

Lumbar Puncture (LP, Spinal Tap)

What is Lumbar Puncture (LP)?

- Lumbar puncture (LP) is a common diagnostic procedure performed in paediatric patients. The aim is to obtain cerebral spinal fluid (CSF) for examination or to measure the pressure inside the skull.
- In certain situation, release of CSF is a form of treatment and helps lower the pressure inside the skull.

Indications for Lumbar Puncture

- The most common reason for having a LP is to see if there is any infection of the lining around the brain (meningitis) or inflammation in the brain itself (encephalitis).
- Other reasons for needing a LP include suspected bleeding inside the skull, such as subarachnoid hemorrhage or complicated diseases that involve the metabolism of the brain or the spinal cord and other neurological conditions like Guillain Barre syndrome and transverse myelitis, etc.
- To measure CSF pressure and in certain situations to relieve pressure in the brain as a result of excessive CSF.
- To inject medications into the spinal canal, e.g. for treatment of oncology patients.

Can LP be replaced by other tests?

- Meningitis can be rapidly fatal or cause serious consequences such as deafness, hydrocephalus, cerebral palsy and epilepsy. Doctors have to make the correct diagnosis and start treatment promptly. LP is the only way to be sure your child has meningitis or not.
- The cerebrospinal fluid (CSF) will undergo biochemical tests and be examined under the microscope. The preliminary results will be available within a few hours. The CSF will also be sent for bacterial and/or viral culture for identification of the organism and antibiotics sensitivity test.
- As CSF circulates around the central nervous system, detailed examinations of CSF can provide direct evidence to diagnose many diseases that involve the brain.

Preparing a Child for Lumbar Puncture

- Your child should not take anything by mouth before the procedure. This is to avoid vomiting and aspiration pneumonia during and after the procedure.
- Be supportive and encouraging so as to allay your child's fears.
- With the help of your doctors, explain to your child why the examination is necessary.

The Procedure

- A nurse or health care assistant will assist your child to lie curled up on his/her side, with knees up to the chest, or to sit up.
- Your child may be given medication for light sedation or local anesthesia if necessary. Sometimes, we use intravenous sedation, which make your child sleepy. Sedation

will be given according to sedation guideline as issued by the Hospital Authority.

- After sterilizing the skin at the back, the doctor will insert a small needle into the space between two backbones (the lumbar vertebrae). A small amount (few c.c.) of CSF will be drained out and sent for tests.
- In case doctors have difficulty to get the fluid, doctors will discuss with you whether the lumbar puncture needs to be repeated.

Risk and Complication

- Headache and local pain over the punctured site are relatively common but usually mild and transient.
- Potential serious consequences such as sudden change in intra-cranial pressure, spinal fluid leak, bleeding, bacterial infection, nerve root damage, and production of implantation dermoid, etc. are rare.
- Under normal circumstances, the spinal cord cannot be injured as the needle enters the spine below the lower end of the spinal cord.

Remarks

The list of complications is not exhaustive and other unforeseen complications may occasionally occur. In special patient groups, the actual risk may be different. For any queries or further information, please consult our medical staff.