NUCLEAR MEDICINE PROTOCOLS



Brain Death or Cerebral Blood Flow Scan

Exam Time: 20-30 minutes

Patient Preparation

 None Necessary. Some facilities put a rubber band or tourniquet around the head just above the ears to help diminish scalp blood flow. This should not be done in patients with a history of head trauma. Patient should be normally ventilated.

Patient Positioning Sitting or Supine

Radiopharmaceutical: (99m Tc) technetium diethylene triamine pentaacetic acid (DTPA) or gluoheptomate, Brain

specific agents such as ^{99m} Tc hexamethylpropyleneamine oxime (HMPAO) single photon emission computed tomorgraphy (SPECT) scan and ^{99m} Tc)ethyl cysteinate dimer (ECD), also called Tc-Bicisate, can be used, but there is no clear evidence that they are more accurate.

They do obviate the need for a good bolus injection.

Method of Administration

Bolus IV Injection

Normal Adult administered Activity

• 15 to 30 mCi (555 MBq to 1.11 G Bq)

Injection to Imaging Time

Immediate

Conflicting exams and medications

None

Acquisition Protocol

- Collimator high resolution or ultrahigh-resolution; field of view (FOV) should include form the level of the common carotids to the skull vertex
- Dynamic flow imaging time Blood flow images: 1-3 seconds/frame for at least 60 seconds. Flow images should start before the arrival of the bolus in the neck.
- Routine Views Immediate blood pool anterior and anterior image at 5 minutes each
- Posterior and both lateral views.
- If brain specific images are obtained, initial images as described above are obtained as well as planar and SPECT images obtained after 20 minutes.

Reviewed: 1/12/2024; 1/13/23; 1/29/22