MEDICAL POLICY

Medical Policy Title	**Positron Emission Tomography (PET) - Non-Oncologic Applications**
Policy Number	**6.01.07**
Current Effective Date	**October 15, 2025**
Next Review Date	**September 2026**

Our medical policies are based on the assessment of evidence based, peer-reviewed literature, and professional guidelines. Eligibility for reimbursement is based upon the benefits set forth in the member's subscriber contract. (Link to Product Disclaimer)

POLICY STATEMENT(S)

I. Abdominal Imaging

A. Positron emission tomography/computed tomography (PET/CT) imaging is **medically appropriate** for lymphoproliferative disorders for **EITHER** of the following indications:

1. Prior to biopsy in order to determine a more favorable site for biopsy, when a prior biopsy was nondiagnostic;
2. A relatively inaccessible site is contemplated which would require invasive surgical intervention for biopsy attempt.

B. PET imaging is **not medically appropriate** for the evaluation of **EITHER** of the following indications:

1. Sclerosing mesenteritis;
2. Mesenteric panniculitis.

II. Cardiac Imaging

A. PET imaging is considered **medically appropriate** for **ANY** of the following cardiac indications:

1. To assess myocardial perfusion and, thus, diagnose coronary artery disease (CAD) in patients with indeterminate single-photon emission computerized tomography (SPECT) imaging;
2. When requested after an equivocal nuclear perfusion (SPECT MPI) stress test;
3. To conduct routine, post-heart transplant assessment of transplant CAD;
4. To assess myocardial viability in patients with severe left ventricular dysfunction as a technique to determine candidacy for a revascularization procedure;
5. Cardiac PET or PET metabolic study for any of the following indications:

a. Suspected cardiac sarcoidosis with **any** of the following:
    i. Initial imaging when there is a contraindication to MRI imaging (non-MRI safe pacemaker, renal failure);
    ii. Initial Cardiac MRI is equivocal, or additional information is needed based on results from the MRI;
    iii. To confirm diagnosis if suggested by MRI;
    iv. Initial imaging to evaluate for suspected cardiac sarcoidosis when there is a documented sarcoidosis outside of the heart;
b. To monitor therapy in cardiac sarcoidosis (Requires PET with F-18 FDG metabolic study combined with a PET perfusion study or PET metabolic study) for either of the following:
    i. Prior to treatment of cardiac sarcoidosis
    ii. PET (heart FDG metabolic with perfusion) can be repeated at 3–6-month intervals if there is active disease or to make therapeutic decisions.

6. Any **ONE** of the following radiotracers is **medically appropriate** for the use in any of the above listed cardiac indications:
    a. fluorodeoxyglucose (FDG);
    b. rubidium 82 (Rb-82);
    c. nitrogen ammonia 13 (ammonia N-13).

B. FDG PET/CT is considered **medically appropriate** for use in the assessment of suspected prosthetic heart valve endocarditis when **ALL** of the following criteria are met:
1. Echocardiography and/or transesophageal echocardiography are equivocal or nondiagnostic and suspicion remains high;
2. C-reactive protein level of at least 40 mg/L;
3. No evidence of prolonged antibiotic therapy;
4. The implantation was at least three months ago;
5. There is no evidence of surgical adhesives used during the valve implantation.

C. FDG PET/CT is considered **medically appropriate** for use in the assessment of either of the following:
1. Left ventricular assist device (LVAD) driveline infection;
2. Suspected LVAD infection if other studies and examination remain inconclusive.

D. Absolute quantification of myocardial blood flow (AQMBF) with PET is considered **medically appropriate** when criteria have been met for a primary study Myocardial PET rest/stress perfusion (per Policy Statement II.A).

III. Chest Imaging

A. PET/CT is considered **medically appropriate** for sarcoidosis for **ANY** of the following indications:

1. To help guide biopsy location if:
    a. Known lesion on CT Chest is difficult to access, to help identify alternative biopsy location; **and**
    b. No apparent lung involvement and to identify an extrapulmonary biopsy site;
2. Differentiation of reversible granulomatous disease from irreversible pulmonary fibrosis and will affect treatment options;
3. Help identify treatment failure where either current treatment will be modified, or treatment will be introduced.

