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



LUMBAR PUNCTURE FOR CSF OR STEROID INJECTION

What is it?

A lumbar puncture, also known as a spinal tap, involves inserting a small needle into the lower back to access the area around the spinal cord. This procedure can be done to collect cerebrospinal fluid (CSF) for testing, helping to diagnose conditions like infections or neurological disorders. Alternatively, a steroid injection can be administered into the lumbar facet joints (not the spinal canal) to reduce inflammation and alleviate back pain. Both procedures are typically done under local anesthesia and cause minimal discomfort.

Why do I need it?

Your doctor or healthcare provider may order a lumbar puncture into order to investigate^{1,2}:

- **Infections:** Such as meningitis, affecting the brain or spinal cord.
- **Subarachnoid hemorrhage:** Bleeding in the space between the brain and its covering.
- **Multiple sclerosis:** Causes vision problems, numbness, and muscle weakness.
- **Cancer:** That has spread to the tissues around the brain or spinal cord.
- **Nerve disorders:** Like Guillain-Barré syndrome, causing muscle weakness.
- **Pseudotumor cerebri:** A condition causing increased pressure inside the skull.
- **Normal pressure hydrocephalus (in adults):** Excess spinal fluid in the brain.
- Additionally, for lumbar facet joint injections, a **corticosteroid** may be injected between the facet spaces of the lumbar spine to provide pain relief.



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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Bloodwork⁴

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 Medications⁴

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 Street, across from the gift shop). You will receive a patient wristband and be directed to the **Diagnostic Imaging department**.

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

During

Lumbar punctures are done in the Interventional Radiology department of Diagnostic Imaging.

The duration of your appointment time will vary from 30 minutes – 90 minutes.

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 procedure.
3. You will lie on your stomach on a fluoroscopic table and will be awake for the procedure.
4. This is an aseptic procedure; your lower 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 procedure site. This freezes the area of the procedure. This should be the only pain or discomfort felt during the procedure.
6. The radiologist will use fluoroscopy (live x-rays) to guide a needle into the lower spinal canal or between the lumbar facet joints.
7. We will allow the body to drip out the CSF at a natural rate and collect it; or inject any medication you were prescribed (facet joints only).
8. A dressing / bandage is applied once the procedure is completed.

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 may leave once the procedure is completed, as long as you are feeling well.

We recommend having someone drive you home after the procedure.

Don't drive if you are taking strong pain medicine. If you were given medication to help you relax or manage pain during the procedure (not common), then you cannot drive for the next 24 hours.



Diet & Activity³

- Spend the remainder of the day resting, and take it easy for the next 1 – 3 days after the procedure.
- 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 yogurt.
- Drink plenty of fluids to avoid becoming dehydrated and reduce the severity of headache³.
- Lying flat in bed after a lumbar puncture does not reduce the risk of developing a headache from the procedure; however,
- If you experience a headache after the lumbar puncture, lying flat for a few hours may provide relief.
- Rest as needed and ensure you get sufficient sleep to support your recovery.
- Consult your doctor or healthcare provider to determine when it is safe for you to resume driving.



Wound Care

- It is normal to feel soreness in the area of the lumbar puncture for 2 – 3 days.
- Keep a dressing / bandage over the procedure site for the first day.
- After 24 hours you should remove the dressing / bandage and assess the skin. If the skin looks healed then no more dressings / bandages are required. If it does not look healed then you may place a Band-Aid that is big enough to cover the puncture site.
- It is important to keep the puncture site clean and dry.



Bathing

- You may shower the next day, as long as the skin looks healed.
- **Do not** put creams, lotions, or ointments on the procedure site.
- **Do not** take a bath, swim, or use a hot tub until the procedure site is fully healed.



Medication³

- **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 procedure.

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WHEN TO SEEK HELP¹



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 experience sudden chest pain and shortness of breath; and/or
- You have severe trouble breathing
- Significant bleeding from the procedure site (i.e. bright red blood that won't stop)¹
- You have a fast or uneven pulse



Call your doctor, healthcare provider, or Health Connect Ontario immediately if you experience^{1,3}:

- Increased pain, swelling, warmth, or redness at the procedure site
- Anew or higher fever and a **stiff neck**.
- A fever (more than 100°F / 38°C)
- Chills, with or without fever
- Numbness or loss of strength below the procedure site.
- Redness or warmth around the procedure site or **pus, blood, or clear fluid** draining from the procedure site
- Bright red blood has soaked through the bandage / dressing over the procedure site.
- A very bad headache that gets worse when you sit or stand.
- Your legs start to feel numb, weak, tingly, or painful.
- Trouble urinating (peeing) normally.
- New or worse pain at the procedure site.
- 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. Lumbar puncture (spinal tap). Accessed October 11, 2024. Lexi-Comp Online. <https://online.lexi.com>
2. Le DT, Alem N. Facet Joint Injection. [Updated 2023 Jun 20]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 2024 Jan-. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK572125/>
3. Spinal Tap (Lumbar Puncture): What to Expect at Home. Accessed October 15, 2024. My Alberta Health. <https://myhealth.alberta.ca/Health/aftercareinformation/pages/conditions.aspx?hwid=ud1724>
4. 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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