

Cisternogram

Special Instructions **Schedule these patients in conjunction with Neuroradiology/Fluoroscopy for the lumbar puncture/injection. Strict aseptic technique must be used when dispensing and injecting the radiopharmaceutical.**

The patient must lie flat for a minimum of 30 minutes after the lumbar puncture. The patient may be transferred if needed via a board onto a stretcher and onto the imaging table but must remain flat during transfers.

To be performed at UNMH only.

Radiopharmaceutical: In-111 DTPA Pyrogen Free

Dose (Adult/Pediatric): Refer to Nuclear Medicine Dose Chart

Route of Administration: Intrathecal (lumbar puncture), typically performed fluoroscopically by Neuroradiology. If CSF samples are needed, the injection should be performed after any these samples are taken. All the radiopharmaceutical should be injected in one push. The syringe/needle should be returned immediately to the nuclear medicine technologist or physician in attendance for proper disposal.

Patient Preparation: None.

Equipment Setup: Gamma Camera: LFOV camera for adult studies; LFOV camera with ZOOM for studies in small children as appropriate

Collimator: Medium Energy (all cameras)

Computer Setup:

128 x 128 matrix

Static acquisition, ~500 K counts or 5 min/image

SPECT-CT (if needed):

High resolution collimator, 128 x 128 matrix

1.00 ZOOM

180 degrees, CW (clockwise)

64 steps, 30 sec/step

Noncircular, continuous

Patient Positioning: Supine (or prone as needed)

Procedure: After the lumbar puncture, the patient must lie flat for a minimum of 30 minutes but can be transferred (via a board) to the imaging table.

The following images should be obtained post injection:

Cisternogram (continued)

Immediate: Posterior view and lateral of the lumbar spine at the injection site to confirm that the tracer is in the spinal canal. A transmission image may be useful.

2-6 hours: Posterior view of the spine; Anterior and both lateral views of the head.

18-24 hours and additional delays if needed (~48 hours, ~72 hours): Anterior and both lateral views of the head.

Additional images may be obtained at 72 hours as needed. Check with the radiologist about whether SPECT or SPECT-CT is needed

Processing:

Static display of all planar images labeled with time and view.

SPECT-CT: Follow automatic processing workflow

If SPECT-CT, process CT in soft tissue (B30) and bone (B60) algorithm; should have attenuation corrected and non attenuation corrected SPECT tomo files

If SPECT only, should have reconstructed tomographic file and axial/coronal/sagittal lightboxes/savescreens

Items Required For Complete Study:

- Raw data and lightboxes/savescreens of anterior and lateral views of the skull at each time point to PACS
- SPECT (if obtained): Reconstructed Tomo (to Leonardo and PACS), Lightboxes/savescreens of axial/coronal/sagittal SPECT (to PACS). Rename SPECT to include region imaged (e.g., Reconstructed Tomo HEAD)
- SPECT-CT (if obtained): Attenuation Corrected and Non Attenuation Corrected Tomo Reconstructions, CT (B30 and B60) (to Leonardo and PACS)
- Transfer of all digital images to PACS. Rename SPECT and CT files to include region imaged (e.g., Reconstructed Tomo- AC - HEAD)
- Complete the examination in RIS