IV. Head Imaging

A. PET imaging is considered **medically appropriate** for the following indications:

1. For the diagnosis of dementia, **ALL** of the following criteria are required:
    a. Date of onset of symptoms with documentation of six (6) months of cognitive decline based on a detailed history of memory loss with impairment of day-to-day activities confirmed by family members or others with knowledge of the individual's status;
    b. Results of bedside testing and/or neuropsychological testing can be performed when history and bedside mental status examination cannot provide a confident diagnosis (see policy guidelines);
    c. Results of any structural imaging (MRI or CT Head) performed; **and**
    d. Presumptive causes or etiology/ies of dementia;
        i. Cannot occur exclusively during bouts of delirium; **and**
        ii. Cannot be explained by another mental disorder.
2. FDG Brain PET used to differentiate Alzheimer's disease (AD) from frontotemporal lobe dementia (FTLD) in patients with a recent diagnosis of dementia when **ALL** of the following are present:
    a. Patient meets diagnostic criteria for AD and FTLD;
    b. Patient has a documented cognitive decline of at least six (6) months' duration;
    c. Evaluation has ruled out specific alternative neurodegenerative diseases or causative factors;
    d. Cause of clinical symptoms is uncertain; **and**
    e. Results are expected to help clarify the diagnosis between FTLD and AD and help

guide future treatment.

3. Metabolic (FDG) Brain PET can be used to evaluate individuals suspected of having encephalitis, including autoimmune encephalitis when **ALL** of the following diagnostic tests are completed, and diagnosis is still unclear:
    a. MRI Brain;
    b. CSF analysis; **and**
    c. Lab testing including serology.
4. FDG PET for pre-surgical evaluation for the purpose of localization of a focus of refractory seizure activity.

B. PET imaging is considered **not medically necessary** in the evaluation of individuals with autism spectrum disorders.

C. Amyloid Brain PET imaging is considered **not medically necessary** for **ANY** of the following indications:
1. For stroke evaluation;
2. To aid in the diagnosis of Alzheimer's disease;
3. To aid in differentiating between Alzheimer's disease and other neurodegenerative/neurologic disorders;
4. To select or evaluate individuals with mild cognitive impairment or mild dementia due to Alzheimer's disease for amyloid-reducing medications (see policy guidelines for Medicare and Medicaid specific guidance).

D. PET imaging for **ANY** of the following indications is considered **investigational**:
1. Subacute head trauma;
2. Lewy Body Dementia;
3. Movement disorders;
4. Vasculitis.

V. <u>Musculoskeletal Imaging</u>

A. FDG PET/CT is considered **medically appropriate** for evaluation of suspected bone infection when **ALL** of the following criteria have been met:
1. If MRI or CT is equivocal or cannot be done;
2. With **ONE** of the following indications:
    a. When infection is multifocal, **or**
    b. When the infection is associated with orthopedic hardware or chronic bone alterations from trauma or surgery.

VI. Pelvis Imaging

A. PET imaging for impotence/erectile dysfunction is considered **investigational**.

VII. Peripheral Nerve Disorders (PND) Imaging

A. PET/CT is considered **investigational** in the evaluation of Gaucher disease.

VIII. Peripheral Vascular Disease (PVD) Imaging

A. PET imaging is **medically appropriate** for aortic root, arch or abdomen involvement if MRA or CTA are non-diagnostic and there is still suspicion for involvement.

B. PET/CT imaging for peripheral vascular disorders is **medically appropriate** when **ALL** of the following criteria are met:

1. Clinical suspicion of aortic infection (graft or native aorta);
2. CT-angiogram is equivocal/indeterminate;
3. Neither Indium-111 nor Gallium-67 studies have been performed **AND** are not available (or not technically feasible).

C. PET imaging for the assessment of inflammation of cranial arteries is considered **not medically necessary**.

IX. Spine Imaging

A. PET imaging (including PET/CT) is considered **investigational** for the routine assessment of spinal disorders, fusions, or unsuccessful spine surgery other than neoplastic disease.

