

Making Procedures SAFER

Lumbar Puncture

Indications

1. To obtain Cerebrospinal Fluid (CSF) for evaluation for meningitis, subarachnoid hemorrhage, multiple sclerosis or Guillan-Barre syndrome
2. Therapeutic drainage of CSF for intracranial hypertension

Contraindications

1. No indication for the procedure
2. Coagulopathy
3. Thrombocytopenia (platelets < 20,000)
4. Known intracranial process causing mass effect
5. Cellulitis or abscess of skin over the procedure site
6. Suspected spinal epidural abscess

Procedural Considerations

1. Lumbar puncture can be performed with the patient either sitting up or lying on their side
2. This is a sterile procedure requiring sterile drapes and gloves
3. If an opening pressure is needed, the lying position for the patient is preferred
4. Use as small of a gauge needle as possible as the risk of post LP headache increases with needle gauge

Equipment

1. Lumbar puncture tray
2. Extra spinal needle
3. Labels for samples



Patient Preparation

1. The lateral recumbent position is preferred with the spine parallel to the bed.
2. An alternative patient position is the upright sitting position with the hips flexed with the feet on a stool.
3. This procedure is a sterile procedure. Clean skin with chlorhexidine & use sterile drapes and sterile.
4. L3-4 and L4-5 are the preferred sites of puncture. The iliac crests are at the L4 body level.



Procedure



1. Position the patient in the bed. Generally, the lateral decubitus position is preferred. Arch the patient's back towards you.

Consider mild sedation or analgesia when clinically appropriate.



2. Identify and mark anatomic landmarks. The L4 spinous process is at the level of the posterior-superior iliac crests.



3. Prepare the skin with antiseptic solution. Apply in a circular motion with a gradually increasing circumference.



4. Apply a sterile drape.



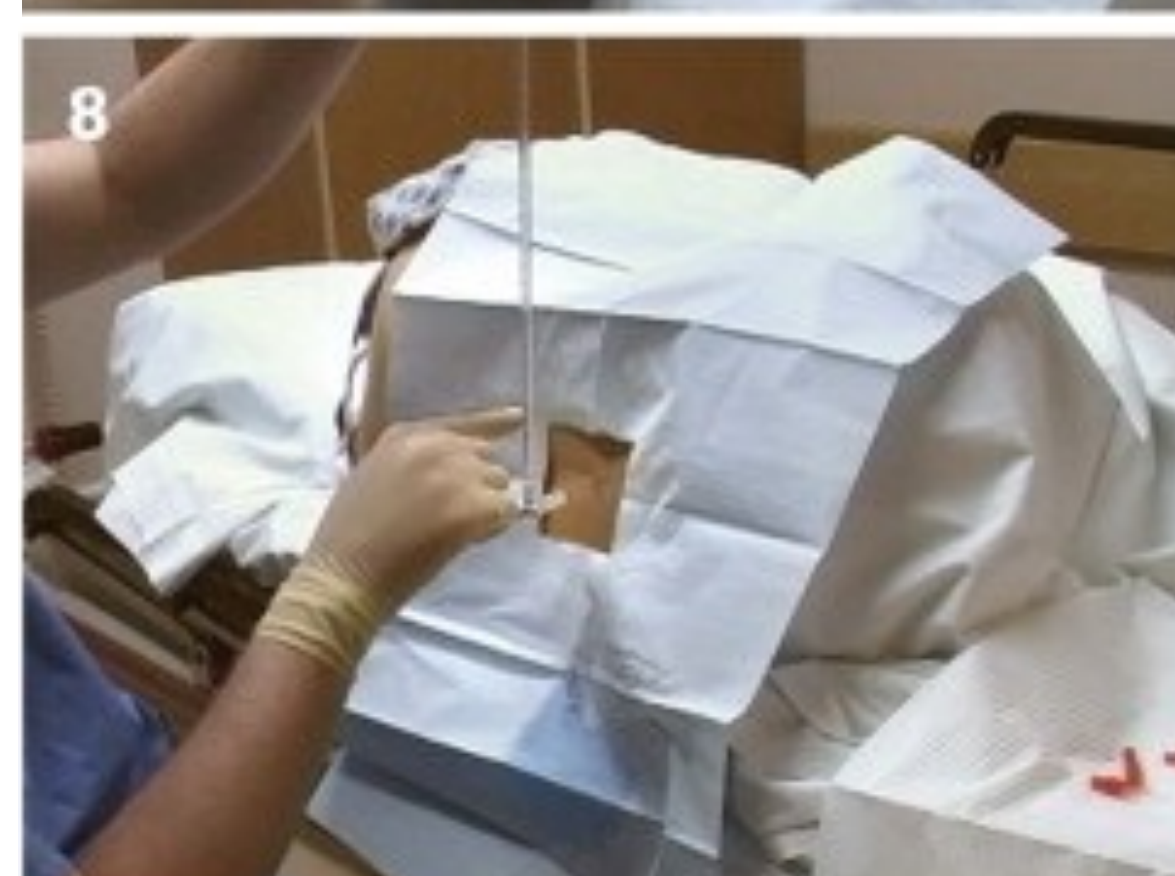
5. Create a wheal with anesthetic in the skin overlying the entry site. Then, infiltrate and anesthetize the deeper tissues.



6. Insert the needle in the midline. Hold the needle parallel to the bed, and advance it toward the umbilicus. Remove the stylet periodically to check for CSF.



7. CSF will flow from the needle hub when the subarachnoid space has been penetrated.



8. Attach the manometer and measure the opening pressure.



9. Collect the CSF sample in sequential, numbered vials.

Post Procedure

1. Collect approximately 1 ml in tubes 1-3 and 3-4 ml of CSF in tube 4
2. Keep patient in a flat position after the procedure
3. Place bandage over site
4. Label tubes before leaving the patient's room and place in biohazard bag