

## Skill Laboratory Module

**BLOCK** : Neurobehaviour System

**TOPIC** : Lumbar Puncture

### I. GENERAL OBJECTIVE

After completing this skill lab program, student will be able to perform lumbar puncture (LP).

### II. SPECIFIC OBJECTIVE

By the end of this skill lab program, student will be able to master the procedure of lumbar puncture.

### III. SYLLABUS DESCRIPTION

#### a. Expected Competence

Student will be able to demonstrate his/her skill in performing LP

#### b. Method

- Presentation
- Demonstration
- Coaching
- Self practice

#### c. Tools

- Lumbar puncture manequin set
- Spinal needle #18 or 19
- Gloves
- Perforated drape
- Lidocaine, povidone iodine, ethyl alcohol
- Sterile gauze
- Tubes (3 pieces)
- Bandage

#### d. Venue

Laboratory of Skills Lab

#### e. Evaluation

- Self assessment sheet
- OSCE

**Assessment sheet**

Name :

Date :

		Score				
		1	2	3	4	5
1	Prepare the equipments needed for the procedure.					
2	Great the patient. Explain the LP procedure to the patient, its advantages and disadvantages. Ask his/her consent.					
3	Ask the patient to lay on his left side of the body (left lateral decubitus). Place the patient near the edge of the bed. Flex the neck, trunk, hips, and knees; the patient's body should be perpendicular to the bed					
4	Locate the site of puncture (L4 – L5 interspace in adult patient) by drawing an imaginary line between the highest points of the iliac crests ( <i>crista iliaca</i> ). The site is in the intersection of the imaginary line and vertebral axis					
5	Put on a pair of sterile gloves					
6	Apply alcohol swab to the puncture site and surrounding area with circular movement, followed by applying povidone-iodine solution with the same manner					
7	Wipe with alcohol to remove all traces of the antiseptic to prevent it from entering the subarachnoid space; and wipe it once more using a dry gauze					
8	Cover the LP area with perforated drape					

9	Infiltrate the site of lumbar puncture with 2 mL of 2% lidocaine HCl for local anesthesia. Start with injecting up to 1 mL of lidocaine to the interspinous ligament and infiltrate the adjacent subcutaneous area with the remaining lidocaine. Wait several moments to let the anesthesia works					
10	Take a sterile spinal needle. Make sure that the needle is equipped with stylet, lock the stylet inside the needle, and then insert it slowly with the bevel faces up (parallel to the long axis of the body) until it enters the subarachnoid space					
11	Verify that the needle is indeed in the subarachnoid space, then turn the needle counterclockwise to 9 o'clock position					
12	Withdraw the stylet					
13	Collect the CSF in three sterile tubes: <ul style="list-style-type: none"> <li>- Tube 1: 10 – 15 drops for cell count and differentiation</li> <li>- Tube 2: up to 5 mL for bacteriological workups</li> <li>- Tube 3: up to 2 mL for chemistry (protein, glucose)</li> </ul>					
14	Reinsert the stylet, turn the needle back to 12 o'clock, and then withdraw the needle					
15	Apply some pressure to the puncture site, and then cover it with sterile gauze soaked by povidone-iodine					
16	Ask the patient to lay flat for at least 6 hours to prevent post-LP headache					

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