

Lumbar Puncture Checklist (LocSSIP) in Critical Care

1. Pre-procedure checks.

The patient:

Brain: Is there any chance of increased intracranial pressure?

Clotting: Are the clotting studies normal (INR < 1.5) with a platelet count of more than 80?

Is it more than 12 hours after prophylactic heparin or 24 hours after treatment heparin?

Is the patient on a DOAC or Warfarin or Clopidogrel Fondaparinux?

For more detailed guidance see: Peri-procedural antithrombotic management for lumbar puncture: Association of British Neurologists clinical guideline.(Google)

Local factors: Is there any sepsis in the lumbar area or a local reason why the lumbar puncture may be dangerous (e.g. spinal surgery, spina-bifida, epidural abscess)

Allergies: Does the patient have a chlorhexidine allergy or any other allergy (e.g. local anaesthetic and latex) that could influence the procedure?

Consent: Has the patient consented or is the procedure being done in the patient's best interest?

Monitoring: Is the patient on adequate monitoring for their condition?

The staff:

Microbiologists: After the procedure you will need to phone technician on ext. 62089 between 09:00-20:00 Monday to Friday, 0900-1730 at weekends or bank holidays. At any other time contact the lab via switch before the procedure so they can come in to sort out the sample. **PHONE AFTER YOU HAVE THE SAMPLE.**

Neurologists: If the patient is being investigated for a neurological disease have we checked with the neurologists what investigations they want?

Critical care staff: Is there an operator who is competent to do the procedure? Is the consultant aware the procedure is being carried out? Does the support worker know they will have to take the samples to the lab? Are there two assistants- one to hold the patient in position and one to act as the runner and to observe the monitors and hold bottles?

Equipment :

Check the equipment list. Have we got everything on the list?

Only open one lumbar puncture needle at a time- they are expensive.

2. Checks immediately before/during the procedure:

Staff introductions: Names and what should each member of staff be doing?

Final patient check: Check Patient ID and contraindications have been excluded

Positioning: Does the patient have spinal injuries or any other reason why can't be positioned in lateral position?

Is the operator wearing gown, hat, mask and gloves?

Are the bottles ready for collection?

Only open one spinal needle at a time- they are expensive.

Has the Chlorhexidine dried before inserting the spinal needle?

Has the opening pressure been noted for recording after the procedure?

Has a serum glucose been taken and is there a recent lactate and serum protein?

Post procedure checks:

Safely dispose of the needles (Orange X1, Green X1, LP needle(s)). Also dispose of the Chlorhexidine in the clinical waste, it cannot be used again. The unused spinal needles should be KEPT as they are expensive

What is the management plan for monitoring or neurological observations, how long should they be kept supine (normally 1 hour) and how will they be kept hydrated?

When should the next dose of LMWH be given? (Suspend for four hours)

Are all the bottles secure, bagged and correctly labelled?

Debrief with staff present- what went well? Any problems record on the shift debrief sheet, more serious problems complete AIR.

Has the support worker taken the samples including serum glucose to the labs?

HAS THE MICROBIOLOGY TECHNICIAN BEEN CONTACTED? Make sure that the lumbar puncture procedure flow sheet is completed in EPR (this is not with the other line insertion documents- type and 'lum' in the documents tab).

ENSURE THAT YOU HAVE MENTIONED IN THE COMMENTS SECTION THAT YOU HAVE USED THIS LocSSIP.

Test samples and volumes

Bottles number	Drops (ml) 10 drops= 0.5 ml(THE CONE OF THE UNIVERSAL BOTTLE CONTAINS 1ml)
1 Microscopy and Culture	20 drops (1ml)
2 Biochemistry : Protein	30 drops (1.5ml)
3 Other specific tests	See separate guide.
4 Storage for additional tests	40 drops (2ml)
Yellow bottle for glucose	10 drops (0.5ml)
Other Specific Tests	Sample
TB culture and PCR	TB will need 120 drops (6ml-8ml) (there should be a 5ml mark on the universal bottle)
Virology for suspected viral encephalitis	3ml CSF
CSF cytology section	5ml, with cellular pathology form, ideally done in AM and sent to lab fresh.
Lactate (CSF) Fluoride oxalate (yellow),	1 mL, Deliver to lab on ice immediately following sample collection.
Oligo clonal Bands CSF,	Oligo clonal Bands CSF, 1mL & Serum (brown), 5mL
Orexin (Hypocretin)	2mL
Xanthochromia	1 ml CSF- SENT AS THE FOURTH BOTTLE Patient must be CT-scan negative. Sample must be 12 h post-onset of symptoms. Protect CSF from light to prevent false negatives. Serum bilirubin needed for interpretation.

Equipment check list:

Bottles: Four white universal containers as shown (not flat bottomed) and labelled 1 to 4. Two yellow glucose bottles- one for blood and one for CSF.

Needles:

- Two 22 G spinal needles (Two in case one is dropped).

- One long gage 22 G spinal needle

- Only open one a time, make sure the unopened ones are returned.

- These should be the correct connector able to attach the manometer to.

- One Orange, One Green needle for local anaesthetic, one Red filter needle to aspartate local anaesthetic.

- Spinal manometer to measure opening pressure- Correct fitting

- Syringe to draw local anaesthetic

Maintaining sterility:

- Gloves, gown and hat.

- Sterile drapes.

- Cleaning solution (AAGBI recommends 0.5% Chlorhexidine).

- Dressing pack.

- Dressing to cover puncture site.

Drugs:

- 1% or 2% Lignocaine for local infiltration (two ampules in case one is dropped)

NOT KEPT IN PACK- YOU WILL NEED TO GET THESE FROM DRUG CUPBOARD.