



Great Ormond Street Hospital for Children NHS Trust: Information for Families

# Lumbar puncture

2<sup>nd</sup> edition

**This information sheet explains what to expect when your child comes to Great Ormond Street Hospital for a lumbar puncture and how to care for your child when you return home after the lumbar puncture.**

## What is a lumbar puncture?

A lumbar puncture is a medical procedure, carried out to obtain a sample of cerebrospinal fluid (CSF). The same fluid covers the brain and the spinal cord. When a lumbar puncture is carried out, a needle is used to obtain CSF from the bottom of the spine, because this is where it can be done most easily and safely.



## How is a lumbar puncture done?

A special hollow needle goes through the skin in the lower back, into the lower spine. The CSF comes out through the needle and a few drops are collected and sent to the laboratory.

## Is a lumbar puncture dangerous?

A lumbar puncture is not dangerous, as long as the doctors and nurses carrying it out follow the correct procedures. These procedures include checking that there are no contraindications (such as a sudden rise in pressure in the brain or an abnormality in the way in which blood clots). The doctors and nurses will take precautions to prevent any infection entering the body during the lumbar puncture.

The spinal cord cannot be injured by a lumbar puncture that is correctly carried out, as the needle enters the spine below the lower end of the spinal cord.

The body replaces the small amount of fluid that is removed very quickly (in less than two days).



## **Why does my child need a lumbar puncture?**

A lumbar puncture is generally carried out for one or more of these reasons:

- To detect possible infection in the CSF
- To measure the pressure in the CSF
- To measure the levels of chemicals in the CSF

The exact reasons for your child having a lumbar puncture will be explained by the doctors looking after your child.

The reason why doctors require CSF for these tests is because it is the fluid that has come into closest contact with the brain itself. By analysing the CSF they will have more information about how the brain may be affected by a medical condition.

## **What happens before the lumbar puncture?**

You will have received information about how to prepare your child for the test in your admission letter. Your child should not eat or drink for the time specified in the letter. It is important to follow these instructions, otherwise your child's lumbar puncture may have to be delayed or even cancelled.

On the day of the procedure, the doctor will explain the procedure in detail and discuss any worries you may have. You will be asked to sign a consent form.

Depending on your child's age, he or she will probably be given sedative medication, to make him or her sleepy. In a few cases only will a general anaesthetic be required. A local anaesthetic cream will be applied to his or her back in order to numb the area.

## **What happens to my child during the lumbar puncture?**

A lumbar puncture is usually carried out on the ward, so you should be able to stay with your child to comfort him or her. Most children require sedation for the procedure as it can be uncomfortable and it is important to lie still.

Your child will be asked to lie on the bed on his or her side and to curl up into a ball. The nurse will help the child to keep in the correct position. The doctor will feel your child's lower back and locate the correct space between the vertebrae (the bones of the spine).

The doctor will then wash the skin around this area and cover the surrounding parts of the back with a sterile towel. The doctor will insert a needle into the space between the vertebrae (spine). The CSF will be collected into special containers and sent to the laboratories to be examined. In some cases the CSF pressure will also be measured.



## What can go wrong?

It is unusual for something to go wrong, but occasionally one of the following may occur:

- It may not be possible to get the child into the correct position for the lumbar puncture, because they are too restless or upset. If this is the case, the procedure may have to be postponed or carried out with a general anaesthetic.
- Sometimes it is not easy for the doctor to locate the place where the needle should be inserted. Another doctor may be called to assist, but in some cases the procedure has to be stopped. The doctors will discuss with you when and if the lumbar puncture should be repeated.
- If a little bleeding occurs when the lumbar puncture is done, some of the blood may become mixed with the CSF, affecting the results of the test.

After a lumbar puncture, a little fluid may leak out and collect under the skin. You may be able to see some swelling in the lower back, around where the lumbar puncture needle went in. This is not dangerous and will stop of its own accord. If a child is encouraged to lie flat it can help to prevent this leak from developing.

Some children develop a headache after a lumbar puncture. This is due to the slight reduction in pressure around the brain, resulting from the procedure. This headache usually settles down of its own accord in 24 to 48 hours, but if necessary your child can be given paracetamol.

## What happens after the lumbar puncture?

The doctor will use a plaster to cover the site where the needle entered the skin. Your child will be encouraged to lie flat for about an hour afterwards. When he or she is fully awake, you should encourage him or her to drink normally.

## When you get home

- If your child is in pain at home, give paracetamol according to the instructions on the bottle. If the pain persists or becomes worse, please call your GP.
- Keep an eye on the lumbar puncture site. If the site continues to swell or you see any clear fluid or blood, or it looks red and swollen, please call your General Practitioner. Make sure your child lies flat and rests at this time.
- The plaster covering the lumbar puncture site should stay in place for 24 hours and then you can remove it. It is fine for your child to attend school the day following the procedure. However, we advise that he or she does not take part in any sports or PE for a week after the test.

## What happens next?

The samples are analysed in different laboratories. Some of the tests are very routine and give answers within a few hours, but others are much more specialised and take longer to come back. You will receive the results of the tests at your child's next outpatient appointment.



**If you have any questions please call 020 7405 9200  
and ask to speak to one of the nurses on the ward from which your child  
was discharged or the doctor on call for your child's medical team.**

## **Notes**

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Compiled by the staff on Kingfisher and Parrot wards  
in collaboration with the Child and Family Information Group

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[www.goshfamilies.nhs.uk](http://www.goshfamilies.nhs.uk) [www.childrenfirst.nhs.uk](http://www.childrenfirst.nhs.uk)