

WHAT ASNC MEMBERS
NEED TO KNOW ABOUT

Coding

Basic Coding Guidance for Billing Myocardial PET Perfusion

In earlier issues of this series, ASNC examined questions about billing myocardial perfusion imaging SPECT studies, including key aspects of coding such as: CPT and HCPCS coding sets, National Correct Coding Initiative edits, and implementation of new Medically Unlikely Edits. This issue builds on that foundation by focusing on how these areas of coding affect myocardial positron emission tomography (PET) perfusion studies.

Q: What is myocardial PET perfusion imaging?

A: Positron emission tomography (PET) is another nuclear cardiology noninvasive imaging technique that utilizes small amounts of high energy radioactive agents — positrons (positively charged particles) — to visualize body function and metabolism. The collision of the positrons emitted by the radionuclide with the negatively-charged electrons normally present in tissue is then computer synthesized to produce an image, usually in color, which will show the presence or absence of perfusion into normal or ischemic cardiac tissue.¹

Q: Which HCPCS Level II pharmaceutical codes are most frequently used in conjunction with myocardial PET perfusion studies performed in the office setting?

A: Rb-82, Rubidium chloride and Nitrogen N-13 ammonia are currently the only two positron-emitting tracers used for the assessment of myocardial regional perfusion.

A9526: Nitrogen N-13 ammonia, diagnostic, per study dose, up to 40 millicuries

A9555: Rubidium Rb-82, diagnostic, per study dose, up to 60 millicuries

In the future, we expect to see more PET radiotracers for this expanding field of nuclear cardiology PET imaging.

Q: Which CPT codes should be used when describing myocardial PET perfusion studies?

A: 78491: Myocardial imaging, positron emission tomography (PET), perfusion; single study at rest or stress

78492: Myocardial imaging, positron emission tomography (PET), perfusion; multiple studies at rest and/or stress.

Q: Which HCPCS Level II drug codes for pharmacological stress agents are most frequently used in conjunction with myocardial PET perfusion studies?

A: J0152: Injection, adenosine for diagnostic use, 30 mg

J1245: Injection, dipyridamole, per 10 mg

J1250: Injection, dobutamine hydrochloride, per 250 mg

Q: Can the add-on codes 78478 for wall motion and 78480 for ejection fraction be used in conjunction with myocardial PET perfusion studies?

A: No. At present there are no add-on codes to use with PET MPI imaging. As per CPT guidance, wall motion and ejection fraction add-on codes may only be used in conjunction with MPI Planar or MPI SPECT studies (78460-78465). As always, in the absence of a specific CPT code, providers should consider using an unlisted procedure code, 78499 in the case of nuclear cardiology.

Q: Do myocardial PET perfusion stress studies ever include treadmill testing?

A: No. Since PET tracers have very short half-lives, myocardial PET perfusion stress studies are always performed with a pharmacological stress agent. In addition, because of the PET tracers' short half-lives, both stress and rest procedures require the patient to be positioned in the PET camera during the entire study.

Q: Has CMS published any documents that give providers specific instructions for billing PET radiopharmaceuticals?

A: Yes. CMS published [Hospital Transmittal 822 CR 4270](#) on February 1, 2006, and [Carrier Transmittal 923 CR 5054](#) on April 28, 2006. (see attachments 1 and 2). *

¹Astellas Pharma US, Inc. *Cardiology Expert*, A procedural coding companion. Eden Prairie, Minn: Ingenix;2006:38.

Clinical Case A

Clinical Data:

Palpitations, chest pain, abnormal stress test, hypertension, heart failure.

Method:

The patient received an intravenous dose of 15.1 mCi of Rb82 and a scout scan was performed for patient positioning. A dose of 46.7 mCi of Rb82 was injected and resting images of the heart were acquired. The patient then underwent dipyridamole infusion 142 mcg/kg/min for 4 minutes (51 mg). A dose of 46.7 mCi Rb82 was injected and peak stress images of the heart were acquired. This included ECG-gated images to assess left ventricular systolic function. Aminophylline 100 mg was given intravenously during recovery.

Findings:

The patient developed chest pain during dipyridamole infusion. The hemodynamic response was normal. The ECG response to dipyridamole was normal. On peak stress images, the heart size is normal and there is uniform uptake of Rb82 in all myocardial regions. Resting images are also normal. Gated images reveal normal systolic thickening in all myocardial regions with a computed left ventricular ejection fraction of 70%. LVEDV = 171 ml. LVESV = 52 ml.

