

# CLINICAL SKILLS LAB 5

## SHEET



Lumbar puncture

*SUBJECT :*

- LP is **indicated** In the following cases :

**Diagnostic:**

- ◆ Infection: meningitis, encephalitis....
  - We have a systemic infection in the CSF and mostly in the infants (might have meningitis)
- ◆ Subarachnoid Hemorrhage
- ◆ Multiple sclerosis
  - **Therapeutic:**
- ◆ infusion of anesthetic
- ◆ chemotherapy

- and **contraindicated** in the following :

- Suspected Increase in ICP (ICP is normally 7–15 mm Hg, upper limit is 20–25 mm Hg)
- Suspected Spinal Cord Compression
- Infection at the Site of an LP
- Coagulopathy
- focal neurological signs, papilledema, seizures
- decreased conscious level
- immunocompromised patients

**Preparation for the LP:**

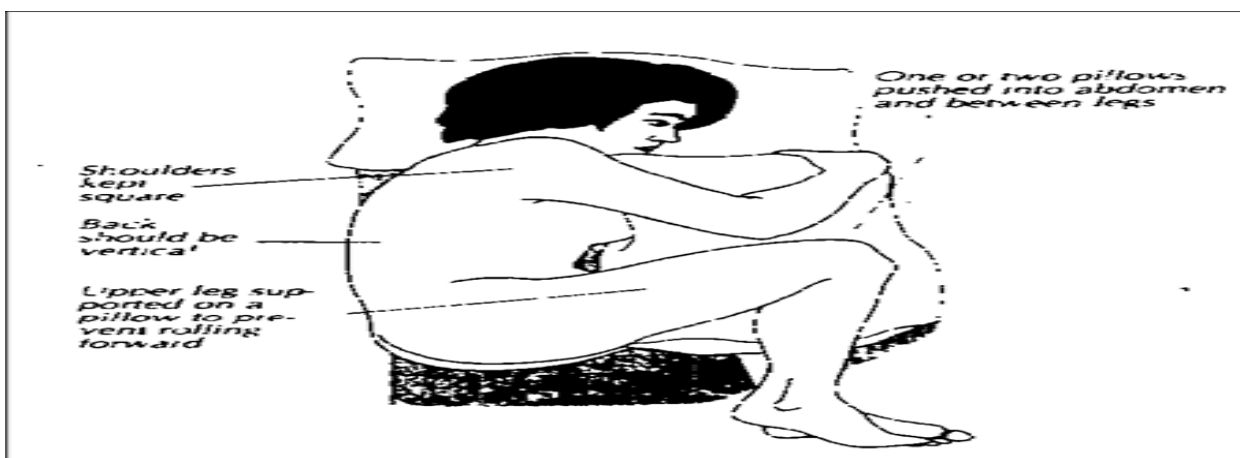
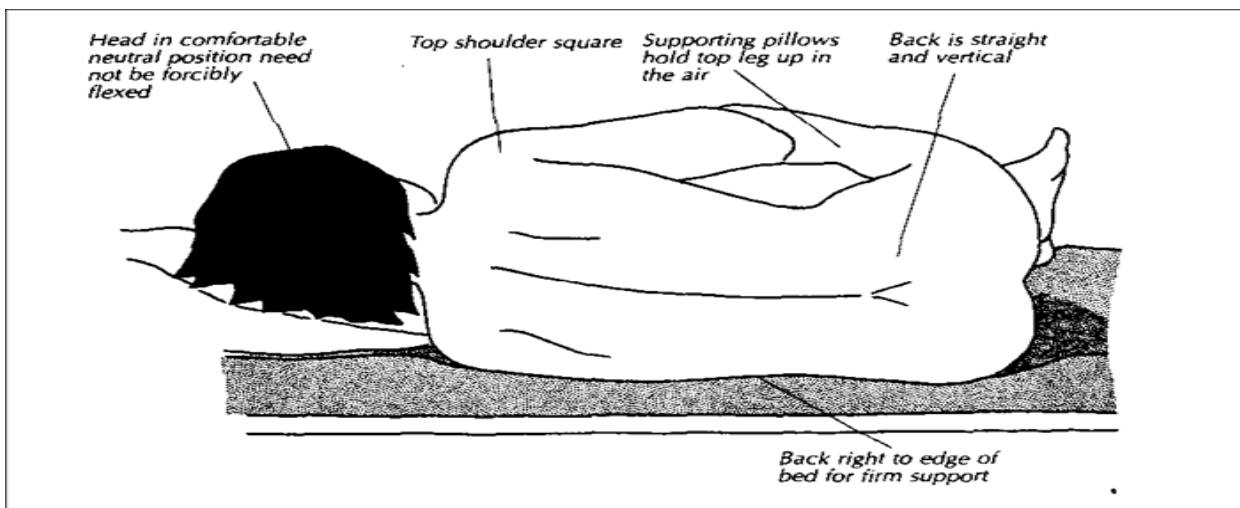
- ✱ Introduce yourself, identify you patient, explain the procedure, and gain consent/privacy
- ✱ Prepare your equipment:
  - Sterile Dressing pack
    - Blue needle
    - Orange needle
    - Lumbar puncture needle
    - Green needle
    - syringe
    - sterile Gloves
    - Glucose tube x 1
    - Sharps bin
    - Universal container x 3
    - Lidocaine 1%
    - Manometer to measure ICP(**not available for osce**)
    - Gauze
    - ChloroPrep2%

