BlueCross BlueShield Federal Employee Program.

FEP Medical Policy Manual

FEP 6.01.65 Oncologic Applications of Positron Emission Tomography Scanning (Lung)

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
6.01.62 - 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 (Lung)

Description

Description

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 for the diagnosis, staging and restaging, and/or surveillance improves the net health outcome in individuals with lung cancer.

POLICY STATEMENT

Lung Cancer

FDG-PET or FDG-PET/CT(positron emission tomography (PET)) scanning may be considered **medically necessary** for any of the following applications:

- Individuals with a solitary pulmonary nodule to distinguish between benign and malignant disease when prior computed tomography (CT) scan and chest x-ray findings are inconclusive or discordant,
- As staging or restaging technique in those with known non-small-cell lung cancer, and
- To determine resectability for individuals with a presumed solitary metastatic lesion from lung cancer.

FDG-PET or FDG-PET/CT scanning may be considered **medically necessary** in staging of small-cell lung cancer if limited stage is suspected based on standard imaging.

FDG-PET or FDG-PET/CT scanning is considered **investigational** in staging of small-cell lung cancer if extensive stage is established and in all other aspects of managing small-cell lung cancer.

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.

RATIONALE

Summary of Evidence

Non-Small-Cell Lung Cancer

For individuals who have suspected non-small-cell lung cancer (NSCLC) and inconclusive results from other imaging techniques who receive fluorine 18 fluorodeoxyglucose (FDG)-positron emission tomography (PET) or FDG-PET/computed tomography (CT), the evidence includes several meta-analyses. Relevant outcome is test validity. Pooled analyses have shown that PET and PET/CT have better diagnostic performance than conventional imaging techniques. Clinical guidelines include PET/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 have diagnosed NSCLC and in need of staging or restaging information who receive FDG-PET or FDG-PET/CT, the evidence includes several meta-analyses. Relevant outcome is test validity. Pooled analyses have shown that PET and PET/CT have better diagnostic performance than conventional imaging techniques. Clinical guidelines include PET/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 have suspected NSCLC or who are asymptomatic after completing NSCLC 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.

Small-Cell Lung Cancer

For individuals with diagnosed small-cell lung cancer (SCLC) and in need of staging or restaging information who receive FDG-PET or FDG-PET/CT, the evidence includes systematic reviews and meta-analyses. Relevant outcome is test validity. While the quality of the studies was considered low, PET and PET/CT can be considered for staging or restaging in individuals with SCLC if a limited stage is suspected. Clinical guidelines include PET/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 have suspected SCLC or who are asymptomatic after completing SCLC 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.

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, effective for claims with dates of service on and after June 11, 2013, is summarized in Table 1.[17,]

Table 1. National FDG PET Coverage for Oncologic Conditions

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.

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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	New policy- Add to Radiology/Interventional Radiology section	Policy created by separating out lung cancer indications from policy 6.01.26. Policy revised with literature review through October 13, 2023. No references added. Policy statements unchanged.
September 2025	Replace policy	Policy updated with literature review through September 24, 2024; references added. Minor editorial refinements made to policy statements; intent unchanged. Policy guidelines updated to acknowledge situations when there are contraindications to contrast agents, making initial CT scans unattainable.
March 2026	Replace policy	Policy updated with literature review through September 25, 2025; references added. Editorial revision throughout policy related to use of guidelines. Intent of policy statements unchanged.