RELATED POLICIES

Corporate Medical Policy

6.01.29 Positron Emission Tomography (PET) Oncologic Applications

11.01.03 Experimental or Investigational Services

Pharmacy Policy

100 Anti-Amyloid Directed Therapies

POLICY GUIDELINE(S)

I. Examples of abnormal bedside mental status testing such as Mini-Mental State Exam (MMSE) with score <26, Montreal Cognitive Assessment Survey (MoCA) with score <26, Memory Impairment Screen (MIS) with score <5, the St. Louis University Mental Status (SLUMS) with score <21 or the Eight-item Informant Interview to Differentiate Aging and Dementia (AD8) Dementia Score >2.

II. Subacute head trauma is defined as trauma to the head within seven (7) days to three (3) months post-trauma.

III. PET/CT is indicated for imaging of certain musculoskeletal conditions when MRI or CT is

equivocal or cannot be performed.

IV. FDG is the only indicated radiotracer for use with PET/CT in the imaging of musculoskeletal condition.

V. 3D rendering, (CPT code 76376 or 76377), should not be billed in conjunction with PET imaging.

VI. Target heart rate is calculated as 85% of maximum age predicted heart rate (MPHR). MPHR is estimated as 220 minus the individual's age.

VII. Absolute quantification of myocardial blood flow (AQMBF) at rest with stress in ml/g/min and the calculation of myocardial perforation reserve (the ration of stress to rest flow) can be used for diagnosis and prognosis of coronary artery disease and cardiac endothelial dysfunction that can be seen in diabetes, left ventricular hypertrophy and heart transplantation vasculopathy.

VIII. The American Society of Nuclear Medicine, the American College of Cardiology and the Society of Nuclear Medicine and Molecular Imaging agree that to minimize variables AQMBF should only be considered when performed by (all):

A. Laboratories that are Intersocietal Accreditation Commission (IAC), American College of Radiology (ACR), or Joint Commission cardiac PET accredited.

B. Interpreting physician(s) must be board certified in Nuclear Cardiology (CBNC), Nuclear Medicine (ABNM), or Radiology (ABR) and have additional training in measuring AQMBF.

C. Individual laboratories should have a standard protocol (same tracer, camera, software, stressor, model etc.) for use for all patients.

D. Reports should contain rest myocardial blood flow (MBF) and stress MBF in ml/g/min, and myocardial blood flow reserve (MBFR) reported as the ratio of the stress to rest MBF (with normal limits).

E. Laboratories should have the ability to perform rate-pressure-product (RPP) correction and include true measured resting MBF and MBFR as well as the RPP-corrected resting MBF and RPP-corrected MBFR in the conclusions of the report.

IX. Amyloid Brain PET imaging for non-commercial members: (Pharmacy Policy-100: Anti-Amyloid Directed Therapies) [accessed 2025 Aug 28]

A. Medicare and Medicaid members may receive an amyloid brain PET imaging for amyloid therapy for **any** of the following indications:

1. Enrolled in a CMS approved trial;
2. Before the initiation of anti-amyloid therapy, to confirm presence of beta-amyloid brain deposits; or
3. After the initiation of anti-amyloid therapy at 6, 12, and 18 months (MRI may be done at more frequent intervals when clinically indicated).

DESCRIPTION

PET scanning is an imaging technology that can reveal metabolic information in various tissue sites. The metabolic information is what distinguishes it from other imaging modalities, such as magnetic resonance imaging (MRI) and computed tomography (CT), which provide primarily anatomic information. PET scans measure concentrations of radioactive chemicals that are partially metabolized in the body. PET scans are based on the use of positron emitting radionuclide tracers coupled to organic molecules such as glucose, ammonia, or water. Dedicated PET scanners consist of multiple detectors arranged in a full or partial ring around the patient.

