

## Division of Nuclear Medicine Procedure / Protocol

BRAIN SPECT SCAN WITH DaTScan  
UPDATED: October 2014

CPT CODE: 78607

**Indications:** DaTscan is used to visualize striatal dopamine transporter (DaT) in patients with suspected Parkinsonian syndromes (PS), including:  
Idiopathic Parkinson's Disease (PD)  
Multiple System Atrophy (MSA)  
Progressive Supranuclear Palsy (PSP)

**Patient Prep:** Initial dose of SSKI must be given at least 1-4 hours prior to the administration of radiopharmaceutical. Second dose of SSKI to be administered 24 hours post-injection of radiopharmaceutical.

Patient is to increase hydration prior to and after receiving DaTscan with frequent voiding for the next 48 hours.

**Scheduling:**

- Requires 2-1/2 hour presence; 30 minutes for administration, and 90 minutes camera time.
- Dose available on Tuesday, Wednesday, or Thursday after 0930.
- The dose order must be placed with Nuclear Pharmacy by 1500, six (6) days before scheduled dose.
- Pharmacist must verify the status of DEA paperwork with GE.
- Cancellation of dose must be within five (5) days prior to scheduled appointment.
- Pharmacist will verify for drug interactions and notify ordering physician.

**Radiopharmaceutical**

**& Dose:** 5 mCi +/- 20% of I-123 Ioflupane (DaTScan). Administer DaTScan via slow infusion over 20 seconds.

SSKI: 1<sup>st</sup> Dose: 2 drops (~100 mg) 1-4 hours prior to administration; 2<sup>nd</sup> Dose: 2 drops (~100 mg) 24 hours after 1<sup>st</sup> administration. Total Administration: 100mg x 2

**Imaging Procedure:**

1. Place IV and wait 5 minutes before injecting DaTScan.
2. Patient SPECT scanned 3-6 hours post-administration with a SPECT/CT camera.
3. The supplied headrest with restraints is used to enable consistent positioning and to minimize patient motion (e.g. tremors).
4. Patient's head should **NOT** be positioned with a lateral tilt (i.e. ear to shoulder tilt).
5. Images are to be checked for correct position prior to patient leaving department.
6. If images show a lateral tilt (i.e. ear to shoulder tilt) patient is to be repositioned and a repeat scan performed.

**Imaging Device:** Infinia Hawkeye SPECT/CT

**Data Acquisition:** GE Protocol: I123 DaTscan

TOMO Key Parameters	Scan Mode
Mode :H	Scan Mode: Step_Shoot
Start Angle(deg): 0	Time per Acquisition (sec): 30
Patient Location: Head first Supine	# of Views per Scan: 360(180/head)
Body Part: Head	
Use Body Contour: Off	TOMO Corrections
Acquire CT/AC: Table Out	Energy Session: I123
Emission: First	Collimator: LEHR
CT/AC range: Partial	Peak: 159 kEv
Select on: *Emission	Energy Window: +/- 10%
Image Settings	TOMO Location
Zoom: 1.5 ( about 3.7 mm)	Total Angular Range: 360
Matrix: 128x128	Arc per Detector: 180
Pan Y: -20	View Angle: 3 View # 120
	Direction: CW

Table Height: set @ 73 (varies due to the need for isocentric positioning of brain)  
Radial: 11-15 cm (13 cm ideal but varies per patient)

**Data Analysis:** Processing Protocol: Volumetrix MI DaTscan

PROTOCOL Settings	
Per Filter	Butterworth
Critical Frequency	.55 (range .5 to .6)
Power Factor (order)	10
Pixel Size	3.77 mm (range 3.5 - 4.5 isotropic)
OSEM Iterations	2
OSEM Subsets	10

POST processing: Convert CT file to Hounsfield units

**PACS:****Screen Captures:**

Transaxial slices (ONLY)  
Transaxial slices fused with CT slices  
CT converted to Hounsfield units  
CT, TOMO\_IRAC\_TRANSAXIALS  
MIP

Send to the XELMD2 workstation completely processed patient study.

**Interpretation:** The caudate and putamen should have symmetric uptake of the radiopharmaceutical.**Comments:** A Nuclear Medicine staff or resident physician should be consulted to determine if additional views are indicated.

Reviewed By: S. Perlman, D. Fuerbringer, S. Knishka

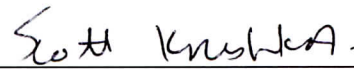
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