Having a lumbar puncture

This leaflet explains more about having a lumbar puncture, including the benefits, risks and any alternatives. It also provides information about what you can expect when you come to hospital. If you have any further questions, please speak to a doctor or nurse caring for you.

What is lumbar puncture?
A lumbar puncture (LP), sometimes called a spinal tap, is a procedure used to obtain a sample of cerebrospinal fluid (CSF) from your spinal canal using a needle inserted into your back, between two bones in your lower spine (vertebrae). CSF is the fluid that bathes and protects the brain and spinal cord. It is produced constantly, so the small amount removed during an LP is quickly replaced.

Why should I have a lumbar puncture?
An LP allows the doctor to perform specific tests to help make diagnoses and initiate treatments. There is no other way of sampling spinal fluid. Performing an LP also allows the doctor to measure the pressure of the CSF and to test the fluid for certain conditions affecting the brain or spinal cord.

An LP is not compulsory. However, if you choose not to have one, your doctors may find it more difficult to be sure of the diagnosis and start treatment.

What are the risks?
LP is a relatively safe procedure. The risk of serious complications is low and serious side effects are uncommon. It’s important to let your doctor know if you’re on any blood-thinning medications (anti-coagulants) or have any bleeding disorders.

The most common side effect is a headache which occurs in around 10-30% of people. It is caused by the slow leak of spinal fluid through the puncture site into tissue. It’s not dangerous, and the leak closes by itself over a few days. It can be treated by lying flat and taking painkillers such as paracetamol. Very rarely the headache can be more persistent and severe and will need an injection to seal the LP site.

Some people experience discomfort or back pain at the site where the needle has been inserted. This can be treated with normal painkillers such as paracetamol.

In some cases, the procedure may not be successful. This is more likely in people who have severe arthritis of the spine, have an abnormally shaped spine, or are overweight. If this happens, the procedure may need to be repeated at a later date using X-rays to guide the insertion of the needle.
Serious harm due to complications listed below occur in less than one in 10,000 LP procedures.

- Infection of the skin or of the CSF can very rarely occur. This needs treatment with antibiotics and can be serious.
- Very rarely a blood clot may form around the LP site, or around the brain. This is very serious and may require surgery.
- There have also been extremely rare reports of persistent back pain, numbness and tingling of the leg, hearing loss and double vision following an LP.

**Are there any alternatives?**
Unfortunately, we do not have any alternatives to obtain a CSF sample.

**How can I prepare for a lumbar puncture?**
There are no special preparations before the procedure. Please inform your doctor if you take any medications that thin your blood, such as rivaroxaban, apixaban, clopidogrel or warfarin, as these may need to be stopped before the procedure. You do not have to stop taking aspirin. It is sensible to have a light breakfast.

**Giving my consent (permission)**
Before the procedure, your doctor will explain how it is carried out, its benefits and potential risks, and answer questions which you may have. We want to involve you in decisions about your care and treatment. If you decide to go ahead, you will be asked to sign a consent form. This states that you agree to have the procedure and associated treatment, and you understand what it involves. You can at any time refuse to have the LP done for any reason. However, the doctor will need to discuss the implications of this with you.

If you would like more information about our consent process, please speak to a member of staff caring for you.

**What happens during a lumbar puncture?**
You will be asked to change into a hospital gown. The procedure is usually carried out with you lying on your side, with your chin tucked in and both of your knees curled up towards your chest. It is helpful if you are able to stay still during the procedure. Occasionally, it may be carried out in a sitting position. The procedure usually lasts around 30-45 minutes.

First, the skin over your lower back will be cleansed with an antiseptic agent – please mention if you have any allergies. A small amount of local anaesthetic will be injected under the skin to help numb the area where the needle will pass through; the local anaesthetic can sting briefly. You should be given the leaflet, **Having an anaesthetic**.

Once the local anaesthetic starts to work, the doctor will insert the spinal needle into the pre-marked space at the base of your spine to obtain the CSF. You may feel a pushing sensation as the needle is inserted. Sometimes, you may feel a brief shooting pain into your leg when the needle is being pushed in. This should stop after a few seconds.