A variety of radiotracers are used for PET scanning, including fluorine-18, rubidium-82, ammonia N-13, carbon-11, oxygen-15, and nitrogen-13. Fluorine-18 is often coupled with FDG as a means of detecting glucose metabolism, which, in turn, reflects the metabolic activity, and, thus, viability, of the target tissue. Because of their short half-life, tracers must be made locally. With the exception of fluorine and rubidium, all the tracers must be manufactured with an on-site cyclotron.

Florbetapir (Amyvid, Avid Radiopharmaceuticals), a radioactive dye for visualization of amyloid plaque in the brain, was approved by the United States Food and Drug Administration (FDA) in 2012. The FDA document prepared for the approval process indicated that, while florbetapir may detect pathology, there could be no claim of disease detection, as beta amyloid aggregates can be found in cognitively normal elderly individuals, as well as patients with AD. Amyvid is indicated for PET imaging of the brain, to estimate beta-amyloid neuritic plaque density in adult patients with cognitive impairment who are being evaluated for AD and other causes of cognitive decline. A second radioactive dye, Flutemetamol F18 injection (Vizamyl, GE Healthcare), was approved by the FDA in October 2013. Flutemetamol F18 is not indicated to predict the development of AD or to check how patients respond to treatment for AD. Flutemetamol F18 PET images should be interpreted only by health care professionals who successfully complete training in an image interpretation program. In March 2014, the FDA approved a third radioactive dye, Florbetaben F18 (Neuraceq, Piramal Life Sciences, Matran, Switzerland).

Infective endocarditis (IE) is associated with significant morbidity and mortality and its clinical presentation is highly variable. IE is usually diagnosed using the modified Duke criteria, which rely on the presence of positive blood cultures and typical echocardiographic findings. The role of FDG PET/CT in assessing and managing infective endocarditis (IE), particularly device-related IE, is being investigated as FDG is taken up by inflammatory cells at the site of infection and/or inflammation. Given the high spatial and target-to-background contrast resolution of FDG PET/CT, recent publications including the TEPvENDO clinical trial (NCT02287792) advocate the use of FDG PET/CT for the detection of cardiac implantable device infections, as well as prosthetic valve endocarditis. A potential advantage of FDG PET/CT is in its detection of inflammatory cells early in the infectious process, before morphological damages occur.

PET/CT is a nuclear medicine/computed tomography (CT) fusion study that uses a positron emitting radiotracer to create cross-sectional and volumetric images based on tissue metabolism. PET imaging fusion with CT allows for better anatomic localization of the areas of abnormal increased tissue activity seen on PET.

SUPPORTIVE LITERATURE

Clinical evidence supports that the use of Rubidium 82 (Rb-82) PET and ammonia N-13 PET scans in clinical practice has the potential to improve net health outcomes through changes in patient management. Studies demonstrate that both tracers have high reliability and validity in the evaluation of myocardial perfusion.

The following PET scan radiotracers PiB (Pittsburgh Compound B), Florbetapir F18 (Amyvid), Flutemetamol F18 injection (Vizamyl), and Florbetaben F18 (Neuraceq) as well as newly identified radiotracers, make the detection of β amyloid deposits in the brain is possible. Studying β amyloid positivity/negativity in healthy older adults, older adults with mild cognitive impairment and in adults diagnosed with AD is an active area of research especially as more of the aging population becomes afflicted with AD.

Clinical evidence in the form of small prospective and retrospective studies totaling 166 patients, and a meta-analysis of 19 studies, support that FDG PET is highly accurate in diagnosing chronic osteomyelitis.

Several studies with methodologic flaws indicate that there are instances in which PET may be helpful in the diagnosis of fever of unknown origin and infection. However, clinical evidence is not sufficient to consider these indications medically appropriate.

FDG PET has been investigated for potential use in the diagnosis and follow-up of giant cell arteritis. Clinical evidence consists of small case series, retrospective studies, and case reports. Although some reports consider PET promising for this indication, results need to be confirmed in larger, prospective studies. The limited spatial resolution of PET scanners is a technical limitation that prevents the detection of metabolic signals within anatomical structures smaller than four to five millimeters in size. In addition, the physiological uptake of FDG by the grey matter of the brain obscures FDG uptake within the temporal arteries.

