



For more information please visit us online at: <http://www.osmh.on.ca/diagnostics/>

If you or your support person do not clearly understand the procedure, please ask for clarification



LUNG BIOPSY

What is it?

A lung biopsy is a procedure where a small sample of lung tissue is taken to diagnose conditions like infections, inflammation, or cancer. Using imaging, a needle is inserted through the chest wall and into the lung tissue to collect the sample, which is then analyzed in a lab to identify any abnormalities and guide treatment.

Why do I need it?

Your doctor or healthcare provider may order a lung biopsy in order to¹:

- Diagnose certain lung conditions, such as sarcoidosis or pulmonary fibrosis
- Diagnose severe pneumonia, especially if the diagnosis is not clear
- Diagnose suspected lung cancer
- Evaluate any abnormalities seen on other tests, such as a chest X-ray or a CT scan
- Identify the cause of lung problems when other tests cannot



HOW IS THE PROCEDURE PERFORMED?

Before

For specific questions regarding the clinical need for this procedure, please contact your ordering provider.

Patient Preparation:

You should wear loose-fitting clothing that is easy to change out of. **You will need to arrange for someone to drive you home after you have recovered from the procedure.** One support person (spouse, friend, caregiver, family member) may accompany you on the day of your appointment, but not into the procedure room.

Please bring a list of the medications you are currently taking and a list of any drug/medication allergies you may have.

You can eat and drink normally before the procedure. You may take your usual medications prior to the procedure. See next page if you take blood thinners.

Please phone the Diagnostic Imaging booking line at **705-325-2201 ext. 3505** for cancellations or rebooking if you are unable to attend your appointment.



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Bloodwork³

Bloodwork is required and must be done within **2 weeks** of your appointment (within 72 hours for inpatients). Your doctor may order:

- INR (must be ≤ 1.8)
- PTT
- CBC (platelets must be $\geq 50 \times 10^9/L$ or greater)

If you take **Warfarin (Coumadin)**, you'll need a new INR drawn the **day before** your procedure.

Important: Missing bloodwork may cause delays or your procedure to be rescheduled.

Blood Thinners / Anticoagulants / Antiplatelets Medications³

Stop the listed medications as per the below schedule before your procedure unless instructed otherwise. If unsure, then consult your doctor or healthcare provider about which medications to pause, for how long, when to restart them, and any concerns you may have.

Medications	When to Stop	Restart After
Acova (Argatroban)	2-4 hours	4-6 h
Aggrenox (ASA/dipyridamole)***	3-5 days	Next day
Angiomax (Bivalirudin)	2 hours	4 h
Arixtra (Fondaparinux)	2 days (3 days if eGFR is <50)	24 h
ASA (Aspirin)	Do not stop	N/A
Brilinta (Ticagrelor)***	5 days	Next day
Coumadin (Warfarin)*/**	5 days (recheck INR)	Same day (evening)
Effient (Prasugrel)***	7 days	Next day
Eliquis (Apixaban) **	2 days (3 days if eGFR is <50)	Second day
IV Heparin (unfractionated)**	4 hours (check PTT)	6 h
LMWH (prophylactic): enoxaparin (Lovenox), dalteparin (Fragmin)**	12 hours	Next day
LMWH (therapeutic): enoxaparin (Lovenox), dalteparin (Fragmin)**	24 hours	Next day
Plavix (Clopidogrel)***	5 days	6 h (if 75 mg) 24 h (if 300 mg)
Pradaxa (Dabigatran) **	2 days (3 days if eGFR is <50)	Next day
Savaysa (Edoxaban)	2 days	Next day
Subcutaneous Heparin (unfractionated)**	8 hours (check PTT)	Same day (evening)
Xarelto (Rivaroxaban)**	2 days (3 days if eGFR is <30)	Next day
* Consider bridging with heparin (need admission) for high thrombosis risk cases ** Consider using reversal agent if emergent or STAT *** Consider continuation for arterial procedures including mesenteric, renal, subclavian, and infra-inguinal angioplasty/stent		

Important Notes

- Patients on Warfarin (**Coumadin®**) need an **INR** test the **day before** the procedure.
- Those with **prosthetic valves, prior clots, or stroke-related atrial fibrillation** may need bridging therapy to prevent thrombosis.
- **Do not** stop blood thinners if you have **coronary or brain stents**—consult your doctor first.
- If anticoagulation is stopped, your doctor must provide instructions.
- Applies only to elective procedures, not emergencies.



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Coming To The Hospital

You must first sign-in with **Centralized Patient Scheduling & Registration (CPSR)**, which is located immediately to your left when you enter the hospital from the main entrance (off Dunlop St, across from the gift shop). You will receive a patient wristband and be directed to the **Day Surgery department**. Day Surgery will prepare you for the procedure and bring you down to the **Diagnostic Imaging department** at your scheduled appointment time.

Please bring to the hospital your OHIP card and a list of current medications you are taking.

You may also bring a book, water, phone/tablet with earphones, and a snack in a small bag for when you are recovering from the procedure.

During

Lung biopsies are performed in the CT department of Diagnostic Imaging.

The duration of your appointment time will vary from 30 minutes – 1 hour.

You will recover in the Post Anesthesia Care Unit (PACU) for another 2 – 4 hours.

1. You will be asked to remove your clothing from above the waist and put on a hospital gown.
2. A Medical Radiation and Imaging Technologist (MRIT) will explain the procedure and answer any questions you have before the biopsy.
3. You will lie on your back or stomach on the CT scanner table and will be awake for the procedure.
4. This is an aseptic procedure; your chest or back will be cleaned using a hospital-approved cleansing agent, and sterile drapes applied.
5. To assist with your comfort, a radiologist will inject a numbing agent, called Lidocaine, at the biopsy site. This freezes the area of the biopsy. This should be the only pain or discomfort felt during the procedure.
6. The radiologist will use imaging to guide the biopsy needle. 2 - 3 samples are usually taken.
7. A dressing / bandage is applied once the biopsy is completed.
8. You may be asked to hold your breath at various points during the biopsy. Try not to cough or move.

