

## LUMBAR PUNCTURE

Lumbar puncture (spinal tap) is performed in your lower back, in the lumbar region. During lumbar puncture, a needle is inserted between two lumbar bones (vertebrae) to remove a sample of cerebrospinal fluid — the fluid that surrounds your brain and spinal cord to protect them from injury.

A lumbar puncture can help diagnose serious infections, such as meningitis; other disorders of the central nervous system, such as Guillain-Barre syndrome and multiple sclerosis; or cancers of the brain or spinal cord. Sometimes doctors use lumbar puncture to inject anesthetic medications or chemotherapy drugs into the cerebrospinal fluid.

### Preparation for the procedure

Strong blood thinning medications such as Coumadin, Plavix, ASA and other newer medications like Xarelto, need to be stopped one week prior to the procedure. **Please consult your PCP or cardiologist before stopping these medications.**

### After the procedure

Plan to rest. Don't participate in strenuous activities the day of your procedure. You may return to work if your job doesn't require you to be physically active. Discuss your activities with your doctor if you have questions. Take a pain medication. A nonprescription pain-relieving medication that contains acetaminophen can help reduce headache or back pain.

### During the procedure

- A local anesthetic is injected into your lower back to numb the puncture site before the needle is inserted. The local anesthetic will sting briefly as it's injected.
- A thin, hollow needle is inserted between the two lower vertebrae (lumbar region), through the spinal membrane (dura) and into the spinal canal. You may feel pressure in your back during this part of the procedure.
- Once the needle is in place, you may be asked to change your position slightly.
- The cerebrospinal fluid pressure is measured, a small amount of fluid is withdrawn, and the pressure is measured again. If needed, a drug or substance is injected.
- The needle is removed, and the puncture site is covered with a bandage.

The procedure usually lasts about 45 minutes. Your doctor may suggest lying down after the procedure

### Risks

Though lumbar puncture is generally recognized as safe, it does carry some risks. These include:

- **Post-lumbar puncture headache.** Up to 25 percent of people who have undergone a lumbar puncture develop a headache afterward due to a leak of fluid into nearby tissues. The headache typically starts several hours up to two days after the procedure and may be accompanied by nausea, vomiting and dizziness. The headaches are usually present when sitting or standing and resolve after lying down. Post-lumbar puncture headaches can last from a few hours to a week or more.
- **Back discomfort or pain.** You may feel pain or tenderness in your lower back after the procedure. The pain might radiate down the back of your legs.
- **Bleeding.** Bleeding may occur near the puncture site or, rarely, into the epidural space.
- **Brainstem herniation.** Increased pressure within the skull (intracranial), due to a brain tumor or other space-occupying lesion, can lead to compression of the brainstem after a sample of cerebrospinal fluid is removed. A computerized tomography (CT) scan or MRI prior to a lumbar puncture can be obtained to determine if there is evidence of a space-occupying lesion that results in increased intracranial pressure. This complication is rare.