How to Code Clinical Case A

CPT/HCPCS Code	Number of Units	Description
78492	1	MPI, PET, Multiple
78499	1	Add-on Wall Motion (or combine with Ejection Fraction)
78499	1	Add-on Ejection Fraction
A9555	2	82 Rb Rubidium per study dose
93015	1	Cardiovascular stress test, w interpretation and report
J1245	6	Dipyridamole per 10 mg
J0280	1	Aminophyllin up to 250 mg

Q: Why didn't you bill for the "scout scan"?

A: Providers may not bill for the "scout" dose as a per study dose administration. This "scout" dose is considered part of quality control similar to performing uniformity floods or center of rotation for gamma cameras and should not be billed separately to the patient. *

Clinical Case B

Clinical Data:

S/P CABG 1973 (x3) & 2000 (x4), abnormal exercise stress, SOB with exertion, hypertension, EF 20% on echo, ICM STEC 06/01/05.

Method:

The patient received an intravenous dose of 10.2 mCi of Rb82 and a scout scan was performed for patient positioning. A dose of 34.1 mCi Rb82 was injected and resting images of the heart were acquired. The patient was injected with 34.0 mCi Rb82 and stress perfusion images were acquired. The patient's glucose level was measured and adjusted per protocol. The patient was injected with 6.3 mCi 18FDG. Resting PET images of the heart were acquired, including ECG-gated images to assess left ventricular function.

Findings:

The patient developed no symptoms. The hemodynamic response was normal. The ECG response was abnormal but nondiagnostic for ischemia due to digitalis effect. On peak-stress Rb82 perfusion images, there is a moderate defect in the apical region and a severe perfusion defect in the inferobasilar region of the left ventricle and a mild focal defect in the mid to basilar anterior region. Resting Rb82 images demonstrate apical and mid to basilar anterior defect reversibility.

Resting 18FDG images reveal moderately reduced activity in the inferobasilar and mild apical regions. Gated images reveal severely reduced myocardial systolic thickening in the inferobasilar region with a computed left ventricular ejection fraction of 27%. LVEDV = 222 ml. LEVSV = 162 ml. *

How to Code Clinical Case B

CPT/HCPCS Code	Number of Units	Description
778492	1	MPI, PET, Multiple
78499	1	Add-on Wall Motion (or combine with Ejection Fraction)
78499	1	Add-on Ejection Fraction
A9555	2	⁸² Rb Rubidium per study dose
Request Documentation	?	Stress Agent – Inquire with physician how much and which stress agent was administered for Rubidium stress test.
93015	1	Cardiovascular stress test, w interpretation and report
78459-59	1	PET, Metabolic Imaging
A9552	1	¹⁸ F FDG, per study dose

Table A: **National Correct Coding Edits* Specific to Myocardial PET Studies**

NCCI edits for Version 13.0 January – March 2007 for Medicare Physician Fee Schedule

78459 is considered a Column 1 Code to: 36000¹, 36005¹, 36410¹, 76376¹, 76377¹, 90760¹, 90765¹

78491, 78492 are considered a Column 1 Code to: 36000¹, 36005¹, 36410¹, 76376¹, 76377¹, 90760¹, 90765¹, 90772¹, 90774¹, 90775¹

78492 is considered a Column 1 Code to: 78491⁰

78491 is considered a Column 2 code to: 78492⁰

[Superscript '1' allows use of modifier 59 to bypass CCI edit. Superscript '0' identifies code pairs not allowed by the same provider on the same date or service.]

* CMS developed its coding policies for the NCCI based on: coding conventions defined in the American Medical Association's CPT manual; national and local policies and edits; coding guidelines developed by national societies; analysis of standard medical practices; and a review of current coding practices. The two major types of NCCI edits are comprehensive and mutually exclusive. Column 1/Column 2 comprehensive edits apply to code combinations where one of the codes is a component of a more comprehensive code. The NCCI process is designed to prevent physicians from reporting one or more components of a comprehensive service when a single code is available that describes the complete service. In these circumstances, the code from column 1 is paid while the code from column 2 is not because it is considered part of the column 1 code.

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