

# Positron Emission Tomography (PET) Scan

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Related Policies
None

## Policy Summary

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### Overview

Positron Emission Tomography (PET) is a minimally invasive diagnostic imaging procedure used to evaluate metabolism in normal tissue as well as in diseased tissues in conditions such as cancer, ischemic heart disease, and some neurologic disorders. A radiopharmaceutical is injected into the patient that gives off sub-atomic particles, known as positrons, as it decays. PET uses a positron camera (tomography) to measure the decay of the radiopharmaceutical. The rate of decay provides biochemical information on the metabolism of the tissue being studied.

### Guidelines

Medicare covers FDG PET for the determination of myocardial viability as a primary or initial diagnostic study prior to revascularization, or following an inconclusive SPECT. Studies performed by full and partial ring scanners are covered.

Effective December 15, 2017, CMS determines that PET NaF-18 PET is nationally non-covered.

Effective October 13, 2023, CMS removed NCD 220.6.20, ending CED for PET beta amyloid imaging and permitting Medicare coverage determinations for PET beta amyloid imaging to be made by the Medicare Administrative Contractors.

## Applicable Codes

The following list(s) of procedure and/or diagnosis codes is provided for reference purposes only and may not be all inclusive. Listing of a code in this guideline does not imply that the service described by the code is a covered or non-covered health service. Benefit coverage for health services is determined by the member specific benefit plan document and applicable laws that may require coverage for a specific service. The inclusion of a code does not imply any right to reimbursement or guarantee claim payment. Other Policies and Guidelines may apply.

CPT 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

CPT Code	Description
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
78811	Positron emission tomography (PET) imaging; limited area (e.g., chest, head/neck)
78812	Positron emission tomography (PET) imaging; skull base to mid-thigh
78813	Positron emission tomography (PET) imaging; 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	Positron emission tomography (PET) with concurrently acquired computed tomography (CT) for attenuation correction and anatomical localization imaging; skull base to mid-thigh
78816	Positron emission tomography (PET) with concurrently acquired computed tomography (CT) for attenuation correction and anatomical localization imaging; whole body
<b>Non-Covered</b>	
78609	Brain imaging, positron emission tomography (PET); perfusion evaluation

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HCPCS Code	Description
A9515	Choline C-11, diagnostic, per study dose up to 20 mCi (Deleted 09/30/2023)
A9526	Nitrogen N-13 ammonia, diagnostic, per study dose, up to 40 mCi
A9552	Fluorodeoxyglucose F-18 FDG, diagnostic, per study dose, up to 45 mCi
A9555	Rubidium Rb-82, diagnostic, per study dose, up to 60 mCi
A9586	Florbetapir F18, diagnostic, per study dose, up to 10 mCi (Deleted- CED coverage ended 10/13/2023)
A9587	Gallium ga-68, dotatate, diagnostic, 0.1 mCi (Deleted 09/30/2023)
A9588	Fluciclovine f-18, diagnostic, 1 mCi (Deleted 09/30/2023)
A9591	Fluoroestradiol f 18, diagnostic, 1 mCi (Deleted 09/30/2023)
A9592	Copper Cu-64, dotatate, diagnostic, 1 mCi (Deleted 09/30/2023)

HCPCS Code	Description
A9593	Gallium Ga-68 PSMA-11, diagnostic, (UCSF), 1 mCi (Deleted 09/30/2023)
A9594	Gallium Ga-68 PSMA-11, diagnostic, (UCLA), 1 mCi (Deleted 09/30/2023)
A9595	Piflufolastat f-18, diagnostic, 1 mCi (Deleted 09/30/2023)
A9596	Gallium Ga-68 gozetotide, diagnostic, (Illuccix), 1 mCi (Effective 07/01/2022-09/30/2023)
A9597	Positron emission tomography radiopharmaceutical, diagnostic, for tumor identification, not otherwise classified
A9598	Positron emission tomography radiopharmaceutical, diagnostic, for non-tumor identification, not otherwise classified
A9601	Flortaucipir F-18 injection, diagnostic, 1 mCi (Effective 07/01/2022)
A9602	Fluorodopa F-18, diagnostic, per mCi (Effective 10/01/2022-09/30/2023)
A9609	Fludeoxyglucose F18, up to 15 mCi (Effective 01/01/2024)
A9800	Gallium Ga-68 gozetotide, diagnostic, (Locametz), 1 mCi (Effective 10/01/2022)
Q9982	Flutemetamol F18, diagnostic, per study dose, up to 5 millicuries (Deleted- CED coverage ended 10/13/2023)
Q9983	Florbetaben F18, diagnostic, per study dose, up to 8.1 millicuries (Deleted- CED coverage ended 10/13/2023)
<b>Non-Covered</b>	
A9580	Sodium fluoride F-18, diagnostic, per study dose, up to 30 millicuries (CED coverage ended 12/14/2017)
G0219	PET imaging whole body; melanoma for non-covered indications
G0235	PET imaging, any site, not otherwise specified
G0252	PET imaging, full and partial-ring PET scanners only, for initial diagnosis of breast cancer and/or surgical planning for breast cancer (e.g., initial staging of axillary lymph nodes)

