



## Information About Lumbar Punctures (LP's)

A lumbar puncture (LP) is when a medical professional inserts a needle into the spinal canal to the cerebrospinal fluid (CSF). Cerebrospinal fluid surrounds the brain and spinal cord.

Lumbar punctures are used as a diagnostic tool for a number of medical conditions including IIH. Once the needle is inserted into the correct place, the CSF can be drained off to send to the lab for analysis. This can tell the medical professionals a lot about a medical condition. With IIH some medical professionals will agree to a regular lumbar puncture course e.g. Every 6 weeks for therapeutic purposes, relieving intracranial pressure. This may also be used to protect somebody's vision if there is evidence of papilledema.

With lumbar punctures, unlike many medical diagnostic tests, there are no 'set' guidelines as to what a high pressure reading is and what is not. Therefore one specialist may say a reading is high while another may say it's not. Having said that, the general opinion is a high or abnormal reading is over 25cmH<sub>2</sub>O. The normal range is considered to be 8 - 25cmH<sub>2</sub>O.

### About The Procedure

The procedure is normally carried out in a clinic treatment room, a ward or in theatre. The most important factor with this procedure is that it's carried out under sterile conditions to eliminate the chance of infection. A lumbar puncture is most commonly carried out with the patient lying on their side in what is commonly referred to as the foetal position (like a baby in the womb). The patient will be asked to draw their knees up towards their chest as far as possible to open up the lumbar spaces between the bones as much as possible. The medical specialist will then apply pressure on the lower lumbar area. They like to press the top of the pelvic bone and draw an imaginary line around the back and to the spine. This will give them a good idea to where the spaces are between the vertebrae. The spine has many vertebrae but generally for a lumbar puncture they aim for the 3<sup>rd</sup> and 4<sup>th</sup> lumbar vertebrae. The back will then be cleaned thoroughly with antiseptic and alcohol wipes / solution. A local anaesthetic is then applied to the area where they intend to put the lumbar puncture needle, ensuring the patient feels as little pain as possible.

**Do not be afraid to ask for more local anaesthetic at any time.**

Once the local anaesthetic has taken effect, the lumbar puncture needle will be used to pierce the spinal canal. It is common for you the patient to feel pressure, but there should be no pain. Once the needle is in the correct place, the CSF will begin to flow out. A measuring device, called a manometer, will then be connected to read the pressure. This is called the opening pressure. If the reading is high, some fluid will be drained off to improve the patient's symptoms. Some CSF may also be collected to send to the lab for analysis. Once the CSF has been drained off, the manometer will be re-connected to measure the pressure once again to ensure that it's between the normal range. This is called the closing pressure. The needle will then be gently removed and the area will be dressed. The patient will be asked to lie flat for between 1 and 4 hours to enable healing to take place and reduce the chance of a CSF leak and a low pressure headache. The patient will also be asked to rest and avoid any physical activity for at least 3 days.

If the medical professional is having difficulty finding the correct spot to carry out the lumbar puncture, then they may request that it's carried out under guidance (x-ray, scan or fluoroscopy).

It is common for the patient to feel anxious about this procedure. However, they need try to relax as much as possible and concentrate on steady breathing. To reduce the anxiety, the patient can ask if they can listen to some music through earphones or have a relative or friend in the room with them.

**Remember you / the patient have / has a right at anytime to tell the medical professional to stop or if you / they are feeling pain.**

If the patient is a child (under 16yrs) the Lumbar Puncture procedure as a general rule will be carried out under a general anaesthetic, so they will be unconscious and feel no pain. It's also done this way as a child would have difficulty being still throughout the procedure.

Some patients may experience what is called a low pressure headache after having a lumbar puncture. This can last for up to 7 days. If it goes beyond 7 days, contact the medical professional who carried out the lumbar puncture.

A low pressure headache can include any of the following symptoms:

- Headache which is worse when standing or sitting upright
- Stiff neck / neck ache
- Nausea / sickness
- Dizziness

If the patient develops any of these symptoms, it is best that they lie down flat as much as possible. Keeping hydrated and temporarily increase their caffeine intake can help to raise the pressure.

**(Check with the G.P. if there are any additional medical conditions requiring restriction of caffeine intake).**

If the patient notices that their back starts to leak either clear fluid (CSF) or blood, then they should seek medical advice. Meanwhile, it should be covered with a sterile pad to reduce the chance of infection.