INDICATIONS FOR BRAIN PET SCAN (for non-malignant applications of PET):

**Brain for Refractive Seizures**

PET imaging of the brain for nonmalignant conditions may be considered medically necessary in the presurgical evaluation for localizing a focus of refractory seizure activity.

PET imaging of the brain for nonmalignant conditions not meeting the above criteria is considered not medically necessary.

**Procedure Codes**

78608, 78609

**Brain for Dementia and Neurodegenerative Diseases**

PET imaging of the brain may be considered medically necessary once per lifetime for patients with **ALL** of the following:

- a recent diagnosis of dementia; **and**
- documented cognitive decline of at least six months; **and**
- who meet the diagnostic criteria for Alzheimer’s disease (AD) and frontotemporal dementia (FTD).

PET imaging of the brain for nonmalignant cognitive conditions or dementias, not meeting the above criteria, is considered not medically necessary.

PET imaging of the brain may be considered medically necessary for the differential diagnosis of frontotemporal dementia (FTD) and Alzheimer’s disease (AD) when **ALL** of the following criteria are met.

- The onset, clinical presentation, or course of cognitive impairment is atypical for AD, and FTD is suspected as an alternative neurodegenerative cause of the cognitive decline; **and**
- The patient has had a comprehensive clinical evaluation as defined by the American Academy of Neurology (AAN). It must include:
  - a medical history from the patient and a well-acquainted associate; **and**
- an assessment of activities of daily living; **and**
- physical and mental status examinations (including formal documentation of cognitive decline occurring over at least six months) aided by cognitive scales or neuropsychological testing; **and**
- laboratory tests; **and**
- structural imaging such as magnetic resonance imaging (MRI) or computed tomography (CT); **and**

- A physician experienced in the diagnosis and assessment of dementia conducted the comprehensive clinical evaluation; **and**
- The evaluation did not clearly identify a specific neurodegenerative disease or cause for the clinical symptoms, and information acquired through the PET study is reasonably expected to clarify the diagnosis and/or guide future treatment; **and**
- The PET scan is performed in a facility accredited to operate such equipment and is interpreted by an expert in nuclear medicine, radiology, neurology, or psychiatry who has experience interpreting such scans in the presence of dementia; **and**
- A brain single photon emission computed tomography (SPECT) or PET scan has not been performed for the same indication; **and**

**ALL** of the following information must be documented in the patient’s clinical records and available for review upon request:

- The date of onset of symptoms;
- Diagnosis of clinical syndrome (normal aging; mild cognitive impairment (MCI); moderate or severe dementia);
- Mini mental status exam (MMSE) or similar test score;
- Presumptive cause (possible, probable, uncertain AD);
- Any neuropsychological testing performed;
- Results of structural imaging (MRI, CT);
- Relevant laboratory tests (B12, thyroid hormone);
- Number and name of prescribed medications.

PET imaging of the brain not meeting the above criteria, is considered not medically necessary.

**Procedure Codes**

78608, 78609

**ADDITIONAL INFORMATION RELATED TO BRAIN PET SCAN:**

- **Beta Amyloid Imaging with PET to Evaluate Suspected Alzheimer's Disease or Other Causes of Cognitive Decline (Codes 78811, 78814, A9586, A9599):**
  Beta Amyloid Imaging with PET to evaluate suspected Alzheimer’s Disease or other causes of cognitive decline is considered experimental/investigational. This procedure is not eligible for reimbursement or payment. A participating, preferred, or network provider can bill the member for this procedure.
INDICATIONS FOR HEART (CARDIAC) PET SCAN:

Cardiac PET

Cardiac PET scans may be considered medically necessary to assess myocardial perfusion in patients with known or suspected coronary artery disease, when ONE of the following criteria is met:

- The PET scan is used in place of, but not in addition to, a single photon emission computed tomography (SPECT), in persons with conditions that may cause attenuation problems with SPECT, such as obesity with a BMI equal to or greater than 40, large breasts, breast implants, mastectomy, chest wall deformity, pleural or pericardial effusion; or
- The PET scan is used following an inconclusive SPECT scan

Cardiac PET scans may be considered medically necessary to assess myocardial viability in patients with severe left ventricular dysfunction to determine patient’s candidacy for a revascularization procedure.

Cardiac PET and PET/CT scans that do not meet the above criteria are considered not medically necessary.

Procedure Codes
78459, 78491, 78492

Cardiac PET scans may be considered medically necessary for diagnosing cardiac sarcoidosis in patients who are unable to undergo magnetic resonance imaging (MRI) scanning (i.e., patients with pacemakers, automatic implanted cardioverter defibrillators, or other metal implants).

Procedure Codes
78459, 78491, 78492

Myocardial Sympathetic Innervation Imaging in Patients with Heart Failure
Myocardial Sympathetic Innervation Imaging is considered experimental/investigational, and therefore non-covered due to insufficient or inconclusive scientific evidence.

Procedure Codes
0331T, 0332T

The use of PET scanning for miscellaneous indications not addressed elsewhere in this policy, including but not limited to the following should be considered experimental/investigational, and therefore non-covered due to insufficient or inconclusive scientific evidence:

- autoimmune disorders with central nervous system manifestations
- cerebrovascular diseases
- chronic osteomyelitis
• degenerative motor neuron diseases
• demyelinating diseases
• developmental, congenital, or inherited disorders
• nutritional or metabolic diseases and disorders
• psychiatric diseases and disorders
• pyogenic infections
• substance abuse, including the CNS effects of alcohol, cocaine, and heroin
• trauma, including brain injury and carbon monoxide poisoning
• viral infections
• mycobacterium infection
• migraine
• anorexia nervosa
• assessment of cerebral blood flow in newborns
• pulmonary diseases, including ARDS, emphysema, pneumonia
• musculoskeletal diseases including, spondylodiscitis, joint replacement follow-up
• other conditions including, giant cell arteritis, vasculitis, IBD, fever of unknown origin

**Procedure Codes**
78608, 78609, 78811, 78814

PET imaging performed to monitor a planned course of treatment when no change in treatment is being contemplated is considered not medically necessary.

PET imaging used to evaluate asymptomatic patients is considered screening and therefore non-covered.