Lumbar Puncture

A lumbar puncture (also called a spinal tap) is a procedure to collect and look at the fluid (cerebrospinal fluid, or CSF) that surrounds the brain and spinal cord.
During a spinal tap, a needle is carefully inserted into the spinal canal low in the back (lumbar area). Samples of CSF are collected. The samples are studied for color, blood cell counts, protein, glucose, and other substances. Some of the sample may be put into a container with a growth substance. This is called a culture. If any bacteria or fungi grow in the culture, an infection may be present. The pressure of the CSF also is measured during the procedure.

Why is it done ?

A lumbar puncture may be done to:

- Collect cerebrospinal fluid for laboratory analysis
- Measure the pressure of your cerebrospinal fluid
- Inject spinal anesthetics, chemotherapy drugs or other medications
- Inject dye (myelography) or radioactive substances (cisternography) into cerebrospinal fluid to make diagnostic images of the fluid's flow

Information gathered from a lumbar puncture can help diagnose:

- Serious bacterial, fungal and viral infections, including meningitis, encephalitis and syphilis
- Bleeding around the brain (subarachnoid hemorrhage)
- Certain cancers involving the brain or spinal cord
- Certain inflammatory conditions of the nervous system, such as multiple sclerosis and Guillain-Barre syndrome

How to prepare:

Please tell the technologist if you have an insulin pump.

- Tell your doctor ALL the medicines, vitamins, supplements, and herbal remedies you take. Some may increase the risk of problems during your test. Your doctor will tell you if you should stop taking any of them before the test and how soon to do it.
- If you take aspirin or some other blood thinner, ask your doctor if you should stop taking it before your test. Make sure that you understand exactly what your doctor wants you to do. These medicines increase the risk of bleeding.
- You will be asked to sign a consent form that says you understand the risks of the test and agree to have it done.

What to expect during the test:

Depending on your situation, a spinal tap may take place as an outpatient procedure (you go home the same day) or in the hospital. If you have an outpatient procedure, someone needs to drive you home afterward. The procedure itself only takes 15 to 30 minutes.

For the procedure, you will be laying on your stomach on an xray table so that the machine can take pictures of your spine. A Radiologist will be performing the procedure. During a spinal tap, your provider:

- Cleans your skin with an antiseptic.
- Injects a local anesthetic into your lower back to numb the area. You might feel a slight burning sensation.
- Inserts a thin, hollow needle between two vertebrae (spinal bones) in the lower part of the spine. You may feel some pressure.
- Withdraws fluid into the needle or injects medication or dye.
- Gently withdraws the needle.
- Cleans the skin again with an antiseptic and covers the puncture site with a bandage.

What to expect after the test:

To lower your chance of getting a headache following a spinal tap, you will be told to lie flat in bed for at least 1 hour. Since your brain makes new CSF all the time and replaces it 2 or 3 times a day, the small amount of fluid that is removed will be quickly replaced.

You should get plenty of rest and fluids afterward. But you should avoid strenuous exercise or activities for 24 to 48 hours.

- Your physician will discuss the test results with you.

RISKS:

A spinal tap is generally a safe procedure. In some cases, a leak of cerebrospinal fluid (CSF) may develop after a spinal tap. Symptoms of this problem are a headache that does not go away after 1 to 2 days. A CSF leak can be treated with a blood "patch," in which the person's own blood is injected into the area where the leak is occurring in order to seal the leak.

Some people develop a headache after having a spinal tap. Of those who do get headaches, only about half report that they are severe. These headaches may last up to 48 hours and then go away on their own. Lying flat in bed for several hours after the procedure may help the headache.