



# Neuroreader<sup>®</sup> by Brainreader

Revolutionizing BRAIN Volumetrics

# Why Neuroreader®?

**Dementia** affects **50 million people** worldwide and **costs** the U.S. healthcare system **more than 818 billion US dollars** annually. Yet 80% of those who meet the diagnostic criteria for dementia have not received a proper diagnosis.<sup>1</sup> In fact, **only 16% of adults over 65 are routinely assessed** for this form of **neurodegeneration**.<sup>2</sup>

To address these and other unmet needs in neurodegenerative disease diagnoses and treatments, Brainreader has developed **Neuroreader®**, a ground-breaking, **FDA cleared**, and **CE marked** software-based **assessment tool** that can **detect abnormal brain patterns** in MRI scans as accurately as manual segmentation in a fraction of the time.

## 8 Benefits of NR 2.7

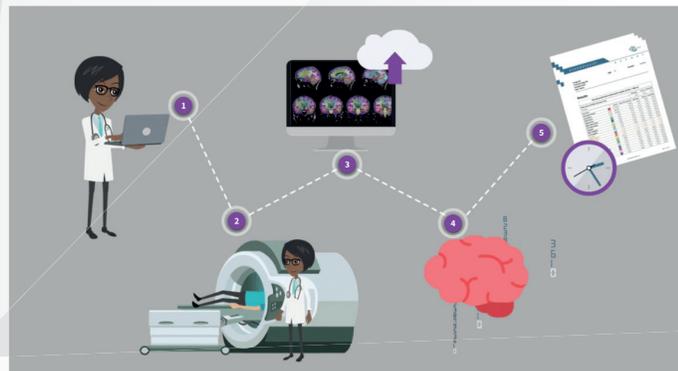
- ▶ Visualizes and quantifies atrophies of 83 brain volumes from Magnetic Resonance Images (MRI) like the hippocampus, lateral ventricles and brain lobes
- ▶ Computes structures of the entire brain in less than 10 minutes
- ▶ Provides an estimation of the normal volume for a person with similar demographics
- ▶ Helps clinicians discover and understand early and sensitive biomarkers of neurodegenerative diseases
- ▶ Longitudinal reports can be plotted over time to detect progression
- ▶ Minimizes misdiagnosis and healthcare costs and easy to use for all-levels of clinicians
- ▶ Easy to add into any clinical workflows
- ▶ Reliable and actionable measurements to aid diagnosis and define treatment plans

### FACTS

- ▶ Neuroreader® is ideal for both clinical and research use.
- ▶ Neuroreader® is accessible through direct PACS integration or as a browser-based system.
- ▶ Automated generation of patient report you can use as a tool to guide clinical decision-making.

## The Patient Journey

1. Using Neuroreader® as a part of your clinical practice is easy, when treating a patient with signs of neurodegenerative diseases.
2. A 3D T1 MRI sequence without contrast is performed by a technologist.
3. The MRI center simply uploads an MRI sequence to the Brainreader server.
4. The Neuroreader® software then analyzes the MR scan.
5. Once the analysis is complete, a unique report is generated, which gives radiologists and referring physicians more visual and quantitative data to supplement the MRI interpretation.



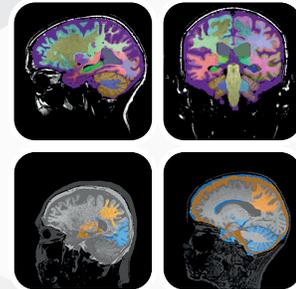
1. <https://doi.org/10.1016/j.jalz.2016.07.150>

2. Alzheimer's Association. Alzheimer's Disease Facts and Figures 2019.

# The Neuroreader® Report

## The standard Neuroreader® Report includes:

- ▶ The measured Total Intracranial Volume (mTIV)
- ▶ Values and statistics of the Left-Right Asymmetry Index (13 structures)
- ▶ A brain volume assessment table with 64 volumes (measured in mL, percentiles, Z-score, and more)
- ▶ Quality assessment images that show whether the images are of high quality for use
- ▶ Brain heat maps visualization tool that shows the percentile values and area/s of concern
- ▶ Charts with selected brain structures
- ▶ Longitudinal charts (for users of mediation server)
- ▶ 2D and 3D overlays in NiftI and DICOM formats
- ▶ Json values for research purposes



## Brain Heat Maps

The Neuroreader® Heat Maps is a visual aid that highlights the affected areas of the brain for physicians and patients.

## New features and reports

- ▶ **Customizable Report:** Tailor-made report to your specific needs. You can e.g., freely move the parts around and decide the number of volumes you want to include in the report. The customizable report can include:
  - ▶ Left-right Asymmetry Index with 26 brain volumes
  - ▶ Brain Volume Assessment Table with 83 brain volumes
- ▶ **Two disease specific reports:** NDG Report (Neurodegenerative Report) and Asymmetry Report, which can be ordered separately
- ▶ Dark mode background report option

## The science behind Neuroreader®

Neuroreader® quantifies the volumes of 83 brain volumes and assesses their normality using a well-defined and **validated normative database**.

The brain volume assessment performed by Neuroreader® is **based on a statistical prediction model** that **considers the patient's age, sex, and head size**. It also provides tracking of volumetric change over time, which helps to **monitor disease progression**.

## What our customers say

*"Regional brain volumes are critical, not only for identifying and differentiating neurodegenerative processes, but also for documenting successful therapeutic approaches."*



**Dr. Dale E. Bredesen**  
Former professor of Neurology at UCLA and founding President and CEO of the Buck Institute for Research on Aging

*"In applying Neuroreader® to my patients with memory loss what I find it most useful for is helping me understand which patients do not have Alzheimer's. Many persons with psychiatric disorders but not Alzheimer's have cognitive problems."*



**David A. Merrill, MD, PhD**  
Director, Brain Health Center; Geriatric Psychiatry

*"Neuroreader® has been successfully utilized in multiple peer-reviewed studies of neurological diseases including Alzheimer dementia, traumatic brain injury, and mesial temporal sclerosis."*



**Cyrus A. Raji, MD, PhD**  
Assistant Professor of Radiology and Neurology  
Washington University in St. Louis

# Neuroreader® brings objectivity into practice

## BRAINREADER'S MISSION

To empower clinicians to make a genuine difference in their patients' lives.

### Facts:

Founded in 2011  
CE marked in 2013  
FDA cleared in 2015  
HIPAA compliant

For a free trial or more information, contact Brainreader:



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