BlueCross BlueShield Federal Employee Program.

FEP Medical Policy Manual

FEP 6.01.63 Oncologic Applications of Positron Emission Tomography Scanning (Bone Sarcoma and Soft Tissue Sarcoma)

Annual Effective Policy Date: April 1, 2026

Original Policy Date: September 2024

Related Policies:

6.01.06 - Miscellaneous (Noncardiac, Nononcologic) Applications of Fluorine 18 Fluorodeoxyglucose Positron Emission Tomography
6.01.20 - Cardiac Applications of Positron Emission Tomography Scanning
6.01.51 - Interim Positron Emission Tomography Scanning in Oncology to Detect Early Response During Treatment
6.01.60 - Therapeutic Radiopharmaceuticals for Neuroendocrine Tumors
6.01.62 - Oncologic Applications of Positron Emission Tomography Scanning (Breast and Gynecologic)
6.01.63 - Oncologic Applications of Positron Emission Tomography Scanning (Bone Sarcoma and Soft Tissue Sarcoma)
6.01.64 - Oncologic Applications of Positron Emission Tomography Scanning (Hematologic)
6.01.65 - Oncologic Applications of Positron Emission Tomography Scanning (Lung)
6.01.66 - Oncologic Applications of Positron Emission Tomography Scanning (Thyroid, Neuroendocrine, Head and Neck)
6.01.67 - Oncologic Applications of Positron Emission Tomography Scanning (Brain, Melanoma, Unknown Primary)

Oncologic Applications of Positron Emission Tomography Scanning (Bone Sarcoma and Soft Tissue Sarcoma)

Description

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Positron emission tomography (PET) is a nuclear imaging technique that uses positron-emitting tracers attached to molecules like glucose or water to create 3D images of metabolic activity. In cancer care, tracer choice depends on tumor type and cancer stage under evaluation

OBJECTIVE

The objective of this evidence review is to determine whether the use of positron emission tomography (PET) for the diagnosis, staging and restaging, and/or surveillance improves the net health outcome in individuals with bone and soft tissue sarcoma cancer.

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POLICY STATEMENT

Bone Sarcoma

FDG-PET or FDG-PET/CT (positron emission tomography (PET)) scanning may be considered **medically necessary** in the staging or restaging of Ewing sarcoma and osteosarcoma.

FDG-PET or FDG-PET/CT (positron emission tomography (PET) scanning is considered **investigational** in the staging of chondrosarcoma.

Soft Tissue Sarcoma

FDG-PET or FDG-PET/CT (positron emission tomography (PET) scanning is considered **investigational** in the evaluation of soft tissue sarcoma, including but not limited to the following applications:

- Distinguishing between benign lesions and malignant soft tissue sarcoma,
- Distinguishing between low-grade and high-grade soft tissue sarcoma,
- Detecting locoregional recurrence, and
- Detecting distant metastasis.

FDG-PET or FDG-PET/CT (positron emission tomography (PET) scanning is considered **medically necessary** for evaluating response to TKI and other treatments for gastrointestinal stromal tumors.

POLICY GUIDELINES

Use of PET scanning for surveillance as described in the policy statement and policy rationale refers to the use of PET to detect disease in asymptomatic individuals at various intervals. This is not the same as the use of PET for detecting recurrent disease in symptomatic individuals; these applications of PET are considered within tumor-specific categories in the policy statements.

BENEFIT APPLICATION

Experimental or investigational procedures, treatments, drugs, or devices are not covered (See General Exclusion Section of brochure).

FDA REGULATORY STATUS

in 2000, Fluorine 18 fluorodeoxyglucose (FDG) was approved as a radiotracer for use in positron emission tomography (PET) imaging. It is used for evaluating, staging, and monitoring treatment for cancers such as non-small cell lung cancer, lymphomas, colorectal carcinoma, malignant melanoma, esophageal carcinoma, head and neck cancer, thyroid carcinoma, and breast cancer. As a glucose analogue it accumulates in most tumors in a greater amount than it does in normal tissue.

