

# Lumbar Puncture

**L**umbar puncture, also called a spinal tap, is the procedure doctors use to obtain a sample of **cerebrospinal fluid** (the liquid that surrounds the brain and spinal cord) for tests. Cerebrospinal fluid (CSF) is formed in special areas of the brain called **ventricles**. It flows down from the ventricles into the area around the spinal cord. CSF is usually clear and contains small amounts of proteins and **glucose** (sugar).

The October 25, 2006, issue of *JAMA* includes an article about lumbar puncture to diagnose meningitis. This Patient Page is based on one previously published in the October 23/30, 2002, issue of *JAMA*.

## REASONS FOR HAVING A LUMBAR PUNCTURE

- Suspected **meningitis** (infection of the covering of the brain and spinal cord)
- Leukemia or lymphoma
- Evaluation for neurological diseases, such as multiple sclerosis, neuropathy, or recurrent seizures
- Fever of unknown origin

Lumbar puncture is also done by anesthesiologists to administer spinal anesthesia (also known as subarachnoid block) for some types of surgery.

For cancer treatment, chemotherapy medications are sometimes injected directly through the lumbar puncture needle into the CSF. The medicine flows freely in the CSF and can go to the brain or spinal cord where it is needed.

## WHAT TO EXPECT DURING A LUMBAR PUNCTURE

During a lumbar puncture, you either lie on your side or sit upright. Your back is scrubbed with an antiseptic solution. Local anesthetic medicine is injected into the skin. When the skin is numb from the local anesthetic, a small needle is inserted into your back at the level of the hip bones below the bottom of the spinal cord. The needle is pushed forward gently until the CSF is found. For testing, 1 to 2 teaspoonfuls of fluid are removed and put into special sterile tubes. If you are receiving spinal anesthesia for surgery, no spinal fluid is drained out. The anesthetic medicine is injected directly into the CSF, and your legs and buttocks will begin to feel numb.

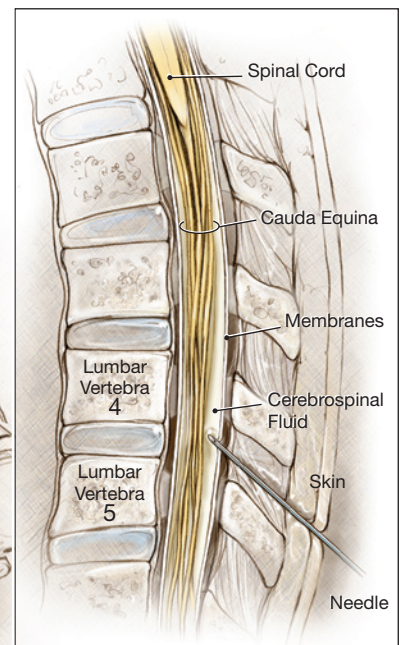
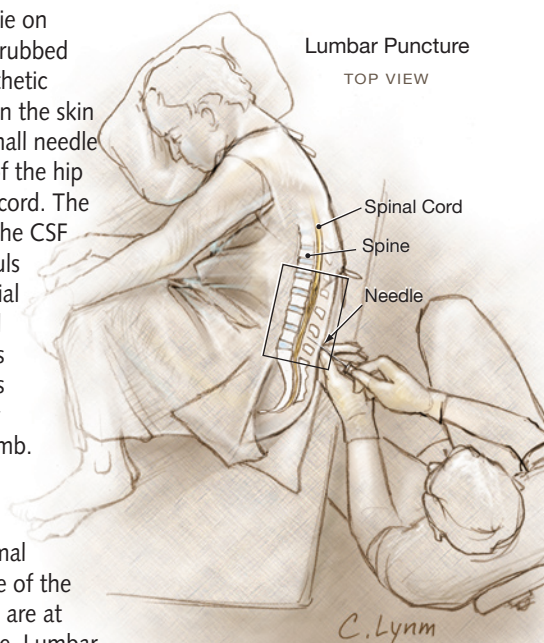
Sometimes lumbar puncture can be difficult to perform. Persons who have had back surgery, who have an abnormal back shape such as **scoliosis** (curvature of the spine), are pregnant, or are very obese are at risk for difficulty in the lumbar puncture. Lumbar puncture is easier to perform if the patient follows positioning instructions completely.

Sources: American Academy of Pediatrics, American Society of Anesthesiologists

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