

Lumbar Puncture

Information and advice for parents and carers

Paediatrics

What is a lumbar puncture?

A lumbar puncture is a procedure which is carried out to get a sample of cerebrospinal fluid (CSF) for testing. CSF covers the brain and spinal cord. A sample is obtained by inserting a special hollow needle into the lower part of the back and into the space around the spinal cord (this part of the spine is the easiest and safest to use). A small amount of CSF is collected and sent to the laboratory for testing.

What are the benefits of a lumbar puncture?

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

- to detect a possible infection (meningitis or encephalitis) in the CSF
- to measure the pressure in the CSF
- to measure certain chemicals in the CSF
- to reduce the pressure in the CSF

In an emergency situation the lumbar puncture is usually done to diagnose or exclude meningitis, which is a serious illness. The results of the lumbar puncture can help the doctor to make a diagnosis and give your child the appropriate treatment.

The doctor looking after your child will talk to you about the exact reasons for your child having the lumbar puncture and the benefit of the test for him/her.

What are the risks?

Before the lumbar puncture is performed, the doctors and nurses will ensure that there are no reasons to avoid it, for example increased pressure in the brain or abnormal blood clotting.

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

- There is a rare risk of developing an infection at the site of the procedure but precautions will be taken to reduce this risk.
- If your child is scared or restless, it may not be possible to get your child into the right position. In this case, your child may be sedated (put to sleep).
- There is often a small amount of bleeding when the lumbar puncture is done. This does not cause any problems for your child but if blood mixes with the CSF it can affect the results of the test. In this case the test may have to be repeated.

What are the risks of not having a lumbar puncture?

If your child does not have the lumbar puncture the doctor will not be able to make an accurate diagnosis and ensure they receive the correct treatment.

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Are there any alternatives?

A lumbar puncture is the only test suitable for the situations on page 2. There are no alternatives.

What happens before the lumbar puncture?

The doctor will ask for your verbal consent for the procedure. Before your child has a lumbar puncture, tell the doctor if they:

- are taking any medicines
- are allergic to any medicines, such as those used to numb the skin (anaesthetics)
- have had bleeding problems or take blood-thinners, such as aspirin or warfarin
- take any herbal remedies as some of these thin the blood

What happens during the lumbar puncture?

A lumbar puncture is usually carried out on the ward by a doctor. The whole procedure can take up to 20 minutes although much of this is preparation time. The lumbar puncture itself usually takes less than a few minutes. This is how it is performed:

1. Your child will be positioned on their side on the bed, with their legs curled up and their knees under their chin. The nurse will hold them still in this position. During this time you can stay with your child if you wish. If they are old enough it may help to keep them calm if you talk to them during the procedure.
2. The skin is cleaned and the surrounding area covered with a sterile towel.
3. A local anaesthetic cream ('magic cream') is used to numb the area where the needle will be inserted. Some local anaesthetic may also be injected into the area in an older child.
4. The doctor then finds the correct space between two vertebrae (bones of the spine) and inserts the needle into the space around the spinal cord. This does not hurt if the local anaesthetic cream is used; children who are not sedated will notice a feeling of pushing at this point, but the anaesthetic will take away the feeling of pain.
5. The CSF will drip out and be collected in sterile containers and sent to the laboratory to be examined.
6. The needle is then removed and a plaster is put over the needle site.

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What happens afterwards?

After the procedure you usually take your child back to their bed when the doctor/nurse says it is ok.

Most children having this test are inpatients in the hospital and would not be going home. If you have brought your child in for this test, they will need to stay in hospital to be monitored for an hour after the test so that we can make sure they are well enough to go home. If they are discharged after this, they can resume their normal activities, including bathing the following day if they are well enough.

When will we get the results?

The CSF samples are analysed in the laboratory. The results can take different lengths of time to come back depending on the nature of the test. You will be informed of the results as they become available by the doctor on the ward (if your child is an inpatient) or by the consultant looking after your child (if they have come in for the test as a day case).

Symptoms to report

If your child goes home on the same day as the procedure then please call the numbers below for advice if your child suffers any of the following symptoms:

- chills or a (high temperature)
- stiff neck (may be a sign of a developing infection)
- any drainage or bleeding from the puncture site
- severe headache
- any numbness or loss of strength below the puncture site

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Further information

If you have any questions or concerns please speak to the nurse or doctor looking after your child.

If your child has been sent home after the procedure and you have any concerns please contact the ward they had the procedure on for further advice:

Priory Ground - 0121 507 3927

Lyndon Ground - 0121 507 3717

Lyndon 1 - 0121 507 3800

Children's Emergency Care Unit (CECU)

0121 507 4019

For more information about our hospitals and services please see our website www.swbh.nhs.uk, follow us on Twitter @SWBHnhs and like us on Facebook www.facebook.com/SWBHnhs.

Sources used for the information in this leaflet

- National Institute for Health and Care Excellence (2010). *Meningitis (bacterial) and meningococcal septicaemia in under 16s: recognition, diagnosis and management*. [CG102]. Available at: <https://www.nice.org.uk/guidance/cg102> (Accessed 15 April 2021).
- Tidy, Colin (2015). *Lumbar puncture*. Available at: <https://patient.info/doctor/lumbar-puncture-pro> (Accessed 15 April 2021).

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