American Society of Nuclear Cardiology

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WHAT ASNC MEMBERS NEED TO KNOW ABOUT

Coding

Basic Coding Guidance for Billing MPI SPECT PART 1

Myocardial perfusion imaging (MPI), through utilization of a gamma camera employing Single-Photon Emission Computed Tomography (SPECT) technology, has been viewed over the past decade as the gold standard for determining critical coronary artery stenosis. In addition, MPI represents roughly 95 percent of all cardiovascular procedures performed using nuclear imaging and has been identified by Medicare as a high-volume procedure.

For these reasons, ASNC has compiled some common questions about the typical coding package that usually accompanies HCPCS Level I Current Procedural Terminology (CPT) codes 78451 and 78452 for MPI SPECT single and multiple studies, respectively.

Q: Which CPT codes should be used when describing MPI SPECT studies?

A: 78451: Myocardial perfusion imaging, tomographic (SPECT) (including attenuation correction, qualitative or quantitative wall motion, ejection fraction by first pass or gated technique, additional quantification, when performed); single study, at rest or stress (exercise or pharmacologic)

78452: Myocardial perfusion imaging, tomographic (SPECT) (including attenuation correction, qualitative or quantitative wall motion, ejection fraction by first pass or gated technique, additional quantification, when

performed); multiple studies, at rest and/or stress (exercise or pharmacologic) and/or redistribution and/or rest reinjection

93015-93018: Cardiovascular stress testing. Choose appropriate code(s) from the stress test series.

*** Note: Also bill any appropriate HCPCS code for the use of radiopharmaceuticals or drugs administered during the MPI study or stress test.***

Q: How do MPI Planar studies differ from MPI SPECT studies?

A: While SPECT technology allows the nuclear cardiologist to view a three-dimensional image of a specific area, planar imaging only produces a two-dimensional image. Most nuclear cardiologists utilize SPECT imaging because it allows them to finely examine an image in multiple planes. CPT codes 78453 and 78454 are used to describe MPI Planar studies.

Q: Are CPT codes considered HCPCS codes?

A: Yes, the Healthcare Common Procedure Coding System (HCPCS) is divided into two principal subsystems, referred to as level I and level II of HCPCS. Level I comprises five-digit numeric codes from Current Procedural Terminology (CPT) — a uniform coding system maintained by the American Medical Association. This system, which consists of descriptive terms and identifying codes, are used

primarily to identify medical services and procedures furnished and billed by physicians and other health care professionals.

Because Medicare and other insurers cover a variety of services, supplies, and equipment that are not identified by CPT codes, HCPCS Level II codes were established for submitting claims for these items during the 1980s. HCPCS Level II codes are also referred to as alphanumeric codes because they consist of a single alphabetical letter followed by four numeric digits, while CPT codes are identified using five numeric digits.

Q: When looking at the alphanumeric HCPCS Level II codes, which parts of "the alphabet" are important to nuclear cardiology practices?

A: Important nuclear cardiology HCPCS Level II codes can be found in:

"A" series codes: Radiopharmaceuticals

"C" series codes: Describe drugs, radiopharmaceuticals, devices, and contrast media, which are ONLY used by Hospital Outpatient Departments billing under Medicare's Hospital Outpatient Prospective Payment System

"G" series codes: Describe procedures or procedures combined with supplies, drugs, and radiopharmaceuticals

"J" series codes: Describe drugs

"Q" series codes: Describe contrast agents

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Q: Which HCPCS Level II radiopharmaceutical codes are most frequently used in conjunction with MPI SPECT studies performed in the office setting?

A: A9500: Technetium Tc-99m sestamibi, diagnostic, per study dose, (also called Cardiolite® or MIBI)

A9502: Technetium Tc-99m tetrofosmin, diagnostic, per study dose (also called Myoview®)

A9505: Thallium Tl-201 thallous chloride, diagnostic, per millicurie

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

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

J1245: Injection, dipyridamole, per 10 mg

J1250: Injection, dobutamine hydrochloride, per 250 mg

J2785: Injection, regadenoson, 0.1 mg ✳

Clinical Case A

Clinical Data:

Abnormal EKG, ventricular fibrillation, CABG (x3) '96, PTCA '04, MI, pacer, obese, atrial fibrillation, atrial flutter.