### Diagnosis Code

**For CPT Codes; 78429, 78430, 78431, 78432, 78433, 78434, 78459, 78491, 78492**

[Positron Emission Tomography \(PET\) Scan: Diagnosis Code List](#)

**Coding Clarification:** This list contains diagnosis codes pertaining to Myocardial Imaging

Modifier	Description
PI	Positron emission tomography (PET) or PET/computed tomography (CT) to inform the initial treatment strategy of tumors that are biopsy proven or strongly suspected of being cancerous based on other diagnostic testing
PS	Positron emission tomography (PET) or PET/computed tomography (CT) to inform the subsequent treatment strategy of cancerous tumors when the beneficiary's treating physician determines that the PET study is needed to inform subsequent anti-tumor strategy

### Coding Clarifications:

- Local Coverage Determinations (LCDs) and/or Articles vary in coverage per jurisdiction.
- An appropriate diagnosis code must be submitted with each claim and failure to do so may result in denial or delay in claim processing.
- The most current diagnosis code(s) should be used to ensure proper payment.
- HCPCS codes A9597 and A9598 are **not** to be reported for any CMS approved PET indication where a dedicated PET radiopharmaceutical is already assigned. In other words, HCPCS codes A9597 and A9598 are not replacements for currently approved PET radiopharmaceuticals.

## References

### CMS National Coverage Determinations (NCDs)

[NCD 220.6 Positron Emission Tomography \(PET\) Scans – \(Retired 04/10/2023\)](#)

[NCD 220.6.1 PET for Perfusion of the Heart](#)

[NCD 220.6.8 FDG PET for Myocardial Viability](#)

[NCD 220.6.9 FDG PET for Refractory Seizures](#)

[NCD 220.6.13 FDG PET for Dementia and Neurodegenerative Diseases](#)

[NCD 220.6.17 Positron Emission Tomography \(FDG\) for Oncologic Conditions](#)

[NCD 220.6.19 Positron Emission Tomography \(NaF-18\) to Identify Bone Metastasis of Cancer](#)

[NCD 220.6.20 Beta Amyloid Positron Tomography in Dementia and Neurodegenerative Disease \(Retired 10/13/2023\)](#)

### CMS Local Coverage Determinations (LCDs) and Articles

LCD	Article	Contractor	Medicare Part A	Medicare Part B
<a href="#">L33457 Cardiac Radionuclide Imaging</a>	<a href="#">A56476 Billing and Coding: Cardiac Radionuclide Imaging</a>	Palmetto	AL, GA, TN, NC, SC, VA, WV	AL, GA, TN, NC, SC, VA, WV
<a href="#">L38396 Cardiology Non-emergent Outpatient Stress Testing</a>	<a href="#">A56952 Billing and Coding: Cardiology Non-emergent Outpatient Stress Testing</a>	First Coast	FL, PR, VI	FL, PR, VI
<a href="#">L35083 Cardiology Non-emergent Outpatient Stress Testing</a>	<a href="#">A56423 Billing and Coding: Cardiology Non-emergent Outpatient Stress Testing</a>	Novitas	AR, CO, DC, DE, LA, MD, MS NJ, NM, OK, PA, TX	AR, CO, DC, DE, LA, MD, MS NJ, NM, OK, PA, TX
N/A	<a href="#">A53134 Billing and Coding: NCD Coding Article for Positron Emission Tomography (PET) Scans Used for Non-Oncologic Conditions</a>	Novitas	AR, CO, DC, DE, LA, MD, MS NJ, NM, OK, PA, TX	AR, CO, DC, DE, LA, MD, MS NJ, NM, OK, PA, TX
N/A	<a href="#">A59049 Billing and Coding: NCD Coding Article for Positron Emission Tomography (PET) Scans Used for Non-Oncologic Conditions</a>	First Coast	FL, PR, VI	FL, PR, VI
<a href="#">L39521 Positron Emission Tomography (PET) Scan for Inflammation and Infection</a>	<a href="#">A59318 Billing and Coding: Positron Emission Tomography (PET) Scan for Inflammation and Infection</a>	CGS	KY, OH	KY, OH
<a href="#">L35391 Multiple Imaging in Oncology</a>	<a href="#">A56848 Billing and Coding: Multiple Imaging in Oncology</a>	Novitas	AR, CO, DC, DE, LA, MD, MS NJ, NM, OK, PA, TX	AR, CO, DC, DE, LA, MD, MS NJ, NM, OK, PA, TX
N/A	A54666 Billing and Coding: Positron Emission Tomography Scans Coverage <b>Retired 10/01/2023</b>	Noridian	AS, CA (Entire State), GU, HI, MP, NV	AS, CA (Northern), CA (Southern), GU, HI, MP, NV
N/A	A54668 Billing and Coding: Positron Emission Tomography Scans Coverage <b>Retired 10/01/2023</b>	Noridian	AK, AZ, ID, MT, ND, SD, OR, UT, WA, WY	AK, AZ, ID, MT, ND, SD, OR, UT, WA, WY

