



CARDIAC PET/CT

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Important things to know about Cardiac PET/CT



Service Day Information



Cardiac PET/CT vs SPECT



Medicare Requirements



Commercial Payer Requirements



What to Order

Cardiac PET/CT Service Day Information

Service starts on Monday Oct 25th

Cardiac PET/CT will be
offered every Monday –
Derry location only

9 patient slots per day

Ability to scan Medicare and
Commercial Insurance Patients

DIC will still have 4 SPECT slots
open per week on Thursdays

What is Cardiac PET/CT (Myocardial Perfusion Imaging MPI)?

A Myocardial Perfusion Imaging study is a non-invasive scan of the heart using nuclear imaging. A radioactive tracer is used to produce images of the heart.

These images help detect:

- whether areas of the heart muscle are receiving enough blood
- If there is heart damage or scar tissue in the heart
- And if there is build-up of abnormal substances in the heart muscle.

Cardiac PET/CT vs. SPECT

Why Cardiac PET/CT Outperforms SPECT

Compared to Nuclear SPECT testing, Cardiac PET/CT Myocardial Perfusion Imaging:

- Delivers more accurate results at true peak stress
- Produces artifact-free scans more frequently
- Produces less soft tissue attenuation for patients with body characteristics that can affect image quality
- Delivers less radiation to the patient
- Uniquely shows quantification of myocardial blood flow in ml/min/gram, improves accuracy, risk stratification, and patient selection for interventions
- Is a shorter exam (30-45 mins, versus 3-4 hours for SPECT)

Cardiac PET: First-line, preferred imaging for diverse patient populations

PET MPI can be used *in place of* a SPECT MPI, or *in addition to* an inconclusive or suspected false positive SPECT MPI. With a higher sensitivity and specificity than other imaging techniques, *Cardiac PET results in fewer false positives and superior diagnostic accuracy.*

Diabetic



Shorter study time means the patient will not have to experience NPO as long.

Elderly (65+)



Shorter exam time benefits patients with limited mobility or difficulty with holding a position for a long period of time.

False Positive



If a false positive SPECT MPI is suspected, consider a PET instead of sending directly to cath.

High BMI



Since PET has less soft tissue attenuation, it can lead to better image quality.

Inconclusive SPECT



If patient had a previously inconclusive SPECT MPI, choose PET for its higher-level of diagnostic accuracy.

Lexiscan



All PET MPI studies are completed using pharmacological stress.

Women | Breast Health



With less soft tissue attenuation, female patients receive better image quality, regardless of breast size.

Young Patients



To reduce the lifetime exposure for patients who anticipate repeated exposure to radiation from imaging procedures.

78431 – PET/CT Perfusion Multi Study

93017- Cardiovascular Stress Test

A9555 – Rubidium Isotope

J2785- Lexiscan*

*Other pharm stress agents may be used instead

CPT Codes
for Cardiac PET/CT

All Cardiac PET/CT scans are conducted with pharmacologic stress testing, you do not need to order that CPT code, just the 78431 Code is necessary.

ASNC Position Statement

2016



Myocardial Perfusion Positron Emission Tomography (PET)

The American Society of Nuclear Cardiology (ASNC) and the Society of Nuclear Medicine and Molecular Imaging (SNMMI) have concluded that the properties of myocardial perfusion PET according to the published literature **are sufficient to advance recommendations for its use in clinical practice.**

PROPERTIES OF MYOCARDIAL PET

- *High diagnostic accuracy*
- *Consistent high quality images*
- *Low radiation exposure*
- *Short image acquisition time*
- *Quantification of myocardial blood flow*
- *Strong prognostic power*

PREFERRED TEST

Myocardial perfusion PET is a first-line preferred test for patients:

Unable to complete a diagnostic-level exercise stress imaging study,

With known or suspected CAD, and

Who meet appropriate criteria for a stress-imaging test.

There are no clinical scenarios where PET should not be considered a preferred test for patients who meet appropriate criteria for a stress imaging test and who require pharmacologic stress.

RECOMMENDED TEST

Patients with suspected active CAD who meet appropriate criteria for a stress-imaging test and who also meet one or more of the following criteria:

- Poor quality prior stress imaging study
- Young patients with established CAD
- Body characteristics that commonly affect image quality
- High-risk patients
- Patients in whom myocardial blood flow quantification is needed

CMS
Cardiac
PET/CT

**PET/CT can be
done in place of,
but not in
addition to SPECT**

AND / OR

**PET/CT can be done
in the event of an
inconclusive SPECT**

No BMI requirement

Document medical
necessity

If your patient is eligible
for a SPECT scan, they are
eligible for a PET/CT scan

National Coverage Determination (NCD) for PET Scans (220.6)

Coverage of PET for Perfusion of the Heart Using Rubidium 82

A. Rubidium 82

Effective for services performed on or after March 14, 1995, PET scans performed at rest or with pharmacological stress used for noninvasive imaging of the perfusion of the heart for the diagnosis and management of patients with known or suspected coronary artery disease using the FDA-approved radiopharmaceutical Rubidium 82 (Rb 82) are covered, provided the requirements below are met.

