



ASSISTING IN LUMBAR PUNCTURE

Key Terms

Introduction

A lumbar puncture is a puncture into the subarachnoid space of the spinal cord to obtain cerebrospinal fluid (CSF) for clinical investigation, to remove excess fluid or to inject medication.

Purpose

- 1.1 To obtain Cerebral Spinal Fluid (CSF) specimen for diagnostic studies
- 1.2 To measure intracranial pressure and remove CSF to prevent increased intracranial pressure
- 1.3 To administer medications, such as intrathecal chemotherapy

Equipment

- Sterile gown and gloves
- Masks with face shield
- Adult Lumbar Puncture Tray (contains 20 g 1.5 inch needle)
- Additional Lumbar Puncture needles (as requested)
- Chlorhexidine antiseptic solution
- Sterile Normal Saline solution
- Sterile marker and labels
- Additional sterile specimen tubes
- Specimen requisitions as ordered

S.NO	STEPS	RATIONALE
1	Ensure proper patient identification using at least 2 patient identifiers.	To avoid errors
2	Explain procedure – educate regarding the need to relax and keep still	To facilitate the procedure
3	If the patient is confused, uncooperative, or unable to lie still, inform the medical officer and sedation may be prescribed	to facilitate the procedure

4	Ask the patient if they need to empty their bladder and/or bowel immediately before the procedure.	To prevent interruption during the procedure
5	<ul style="list-style-type: none"> • Take baseline vital signs – blood pressure pulse, respirations, Oxygen Saturation (SpO₂) and temperature. • Perform a neurological check including a Glasgow coma score, Pupillary assessment, limb strength, movement and sensation 	to know any hemodynamic instability during the procedure
6	<ul style="list-style-type: none"> • Position the patient in the lateral position, with their back along the edge of the bed. • Draw the knees up as far as possible towards the stomach and head flexed on the chest.. • Place a pillow between the legs to keep the pelvis vertical. • If the procedure cannot be carried out in the lateral position i.e. in an obese patient, or a patient with arthritis or scoliosis, the patient may be placed in a sitting position, leaning forward with the buttocks level with the side of the mattress. 	This enhances flexion of the vertebral spine and widens the interspaces between the spinous processes
7	The patient should be covered, with only the back exposed.	to maintain privacy

8	Provide constant support and reassurance to the patient during the procedure.	To alleviate patient anxiety
9	Ensure that the specimens of cerebrospinal fluid are sent to the laboratory immediately	To avoid missing of sample
10	Monitor and record the patient's Vital signs – blood pressure, pulse, respirations, SpO ₂ , Neurological status – Glasgow coma score, Pupillary assessment, limb strength, movement and sensation. For every hour	To identify procedure related complication at the earliest
11	Ensure that the puncture wound is covered with an occlusive dressing.	To prevent leakage of csf
12	Check the site hourly for four hours then once per 8 hours for the following 24 hours to ensure that there is no leakage of CSF, bleeding, or inflammation. Remove the dressing the following day when the patient showers.	To identify procedure related complication at the earliest
13	Encourage patient to remain in bed supine for 4-6 hours. Avoid pillows.	To prevent complications
14	The patient is encouraged to remain well hydrated for the following 24 hours. Encourage oral fluids . the patient may require intravenous fluids if nil by mouth	to raise the CSF volume.

 **Watch out**

Watch for neurological instability, headache, hypotension, bleeding and leakage from the Puncture site, intolerable pain or deterioration in general condition.

DOCUMENTATION

- Document all relevant information.
- Include date and time performed; the primary care provider's name; the amount, color, and clarity of fluid collected; and nursing assessments and interventions provided.
- Monitor and record the patient's Vital signs – blood pressure, pulse, respirations, SpO₂, Neurological status – Glasgow coma score, Pupillary assessment, limb strength, movement and sensation for every hour



PATIENT FAMILY EDUCATION:

- Explain the patient to intimate severe pain or any discomfort.
- Educate regarding the need to relax and keep still during the procedure.