Once the needle is in the right place, the doctor will measure the pressure and collect samples of the CSF. Occasionally, larger volumes of CSF may be drained for therapeutic purposes. At the end of the procedure, the spinal needle will be removed and the puncture site will be covered by a small plaster. Your doctor or nurse will also need to take blood samples to send to the laboratory.
Will I feel any pain?
The procedure is done under local anaesthetic, but can feel uncomfortable. If it is technically difficult, it may take more than one attempt to find the right space to insert the needle. You will be given more local anaesthetic to minimise your discomfort.

What happens after a lumbar puncture?
After the procedure, you will be asked to lie flat for 10-30 minutes or until you feel comfortable. During this time, you will be monitored to check that you are stable after the procedure. You may eat and drink as you wish. If you have come in as an outpatient for the test, you will be discharged home later in the day.

In the rare case that the procedure is not successful, the doctor will talk to you about making arrangements to repeat the procedure under X-ray guidance.

What do I need to do after I go home?
You can usually return to normal activities immediately, including work and driving, if you feel fine and have not developed any side effects from the procedure. However, it is usually best to avoid sports and strenuous activities for 24-48 hours.

The dressing from the LP can be removed the following day.

If you do experience a headache after the procedure you can treat this by lying flat, taking painkillers such as paracetamol, or increasing your caffeine intake for a day or two. Back pain can also be treated with painkillers.

If you develop any of the following symptoms please seek medical attention:
- arm or leg weakness or numbness
- new incontinence or constipation
- severe persistent headache that does not get better when lying flat
- high temperature (38ºC or above).

Will I have a follow-up appointment?
Most of the results will be available within a few hours but the more specialised tests may take a number of weeks to come through. You will usually be informed of the results at your next outpatient appointment if your procedure was performed as a day case.
Contact us
If you have any questions or concerns about having a lumbar puncture, please contact the North Wing Treatment Unit on t: 020 7188 8748, Monday to Friday, 9am to 5pm.

Out of hours, please contact the nursing team via email, e: gst-tr.nwtu@nhs.net.

For more information leaflets on conditions, procedures, treatments and services offered at our hospitals, please visit w: www.guysandstthomas.nhs.uk/leaflets.

Pharmacy Medicines Helpline
If you have any questions or concerns about your medicines, please speak to the staff caring for you or call our helpline.

| t: 020 7188 8748, Monday to Friday, 9am to 5pm |

Your comments and concerns
For advice, support or to raise a concern, contact our Patient Advice and Liaison Service (PALS). To make a complaint, contact the complaints department.

| t: 020 7188 8801 (PALS) e: pals@gstt.nhs.uk |
| t: 020 7188 3514 (complaints) e: complaints2@gstt.nhs.uk |

Language and accessible support services
If you need an interpreter or information about your care in a different language or format, please get in touch.

| t: 020 7188 8815 e: languagesupport@gstt.nhs.uk |

NHS 111
Offers medical help and advice from fully trained advisers supported by experienced nurses and paramedics. Available over the phone 24 hours a day.

| t: 111 |

NHS website
Online information and guidance on all aspects of health and healthcare, to help you take control of your health and wellbeing.

| w: www.nhs.uk |

Get involved and have your say: become a member of the Trust
Members of Guy’s and St Thomas’ NHS Foundation Trust contribute to the organisation on a voluntary basis. We count on them for feedback, local knowledge and support. Membership is free and it is up to you how much you get involved. To find out more, please get in touch.

| t: 0800 731 0319 e: members@gstt.nhs.uk w: www.guysandstthomas.nhs.uk/membership |

Was this leaflet useful?
We want to make sure the information you receive is helpful to you. If you have any comments about this leaflet, we would be happy to hear from you, fill in our simple online form, w: www.guysandstthomas.nhs.uk/leaflets, or e: patientinformationteam@gstt.nhs.uk

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