LCD	Article	Contractor	Medicare Part A	Medicare Part B
N/A	A54735 Billing and Coding: PET Scan Claims to Identify Bone Metastasis of Cancer <b>Retired 05/10/2023</b>	Palmetto	AL, GA, TN, NC, SC, VA, WV	
N/A	A55052 Billing and Coding: Radiopharmaceutical Agents <b>Retired 12/29/2022</b>	WPS*	IA, IN, KS, MI, MO, NE	IA, IN, KS, MI, MO, NE

\***Note:** Wisconsin Physicians Service Insurance Corporation Contract Number 05901 - applies only to WPS Legacy Mutual of Omaha MAC A Providers

## CMS Claims Processing Manual

[Chapter 13; § 60 Positron Emission Tomography \(PET\) Scans – General Information](#)

### CMS Transmittal(s)

[Transmittal 1875, Change Request 10184, Dated 07/17/2017 \(ICD-10 Coding Revisions to National Coverage Determinations \(NCDs\)\)](#)

[Transmittal 3911, Change Request 10319, Dated 11/09/2017 \(New Positron Emission Tomography \(PET\) Radiopharmaceutical/Tracer Unclassified Codes\)](#)

[Transmittal 11083, Change Request 12482, Dated 10/29/2021 \(International Classification of Diseases, 10th Revision \(ICD-10\) and Other Coding\)](#)

[Transmittal 11158, Change Request 12526, Dated 12/16/2021 \(National Coverage Determination \(NCD\) 220.6.19, Positron Emission Tomography NaF 18 \(NaF-18 PET\) to Identify Bone Metastasis of Cancer- Manual\)](#)

[Transmittal 11272, Change Request 12613, Dated 12/18/2022 \(An Omnibus CR Covering: \(1\) Removal of Two National Coverage Determination\)](#)

[Transmittal 11436, Change Request 11436, Dated 05/26/2022 \(October 2022 Healthcare Common Procedure Coding System \(HCPCS\) Quarterly Update Reminder\)](#)

[Transmittal 11636, Change Request 12842, Dated 10/05/2022 \(International Classification of Diseases, 10th Revision \(ICD-10\) and Other Coding Revisions to National Coverage Determinations \(NCDs\)—January 2023 Update—2 of 2\)](#)

[Transmittal 12493, CR 13507, Dated 02/01/2024 \(International Classification of Diseases, 10th Revision \(ICD-10\) and Other Coding Revisions to National Coverage Determinations \(NCDs\)—July 2024 Update\)](#)

### MLN Matters

[Article MM12842, International Classification of Diseases, 10th Revision \(ICD10\) and Other Coding Revisions to National Coverage Determinations \(NCDs\)—January 2023 Update – 2 of 2](#)

### Other(s)

Title XVIII of the Social Security Act:

- [§1861\(s\)\(3\)](#)
- [§1862 \(a\)\(1\)\(A\)](#)
- [§1862 \(a\)\(1\)\(D\) Investigational or Experimental](#)
- [§1862 \(a\)\(7\)](#)
- [§1833 \(e\)](#)

## Guideline History/Revision Information

Revisions to this summary document do not in any way modify the requirement that services be provided and documented in accordance with the Medicare guidelines in effect on the date of service in question.

