Adult Lumbar Puncture

Disclaimer: This algorithm has been developed for MD Anderson using a multidisciplinary approach considering circumstances particular to MD Anderson’s specific patient population, services and structure, and clinical information. This is not intended to replace the independent medical or professional judgment of physicians or other health care providers in the context of individual clinical circumstances to determine a patient’s care.

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

Pre-LP requirements:
- 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 less than 1.5 and
  - Platelets greater than 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 requirements met?

Yes

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
- 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
- Procedure must be logged in the MPT SharePoint log

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

No (procedure escalation required³)

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

Contact diagnostic imaging to perform LP under fluoroscopy

Coagulopathy (INR greater than 1.5 and platelets less than 50 K/microliter)

- Must correct coagulopathy prior to LP
- Strongly consider LP to be done under fluoroscopy, if high risk for bleeding

For MPT to perform LP, must obtain the following from neuro-oncology and/or neurosurgery:
- Assessment and documented clearance
- Instructions on the minimal volume of CSF needed

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>

1 Heart rate greater than 65 bpm, SBP greater than 100 mmHg and oxygen saturations greater than 90% (unless decreased oxygen saturation due to ascites)
2 The Mobile Procedure Team (MPT) or the Brain and Spine Clinic will determine anticoagulation hold times, if applicable. The Peri-Procedure Management of Anticoagulants algorithm may be utilized as well.
3 Procedure may not be completed by MPT and may require an alternate specialized provider to perform

Department of Clinical Effectiveness V2
Approved by the Executive Committee of the Medical Staff on 06/25/2019

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SUGGESTED READINGS


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