In a randomized, double-blind, phase 2b proof-of-concept clinical trial (Swanson et al 2021) analyzed early Alzheimer's disease with lecanemab (BAN2401). Lecanemab (Leqembi) is an IgG1 monoclonal antibody, which preferentially targets soluble aggregated anti- amyloid beta (Aβ), with activity across oligomers, protofibrils, and insoluble fibrils. In the study they utilized the Bayesian design with response-adaptive randomization to assess 3 doses across two regimens of lecanemab versus placebo in early Alzheimer's disease, mild cognitive impairment due to Alzheimer's disease (AD) and mild AD dementia. They aimed to establish the effective dose 90% (ED90) (the simplest dose that achieves greater than or equal to 90% of the maximum treatment effect). The primary endpoint was Bayesian analysis of 12-month clinical change on the Alzheimer's Disease Composite Score (ADCOMS) for the ED90 dose, which required an 80% probability of ≥25% clinical reduction in decline versus placebo. Key secondary endpoints included 18-month Bayesian and frequentist analyses of brain amyloid reduction using PET; clinical decline on ADCOMS, Clinical Dementia Rating-Sum-of-Boxes (CDR-SB), and Alzheimer's Disease Assessment Scale-Cognitive Subscale (ADAS-Cog14); changes in CSF core biomarkers; and total hippocampal volume (HV) using volumetric magnetic resonance imaging (vMRI). 854 randomized subjects were treated (lecanemab, 609; placebo, 245). BAN2401-G000-201 did not meet the 12-month primary endpoint. However, prespecified 18-month Bayesian and frequentist analyses demonstrated reduction in brain amyloid accompanied by a consistent reduction of clinical decline across several clinical and biomarker endpoints. Numerous clinical trials

are underway, but currently there is no literature that supports amyloid brain PET imaging pre- and post- treatment outside of a clinical trial.

TRAILBLAZER-ALZ is a placebo-controlled, randomized control study, with a double blinded period of up to 76 weeks and a 48 week follow up period. The objective was to perform post hoc analyses of amyloid reduction after donanemab treatment and assess its association with tau pathology and clinical measures. The trial contained 272 Participants from age 60-85 years old, with gradual and progressive change in memory function for 6 months or more, early symptomatic Alzheimer disease. Elevated amyloid, and intermediate tau levels. A blinded dose reduction evaluations occurred at 24 and 52 weeks based on amyloid clearance. To evaluate the effect of baseline amyloid levels on the probability of participants to reach complete amyloid clearance at 24, 52, and 76 weeks, 3 logistic regressions were run respectively, with amyloid PET results (complete clearance or partial clearance) at weeks 24, 52, and 76 as the dependent variables, and baseline amyloid PET as the only independent variable. Probabilities of reaching complete clearance were provided along with corresponding 95% CIs. Analysis of the 19 participants who underwent all 4 amyloid PET scans and reached less than 11 Centiloids (CL) by 24 weeks (and therefore discontinued donanemab treatment) showed that the achieved amyloid clearance was sustained with a mean (SD) rate of reaccumulation of 0.02 (7.75) CL per year over the 1-year period in the trial. In addition, an exposure-response model (model based on data from 304 participants, including data from the phase 1b donanemab study) of amyloid plaque level for all available scans suggests that in participants who achieved an amyloid load of 11 CL or less at week 24 and discontinued amyloid treatment, the median time to reaccumulate amyloid from an 11 CL to 24.1 CL threshold could be 3.9 years (95% prediction interval, 1.9-8.3 years). This data reinforces the phase 1b results that showed no significant reaccumulation over 72 weeks after a single dose (Scherbinin et al 2022).

