Lumbar Puncture

Information for patients

If you have been told that you will need a lumbar puncture, here is some information you might want to know, also answering some frequently asked questions.

Why do I need a lumbar puncture?
There are many reasons, but examination of the fluid around the brain and spinal cord by this method gives the neurologist/doctor more information that can assist with diagnosis. The pressure of the fluid, the presence of cells in the fluid (microscopically) and its biochemical constituents tell about the fluid production and reabsorption, inflammatory and infectious components.

What is a high volume lumbar puncture/tap?
There are two reasons to do this. First, the neurologist may want to temporarily drain off what is thought to be excessive fluid under normal pressure by doing a high volume tap. You will have your walking and cognition assessed before and after, to see if there is an improvement. The alternative is that your pressure is high, and you need to have the pressure lowered. This is usually temporary, but can lead to recalibration of the barometric system for CerebroSpinal Fluid so that pressure is normal again.

Are there any special preparations for the LP?
You don’t need to fast or do anything in particular. If however you take aspirin/clopidogrel/dipyridamole please let your doctor know several days in advance.
If you take Warfarin/Rivaroxaban/Apixaban/Dabigatran or any anticoagulant drug including injectable heparinoids (Dalteparin/ , - -parin) it is very important to tell your doctor in advance so that a decision can be made about how best to do the LP. Not to tell your doctor might lead to bleeding complications around the nerve roots and spinal cord which could be irreversible.
If you are known to have a particular bleeding disorder/clotting disorder, it is equally very important to tell your doctor before an LP is attempted – for example Thrombocytopenia (low platelet count), or haemophilia.

Can I be sedated or have an anaesthetic for the LP?
No, it is not advisable. It is unsafe to sedate a patient for an LP generally. Your neurologist will want to check how you are during it. If you are sedated you won’t be able to respond accurately. However, Local Anesthetic with Lignocaine 1-2% on the skin and under the skin can be used. Your doctor will advise you about the use of it.
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How will the LP be done?
It can be done lying on the left side horizontal or sitting up. To check the pressure accurately it needs to be done lying down. The doctor will position you correctly to straighten the curve in your back between your shoulders and pelvis. This is done putting a pillow between your legs, and getting you to bring your knees up to your chest and chin down to chest. The doctor will identify some bony landmarks with his hands (the top of the hips/pelvis, and the midline of your lower back) and mark with a pen on your back where the correct level between the spinous processes of your vertebral column. This is usually in the small of your back. Then the area is cleaned with either iodine or chlorhexidine. The procedure is then carried out in a sterile manner. Local anesthetic is injected if necessary under the skin and deeper tissues: this can sting quite a bit. The spinal needle is then inserted and you will feel a pinch, then pressure, then probably another sharp pinch in your back. Often local nerve roots are irritated by this and shooting electric shocks followed by pins and needles/numbness will go from the back into the legs or groin. The sensations are unpleasant but brief, although the pins and needles/numbness may last longer. Once the needle is in place, the measuring of pressure takes place and then fluid samples collected. This part of the LP takes longest, and is uncomfortable because of having to lie on your side while it is being done which can take 15-20 minutes, occasionally longer. It is important to try and stay still during this time. At the end of the sampling, you doctor will go through process to remove the needle carefully. Then a dressing will be put on, and it is over. After the procedure, it is not necessary to stay lying down for more than 10-30 minutes.

What complications can I expect?
The most common problem with LP is the discomfort of lying down, and having needles stuck in your lower back. Bleeding and bruising under the skin and in deeper tissue can lead to low back tenderness and ache for days or weeks. That is common but not frequent. Post Lumbar Puncture Headache (low pressure headache) happens in between 1:4 to 1:20 cases. It is a headache that is really severe on sitting or standing, but almost or completely disappears on lying down. It can last between 2 days and 2 weeks. It is best managed conservatively (strict bed rest, fluids, and caffeine) for several days, but a blood patch could be done. A blood patch would be done by an anaesthetist and involves taking blood from your arm and then injecting it around the site of the lumbar puncture to try and seal the hole where the LP needle punctured the linings around the lower spinal roots.

When will results of the tests be available?
Measuring the pressure of fluid gives an immediate result. Other biochemical, immunological and microbiological measures can take hours, days or weeks. Your doctor will tell you when to expect a result on the LP.