



DaTQUANT™ SA

Product Overview

Quantitative software*
for DaT SPECT imaging



Indications for use

The DaTQUANT™ application enables visual evaluation and quantification of DaT SPECT images. The DaTQUANT Normal Database enables quantification relative to normal population databases of DaT SPECT images.

This application may assist in the detection of the loss of functional dopaminergic neuron terminals in the striatum, which is associated with Parkinson's disease.

* Other quantitative software is available for the visual evaluation of DaT SPECT images

DaT: dopamine transporter

SA: stand alone

SPECT: single photon emission computed tomography



DaTQUANT SA OVERVIEW

DaTQUANT SA application enables visual evaluation of DaT SPECT functional dopaminergic uptake imaging and quantification relative to a normal population database.

This application may assist in the detection of the loss of functional dopaminergic neuron terminals in the striatum, which is associated with Parkinson's disease. Any diagnosis should be made with reference to the clinical findings of the patient.

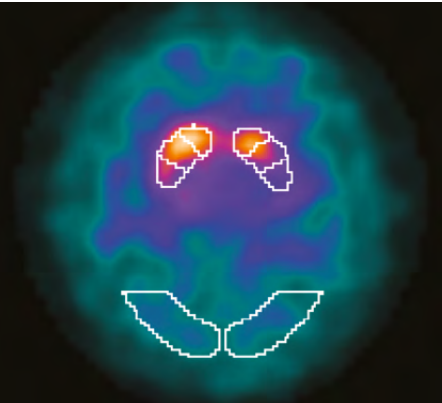
DaTQUANT SA may help a clinician determine if striatal uptake in a patient is normal or abnormal compared to healthy subjects. The quantitative analysis provides more objective assessment of any dopaminergic loss and could add confidence for diagnosis.



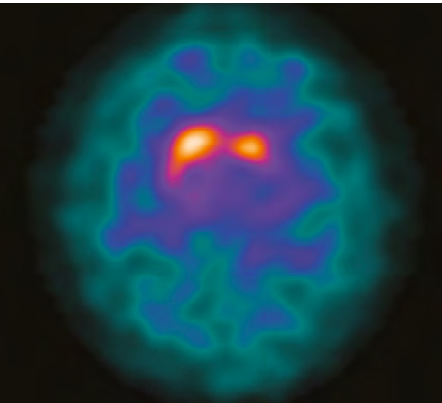
FEATURES

Optimal image display and assessment

- Automatic registration of images to a standardised coordinate space to display images in an optimal orientation for visual assessment
- Accurate analysis of uptake in SPECT functional dopaminergic imaging using a pre-defined volume of interest template, enabling a more consistent and reproducible method compared to manual placement of regions of interest
- Provides tools to analyse uptake ratio differences between scans
- Multi-planar reformat display for every exam
- Striatal region boundaries can be turned on/off for clear identification of the regions
- Optional user adjustment of striatal volume positioning
- Automatic asymmetry measurements for striatal regions
- Automatic putamen/caudate uptake ratios



Striatal region boundaries on



Striatal region boundaries off

LEHR: low energy, high resolution
SA: Stand Alone
SD: Standard Deviation
SPECT: single photon emission computed tomography

DaTQUANT SA normal database

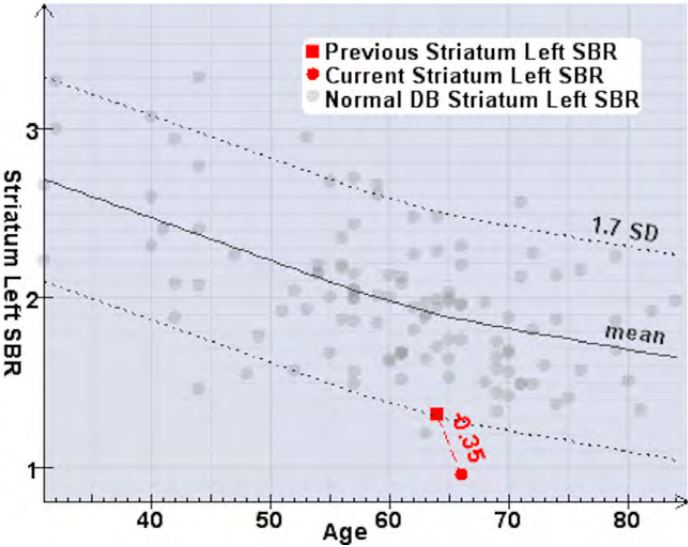
- Provides comparison to an age-matched normal database with multiple image reconstruction and correction options
- The provided normal database is validated for images acquired with parallel-hole LEHR collimators