TRAILBLAZER-ALZ 2 is a randomized, double blinded, placebo-controlled, 18-month phase 3 trial included 1736 participants with early symptomatic Alzheimer disease and amyloid and tau pathology. The primary objective of this study was to assess the efficacy and adverse events of donanemab. Randomized participants received donanemab or placebo every 4 weeks for up to 72 weeks. Amyloid plaque level was assessed at 24 and 52 weeks, and if it was less than 11 CL on any PET scan or less than 25 but greater than or equal to 11 CL on two consecutive PET scans (TRAILBLAZER-ALZ cutoffs), donanemab was switched to placebo in a blinded procedure. The percentages of donanemab-treated participants in the low/medium tau population who reached amyloid clearance were 34.2% at 24 weeks, 80.1% at 76 weeks compared with 0.2% at 24 weeks and 0% at 76 weeks of placebo-treated participants. In the combined population, amyloid clearance was reached in 29.7% of participants at 24 weeks and 76.4% at 76 weeks of donanemab-treated participants compared with 0.2% at 24 weeks and 0.3% at 76 weeks of placebo-treated participants. Limited-duration dosing was a distinct trial design feature reflecting donanemab binding specificity for amyloid plaque and implemented to decrease burden, cost, and potentially unnecessary treatments. Early significant changes on both brain amyloid PET scans and P-tau217 blood test results suggest opportunities for clinical monitoring of therapy (Sims et al 2023).

PROFESSIONAL GUIDELINE(S)

Professional Society Guidelines/Recommendation Resource Grid

Professional Society	Title	Year/Version
American College of Radiology (ACR)	Appropriateness Criteria: • Chronic chest pain with high probability of CAD • Imaging After Total Knee Arthroplasty • Suspected Osteomyelitis, Septic Arthritis, or Soft Tissue Infection (Excluding Spine and Diabetic Foot) • Seizures and Epilepsy • Crohn Disease • Suspected Osteomyelitis of the Foot in Patients with Diabetes Mellitus • Noncerebral Vasculitis	(See reference section for weblink and years)
Society of Nuclear Medicine and Molecular Imaging (SNMMI)	(See reference section for weblink to SNMMI guidelines)	
American Academy of Orthopaedic Surgeons (AAOS)	Diagnosis and prevention of periprosthetic joint infections evidence-based clinical practice guideline	2019
AHA/ACC/ASE/CHEST/SAEM/SCCT/ SCMR	Guideline for the Evaluation and Diagnosis of Chest Pain	2021
American Society of Nuclear Cardiology and the Society of Nuclear Medicine and Molecular Imaging	Practical guides for interpreting and reporting cardiac positron emission tomography (PET) measurements of myocardial blood flow.	2021
American College of Cardiology (ACC)/American Heart Association (AHA)	Guideline for the Diagnosis and Management of Aortic Disease	2022
AHA/ACC/American College of Clinical Pharmacy (ACCP)/American Society for Preventative Cardiology	Guideline for the Management of Patients with Chronic Coronary Disease	2023

(ASPC)/National Lipid Assoc. (NLA)/Preventative Cardiovascular Nurses Assoc. (PCNA)		

In a 2023 workgroup the Alzheimer's Association and Society of Nuclear Medicine and Molecular Imaging convened a multidisciplinary workgroup to update Appropriate Use Criteria (AUC) for amyloid PET and develop the first AUC for tau PET. Rabinovici et al (2023) discussed clinical scenarios in which amyloid PET would be appropriate, each scenario was rated on a scale of 1-9, 1-3 is rarely appropriate, 4-6 is uncertain and 7-9 is appropriate. Listed below are only the appropriate clinical scenarios for amyloid PET:

- Patients presenting with mild cognitive impairment or dementia who are below 65 years and in whom AD pathology is suspected (9).
- Patients presenting with mild cognitive impairment or dementia syndrome which is often consistent with AD pathology (amnestic presentation) with onset at 65 years of age or older (8).
- Patients presenting with mild cognitive impairment or dementia syndrome that could be consistent with AD pathology but has atypical features (e.g., nonamnestic clinical presentation, rapid or slow progression, etiologically mixed presentation) (8).
- Patients with MCI or dementia with equivocal or inconclusive results on recent CSF biomarkers (8).
- To inform the prognosis of patients presenting with mild cognitive impairment due to clinically suspected AD pathology (8)
- To determine eligibility for treatment with an approved amyloid targeting therapy (8).
- To monitor response among patients that have received an approved amyloid targeting therapy (6).

