

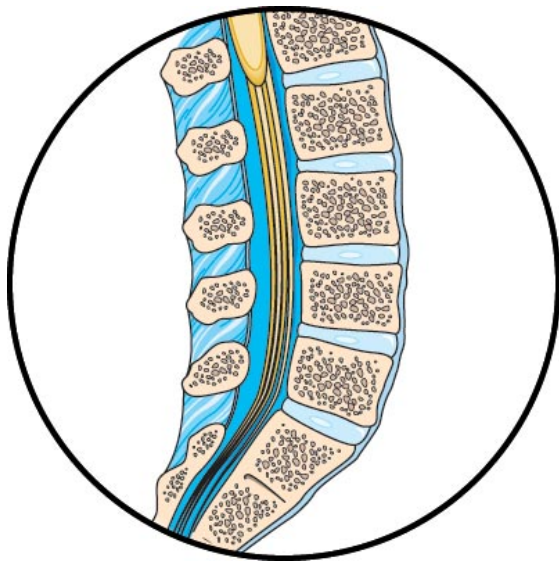


# Your child is having a lumbar puncture: information for families

A lumbar puncture is a medical procedure carried out to access the cerebrospinal fluid (CSF). CSF is a watery liquid that surrounds the brain and spinal cord, acting as a 'cushion'. It also supplies nutrients to the brain. This information sheet from Great Ormond Street Hospital (GOSH) explains about the lumbar puncture procedure, what to expect when your child has one and how to look after them at home. An Easy Read information sheet for your child is also included.

The lumbar puncture procedure is one of the most common procedures carried out at GOSH – every year we do over 1000 lumbar punctures.

A lumbar puncture can be used to get a sample of cerebrospinal fluid (CSF) for testing in the laboratory to look for infection or chemicals. A lumbar puncture can also be used to deliver medication directly into the CSF. The pressure of CSF can also be measured during a lumbar puncture.



*The spinal cord surrounded by cerebrospinal fluid*

## When you receive your appointment letter

If you are unable to keep this appointment, please inform the department as soon as possible beforehand. Sometimes, we can offer the appointment to another child on the waiting list.

### Important

The person bringing your child to the test should have 'Parental Responsibility' for them. Parental Responsibility refers to the individual who has legal rights, responsibilities, duties, power and authority to make decisions for a child. If the person bringing your child does not have Parental Responsibility, we may have to cancel the test.

## Getting ready for the test

There is no preparation needed before the lumbar puncture.

However, if your child is having the procedure while they are under sedation, they will have to stop eating and drinking for a few hours beforehand. This reduces the risk of stomach contents getting into the lungs. It is important to follow these instructions, otherwise your child's

lumbar puncture may have to be delayed or even cancelled.

## The day of the test

You should go to the ward stated in your admission letter. The doctor will talk to you again about the lumbar puncture procedure, answer any questions and ask you to give your permission by signing a consent form.

Your child will have the sedation medicine as a liquid to swallow, a nasal spray or a gel to be absorbed through the inside of their mouth about 20 to 45 minutes before the test is scheduled. We may offer older children Entonox® (gas and air) instead but this depends on why they need the lumbar puncture.

We will put local anaesthetic cream on your child's back around the area of the lumbar puncture. This will take 45 minutes to an hour to work so will be covered in a plastic dressing to keep it in place.

## What does a lumbar puncture involve?

Most lumbar puncture procedures take place on a ward. You will usually be able to stay with your child during the procedure.

Your child will be asked to lie on the bed on their side and to curl up into a ball. Some older children may need to sit up and lean forward. The nurse will help your child stay 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).

- If a sample is needed for testing, 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 in the same procedure.
- If your child is having the lumbar puncture to have medicine, an infusion will be started through the needle.

## Are there any risks?

A lumbar puncture is not dangerous, as long as the doctors and nurses carrying it out follow the correct procedures. This includes 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 for testing very quickly (in less than two days).

If your child is too restless or upset to be able to get in position and hold still, we may have to postpone the lumbar puncture or carry it out with your child under 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. Lying flat afterwards can 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 – unless you have been advised otherwise.

Vomiting can also occur after a lumbar puncture. Resting quietly with regular sips of fluid can help. Talk to the doctor if vomiting is severe or lasts for more than a day or two.

## **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 they are fully awake, you should encourage your child to drink normally.

**If you have any questions, please contact the ward where your child had the lumbar puncture. In an emergency or out of hours, please take your child to the nearest Accident and Emergency (A&E) department.**

Studies have shown that lying flat for up to 24 hours and keeping hydrated helps prevent some of the side effects.

## **Looking after your child at home**

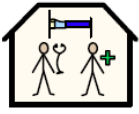
If your child is in pain at home, give paracetamol according to the instructions on the bottle. If the pain gets worse or lasts more than a day or two, please call your family doctor (GP).

Encourage your child to drink plenty of fluids for the next day or two. This will help them feel better and replace the CSF.

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 GP.

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 they do not take part in any sports or PE for a week after the test.

## Having a lumbar puncture



You are coming to hospital for a lumbar puncture. This is a test to look at the fluid that surrounds your brain and spine.



Your back bone protects your spinal cord. Messages to and from your brain travel through your spinal cord. Your spinal cord has fluid around it that acts like a cushion protecting it from damage.



Doctors may want a sample of this fluid to check for infection. You can also have medicine given into this fluid.



We will put some cream on your skin over your back to make it numb.



You will have some medicine to make you feel sleepy and relaxed.



You will have to wear special hospital clothes for the test. When you are sleepy, the doctor will ask you to lie on your side.



Next they will ask you to curl up into a ball. Bring your knees up to your chest and bend your head down towards them. They will clean a small area of your back and put a clean sheet over it.



They will put a needle into the space between your back bones. You may feel a bit of pressure but it should not hurt.



They will collect a sample of fluid for testing.



If you are having medicine, they will put this into your fluid through the needle.



Afterwards they will take out the needle and put a plaster over the area. You will feel better if you lie flat for an hour or so afterwards.