Date	Summary of Changes
03/13/2024	<p><b>Applicable Codes</b></p> <p><b>CPT Codes</b></p> <ul style="list-style-type: none"><li>Revised description for CPT codes 78459, 78491, and 78492</li></ul> <p><b>HCPCS Codes</b></p> <ul style="list-style-type: none"><li>Added notation to indicate HCPCS codes A9515, A9587, A9588, A9591, A9592, A9593, A9594, A9595, A9596, and A9602 were “deleted Sep. 30, 2023”</li></ul> <p><b>Diagnosis Codes</b></p> <ul style="list-style-type: none"><li>Added notation to clarify the list of applicable ICD-10 codes for <b>myocardial imaging</b> applies to CPT codes 78429, 78430, 78431, 78432, 78433, 78434, 78459, 78491, and 78492</li></ul> <p><b>References</b></p> <p><b>CMS National Coverage Determinations (NCDs), CMS Transmittals, MLN Matters, and Other(s)</b></p> <ul style="list-style-type: none"><li>Updated list of applicable reference links to reflect the most current information</li></ul> <p><b>CMS Local Coverage Determinations (LCDs) and Articles</b></p> <ul style="list-style-type: none"><li>Updated list of applicable reference links to reflect the most current information</li><li>Added notation to indicate the Wisconsin Physicians Service Insurance Corporation (WPS) Contract Number 05901 applies only to WPS Legacy Mutual of Omaha MAC A Providers</li></ul> <p><b>Administrative</b></p> <ul style="list-style-type: none"><li>Archived previous policy version MPG242.14</li></ul>

## Purpose

The Medicare Advantage Policy Guideline documents are generally used to support UnitedHealthcare Medicare Advantage claims processing activities and facilitate providers’ submission of accurate claims for the specified services. The document can be used as a guide to help determine applicable:

- Medicare coding or billing requirements, and/or
- Medical necessity coverage guidelines; including documentation requirements.

UnitedHealthcare follows Medicare guidelines such as NCDs, LCDs, LCAs, and other Medicare manuals for the purposes of determining coverage. It is expected providers retain or have access to appropriate documentation when requested to support coverage. Please utilize the links in the [References](#) section above to view the Medicare source materials used to develop this resource document. This document is not a replacement for the Medicare source materials that outline Medicare coverage requirements. Where there is a conflict between this document and Medicare source materials, the Medicare source materials will apply.

## Terms and Conditions

The Medicare Advantage Policy Guidelines are applicable to UnitedHealthcare Medicare Advantage Plans offered by UnitedHealthcare and its affiliates.

These Policy Guidelines are provided for informational purposes, and do not constitute medical advice. Treating physicians and healthcare providers are solely responsible for determining what care to provide to their patients. Members should always consult their physician before making any decisions about medical care.

Benefit coverage for health services is determined by the member specific benefit plan document\* and applicable laws that may require coverage for a specific service. The member specific benefit plan document identifies which services are covered,

which are excluded, and which are subject to limitations. In the event of a conflict, the member specific benefit plan document supersedes the Medicare Advantage Policy Guidelines.

Medicare Advantage Policy Guidelines are developed as needed, are regularly reviewed and updated, and are subject to change. They represent a portion of the resources used to support UnitedHealthcare coverage decision making. UnitedHealthcare may modify these Policy Guidelines at any time by publishing a new version of the policy on this website. Medicare source materials used to develop these guidelines include, but are not limited to, CMS National Coverage Determinations (NCDs), Local Coverage Determinations (LCDs), Medicare Benefit Policy Manual, Medicare Claims Processing Manual, Medicare Program Integrity Manual, Medicare Managed Care Manual, etc. The information presented in the Medicare Advantage Policy Guidelines is believed to be accurate and current as of the date of publication and is provided on an "AS IS" basis. Where there is a conflict between this document and Medicare source materials, the Medicare source materials will apply.

You are responsible for submission of accurate claims. Medicare Advantage Policy Guidelines are intended to ensure that coverage decisions are made accurately based on the code or codes that correctly describe the health care services provided. UnitedHealthcare Medicare Advantage Policy Guidelines use Current Procedural Terminology (CPT®), Centers for Medicare and Medicaid Services (CMS), or other coding guidelines. References to CPT® or other sources are for definitional purposes only and do not imply any right to reimbursement or guarantee claims payment.

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\*For more information on a specific member's benefit coverage, please call the customer service number on the back of the member ID card or refer to the [Administrative Guide](#).