QYSCORE®

QyScore® is a software that allows automated, reliable and reproducible calculation of multiple Neuroimaging parameters:

- Volumetric measurements key **cortical** and **subcortical** regions, including regional **lobar measures, hippocampus** and **amygdala**,
- Results compared to a **normative database** to determine the level of atrophy and evaluate its severity,
- Volumetric and spatial measurements of **white matter hyperintensity signals**,
- **Longitudinal follow up** to quantify atrophy and white matter lesion progression over successive scans.

- ✓ Cognitive decline evaluation, Alzheimer's disease and other dementia
- ✓ Demyelinating disorders such as multiple sclerosis or neurodegenerative disorders
- ✓ Other **movement and** neurodegenerative disorders (Parkinson's disease)

QYSCORE® REPORT IN BRIEF – [MILD COGNITIVE IMPAIRMENT]

PATIENT REPORT

Sample report Generated for Demonstration Purposes Only

QYSCORE® v1.11.

PATIENT ID	SEX	AGE	SCAN DATE
1_S_0086_STD	M	72	28-05-2013

Some data displayed in this report result from the comparison of the current MRI scan with previous scans (11-2012 I 05-2013).

SUMMARY

BRAIN MORPHOMETRY

BRAIN VOLUMES

The whole brain and grey matter volumes are low compared to healthy subjects.
The frontal lobe, temporal lobe, insular lobe, limbic lobe and left parietal lobe volumes are low compared to healthy subjects.
The hippocampus and amygdala volumes are low compared to healthy subjects.

LOBE-BASED ANALYSIS

REFERENCE SIGNATURES

LEFT HEMISPHERE (LATERAL VIEW) · SUPERIOR VIEW · RIGHT HEMISPHERE (LATERAL VIEW)

LEFT HEMISPHERE (MEDIAL VIEW) · INFERIOR VIEW · RIGHT HEMISPHERE (MEDIAL VIEW)

Occipital lobes · Temporal lobes · Parietal lobes · Frontal lobes

LEFT HIPPOCAMPUS · RIGHT HIPPOCAMPUS

Low volume compared to controls = below the 5th percentile · Low volume, but within normal limits, compared to controls = below the 25th percentile · Above the 25th percentile

WMH

WHITE MATTER HYPERINTENSITIES

The total volume of White Matter Hyperintensities is 22.64 mL.

Patient's results were compared with results from a population of **1009 healthy individuals within the same age range and same sex.**
To perform this comparison we use percentiles. A percentile is a statistical measure to illustrate the distribution of a given population. For example, if the patient's score is below the 5th percentile, it means that there is 5% of the population of the same age with the same score.

QUALITY CONTROL

PARAMETERS	
T2FLAIR	APPROVED WITH REMARKS*
T1	APPROVED WITH REMARKS*

SEGMENTATIONS

*Some acquisition parameters do not follow Qynapse recommendations. More information on last page.

COMMENTS & SIGNATURE

Patient information

Results summary

3D Analysis based on 3DT1 sequences, displayed across a range of angles

Global view of **atrophy level**: detailed results, quantifications and graphs compared to a **normative data base**

Summary of volumetric and spatial analysis of **white matter hyperintensities**

Description of the **normative data base**

Detailed results of **quality control** of automated sequences and acquisition

Screenshot of quantification results, which allows for **a visual quality control** of segmentations

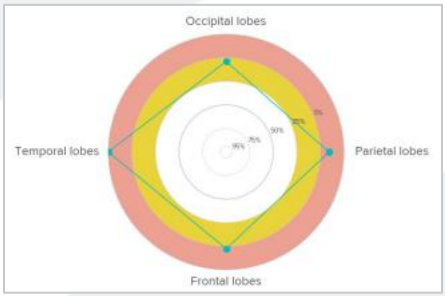
Radiologist's comments

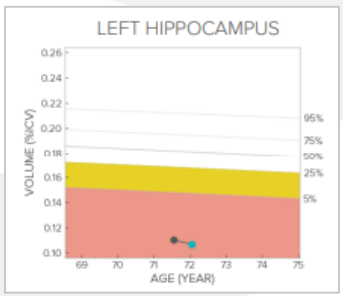
QYSCORE®

RESULTS, SCORES AND NORMATIVE DATABASE – EXPLANATIONS

Interpret results as PERCENTILES

All measures are also provided as age and sex normed percentiles. Percentiles are used to illustrate how to position a patient when compared to a **control population** (**healthy subjects, same age category, same sex**), from the normative database. For example, a patient in the 25th percentile means that 25% of patients from the database (same age, same sex) have a similar or smaller relative volume, and that 75% of individuals have a volume superior to the examined patient.





5 - 25

Between the **5th and 25th percentile**, the measure corresponds to a moderate level of atrophy compared to the refence database, but within the norm.

< 5

Below the **5th percentile**, the measure of atrophy is considered as **abnormally low** compared to the reference population.

Interpret results as Z-SCORES

The z-score is shown as **standard deviation** units (SD) compared to the average value of the **control population** in the same age and sex category. A low z-score, for example below the threshold of -2, indicates a significantly reduced measurement, or less than 3% of the population is considered to have a smaller volume.

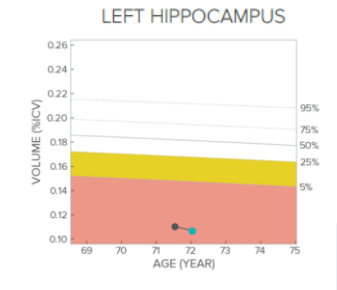
HIPPOCAMPUS	LEFT
VOLUME	0.11 %ICV (1.62 ML)
VOLUME NORMAL RANGE*	0.15 - 0.21 %ICV
Z-SCORE	-2.76

*Example: hippocampal normal volume is between 0.15 and 0.21 % of total intracranial volume (ICV). The patient's left hippocampal volume is 1.62 ml i.e. 0.11% of ICV, which corresponds to a **standard deviation of - 2.76 SD** (**z-score = -2.76**) compared to the **average value of the reference population** from the same age class.*

Understand the REFERENCE DATABASE (normative database of healthy subjects)

QyScore® results (percentiles and z-scores) are generated in comparison with a normative database of over **2000 healthy individuals** with a **diversity of geography**, **sex** and covering ages between **20 and 90 years old. Median age** of the normative data base being 62 years old.

Interpret LONGITUDINAL ANALYSIS



VOLUME CHANGE	-1.94%

Longitudinal Analysis : When successive patients' scans are available, the software automatically delivers results of analyzed parameters (as many data points as there are available time points will be visible on the graph).
Results are also shown as % volume change.

Scan the QR code to access this brochure in PDF format

QYNAPSE

www.qynapse.com

Indications for Use
QyScore® is a medical device software, QyScore is CE marked according to 2017/745 Regulation

Indications for Use in Europe (CE): QyScore® is an advanced processing and visualization software for automatic labeling and volumetric quantification of segmented central nervous system structures for patients older than 18 years of age. The software is intended to be used by medical personnel or neuroimaging trained personnel to support diagnosis of central nervous system diseases.

Manufacturer
Qynapse - 2-10 rue d'Oradour-sur-Glane- 75015 PARIS – France - E-mail: contact@qynapse.com Qynapse is ISO 13485 Certified, HIPAA Compliant, GDPR Compliant, and 21C.F.R. Part 11 Compliant

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