REGULATORY STATUS

Refer to the FDA Medical Device website. Available from: https://www.fda.gov/medical-devices [accessed 2025 Aug 28]

The FDA also regulates drug manufacturing processes in PET facilities. In 1991, the FDA approved the use of Rubidium 82 (Rb 82) as a myocardial perfusion tracer and, in 1999, approved the use of ammonia N-13 as a myocardial perfusion tracer.

CODE(S)

- Codes may not be covered under all circumstances.
- Code list may not be all inclusive (AMA and CMS code updates may occur more frequently than policy updates).
- (E/I)=Experimental/Investigational
- (NMN)=Not medically necessary/appropriate

CPT Codes

Code	Description
78429	Myocardial imaging, positron emission tomography (PET), metabolic evaluation study (including ventricular wall motion[s] and/or ejection fraction[s], when performed), single study; with concurrently acquired computed tomography transmission scan
78430	Myocardial imaging, positron emission tomography (PET), perfusion study (including ventricular wall motion[s] and/or ejection fraction[s], when performed); single study, at rest or stress (exercise or pharmacologic), with concurrently acquired computed tomography transmission scan
78431	Myocardial imaging, positron emission tomography (PET), perfusion study (including ventricular wall motion[s] and/or ejection fraction[s], when performed); multiple studies at rest and stress (exercise or pharmacologic), with concurrently acquired computed tomography transmission scan
78432	Myocardial imaging, positron emission tomography (PET), combined perfusion with metabolic evaluation study (including ventricular wall motion[s] and/or ejection fraction[s], when performed), dual radiotracer (e.g., myocardial viability)
78433	Myocardial imaging, positron emission tomography (PET), combined perfusion with metabolic evaluation study (including ventricular wall motion[s] and/or ejection fraction[s], when performed), dual radiotracer (e.g., myocardial viability); with concurrently acquired computed tomography transmission scan
78434	Absolute quantitation of myocardial blood flow (AQMBF), positron emission tomography (PET), rest and pharmacologic stress (List separately in addition to code for primary procedure)
78459	Myocardial imaging, positron emission tomography (PET), metabolic evaluation study (including ventricular wall motion[s] and/or ejection fraction[s]; when performed), single study
78491	Myocardial imaging, positron emission tomography (PET), perfusion study (including ventricular wall motion[s] and/or ejection fraction[s], when performed); single study, at rest or stress (exercise or pharmacologic)
78492	Myocardial imaging, positron emission tomography (PET), perfusion study (including ventricular wall motion[s] and/or ejection fraction[s], when performed); multiple studies at rest and stress (exercise or pharmacologic)
78608	Brain imaging, positron emission tomography, (PET); metabolic evaluation
78609	perfusion evaluation
78811	Positron emission tomography (PET) imaging; limited area (e.g., chest, head/neck)

Code	Description
78812	skull base to mid-thigh
78813	whole body
78814	Positron emission tomography (PET) with concurrently acquired computed tomography (CT) for attenuation correction and anatomical localization imaging; limited area (e.g. chest, head/neck)
78815	skull base to mid-thigh
78816	whole body

HCPCS Codes

Code	Description
A9526	Nitrogen N-13 ammonia, diagnostic, per study dose, up to 40 millicuries
A9552	Fluorodeoxyglucose F-18 FDG, diagnostic, per study dose, up to 45 millicuries
A9555	Rubidium Rb-82, diagnostic, per study dose, up to 60 millicuries
A9586	Florbetapir F18, diagnostic, per study dose, up to 10 millicuries (e.g. Amyvid)
A9598	Positron emission tomography radiopharmaceutical, diagnostic, for non-tumor identification, not otherwise classified
A9601	Flortaucipir f 18 injection, diagnostic, 1 millicurie (e.g. Tauvid)
A9602	Fluorodopa f-18, diagnostic, per millicurie
Q9982	Flutemetamol F18, diagnostic, per study dose, up to 5 millicuries (e.g. Vizamyl)
Q9983	Florbetaben F18, diagnostic, per study dose, up to 8.1 millicuries (e.g. Neuraceq)
S8085 (E/I)	Fluorine-18 fluorodeoxyglucose (F-18 FDG) imaging using dual-head coincidence detection system (non-dedicated PET scan)

