

Lumbar Puncture

Information and advice for patients

Neurology

What is a lumbar puncture?

A lumbar puncture, also called an LP or spinal tap, is where a small amount of cerebrospinal fluid (CSF) is taken out of your spinal canal using a needle inserted into your back, between 2 bones (vertebrae). The procedure is done using a local anaesthetic injection so you will be awake but the area will be numbed.

What are the benefits of a lumbar puncture?

Lumbar puncture allows your doctor to obtain a sample of spinal fluid for testing. This can give your doctor important information about the function of your nervous system and helps us to identify or rule out certain conditions that might need treatment. It also allows the CSF pressure to be measured to see if this is within the normal range.

What are the risks of a lumbar puncture?

Although there are risks for this test, it is important to remember that these do not affect all patients. Risks for this procedure include:

Headache

Approximately 1 in 4 adults have a headache after a lumbar puncture which can start a few hours to 2 days after the procedure, and last for a few days. It is caused by the slow leak of spinal fluid through the puncture site into the surrounding tissue. This is not dangerous and the leak closes over a few days. The headache may be dull or throbbing and you may also have a stiff neck and sickness. It can be treated by lying flat and taking painkillers such as paracetamol.

In rare cases, the headache can last several weeks or months and you will need an injection to seal the lumbar puncture site.

Back pain and bruising

You may experience some back pain after the procedure from where the local anaesthetic injection and lumbar puncture needle were inserted, and may also have some bruising. Back pain can also be caused by having to curl up for the procedure. If you have any back pain after the lumbar puncture, you can treat this with painkillers such as paracetamol.

Other complications

- Infection of the skin or of the spinal fluid can occur extremely rarely. This would need treatment with antibiotics and could be very serious.
- Very rarely a blood clot may form around the lumbar puncture site, or around the brain. This would be very serious and may require surgery to treat it.
- There have also been extremely rare reports of persistent back pain, numbness and tingling of the leg, hearing loss and double vision following a lumbar puncture.

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Serious harm due to complications such as these occur in less than 1 in 10,000 lumbar punctures. Your neurologist will have weighed up the benefits of the procedure against the potential risks and will always ensure that the procedure is only undertaken if it is absolutely necessary.

Difficulty performing the procedure

In approximately 1 in 20 patients the lumbar puncture is difficult to perform. This is more likely in people who have severe arthritis of the spine, have an abnormally shaped spine or are overweight. In these circumstances you may need another appointment to come and have the procedure performed using X-rays to guide the doctor in inserting the needle. The team will make a careful assessment before the lumbar puncture is performed of how difficult it is likely to be and in some cases may advise that it is not attempted at all except with X-ray guidance.

Are there any alternatives to a lumbar puncture?

In some conditions it may be possible to monitor the symptoms that you have and repeat scans or other tests periodically to see if other clues about the diagnosis emerge with time. In many conditions however, there is no alternative to analysing the spinal fluid.

What are the risks of not having a lumbar puncture?

If you do not have a lumbar puncture, it may not be possible for the doctors to diagnose your condition and give you the appropriate treatment, or it may take longer to diagnose.

Preparing for a lumbar puncture

Before your lumbar puncture please eat as you normally would.

Let your consultant know if you are taking any blood-thinning medications (anticoagulants) such as warfarin, as you will need to stop these before the procedure and be given an alternative treatment.

When you arrive for your lumbar puncture the doctor will speak to you about the procedure and answer any other questions you may have, and you will then be asked to fill in a consent form.

Please make sure you empty your bladder before the procedure so that you are not uncomfortable during it. Before the lumbar puncture begins you may be asked to put on a hospital gown; put this on so that it opens at the back.

During a lumbar puncture

The lumbar puncture takes 15-20 minutes. This is what happens:

1. You will either be asked to lie on your side with your knees curled up to your stomach or

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asked to sit in a chair or on the side of the bed, bending forward. A nurse may help you tuck your head toward your chest. This helps to widen the space between the vertebrae (bones in the spine).

2. Your lower back is washed with disinfectant soap to clean the skin.
3. You will then be given a local anaesthetic injection to numb the area. This may sting for a few seconds.
4. The doctor will carefully put a needle into a space in the lower back, below where the spinal cord ends. You will need to hold very still so that the needle is not moved. You may feel some pushing as the needle enters your back but tell your doctor if you have pain.
5. You may then be asked to stretch your legs so that the pressure of the fluid in your spinal canal can be measured.
6. A sample of your spinal fluid is then taken and will be sent to the laboratory for testing.
7. A small dressing will then be put on your back.

After a lumbar puncture

As headaches after having a lumbar puncture are common, you will be asked to lie flat for 30 minutes in order to reduce your chance of getting a headache.

Try to increase your fluid intake significantly to help reduce the chance of developing a headache. If you do experience a headache after the procedure, you can treat this by lying flat and taking painkillers such as paracetamol. Back pain can also be treated with painkillers.

The dressing from the lumbar puncture can be removed the next day.

Avoid strenuous activity for the first 24 hours after the procedure. You can return to all your usual activities such as work and driving, as soon as you feel well enough after that.

Follow-up

Some of the test results from the lumbar puncture will take a few days, but others can take several weeks. You will be advised how and when you will receive the results after the procedure and any appropriate follow-up appointments you may need. If you have any questions about this, you can contact your consultant's secretary.

Symptoms to report

Please contact your GP if you have any of the following symptoms after you have been discharged home:

- Arm or leg weakness or numbness
- New incontinence or constipation
- A headache that does not resolve after lying flat

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- A high temperature (38°C or above)
- Sweats
- Confusion

Contact details

If you have any questions or concerns about having a lumbar puncture, please contact your consultant's secretary by calling the hospital switchboard and asking for them.

Hospital Switchboard: 0121 554 3801

Further information

For more information about our hospitals and services please see our websites www.swbh.nhs.uk and www.swbhengage.com, follow us on Twitter @SWBHnhs and like us on Facebook www.facebook.com/SWBHnhs.

Sources used for the information in this leaflet

- Patient UK Professional Reference, 'Lumbar puncture', October 2009
- Volk T, 'Complications of spinal anaesthesia and how to avoid them', March 2009
- Dakka Y et al, 'Headache rate and cost of care following lumbar puncture at a single tertiary care hospital', May 2011
- Ahmed S et al, 'Post lumbar puncture headache: diagnosis and management', November 2006

If you would like to suggest any amendments or improvements to this leaflet please contact the communications department on 0121 507 5495 or email: swb-tr.swbh-gm-patient-information@nhs.net



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