

**I. Pre-Procedure Technologist Checklist:**

- a. ED and Inpatients
  - i. Head CT or MRI current admission
  - ii. Pts with history of anticoagulation therapy
    - 1. Follow medication guidelines
    - 2. INR <1.5, Platelets >50,000
- b. Outpatients
  - i. Follow medication guidelines (PLT, INR not required)
  - ii. Must have a driver
- c. All Patients
  - i. Hydrate prior to exam
  - ii. Should be able to lay prone and hold still for exam
  - iii. Must provide consent (patient/POA) (emergent Dr. to Dr. consent last resort)
  - iv. Labs orders verified

**II. Equipment**

- a. Lumbar puncture tray
- b. 5 or 10cc syringe
- c. 25g 1.5" needle
- d. 22g spinal needle
- e. Hemostat (non-sterile)/marker
- f. Lab bag for CSF vials
- g. Patient stickers

**III. Medications**

- a. Lidocaine 1%
- b. Intrathecal chemotherapy medications (document medication in draft)

**IV. Personnel**

- a. **Radiologist/RA**
  - i. Verify the order
  - ii. Enter pre and post procedure orders
  - iii. Verify laboratory results: INR <1.5, Platelets >50,000
  - iv. Review risks, aftercare instruction and obtain consent from the patient/POA prior to positioning patient
- b. Technologist
  - i. Print order and reviews with rad/RA
  - ii. Fills out **Technologist Lumbar Puncture/ Myelogram Questionnaire**
  - iii. Coordinates chemo injections w/ pharmacy and chemo certified nurse

**V. Procedure**

- a. Patient is placed in the prone position on table
- b. Timeout: include INR, platelets, allergies, anticoagulants, verify orders: CSF, blood, opening pressure
- c. Radiologist/RA will mark puncture site under fluoroscopy

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- d. Lower back is prepped and draped in sterile fashion
- e. Lumbar puncture is done under intermittent fluoroscopy guidance
- f. Collect 8-12cc of CSF (*20cc's for large volume/NPH*)
- g. Remove needle with stylet in place
- h. Post procedure care is site dependent (technologist delivers CSF to lab)

**VI. Required Images**

- a. Screen capture image of needle location

**VII. Special Considerations**

- a. Opening pressure (document opening and closing pressure in report)
  - i. in prone position: add needle length to measurement
  - ii. When a C-arm is available, the needle can be placed in the lateral decubitus position
  - iii. Lutheran- Pressure to be measured using long extension tubing and compass. Hold compass at pt's side (mid-body)
- b. For intrathecal chemotherapy injections, the radiologist/RA will perform the puncture.
  - i. Radiologist/oncologist injecting chemotherapy will verify orders, by matching the chemotherapy label with the patient's wrist band, prior to injection

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