Notes / Questions *(write down any notes or questions you may have for your doctor, healthcare practitioner, or the care team in Diagnostic Imaging on the day of your appointment. You can also use this space to write down a list of your current medications):*



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WHAT TO EXPECT AFTER



Recovery & Going Home

You will be assisted to the **Post Anesthesia Care Unit (PACU)** to recover from the biopsy. You will require 1 or 2 chest x-rays during this time. Before being discharged, bloodwork may be taken to determine if you have met recovery standards.

The radiologist will review the chest x-rays and determine if it is safe to send you home or if further imaging or actions are required.

You will need someone to drive you home after the procedure. Don't drive or operate machinery for the next 24 hours or while you're taking strong pain medicine. If you were given medication to help you relax or manage pain during the procedure, then you cannot drive for the next 24 hours.



Diet & Activity

- Spend the remainder of the day resting, and take it easy for the next 1 – 3 days after the biopsy².
- Have an adult family member, caregiver or friend spend the night following your procedure in the event you may need assistance.
- Resume a normal diet. If your stomach is upset, try bland, low-fat foods, for example: plain rice, broiled chicken, toast, and yogurt².
- Drink plenty of fluids to avoid becoming dehydrated¹.
- Avoid strenuous activities, such as bicycle riding, jogging, weight lifting, or aerobic exercise, for 1 week or until your doctor says it is okay².
- You may resume light activities after 24 hours.
- Avoid lifting anything heavier than 4.5 kilograms (10 pounds) for 7 days².
- Do not fly in an airplane or dive deeply (such as in scuba diving) until your doctor or healthcare provider tells you it is okay. Avoid any situations where there is increased air pressure².



Wound Care²

- It is normal to feel soreness in the area of the biopsy for 2 – 3 days.
- Keep a dressing / bandage over the biopsy site for the first day.
- After 24 hours you should change the dressing / bandage. You may replace it with a Band-Aid that is big enough to cover the puncture site from the biopsy needle. Continue to change the bandage every 24 hours.
- It is important to keep the biopsy site clean and dry.



Bathing²

- You may shower 24 - 48 hours after the biopsy, if your doctor or healthcare provider says it is okay. Pat the incision dry.
- **Do not** put creams, lotions, or ointments on the biopsy site.
- **Do not** take a bath, swim, or use a hot tub until the biopsy site is fully healed (no longer has a scab).



Medication¹

- **If your doctor or healthcare provider advised you to stop any medications for this procedure then consult with them first about the safety of when you can start your medications again;**
- Otherwise, resume your normal medication schedule.
- If you **normally** take acetylsalicylic acid (Aspirin™) or another blood thinner medication, ask your doctor or healthcare provider when to start taking it again. Make sure that you understand exactly what they want you to do;
- Otherwise, **do not** take (Aspirin™) or anti-inflammatory medicines (such as ibuprofen) for one **week** after the biopsy.



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WHEN TO SEEK HELP²



Call 911:

If you believe you require emergency care – call 911.

Reasons to call 911 include:

- You have passed out (lose consciousness), or become very dizzy, weak, or less alert
- You have severe trouble breathing
- You have a fast or uneven pulse
- You experience sudden chest pain and shortness of breath; and/or
- Significant bleeding from the biopsy site (i.e. bright red blood that won't stop)
- You cough up fresh red blood



Call your doctor, healthcare provider, or Health Connect Ontario immediately if you experience²:

- You cough up a lot more mucus than normal, or the mucus changes colour.
- Increased pain, swelling, warmth, or redness at the biopsy site.
- Redness or warmth around the biopsy site or pus or blood draining from the biopsy site
- A fever (more than 100°F / 38°C).
- Chills, with or without fever.
- Bright red blood has soaked through the bandage / dressing over the biopsy site.
- You have new or worse pain at the biopsy site.
- A fast or skipping heartbeat.
- Bruising or swelling at the biopsy site that is getting bigger.
- An upset stomach and you can't keep fluids down (you're throwing them up).
- Any other concerns.

Health Connect Ontario may be reached 24-hours a day, including weekends, by:

- Calling 8-1-1
- Calling 1-866-797-0007 (TTY – teletypewriter service)
- Visiting <https://healthconnectontario.health.gov.on.ca/> and selecting “Chat with us”

BRING THIS INFORMATION PACKAGE WITH YOU SHOULD YOU URGENTLY NEED TO SEE YOUR DOCTOR OR GO TO THE EMERGENCY DEPARTMENT OF YOUR NEAREST HOSPITAL.

Use this material for your information only. It does not replace advice from your doctor or other health care professionals. Do not use this information for diagnosis or treatment. Consult with your health care provider about a specific medical condition.

References:

1. Lung Biopsy. Accessed October 7, 2024. MyHealth.Alberta.ca Network. <https://myhealth.alberta.ca/health/Pages/conditions.aspx?hwid=hw232270>
2. Percutaneous Lung Biopsy: What to Expect at Home. Accessed October 7, 2024. MyHealth.Alberta.ca Network. <https://myhealth.alberta.ca/health/AfterCareInformation/pages/conditions.aspx?hwid=ud2225>
3. Patel et al. Society of Interventional Radiology Consensus Guidelines for the Periprocedural Management of Thrombotic and Bleeding Risk in Patients Undergoing Percutaneous Image-Guided Interventions—Part II: Recommendations. JVIR 2019; 30:1168–1184.

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