	Striatum Right SBR	Striatum Left SBR
Measured	+1.54	+1.57
Mean (± 1 SD)	+1.82 (± 0.33)	+1.80 (± 0.35)
Deviation	-15%	-13%
Z-Score	-0.83	-0.64

- Easy generation of custom created normal databases, giving users complete flexibility in database creation and enabling site-specific population comparisons

Normal Databases		
Name:		Database Description:
Custom 1		User-Generated NDB 1
Custom 2		User-Generated NDB 2
Data:		Normal DB:
Reconstruction Type	OSEM	OSEM
Corrections	No Correction	No Correction
Collimator Name	LEHR	LEHR
Collimator Type	Parallel	Parallel

- Graphical plot displays striatal binding ratio of patient compared to age-matched normal subjects*
- SD lines are user-selectable

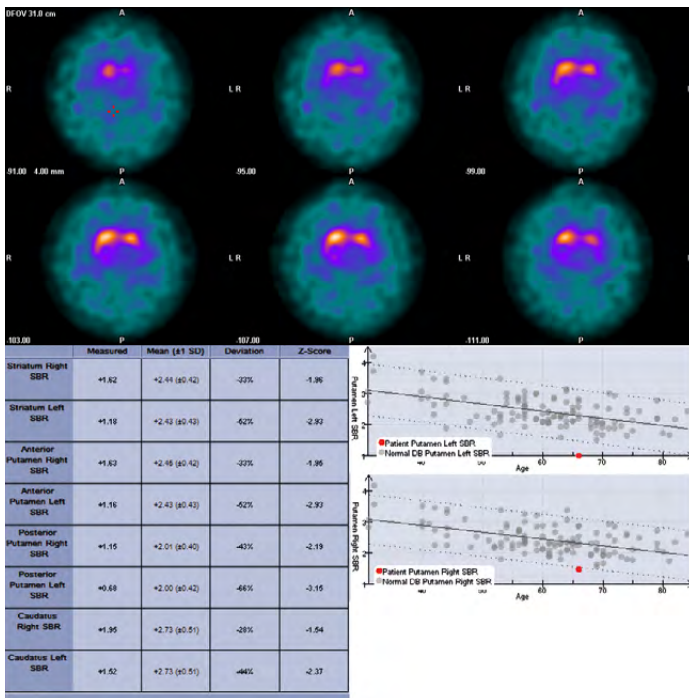


*Values are for illustrative purposes only

SYSTEM REQUIREMENTS

Facilitated analysis

- The capacity to customise the report provides convenient, streamlined visual and statistical results with easy exporting options to share with referring physicians
- Longitudinal analysis for easy visual and quantitative comparison of a patient at two separate time points



Not actual patient images.

User-friendly functionality

- Flexible user interface with easy customisation options
- DICOM® data manager allows query and retrieve to import and send data with PACS
- Automatically corrects for patient head-tilt
- Easy installation with simple Microsoft Windows™ installer functionality

- DaTQUANT SA is compatible with Microsoft Windows™ 7 or 10 operating systems for 32-bit and 64-bit architecture

- Minimum hardware requirements:
 - Display resolution 1280 x 768
 - 1 GB RAM
 - 1 GHz CPU speed
 - 2 GB disk space

- On-site customer IT group to assist with DICOM connectivity set-up

- Static IP address is recommended

DaTQUANT SA is CE marked

- DaTQUANT (stand alone version) complies with the medical device directive requirement for CE marking

