

General Reference:

111In-DTPA Cisternography with SPECT-CT for the Evaluation of Normal Pressure Hydrocephalus

Common Indications:

1. Evaluate cerebrospinal fluid (CSF) flow in the spinal column and brain.
2. Evaluation of normal pressure hydrocephalus.
3. Evaluation and detection of ventriculoperitoneal or ventriculoatrial shunt obstruction or patency.
4. Evaluation of dispersal of intrathecally injected chemotherapy.

Refer to “CSF Leak” protocol for instructions regarding cerebrospinal fluid leak detection.

Pre-scan Clinical History:

Determine history related to stated clinical history. Locate any pertinent imaging results which describe related findings.

Patient Preparation:

Pre-procedural: None

Intra-procedural/ Post-procedural: The study requires the patient to be supine for the entire 4 hours between injection and initial phase imaging. Movement for the remaining 24 hours should be minimal, remaining supine as much as possible.

Relative Contraindications (if present, consult with nuclear medicine physician prior to scan):

1. Recent nuclear medicine studies
2. Pregnancy

Radiopharmaceutical and Route of Administration:

500 uCi In-111 DTPA injected via lumbar puncture by a neuroradiologist.

Procedure:

All static images with Medium Energy General Purpose (MEGP) collimator, 128 x 128 pixels, 600 seconds

T0 (immediate) imaging - A/P over injection site, A/P and Laterals of skull

T4 hour imaging - A/P and Laterals of skull

T24 hour imaging - A/P and Laterals of skull

Have 24 hour images reviewed by Nuclear Medicine physician. Often, SPECT(/CT) images of the head will be requested:

SPECT(/CT) - 128x128 matrix images, MEGP collimator, 60 stops, 35 seconds per stop.

Again, have the Nuclear Medicine physician review the SPECT(/CT) images. Rarely, further static images at 48 hours or beyond may be requested.

Review:

Prepare images and documents for clinical review as per **Nuclear Imaging Acquisition and Presentation Guidelines**.