

# Patient information

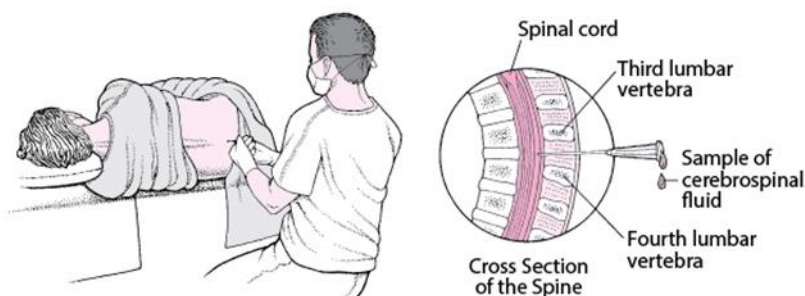
## Lumbar puncture

### What is Lumbar Puncture (LP)?

A lumbar puncture (LP), sometimes called a spinal tap, is a medical procedure carried out to obtain a sample of cerebrospinal fluid (CSF) - which is the fluid that surrounds the brain and spinal cord - by inserting a needle between two bones in your lower spine (vertebrae). CSF is produced constantly, so the small amount removed during an LP is quickly replaced.

### How is Lumbar Puncture performed?

The procedure will involve you lying curled up on your side, with your knees pulled into your chest and your back lined up with the edge of the bed. Alternatively, the doctor or nurse may ask you to sit on the bed with your head and shoulders bent forward so that your back curves out. The clinician will then clean the area with an antiseptic solution. Local anaesthetic will be injected at the start of the procedure to reduce any pain and discomfort you may feel but you will be awake throughout the procedure. The clinician then inserts a needle into your back to obtain the sample. In exceptional circumstances you may be able to have a gentle sedative but most people undertake the procedure without requiring any.



The amount of CSF taken will depend on whether you are undergoing the procedure for the purpose of an investigation or a treatment. It may be necessary to remove more fluid if the lumbar puncture is being done as treatment for a condition.

### Why would I need this procedure?

A doctor will advise you to undergo a lumbar puncture if they think it will be helpful in diagnosing or treating the underlying cause of your symptoms, such as headache or seizures, or to exclude serious disease such as an infection or bleeding in the brain. Performing an LP also allows the doctor to measure the pressure of the CSF. Excess CSF may also be removed in people who have an overproduction or decreased absorption of the fluid. Lumbar puncture may also be carried out in order to inject chemotherapy drugs, contrast material, or other medications into the cerebrospinal fluid.

The reason for your lumbar puncture should have already been explained to you but if you have any questions, please ask the doctor who asks for your consent to perform the procedure.

## What are the alternatives?

There is no alternative test to replace a lumbar puncture as there is no other way of sampling spinal fluid, although imaging such as CT or MRI can be used to help in some cases.

## What are the potential risks and side effects?

Lumbar punctures are safe procedures which are commonly performed in hospital.

Common complications include:

- **Headache** from the LP occurs in 10% to 30% of patients. 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. In most cases it resolves in a few days with simple painkillers and good hydration. It is uncommon to require additional treatments.
- **Localised back pain** or bruising which usually resolves in a few days.
- **Failure of procedure** sometimes occurs requiring another attempt. 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. In exceptional circumstances you may be referred to another clinician or department.
- **Bleeding** may occur near the puncture site or, rarely, into the epidural space.

Rare complications:

- Infection of the skin or the nervous system
- Injuries to the nerves causing temporary sensation loss or pins and needles are rare
- Permanent nerve injuries causing disability, muscle weakness, bladder, or bowel problems are very rare
- Brainstem herniation: Increased pressure within the skull (intracranial), due to a brain tumour or other space-occupying lesion, can lead to compression of the brainstem after a sample of cerebrospinal fluid is removed. A computerized tomography (CT) scan or MRI prior to a lumbar puncture can be obtained to determine if there is evidence of a space-occupying lesion that results in increased intracranial pressure. This complication is rare.

## What are the expected benefits of treatment?

A lumbar puncture can help your doctor accurately diagnose or rule out certain medical conditions, including some life-threatening illnesses. The quicker they make a diagnosis, the sooner you can get appropriate treatment. Some conditions, such as bacterial meningitis, can be fatal if you don't get treatment for them quickly enough.

A lumbar puncture can also help your doctor give you some types of medication.