Method:

The patient received an intravenous dose of 16 mCi of Tc-99m sestamibi and resting emission tomographic (SPECT) images of the heart were acquired. The patient then underwent adenosine infusion. A dose of 140 mcg/kg/min. of adenosine was given over four minutes, a total of 47 mgs were administered to the patient from a 60 mg vial that was discarded after single use. No lower level treadmill exercise performed due to pacer.

At peak stress, an additional (second) dose of 50 mCi of Tc-99m sestamibi was administered. Post-stress images of the heart were acquired. Nongated due to atrial fibrillation.

Findings:

The patient developed no symptoms during adenosine infusion. The hemodynamic response was normal. Maximum heart rate is 113. The ECG response to adenosine was abnormal but nondiagnostic for ischemia due to atrial fibrillation. On post-stress images the heart size is enlarged and there is a perfusion defect in the anterior, the anterolateral and the inferolateral regions of the left ventricle. Resting images reveal significant defect reversibility in the anterolateral segment.

How to Code Clinical Case A

CPT/HCPCS Code	Number of Units	Description
78452	1	MPI, SPECT, multiple
A9500	2	99mTc sestamibi per study dose
93015*	1	Cardiovascular stress test, w interpretation and report
J0152	2	Adenosine per 30 mg

This is billed when the same physician provides the supervision and interpretation, and the physician office owns the equipment. If this is not the case, select the appropriate codes from the 93015-93018 stress test series of CPT procedure codes.

Q: The above example used 78452 to describe the imaging study. Can I use any of the CPT codes that describe MPI SPECT?

A: No! When deciding which code to use for any procedure, it is critical that coders select the name of the procedure or service that accurately identifies the service performed and not just choose a CPT code that merely approximates the service provided.

Q: How do you know the most appropriate code to use?

A: Coders must become proficient at spotting key words within the patient study report. For example, in Clinical Case A, we have highlighted the key words that indicate that the study in question: included SPECT technology; was performed both at rest and also at stress through pharmacological means; utilized 47 mgs of Adenosine; two doses of the radiopharmaceutical were used; and physician supervision was present during the study. All of these key words help the coder discern that: two studies were performed, one at rest and one at stress; one dose of radiopharmaceutical was used during the rest study and one dose used during the stress portion; and that the physician provided supervision during the stress test and also interpreted and drafted the report of the findings of the study.

Q: Clinical Case A states that two units of Adenosine were used while the study report only mentions 47 mgs of the stress agent being utilized. Is there more specific guidance regarding the unused portion of the drug dose?

A: Yes. Coders should pay particular attention to the HCPCS Level II drug descriptions as well as code and bill the appropriate number of units based on the documentation provided. Waste may be accounted for and billed only if documented. For example, a facility used a 90 milligram vial of adenosine to administer 58 milligrams to the patient. Because the single-use 90 milligram vial was discarded and documented, providers would code and bill three units of J0152. However, if the single-use vial was used but not documented, providers should code and bill only two units as coding rules allow providers to round up to the nearest full HCPCS code description. ✳

Clinical Case B

Clinical Data:
Chest pain, coronary artery disease, hypertension, hyperlipidemia

Method:
The patient received an intravenous dose of **25 mCi of Tc-99m tetrofosmin** and **resting** emission tomographic (**SPECT**) images of the heart were acquired. The patient returned on the **next day** then underwent treadmill **exercise on a protocol** for 8:30 minutes, achieving a peak heart rate of 139 bpm (86% of maximum age-predicted heart rate) at an estimated workload of 10.4 METS. At peak stress, a dose of **28 mCi of Tc-99m tetrofosmin** was administered and **post-stress images** of the heart were **acquired**. This included **ECG-gated** images to **assess left ventricular systolic function.**

Findings:
The patient developed no symptoms during exercise. The hemodynamic response was normal. The ECG response to exercise was due to >1 mm ST depression. On post-stress images the heart size is normal and there is a perfusion defect in the region of the left ventricle. The defect involves 18% of the LV myocardium. Resting images reveal significant defect reversibility. Gated images reveal normal myocardial systolic thickening in regions with a computed left ventricular ejection fraction of 52%. LVEDV = 102 ml. LVESV = 49 ml.