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RATIONALE

Summary of Evidence

Bone Sarcoma

For individuals who have suspected or diagnosed bone sarcoma and in need of staging or restaging information who receive fluorodeoxyglucose (FDG)-positron emission tomography (PET) or FDG-PET/computed tomography (CT), the evidence includes systematic reviews and meta-analyses. Relevant outcome is test validity. Pooled analyses have shown that PET or PET/CT can effectively diagnose and stage bone sarcoma, including chondrosarcoma. Use of PET or PET/CT has high sensitivities and specificities in detecting metastases in bone and lymph nodes; however, the tests have low sensitivity in detecting lung metastases. Clinical guidelines include PET and CT to inform management decisions that may offer clinical benefit. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who are asymptomatic after completing bone sarcoma treatment who receive FDG-PET or FDG-PET/CT, there is no evidence. Relevant outcome is test validity. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

Soft Tissue Sarcoma

For individuals who have diagnosed soft tissue sarcoma and in need of staging or restaging information who receive FDG-PET or FDG-PET/CT, the evidence includes an Agency for Healthcare Research and Quality review and a systematic review using PET for assessing response to imatinib. Relevant outcome is test validity. The review reported that PET had low diagnostic accuracy and there was a lack of studies comparing PET with alternative diagnostic modalities. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

For individuals with diagnosed soft tissue sarcoma and in need of rapid reading of response to tyrosine kinase inhibitor (TKI) treatment who receive FDG-PET or FDG-PET/CT, the evidence includes a systematic review. Relevant outcome is test validity. The review concluded that PET/CT can be used to monitor treatment response to TKI which can lead to individually adapted treatment strategies. The evidence is sufficient to determine that the technology results in an improvement in the net health outcome.

For individuals who have suspected soft tissue sarcoma or who are asymptomatic after completing soft tissue sarcoma treatment who receive FDG-PET or FDG-PET/CT, the evidence includes a systematic review. Relevant outcome is test validity. The review concluded that there was insufficient evidence on the use of PET for the detection of locoregional recurrence. The evidence is insufficient to determine that the technology results in an improvement in the net health outcome.

SUPPLEMENTAL INFORMATION

Practice Guidelines and Position Statements

Guidelines or position statements will be considered for inclusion in 'Supplemental Information' if they were issued by, or jointly by, a US professional society, an international society with US representation, or National Institute for Health and Care Excellence (NICE). Priority will be given to guidelines that are informed by a systematic review, include strength of evidence ratings, and include a description of management of conflict of interest.

Current National Comprehensive Cancer Network, American College of Radiology, and other relevant U.S.-based guidelines are summarized in each section of the Rationale.

U.S. Preventive Services Task Force Recommendations

Not applicable.

Medicare National Coverage

The Medicare coverage policy on positron emission tomography scans, which was updated in 2013, is summarized in Table 1.[10,

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Table 1. National FDG PET coverage for oncologic conditions, effective for claims with dates of service on and after June 11, 2013

FDG PET for Cancers by Tumor Type	Initial Treatment Strategy (formerly "diagnosis" & "staging")	Subsequent Treatment Strategy (formerly "restaging" & "monitoring response to treatment")
Colorectal	Cover	Cover
Esophagus	Cover	Cover
Head and Neck (not thyroid, CNS)	Cover	Cover
Lymphoma	Cover	Cover
Non-small cell lung	Cover	Cover
Ovary	Cover	Cover
Brain	Cover	Cover
Cervix	Cover with exceptions *	Cover
Small cell lung	Cover	Cover
Soft tissue sarcoma	Cover	Cover
Pancreas	Cover	Cover
Testes	Cover	Cover
Prostate	Non-cover	Cover
Thyroid	Cover	Cover
Breast (male and female)	Cover with exceptions *	Cover
Melanoma	Cover with exceptions *	Cover
All other solid tumors	Cover	Cover
Myeloma	Cover	Cover
All other cancers not listed	Cover	Cover

CNS: central nervous system; FDG: fluorodeoxyglucose; PET: positron emission tomography.
*Cervix: Nationally non-covered for the initial diagnosis of cervical cancer related to initial anti-tumor treatment strategy. All other indications for initial anti-tumor treatment strategy for cervical cancer are nationally covered.
*Breast: Nationally non-covered for initial diagnosis and/or staging of axillary lymph nodes. Nationally covered for initial staging of metastatic disease. All other indications for initial anti-tumor treatment strategy for breast cancer are nationally covered.
*Melanoma: Nationally non-covered for initial staging of regional lymph nodes. All other indications for initial anti-tumor treatment strategy for melanoma are nationally covered.

REFERENCES

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POLICY HISTORY - THIS POLICY WAS APPROVED BY THE FEP® PHARMACY AND MEDICAL POLICY COMMITTEE ACCORDING TO THE HISTORY BELOW:

Date	Action	Description
September 2024	Replace policy - correction only	The following legacy policy statement was accidentally omitted when transfering indications from 6.01.26: PET scanning is considered medically necessary for evaluating response to imatinib and other treatments for gastrointestinal stromal tumors.
September 2025	Replace policy	Policy updated with literature review through September 17, 2024; no references added. Minor editorial refinements to policy statements; intent unchanged.
March 2026	Replace policy	Policy updated with literature review through September 24, 2025; references added. Significant editorial refinements to policy guidelines.

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