APPLICATION

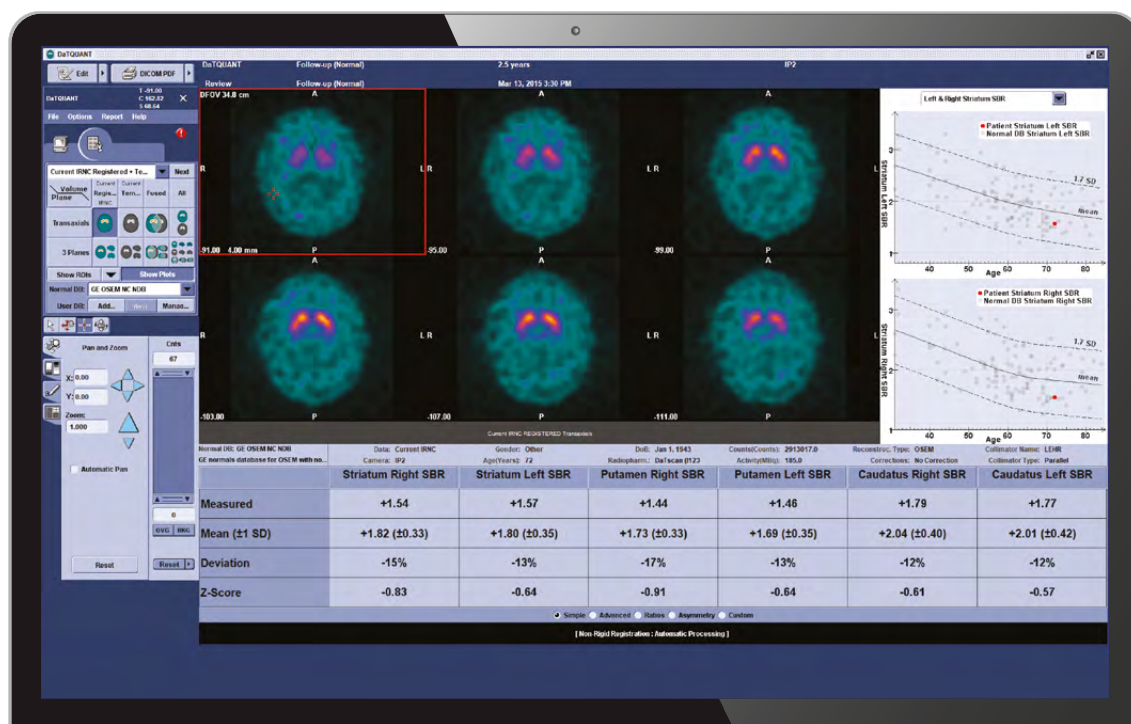
SPECT functional dopaminergic imaging shows high uptake in the striatal regions in healthy subjects.¹

DaTQUANT SA analysis provides an objective method for the assessment of the extent and intensity of striatal dopaminergic loss.

Registration of data to the template space presents images in the optimal orientation for assessment. DaTQUANT SA provides a relative comparison of uptake ratios between striatal structures and a reference region with no specific uptake, along with comparison of those uptake ratios to a database of healthy subjects.

Semiquantitative analysis with an age-matched reference database can aid image interpretation in patients that are difficult to classify visually.² Additionally, a combined approach of visual assessment and semiquantitative analysis can provide more reproducible reporting of SPECT functional dopaminergic loss imaging.³

DaTQUANT SA analysis may therefore together with visual interpretation provides more objective assessment of any dopaminergic loss and could add confidence for diagnosis.



DaT: dopamine transporter

SA: Stand Alone

SPECT: single photon emission computed tomography



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References:

1. Walker Z *et al.* Neurology 2004; 62: 1568-72.
2. Djang DSW *et al.* J Nucl Med 2012; 53: 154-63.
3. Soderlund TA *et al.* J Nucl Med 2013; 54: 1-9.

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