Ask the patients if they are taking any medication such as anticoagulant

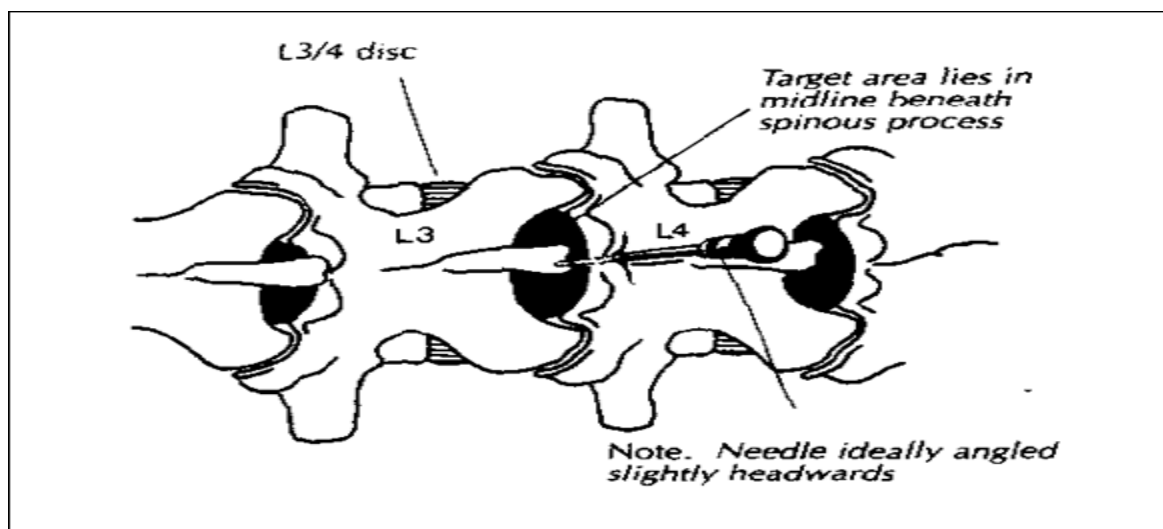
☀ Ask the patients if they have any allergy to lidocaine, gloves, plaster.....

☀ Help the patients to prepare themselves as the follow :

- The patients should rise up their top to their shoulder and bring down their trousers / skirt enough so that you can see the anatomical landmarks.
- Explain that they may experience a lumbar puncture headache, this relieved when they lie down and rebounds when they sit up
- ☀ Explain the proper position to the patients:
  - The patient needs to be lying on a firm couch with knees and chin as nearly approximated as possible.
  - The patients back should be right at the edge of the couch and it is important that its transverse axis is vertical.
  - Ensure ankles are together and knees are together and place a pillow between the patient's legs.



- ✿ Roll up sleeves, remove watch, wash hands and put on gloves.
- ✿ Clean the area using Chloraprep 2% solution using a circular motion spiralling out.
- ✿ Mark out the 3rd and 4th lumbar spines. (The 4th lumbar spine usually lies on the plane of the iliac crests). You can use the cap from a needle to mark the site.
- ✿ Draw up your lidocaine 1% using a blue needle and check drug name, dose, route and expiry, warn the patient you are about to administer the lidocaine then administer using the orange needle first followed by a deeper penetration using the blue then even deeper using the green. Placing each sharp into the sharps bin as you proceed.
  - first you'll use the **orange** needle (because it's small and it's used subcutaneous, 45°) and you'll wait till it takes it's affect
  - Then you'll use the **blue** needle (larger than the orange, used IM), then finally you'll use the **green** needle (largest one, also IM but deeper)
- ✿ While you're waiting for the lidocaine to take it's affect ; Prepare the lumbar puncture needle& manometer and palpate the landmarks again building up your confidence on position.
- ✿ Insert the lumbar puncture skin in the midline and press it steadily forward and slightly toward the head, then connect the manometer with the needle to measure the ICP. (you won't be doing this step in the exam)



- ✿ Collect CSF in (three to four) universal containers. no more than 1ml each
  - The first container might contain blood, that is normal because it came from the procedure itself, but if the rest contains blood it's not normal
- ✿ Maintain aseptic technique throughout procedure. Leave clinical area clean and tidy, wash hands and thank your patient.  
After you finish the procedure:
- ✿ Then you'll remove the needle and press on the place with a cotton for at least 5minutes, then put the patch on him and let him lie down on his back for 30minutes
- ✿ Ensure patient lies flat on their back for 1/2 hour post procedure. Return to take bloods during that 1/2 hour and answer any questions the patient may have.

If outpatients; the patients must have someone with them to drive them home

- If the patient has a history of increased intracranial pressure, you should do a brain scan, also you should ask the patient if he is allergic to lidocaine and you should also tell him that he'll get a headache after the procedures (which will relief with rest and increase when setting down)