may require special planning. Do not stop them unless the clinician responsible for the biopsy tells you when and how to do so.

For a biopsy using only local anaesthetic, you may be able to eat and drink normally. If you will receive sedation or general anaesthesia, you will usually need to stop eating and drinking for a set period.

Wear loose clothing that allows access to the biopsy area. Remove jewellery if requested. Arrange for a responsible adult to take you home if you are having sedation or general anaesthesia. You may also need someone to remain with you for the first several hours.

What happens during the procedure

Before the biopsy, the team confirms the lymph node, reviews the plan, and asks you to consent. Ultrasound or CT imaging may be used to locate the node and guide the needle.

For a needle biopsy, the skin is cleaned and local anaesthetic is injected. This may sting briefly. The clinician passes a fine or core needle into the node and takes one or more samples. You may feel pressure or a clicking sensation during a core biopsy. A dressing is placed over the puncture site.

For a surgical biopsy, you receive local anaesthetic, sedation, general anaesthesia, or a combination. The surgeon makes a small cut, removes part or all of the node, and closes the wound with stitches, skin adhesive, or surgical strips.

The sample goes to a laboratory. It may undergo routine examination, flow cytometry to identify types of blood cells, tests for microorganisms, or molecular testing. Planning these tests before the biopsy can help ensure the sample is handled correctly.

Recovery and what to expect afterward

Mild soreness, bruising, or swelling is common around the biopsy site. Simple pain relief may be recommended. Follow your team's instructions about medicines and wound care.

You can usually eat normally after a biopsy using local anaesthetic. After sedation or general anaesthesia, begin eating and drinking as instructed, especially if you feel nauseated.

Keep the dressing dry for the period your facility recommends. Avoid heavy lifting, vigorous exercise, and stretching that pulls on the wound until your team says these are safe. The restrictions may be longer after a surgical biopsy than after a needle biopsy.

Do not drive after sedation or general anaesthesia. Your facility will tell you when driving is safe again. Even without sedation, avoid driving if pain or limited movement would stop you from controlling the vehicle safely.

Many people return to desk work within a day after a needle biopsy. A surgical biopsy may require several days away from work, particularly if your job involves lifting or physical activity.

Risks and possible complications

Most lymph node biopsies are completed without a serious problem. Possible complications include:

The risks are influenced by the node's location and the biopsy method. For example, a deep chest or abdominal biopsy has different risks from a biopsy of a node close to the skin.

- Bleeding, bruising, or a collection of blood under the skin
- Infection at the biopsy site
- Ongoing pain, numbness, or an uncomfortable scar
- Injury to a nearby nerve, blood vessel, or organ
- Leakage of lymph fluid, particularly after removal of deeper nodes
- A reaction to sedation, anaesthetic medicines, or adhesive dressings
- An unclear or insufficient sample that requires another biopsy

Results and follow up

The laboratory usually needs several days to process and examine the sample. Cultures, flow cytometry, genetic studies, or expert review may take longer.

Your report may identify normal or reactive tissue, infection, inflammation, lymphoma, another cancer, or an unclear result. "Reactive" means the node is responding to something, such as infection or inflammation, without showing a specific cancer.

Arrange routine follow-up to discuss what the report means for you. If the sample is

insufficient or does not explain the abnormal node, your team may recommend repeat imaging, another needle biopsy, or surgical removal of a node.

Alternatives

The reasonable alternatives depend on why the node is abnormal and what information is needed.

Choosing not to have a biopsy may be reasonable in some situations. Ask what could happen if you wait, what uncertainty would remain, and whether the result is expected to change your care.

- Observation with follow-up: Avoids an immediate procedure but delays a definite tissue diagnosis and may require repeat examinations or scans
- Blood tests: Can identify some infections or blood abnormalities but cannot usually show the structure and exact cell type within a node
- Repeat ultrasound, CT, or other imaging: Tracks changes without removing tissue but often cannot reliably distinguish cancer from infection or inflammation
- Fine-needle aspiration: Usually quick with a small wound, but provides fewer cells and may miss lymphoma or another condition requiring tissue structure
- Core needle biopsy: Provides more tissue than aspiration with less recovery than surgery, but may still be inconclusive
- Excisional biopsy: Provides the most complete tissue sample but requires an incision and has a longer recovery
- Biopsy of another site: May be safer or easier if another abnormal area is accessible, but it may not answer the same question

When to call your healthcare team

Contact your healthcare team promptly if you develop:

Seek emergency medical help for trouble breathing, fainting, severe weakness, bleeding that does not stop with firm pressure, or rapidly increasing swelling in the neck. These are not routine recovery symptoms.

Questions about dressing changes, stitches, activity, or expected soreness can usually wait for routine office hours.

- Increasing redness, warmth, swelling, or drainage from the wound
- Fever or worsening pain after initial improvement
- Bleeding that returns or soaks through the dressing
- A wound that opens
- New numbness, weakness, or swelling near the biopsy area

Common questions

Will I be asleep?

Usually not for a needle biopsy; local anaesthetic numbs the area while you remain awake. Surgical biopsies may use local anaesthetic with sedation or general anaesthesia, which makes you unconscious.

Can I drive home?

Not if you received sedation or general anaesthesia. Arrange transport and follow your facility's driving restrictions. After local anaesthetic alone, driving may be possible if you can move comfortably and safely.

How painful is a lymph node biopsy?

The local anaesthetic injection may sting briefly. You may then feel pressure or pulling rather than sharp pain. Mild soreness afterward is common, especially after a surgical biopsy.

When will I know the results?

Initial pathology often takes several days. Tests for infection, lymphoma cell types, or genetic changes may take longer. Ask how and when the results will be shared.

Will there be a scar?

A needle biopsy usually leaves only a small puncture mark. A surgical biopsy leaves a scar whose size and appearance are influenced by the node's location, the incision, and how your skin heals.

Can a biopsy make cancer spread?

A properly planned lymph node biopsy is a standard way to diagnose cancer. Concern about spreading cancer should not usually prevent a needed biopsy, but the approach may be planned carefully for certain suspected tumours.

Sources

- U.S. National Library of Medicine, MedlinePlus Medical Encyclopedia. "Lymph Node Biopsy."
- National Institute for Health and Care Excellence. Non-Hodgkin's Lymphoma: Diagnosis and Management . NICE guideline NG52.
- American Cancer Society. "Tests for Non-Hodgkin Lymphoma."
- Duffield AS and colleagues. "Laboratory Workup of Lymphoma in Adults: Guideline From the American Society for Clinical Pathology and the College of American Pathologists." American Journal of Clinical Pathology . 2021;155(1):12-37.
- American College of Radiology and Radiological Society of North America. RadiologyInfo.org. "Ultrasound-Guided Biopsy."
- National Health Service. "Biopsy."