How to Code Clinical Case B

CPT/HCPCS Code	Number of Units	Description
78452	1	MPI, SPECT, multiple
A9502	2	99mTc tetrofosmin per study dose
93015*	1	Cardiovascular stress test, w interpretation and report

This is billed when the same physician provides the supervision and interpretation, and the physician office owns the equipment. If this is not the case, select the appropriate codes from the 93015-93018 stress test series of CPT procedure codes.

Q: Clinical Case B includes wall motion and ejection fraction. What are the key words to look for to determine if these additional studies were performed?

A: As in Clinical Case A, we have highlighted the key words that help coders determine which and what type of studies were performed by the nuclear cardiologist. Coders should look for terms like, "gated images, systolic function, systolic thickening, and ejection fraction" when evaluating whether to utilize these add-on codes. The majority of SPECT MPI studies today include separate evaluation of wall motion and ejection fraction.

Q: Occasionally we are not able to gate a study and are not able to obtain a wall motion. If we do not perform wall motion does that mean we cannot bill CPT 78452?

A: No. The new parenthetical — (including attenuation correction, qualitative or quantitative wall motion, ejection fraction by first pass or gated technique, additional quantification, **when performed**) — was structured to indicate that when wall motion and ejection fraction are performed, it would be considered to be inclusive in this newly bundled CPT code. However, if either is not performed, then it is still acceptable to use this code.

Q: Can we code for wall motion and ejection fraction in conjunction with myocardial Positron Emission Tomography (PET) studies?

A: At present there are no add-on codes to use with PET MPI imaging. In the absence of a specific CPT code, providers should consider using an unlisted procedure code; 78499 in the case of nuclear cardiology. Medicare does not consider wall motion and/or ejection fraction a covered procedure for PET MPI studies as it is not listed in the current PET national coverage policy. Private payers may pay separately for these procedures, but documentation is typically required when reporting an unlisted CPT code.

Q: The above two clinical cases utilize CPT code 93015 to designate that a cardiovascular stress test was performed. However, the first "Q&A" listed four codes to describe this aspect of the MPI SPECT study. What are the CPT descriptors for each of the cardiac stress test codes?

A: **93015:** Cardiovascular stress test using maximal or submaximal treadmill or bicycle exercise, continuous electrocardiographic monitoring, and/or pharmacological stress; with physician supervision, with interpretation and report

93016: Cardiovascular stress test using maximal or submaximal treadmill or bicycle exercise, continuous electrocardiographic monitoring, and/or pharmacological stress; physician supervision only, without interpretation and report

93017: Cardiovascular stress test using maximal or submaximal treadmill or bicycle exercise, continuous electrocardiographic monitoring, and/or pharmacological stress; tracing only, without interpretation and report

93018: Cardiovascular stress test using maximal or submaximal treadmill or bicycle exercise, continuous electrocardiographic monitoring, and/or pharmacological stress; interpretation and report only

Q: Is it appropriate to bill the above cardiac stress test codes in conjunction with CPT 78452 since the code describes MPI SPECT studies performed at rest and/or stress?

A: Stress testing is often used in conjunction with several nuclear cardiology procedures. CPT is clear in the cardiovascular introductory section (as noted below) for providers to code and bill separately for the stress test, in addition, to the nuclear cardiology procedure.

CPT states, "Myocardial perfusion and cardiac blood pool imaging studies may be performed at rest and/or during stress. When performed during exercise and/or pharmacologic stress, the appropriate stress testing code from the 93015 to 93018 series should be reported in addition to code(s) 78451, 78452, 78453, 78454, 78472, 78473, 78481, 78491, and 78492."

Q: Are there other important topics or issues that a nuclear cardiology practice should know about when billing for MPI SPECT?

A: Yes. Look for additional publications in this series that cover appropriate use of modifiers, National Correct Coding Initiative billing edits, and implementation of Medically Unlikely Edits. ✳