ICD10 Codes

Code	Description
D33.0-D33.9	Benign neoplasm of brain and other parts of central nervous system (code range)
D43.0-D43.9	Neoplasm of uncertain behavior of brain and central nervous system (code range)
D49.6	Neoplasm of unspecified behavior of brain
F01.50-F03.91	Dementia due to known physiological conditions (code range)

Code	Description
G30.0-G30.9	Alzheimer Disease (code range)
G40.001-G40.219	Localization-related (focal) (partial) idiopathic epilepsy and epileptic syndromes with seizures of localized onset (code range)
G40.301-G40.319	Generalized idiopathic epilepsy and epileptic syndromes (code range)
G40.901-G40.919	Epilepsy, unspecified (code range)
I25.10-I25.119	Atherosclerotic heart disease of native coronary artery with or without angina pectoris (code range)
I25.700-I25.739	Atherosclerosis of autologous or nonautologous vein or artery coronary artery bypass graft(s) with angina pectoris (code range)
I25.790-I25.799	Atherosclerosis of other coronary artery bypass graft(s) with angina pectoris (code range)
I25.810	Atherosclerosis of coronary artery bypass graft(s) without angina pectoris
I51.9	Heart disease, unspecified
I52	Other heart disorders in diseases classified elsewhere
K65.4	Sclerosing mesenteritis
M86.30-M86.69	Chronic osteomyelitis (code range)

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SEARCH TERMS

Not Applicable

CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

PET Imaging for Head

FDG PET for Dementia and Neurodegenerative Diseases (NCD 220.6.13) [accessed 2025 Aug 28]

PET Imaging for Cardiac

PET for Perfusion of the Heart (NCD 220.6.1) [accessed 2025 Aug 28]

FDG PET for Myocardial Viability (NCD 220.6.8) [accessed 2025 Aug 28]

PRODUCT DISCLAIMER

- Services are contract dependent; if a product does not cover a service, medical policy criteria do not apply.
- If a commercial product (including an Essential Plan or Child Health Plus product) covers a specific service, medical policy criteria apply to the benefit.
- If a Medicaid product covers a specific service, and there are no New York State Medicaid guidelines (eMedNY) criteria, medical policy criteria apply to the benefit.
- If a Medicare product (including Medicare HMO-Dual Special Needs Program (DSNP) product) covers a specific service, and there is no national or local Medicare coverage decision for the service, medical policy criteria apply to the benefit.

- If a Medicare HMO-Dual Special Needs Program (DSNP) product DOES NOT cover a specific service, please refer to the Medicaid Product coverage line.

POLICY HISTORY/REVISION	
Committee Approval Dates	
10/18/01, 01/17/02, 10/16/02, 01/16/03, 10/15/03, 10/20/04, 10/20/05, 11/16/06, 08/16/07, 08/21/08, 09/17/09, 12/16/10, 01/20/11, 12/15/11, 01/17/13, 05/22/14, 02/19/15, 02/18/16, 02/16/17, 02/15/18, 06/20/19, 03/19/20, 03/18/21, 02/17/22, 09/15/22, 11/16/23, 04/18/24, 10/17/24, 12/19/24, 06/26/25, 09/18/25	
Date	**Summary of Changes**
09/18/25	• Off cycle review, removed criteria for cardiac PET regarding body mass, breast size or implants and exercise requirements. Replaced with criteria allowing cardiac PET when a nuclear perfusion stress test is equivocal.
06/26/25	• Off cycle review, no changes to the intent of the policy. Removed E/I from radiotracers that are FDA approved.
01/01/25	• Summary of changes tracking implemented.
10/18/01	• Original effective date