

Chapter 8

LUMBAR PUNCTURE

Indications

- Meningitis
- Subarachnoid hemorrhage
- Multiple sclerosis
- Idiopathic intracranial hypertension
- Measurement of opening pressure

Contraindications

- Skin infection near puncture site
- Coagulopathy
- Thrombocytopenia
- Increased intracranial pressure
- Agitation
- Prior lumbar fusion or laminectomy

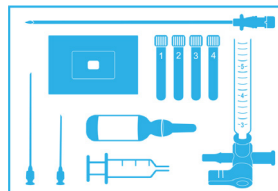
Complications

- Infection
- Bleeding
- Nerve injury
- Post-lumbar puncture headache

Tools



22 gauge spinal needle
(with stylet)

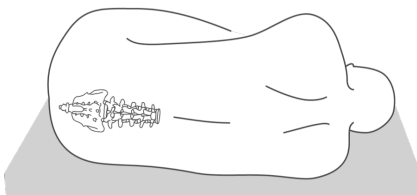


Lumbar puncture kit

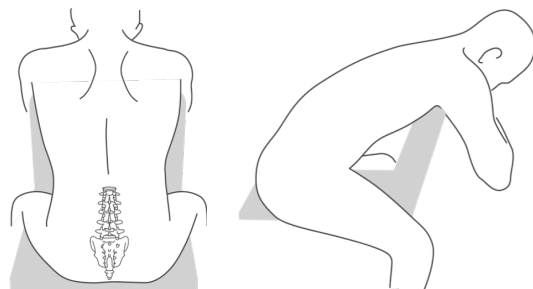


Sterile gloves

Patient position



Lateral decubitus position



Sitting position

Procedure

1. Sterilize skin and apply dressing
2. Apply local anesthesia
3. Insert needle and advance through ligamentum flavum (confirmed by pop)
4. Remove stylet and measure opening pressure
5. Collect four tubes of fluid
6. Replace stylet and remove needle
7. Apply dressing

Pearls



- Upright position is easier to tap, but complicated if opening pressure is needed
- If traumatic tap, allow gross blood and cerebral spinal fluid (CSF) to clear prior to collection
- No need for remaining supine after procedure
- To decrease chance of post-lumbar puncture headache
 - insert stylet before removing needle
 - use 22 gauge needle
 - place bevel parallel to long axis of spine
 - use blunt-tipped needle