Adult Lumbar Puncture

Note: This algorithm is used by Acute Care Procedures Team, also known as Mobile Procedure Team (MPT)

Provider identifies patient need for lumbar puncture (LP) and pages MPT proceduralist via on-call calendar

Provider and on-call MPT proceduralist to discuss:
- Reason for procedure
- If patient is hemodynamically stable
- Anticoagulation medication history
- Completion of LP order set [if duplicate order for procedure was also placed to a different service (i.e., DI), contact other proceduralist service after procedure completion]

Pre-LP requirements:
- Discuss with primary team and schedule procedure to be done under conscious sedation if patient has anxiety or is unable to assume position for procedure
- CT or MRI head obtained within 30 days of procedure request
- If new onset of neurologic changes at time of assessment, must obtain current head imaging to rule out worsening intracranial pathology
- Lab parameters:
  - INR < 1.5 and
  - Platelets > 50 K/microliter
- For high volume taps due to multiple studies:
  - Discuss the appropriate lab(s) needed with the ordering attending
  - Determine the minimal volume of cerebrospinal fluid (CSF) needed

LP parameters:
- Anatomical site is limited to L3-4 and L4-5
- For significantly obese patients with obscuring landmarks, consider using ultrasound at the bedside
  - Use ultrasound to mark site and measure depth on spinal image, if available, to determine needle length needed to attempt procedure
- Obtain CSF with no more than a total of 3 needle stick attempts
- Post-procedure, the patient must remain supine for at least 30 minutes and/or based on the amount of CSF removed
- If failed attempt to obtain fluid, document reason in patient note; consider follow up reassessment at bedside or in outpatient clinic
- Log specimen collected in specimen log and document in procedure note the specimen pick up request/staff name

Coagulopathy Threshold

<table>
<thead>
<tr>
<th>Procedure</th>
<th>Minimum platelet threshold</th>
<th>Threshold to infuse platelets during procedure</th>
<th>INR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lumbar Puncture</td>
<td>50 K/microliter</td>
<td>40-50 K/microliter</td>
<td>1.5</td>
</tr>
</tbody>
</table>

Findings of edema, intracranial shift, metastatic lesion, mass, bleed or hemorrhage on CT/MRI head

History of lumbosacral surgery with instrumentation, post-surgical scars, wounds, or drain over procedure site

Coagulopathy (INR > 1.5 and platelets < 50 K/microliter)

For MPT to perform LP, the following must be obtained from Neuro- oncology and/or Neurosurgery staff:
- Assessment, documented clearance, and MD/DO to chaperone the procedure (if needed)
- Instructions on the minimal volume of CSF needed
- Must correct coagulopathy prior to LP
- Strongly consider LP to be done under fluoroscopy, if high risk for bleeding

Contact diagnostic imaging to perform LP under fluoroscopy

Post procedure: Notify primary team and MPT for findings of positional headache, site leak, bleeding, or changes in neurological status post LP
SUGGESTED READINGS


This practice consensus statement is based on majority opinion of the Acute Care Services Department at the University of Texas MD Anderson Cancer Center for the patient population. These experts included:

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