

cPET Application

cPET is a cloud-based, AI-driven tool that fully automates PET brain quantification.

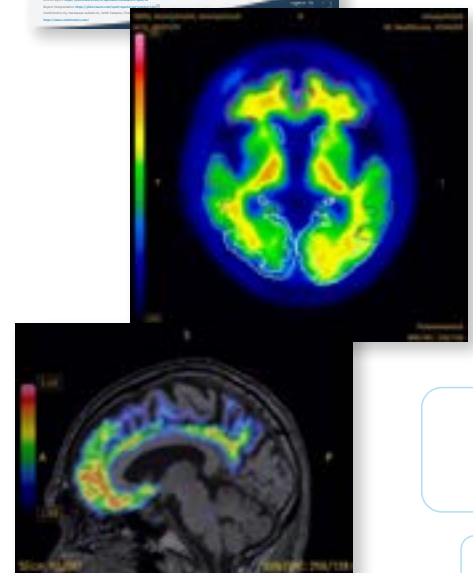
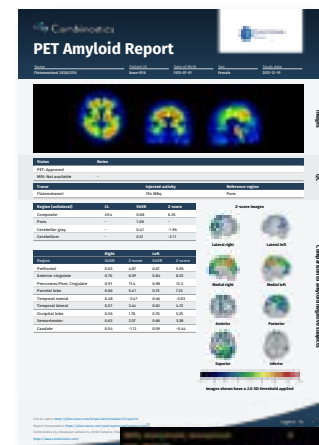
How does cPET impact patient care?

PET brain imaging is a critical tool in the workup of complex neurodegenerative diseases. PET FDG is used to assess glucose metabolism. The reduction of FDG uptake in different brain regions helps to differentiate neurodegenerative disorders such as Alzheimer's disease and frontotemporal dementia. Amyloid PET is used to assess whether the patient has amyloid pathology. Visual reading of FDG and amyloid images is challenging when there are subtle changes or borderline amyloid pathology.

cPET is a CE-marked fully automated tool for quantifying PET FDG and amyloid brain scans. It was designed to increase confidence by providing precise quantification and with comparison to reference data from healthy controls. It helps provide accurate, consistent quantitative results and presents the information in a manner designed for referring physicians.

Benefits:

- Faster, meaningful **results**
- High-quality, objective **assessments**
- Clearer **communication**



With cPET, nuclear medicine physicians will benefit from:

Consistent and reproducible quantification via AI tools:

- Tracer-specific reporting and comparison to specific reference data provides clear analysis for amyloid and FDG tracers.
- Unique image registration technique allows for increased accuracy and confidence with precise quantification of FDG and amyloid PET scans.
- Dedicated visualization tools provide information about patterns of abnormal tracer uptake.
- Simple, accurate classification of amyloid load to support objectivity in borderline cases.

A platform for sharing results with referring clinicians:

- Fewer image-related queries from referring clinicians due to easy-to-read, objective, and clinically meaningful data.

- Quantitative information about regional amyloid deposition and deficiencies in glucose metabolism help the referring clinician to better manage patients with neurodegenerative or other neurological conditions.

Improved workflow and productivity:

- Ready-set-go feature with images realigned and displayed according to tracer manufacturer guidelines for easy visual confirmation.
- Regional z-score and z-score images facilitate the detection of subtle changes.
- Reduced variability in reporting and increased throughput by reducing the time spent per read.
- Read cases where needed via our secure browser-based cPET viewer. Results are sent to PACS in PDF-format.

What are the capabilities of cPET?

Two modes of operation for precise quantification. Supports PET-only and PET-MRI workflows; if the MRI is available, PET findings can be combined with information about atrophy and lesions from MRI. PET-only utilizes a novel multi-atlas image registration method.

Fully automated, reliable, reproducible analysis of amyloid and FDG brain PET scans:

- Regional standard uptake value ratios (SUVRs) are computed for cortical and sub-cortical structures
- PET data superimposed on MRI (patient's MRI or MRI template) allow findings to be correlated to patient anatomy
- 3D SSP models display z-scores to provide a comprehensive overview of findings

Statistical comparison of results to a large tracer-specific reference database of healthy and amyloid-negative subjects. Results are presented as regional z-scores and as z-score images.

Seamless integration with PACS to push reports back to PACS; results also viewable via the browser-based **cNeuro viewer**.



