

General Reference:

EANM practice guideline, SNMMI procedure standard for dopaminergic imaging in Parkinsonian syndromes 1.0

DaTscan Drug Interaction.pdf

https://www.gehealthcare.com/-/media/gehc/us/files/products/nuclear-imaging-agents/datscan/flashcard_print_datscan_drug_interaction.pdf

Common Indications:

DaTscan (Ioflupane-I123) evaluates deficiencies of dopamine producing neurons, which helps distinguish between Parkinson's disease, multiple system atrophy, and progressive supranuclear palsy from conditions that cause similar symptoms, such as essential tremor, the latter of which do not involve dopaminergic neuron loss.

Pre-scan Clinical History:

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

Patient Preparation:

None

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

1. Recent nuclear medicine studies
2. Pregnancy
3. Stated allergy to iodine
4. Concurrent use of interfering medications, including ephedrine, ketamine, isoflurane, cocaine, methylphenidate, methamphetamine, mazindol, modafinil, benzotropine, fentanyl, amphetamine, dextroamphetamine, **bupropion**, cannabidiol, **phentermine**, phencyclidine. **See above reference.**

Radiopharmaceutical and Route of Administration:

4-7 mCi I-123 Ioflupane (DaTscan or its generic equivalent), IV. Ioflupane is supplied in a 2.5mL volume; draw and inject the entire volume.

Procedure:

1. Unless allergic, administer three (3) drops of SSKI (Lugol's solution) mixed in one cup of water or one (1) 130mg potassium iodide tablet to the patient, and instruct the patient to drink a further two cups of water.
2. Wait one hour after the administration of SSKI, and inject 5 mCi DatScan intravenously. Use of an IV (any gauge) is mandatory to avoid infiltration.
3. Instruct the patient to return in three hours. During the interval, there is no NPO requirement.

4. Insert the head holder into the gantry, and position the patient supine. Stabilize the head as much as possible with tape, Velcro straps, and foam pads.
5. Position the patient so ear canals line up with the bottom of the FOV.
6. Adjust the radius for each detector to 13.3cm. Rotate the detectors around the patient's head to ensure it does not touch (it will be *very close*). Adjust head radii if needed to avoid touching the patient. If adjustment is needed, the radius must be the same for both detectors.
7. Instruct the patient for the need to remain absolutely still.
8. Acquire circular acquisition, 128x128 matrix, 1.23 zoom, 30 seconds per stop for 60 stops, 15% window around 159 keV. The count rate should be around 0.7 kcts/second and 1.5 million kcts for the entire SPECT.
9. When the scan is completed, check projection images for motion. ***If there is any motion at all, the scan must be repeated.***
10. Process the images and show them to a nuclear medicine physician before allowing the patient to leave.

Review:

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