## What should I do before I come into hospital?

You may be asked to have some blood tests in the week before (or on the day of) the procedure to make sure it is safe to do it. You may also have a CT or MRI scan of your brain – to make sure you need the lumbar puncture and it's safe to have one. If you are on any blood thinning medications (anticoagulants or antiplatelets), you will be told by the doctor or the nurse (on clinic or by phone) if and how many days prior to the procedure these need to be stopped:

- **Aspirin, Clopidogrel** – 5 days prior to the procedure
- **Warfarin** – 3 days prior to the procedure
- **Apixaban, Rivaroxaban, Edoxaban, Dabigatran** – 2 days prior to the procedure
- **Enoxaparin (Clexane)** – 24 hours prior to the procedure

**It's important to let your doctor know if you're on any blood-thinning medications (anti-coagulants) or have any bleeding disorders.**

On the day of the procedure, you can eat, drink, and take medicine as usual (apart from blood thinning medication outlined above). It is generally recommended to remain well hydrated before and after your procedure, so consider taking a drink while waiting for the procedure and afterwards.

You should not drive yourself home following a lumbar puncture, so it is a good idea to make other arrangements for getting to and from your appointment.

### **Where will the procedure take place?**

It can be done in the outpatients department or on a ward at the hospital.

### **Will I have an anaesthetic?**

You will have local anaesthetic (usually 1% Lidocaine) to numb the area before inserting the spinal needle. The local anaesthetic may sting slightly and you may feel pressure as the needle is put in.

### **How will I feel afterwards?**

A lumbar puncture is most often described as uncomfortable. The local anaesthetic injection should prevent you from finding the procedure painful. There is a chance you may feel a sudden sharp pain in one of your legs if the needle touches a nerve in your spinal column. The doctor or nurse will immediately adjust the position of the needle if this happens.

Some patients develop a headache after a lumbar puncture that begins several hours or up to two days after the procedure. The headache may be accompanied by nausea, vomiting and dizziness and can last from a few hours to a week or more. You also may feel pain and tenderness in your lower back, which may radiate down your legs. If your pain continues or becomes severe, contact your doctor immediately.

A pain-relieving medication such as paracetamol can help reduce headache or back pain following the procedure. If your headache is severe, you should contact your doctor.

### **How long will I be in hospital?**

A lumbar puncture is likely to take 30 minutes to an hour, so you don't usually have to stay in hospital overnight, unless it is performed while you are an inpatient. You will be asked to lie flat for about 30 minutes after your lumbar puncture and after that you will be free to go home if you are feeling well enough.

You should have someone to take you home as you should not drive for at least 24 hours after the procedure.

## What should I do when I go home?

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 immediate 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 (38°C or above)
- blood or clear fluid leaking from your back.

## How soon will I be able to resume normal activities?

You can usually return to normal activities immediately, including work, 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 to 48 hours.

## Will I have to come back to hospital?

The doctor or nurse who performs the lumbar puncture can often tell you some of the results on the same day and explain what they mean.

You may need to wait for at least 48 hours for the full results. Some laboratory test results are available within a couple of hours in an emergency. Your doctor will let you know if you would need to come back to hospital.

## When can I return to work?

You can return to work as soon as you feel well enough to do so.

## Consent

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.

Although you consent for this treatment, you may at any time after that withdraw such consent. Please discuss this with your medical team.

## Sources of information

For more information about lumbar puncture or the contents of this leaflet, please ask the doctor or nurse performing your procedure.

### Useful contact numbers:

**Conquest Hospital** - Same Day Emergency Care – Tel: 0300 131 4547, or alternatively - Tel: 0300 131 4500 extension 770727 or 770728 or 770726

Eastbourne DGH - Same Day Emergency Care – Tel: 0300 131 5384, or alternatively - Tel: 0300 131 4500 extension 735884 or 770577 or 771969

## Important information

The information in this leaflet is for guidance purposes only and is not provided to replace professional clinical advice from a qualified practitioner.

## Your comments

We are always interested to hear your views about our leaflets. If you have any comments, please contact the Patient Experience Team – Tel: 0300 131 4731 (direct dial) or by email at: [esh-tr.patientexperience@nhs.net](mailto:esh-tr.patientexperience@nhs.net)

## Hand hygiene

The Trust is committed to maintaining a clean, safe environment. Hand hygiene is very important in controlling infection. Alcohol gel is widely available at the patient bedside for staff use and at the entrance of each clinical area for visitors to clean their hands before and after entering.

## Other formats

**If you require any of the Trust leaflets in alternative formats, such as large print or alternative languages, please contact the Equality and Human Rights Department.**

**Tel: 0300 131 4434 Email: [esh-tr.AccessibleInformation@nhs.net](mailto:esh-tr.AccessibleInformation@nhs.net)**

After reading this information are there any questions you would like to ask? Please list below and ask your nurse or doctor.

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## Reference

The following clinicians have been consulted and agreed this patient information:  
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