Requirements:

- The PET scan, whether at rest alone, or rest with stress, is performed in place of, but not in addition to, a single photon emission computed tomography (SPECT); or
- The PET scan, whether at rest alone or rest with stress, is used following a SPECT that was found to be inconclusive. In these cases, the PET scan must have been considered necessary in order to determine what medical or surgical intervention is required to treat the patient. (For purposes of this requirement, an inconclusive test is a test(s) whose results are equivocal, technically uninterpretable, or discordant with a patient's other clinical data and must be documented in the beneficiary's file.)
- For any PET scan for which Medicare payment is claimed for dates of services prior to July 1, 2001, the claimant must submit additional specified information on the claim form (including proper codes and/or modifiers), to indicate the results of the PET scan. The claimant must also include information on whether the PET scan was done after an inconclusive noninvasive cardiac test. The information submitted with respect to the previous noninvasive cardiac test must specify the type of test done prior to the PET scan and whether it was inconclusive or unsatisfactory. These explanations are in the form of special G codes used for billing PET scans using Rb 82. Beginning July 1, 2001 claims should be submitted with the appropriate codes.

Appropriate Use Criteria



Documentation of attenuation artifacts

- Insurance companies are aware that PET/CT is covered in place of SPECT with patients with conditions that may cause attenuation issues.
- Important to recognize and discuss these conditions with insurer if coverage for PET/CT is questioned.
- Conditions should be clearly indicated in the patient report and considered when ordering a PET/CT



For Medicare:

Same appropriateness criteria as a SPECT

For non-Medicare Payors, think of it this way:

Same appropriateness criteria as a SPECT, **plus** something additional, explained in the next slide.

Attenuation Artifacts Examples:

Diaphragmatic
attenuation

Chest wall
deformity (be
specific as to the
type of deformity)

Breast tissue
(N62), bowel loop
(K56.699)

Previous
mastectomy
(Z90.10)

Pleural or
pericardial
effusion

Breast implants
(Z98.82)

 BMI > 40

Patient position
issues

Scar tissue

Authorizations

- Identical to authorization procedure for SPECT except for differing policies re: diagnosis.
- If the Payor uses a 3rd party for authorizations, and the 3rd party has their own policy, use that policy rather than the Payors. No authorization=No PET/CT.
- Modality specific for peer-to-peer

Private Payors and their Radiology Benefit Management (RBM)



EviCore

(UHC, Aetna, Cigna, etc.)



AIM

(Anthem and BCBS)



HealthHelp

(Humana)



- Meets all of the criteria for an imaging stress test and additionally any one of the following:
 - ◆ Individual is obese (for example BMI > 40 kg/m²) or
 - ◆ Individual has large breasts or implants
- Equivocal nuclear perfusion (MPI) stress test
 - ◆ Routine use in post heart transplant assessment of transplant CAD



Table 1. Relative contraindications to conventional nuclear perfusion imaging

- Morbid obesity (BMI \geq 40 kg/m²)
- Breast implant(s) in situ
- Previous suboptimal conventional nuclear perfusion imaging which was suboptimal due to attenuation artifact
- Previous conventional nuclear imaging discordant with coronary angiographic findings
- Known pericardial or pleural effusion
- Prior mastectomy
- Chest wall deformity

Table 2. Contraindications to exercise stress testing

- Resting EKG abnormalities
 - Complete left bundle branch block (LBBB)
 - Electronically paced ventricular rhythm
 - Resting ST depression > 1 mm
 - Left ventricular hypertrophy (LVH) with secondary repolarization abnormalities
 - Digoxin effect
 - Pre excitation (e.g., Wolff Parkinson White syndrome)
 - Previous false positive EKG stress test
- Conditions limiting exercise capacity such that target heart rate is unlikely to be achieved
 - Orthopedic or neurological impairment
 - Severe chronic obstructive pulmonary disease (COPD)
 - Severe heart failure
 - Severe claudication
 - Prior failure to achieve target heart rate
 - Use of negatively chronotropic medications which cannot be temporarily withheld for testing
- Severe valvular stenosis
- Presence of an implantable cardioverter defibrillator (ICD)



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A WNS COMPANY

Cardiac Positron Emission Test

PET scan of the heart may be medically appropriate and supported by evidence to improve patient outcomes for the following indications.

PET scan of the heart may be reasonable and appropriate for a patient who has Coronary Artery Disease (CAD), symptoms are present but stable, and the requested study is for follow-up when the patient's medical record demonstrates **BOTH** of the following:

- Over 2 years have passed since last myocardial perfusion scan;
- Body Mass Index (BMI) is greater than 35.

PET scan of the heart may be reasonable and appropriate for a patient who requires myocardial viability assessment and the patient's medical record demonstrates **EITHER** of the following:

- Abnormal myocardial perfusion scan (indeterminate for scar vs. hibernating myocardium) with compromised left ventricular function; (57)
- Documented coronary artery stenosis illustrated on previous cardiac catheterization; and **BOTH** of the following:
 - Documented compromised left ventricular function (finding indeterminate for scar vs. hibernating myocardium); (58)
 - Anatomically by-passable vessels in area(s) of myocardial dysfunction. (58)

Additional Information

- If the carrier does not require auth, the guidelines of the RBM (or carrier) still needs to be met.
- Obtaining a Prior authorization **is not a guarantee of payment.**
- The payers can and may request medical records in order to make payment.

What to order

- Cardiac PET Myocardial Perfusion Imaging (CPT 78431)
- Currently this is the only Cardiac PET/CT exam we are offering.
- In the future, we may offer a specific Cardiac PET scan that is for Cardiac Viability in patients with Sarcoidosis. However, that scan uses FDG isotope and would be performed on the Oncology PET/CT day, not on Cardiac PET/CT Mondays.