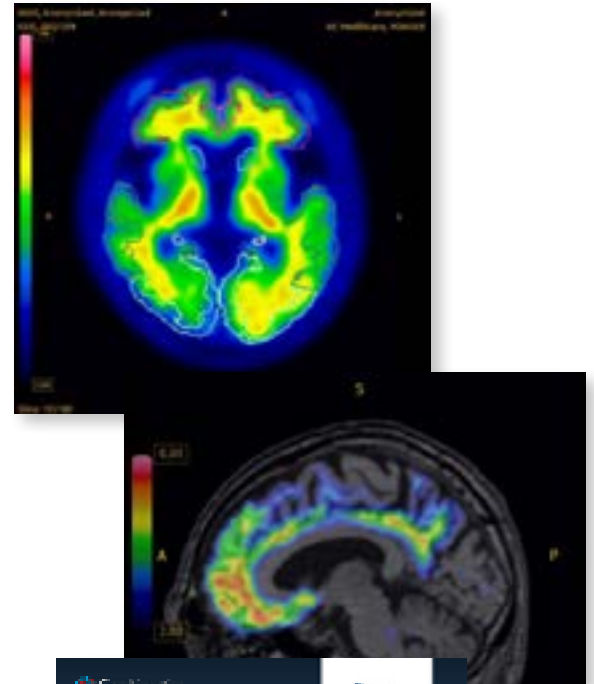
cPET is designed to increase confidence in the reading of amyloid and FDG PET brain scans by providing precise quantification with comparison to reference data from healthy controls.

cPET Features

- Images are automatically aligned with the AC PC plane for easy review.
- Quantification is performed in PET native space (no warping of PET images).
- Supports PET only and PET MR-based quantification.
- Quantification results are presented as regional SUVs and z-scores based on comparison to healthy control reference data.
- Z-scores are also presented as images overlaid on MRI.
- Multiple reference regions are supported.
- A summary report is sent to PACS.

cPET Report

- Custom branding option with space available for your organization's logo.
- Images with image planes correspond to visual read instructions.
- Field with image QC information, tracer name, injected activity and selected reference region.
- 3D SSP images showing z-scores with a 2 SD threshold applied highlight areas where tracer uptake deviates from reference data.
- SUVs and z-scores for target regions, a cortical composite region, and reference regions.
- For amyloid tracers, the tracer uptake in the cortical composite region is presented in the centiloid scale.



PET FDG Report

Source: PET Approved
 MRI Non-contrast
 Tracer: FDG
 Reference region: White matter
 Date of Birth: 1964-01-01
 Sex: Male
 Study Date: 2023-06-05

Images: 3D SSP images showing z-scores with a 2 SD threshold applied.

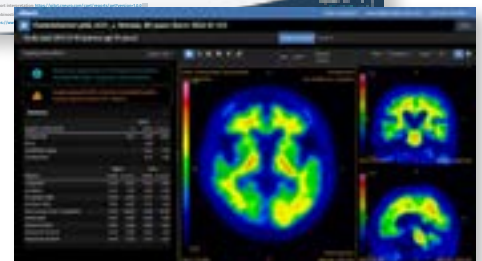
QC: PET Approved, MRI Non-contrast, Tracer: FDG, Reference region: White matter.

Region (Lateral)	SUV	Z-score
Composite	0.76	0.78
Cerebellar gray	1.03	-0.22
Cerebellum	1.04	

Region	Right	Z-score	Left	Z-score
Prefrontal	0.68	-1.25	1.02	-0.88
Anterior cingulate	1.01	-0.61	0.99	-0.07
Posterior cingulate	1.02	-0.22	0.96	-0.26
Phenestrans	1.06	-0.26	0.97	-0.23
Parahippocampal	0.91	-0.81	0.76	-1.08
Temporal medial	0.71	-1.76	0.32	-0.65
Temporal lateral	0.85	-1.10	0.77	-0.94
Occipital inferior	1.06	-1.03	1.00	-0.28
Sensorimotor	1.07	-0.59	1.03	-1.12
Substantia nigra	1.26	-0.81	1.12	-0.54
Thalamus	0.87	-0.32	0.81	-0.74
Caudate	1.02	-0.32	0.95	-0.94

Comparison to healthy subjects: Lateral right, Lateral left, Medial right, Medial left, Anterior, Posterior, Superior, Inferior.

Images shown have a 2.0 SD threshold applied.





Learn more about cNeuro®

Deploy and integrate

Quickly and easily deploy our neurological imaging AI solutions that are fully compatible with your existing systems and workflows.

Secure your data

Certified information security (ISO-27001) ensures personal health information (PHI) is safe.

Focused specialist training

Our dedicated tailored training program delivers focused sessions for physicians and MRI and PET technologists.

Simplify support and updates

Our world-class customer support streamlines ongoing performance management and provides seamless delivery of managed updates.

Why Combinostics?

Combinostics offers the only neurological imaging and decision support AI solution spanning the entire patient care pathway for the early detection, diagnosis, and ongoing management of major neurological disorders.



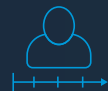
Improve detection

Detect neurological disorders earlier and diagnose them faster, by leveraging our extensive reference data and biomarkers.



Differentiate between diagnoses

Go beyond the measurement of volumes with a differential diagnosis of dementia, which supports better treatment decisions, including eligibility for disease-modifying drugs.



Plan and monitor

Predict disease progression, and longitudinally track the patient's status.

OUR PARTNERSHIPS

