

## Patient information factsheet

# Lumbar puncture

This factsheet provides information about having a lumbar puncture. It explains what a lumbar puncture is and what the procedure involves, so you know what to expect. We hope it helps to answer some of the questions you may have. If you have any further questions or concerns, please speak to a healthcare professional caring for you.

### What is a lumbar puncture?

A lumbar puncture is a medical procedure where a needle is carefully inserted into your lower back, between two vertebrae (bones in your spine), to collect a sample of the fluid that surrounds your brain and spinal cord (also known as cerebrospinal fluid or CSF).

### Why do I need this procedure?

A lumbar puncture will allow us to examine your CSF and measure your CSF pressure. This will help us to gain more information about the cause of your symptoms and diagnose certain conditions, such as meningitis or subarachnoid haemorrhage (bleeding into the CSF space).

### Is a lumbar puncture suitable for everyone?

Before the procedure, it is important that you let the clinician (a medical professional) performing the procedure know if:

- you are taking any blood-thinning medications (anticoagulants)
- you have a bleeding disorder

These conditions can increase your risk of bleeding and may mean that a lumbar puncture is not suitable for you.

### What are the risks?

#### Headache

Approximately one in ten adults may experience a headache a few hours to two days after the procedure. This is due to a drop in brain pressure and can last a few days. You may also experience neck stiffness, nausea (feeling sick) and vomiting (being sick).

To help relieve the headache, you can:

- lie flat
- take pain relief medication (such as paracetamol)
- drink plenty of fluids
- increase your caffeine intake

In rare cases, the headache may last for weeks or months. If this happens, you will need a special injection called a 'blood patch' to seal the puncture site.

## Back pain and bruising

Mild back pain or bruising at the puncture site is common and can be managed with over-the-counter pain relief medication, such as paracetamol.

## Difficulty performing the procedure

In approximately one in 20 people, a lumbar puncture can be difficult to perform. This is more common if you:

- have a spinal condition (such as severe arthritis)
- have an abnormally shaped spine
- are overweight

In these cases, the procedure may need to be performed by a different clinician or with the assistance of imaging, such as x-ray (fluoroscopy), to help guide the needle insertion. If this is the case for you, your healthcare team will provide you with more information about your options.

## Rare complications (less than one in 10,000 procedures)

Though extremely rare, the following serious complications can occur:

- Infection of the skin or CSF. This can be serious and may need treatment with antibiotics.
- Blood clots forming around the puncture site or in the brain. This would be very serious and may need surgery.
- Persistent back pain, numbness, tingling in the legs, hearing loss or double vision.
- Brain herniation (an extremely rare but life-threatening complication where swelling in the brain causes pressure on the brainstem or spinal cord). This can lead to disability or death.

It is important to note that serious harm from these complications is very rare, occurring in less than one in 10,000 lumbar punctures.

## Are there any alternatives?

Currently, a lumbar puncture is the safest and most reliable way to collect and examine CSF. In most cases, there is no alternative method that provides the same information.

## What are the risks of not having a lumbar puncture?

If you choose not to have a lumbar puncture, it may not be possible to:

- diagnose the cause of your symptoms
- start you on the most appropriate treatment
- prevent possible complications of undiagnosed conditions from occurring

This could result in delays in your care or missed opportunities for treatment.

## How should I prepare for the procedure?

No special preparation is needed for this procedure. However, we recommend:

- wearing comfortable clothing with a stretchy waistband
- wearing shoes that are easy to remove
- bringing a snack or drink to have after the procedure

## What will happen during the procedure?

The lumbar puncture will be performed by a trained clinician in a procedure room on the acute medical unit or on the neurology day case unit.

1. For the procedure, we will ask you to lie on your side with your knees drawn up to your chest and your chin tucked down. This position will help to open the spaces between your spinal bones. Occasionally, we may ask you to sit up and lean forward.
2. We will clean your lower back with an antiseptic solution (chlorhexidine).
3. We will then give you a small injection of local anaesthetic to numb the area of your back. This may sting for a few seconds.
4. Once the area is numb, we will carefully insert a fine needle into a space in your lower back (below your spinal cord). You may feel some pressure as the needle enters your back, but you should not experience any pain. It is important to stay as still as possible. Let us know if you are uncomfortable at any point.
5. We will then measure your CSF pressure. This will take a few minutes, during which time, you will need to stay still.
6. We will take a sample of your CSF and send this to the laboratory for testing.
7. We will place a small dressing over the puncture site.

## How long will the procedure take?

The procedure itself will take approximately 20 to 30 minutes. However, please allow up to three hours for your appointment in total.

## What will happen after the procedure?

After the procedure, we will ask you to lie flat for a short period of time to reduce your risk of developing a headache. Once you have rested and feel well, you will be able to leave the hospital.

To help your recovery and reduce your risk of side effects, such as a headache, we recommend:

- drinking plenty of fluids throughout the day
- lying flat if you develop a headache
- increasing your caffeine intake (for example, tea, coffee or cola)
- taking pain relief medication, such as paracetamol, if needed (always read the medication label and follow dosage instructions)

You can remove the dressing later the same day (in the evening) or the next day.

We advise avoiding strenuous activity (for example, heaving lifting or intense exercise) for the first 24 hours after the procedure. You can then resume your usual activities, such as work, driving or housework, as soon as you feel well enough.

## When will I receive my results?

If your lumbar puncture was performed to investigate normal pressure hydrocephalus (NPH) (an uncommon condition that most often affects people over the age of 60), the clinician who performed the procedure will contact you in approximately 10 days to follow up on your progress.

For all other cases, your consultant will arrange a follow-up appointment once your results are available.

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## When should I seek medical help?

Contact a healthcare professional immediately if you experience any of the following:

- ongoing weakness or numbness in your arms or legs
- new incontinence or difficulty passing pee or poo
- a high temperature (above 38°C) or unexplained sweats
- confusion or an altered mental state
- a severe or persistent headache that does not improve on lying flat

If you are still in hospital, tell your nurse right away.

If you have left hospital, contact your general practitioner (GP) or call NHS **111** for advice. In an emergency, call **999** or go to your nearest emergency department.

## Contact us

If you have any questions or concerns about having a lumbar puncture, please contact us.

Neurology admissions

Telephone: **023 8120 2303** (Monday to Friday, 9am to 5pm)

Outside of these hours, please contact E neurology ward on telephone: **023 8120 8004**.

## Useful links

NHS

[www.nhs.uk/conditions/lumbar-puncture](http://www.nhs.uk/conditions/lumbar-puncture)

[www.nhs.uk/conditions/hydrocephalus](http://www.nhs.uk/conditions/hydrocephalus)

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