

MEDICA®

UTILIZATION MANAGEMENT POLICY

TITLE: POSITRON EMISSION TOMOGRAPHY (PET) SCAN

EFFECTIVE DATE: June 18, 2018

This policy was developed with input from specialists in cardiology, oncology, neurology and radiology, and endorsed by the Medical Policy Committee.

IMPORTANT INFORMATION – PLEASE READ BEFORE USING THIS POLICY

These services may or may not be covered by all Medica plans. Please refer to the member's plan document for specific coverage information. If there is a difference between this general information and the member's plan document, the member's plan document will be used to determine coverage. With respect to Medicare and Minnesota Health Care Programs, this policy will apply unless these programs require different coverage. Members may contact Medica Customer Service at the phone number listed on their member identification card to discuss their benefits more specifically. Providers with questions about this Medica utilization management policy may call the Medica Provider Service Center toll-free at 1-800-458-5512.

Medica utilization management policies are not medical advice. Members should consult with appropriate health care providers to obtain needed medical advice, care and treatment.

PURPOSE

To promote consistency between reviewers in utilization management decision-making by providing the criteria that generally determine the medical necessity of positron emission tomography (PET) scans. The Benefit Considerations box below outlines the process for addressing the needs of individuals who do not meet these criteria.

BACKGROUND

I. Definitions

- A. **Cardiac sarcoidosis** is a rare inflammatory disease in which clusters of white blood cells, called granulomas, form in the tissue of the heart. Any part of the heart can be affected, though these cell clusters most often form in the heart muscle where they can interfere with the heart's electrical system and cause arrhythmias. Most individuals with cardiac sarcoidosis also have granulomas in other organs of the body, most commonly in the lungs.
- B. **Coronary Artery Disease (CAD)** refers to any one of the abnormal conditions that may affect the arteries of the heart and produce various pathologic effects, especially the reduced flow of oxygen and nutrients to the myocardium. The major complications of CAD are angina, myocardial infarction, and sudden cardiac death due to arrhythmias.
- C. **Myocardial perfusion imaging** is a non-invasive imaging test that shows how well blood flows through (perfuses) the heart muscle. It shows areas of the heart muscle that are not getting enough blood flow. This test is often called a nuclear stress test. There are two techniques for this imaging: single photon emission computed tomography (SPECT) and positron emission tomography (PET).
- D. **Positron emission tomography (PET)** is a three-dimensional diagnostic imaging technique that uses a radioactive substance (tracer) to look for disease in the body. The test involves either an intravenous injection or inhalation of the tracer which travels through the body and is absorbed by the organs and tissues. Once the tracer is absorbed, the individual will proceed with the scan. The PET scanner detects and records the energy given off by the tracer and, with the aid of a computer, this energy is converted into three-dimensional pictures. The physician can view cross-sectional images of the body organ from any angle in order to detect any functional problems. A PET scan shows how the organs and tissues are functioning and can measure blood flow, oxygen use, and glucose metabolism.
- E. **Positron emission tomography/computed tomography (PET/CT)** is a diagnostic imaging technique that combines the functional information from the PET with the anatomical information from the CT into one set of images. Both scans are performed at the same time. The results are merged and form highly-defined, three-dimensional images that provide detailed information. The PET/CT is primarily used in cancer diagnosis and

staging.

- F. **Refractory epilepsy** is when medications do not successfully control the epileptic seizures. Epilepsy is a neurological disorder characterized by unpredictable seizures.
- G. **Solid tumor** is an abnormal mass of tissue that usually does not contain cysts or liquid areas. Solid tumors may be benign (not cancer), or malignant (cancer). Different types of solid tumors are named for the type of cells that form them. Examples of solid tumors are sarcomas, melanomas, and carcinomas. Leukemias (cancers of the blood) generally do not form solid tumors.
- H. **Surveillance** is done for the purpose of detecting recurrence or progression or predicting outcome beyond the completion of treatment in the absence of signs or symptoms of cancer.

II. Comments

A PET/CT test has two components: a PET scan and a CT, which are done together. The radiation exposure from CT has a very wide range depending on the type of test, the area of the body scanned and the purpose of the test.

The effective dose from a PET is modest and depends on the activity of the tracer injected. Most commonly, PET utilizes ¹⁸F-FDG as a radiotracer, the short half-life (110 min) of which reduces radiation exposure compared with other commonly used radionuclides such as ^{99m}Tc (6 hours) and ²⁰¹Tl (72 hours). The radiation exposure from ¹⁸F results in internal exposure to the patient and low level external exposure to other people in their vicinity.

Radiation effects are known to be cumulative in nature when repeat radiological procedures are performed. Therefore, it is important that the provider is aware of all previous diagnostic imaging.

BENEFIT CONSIDERATIONS

1. Prior authorization **is required** for PET scans in the outpatient setting. Please see the prior authorization list for product specific prior authorization requirements.
2. Prior authorization is **NOT required** for PET scans in the inpatient hospital setting.
3. Coverage may vary according to the terms of the member's plan document.
4. Request for additional scans for the same indication for the sole purpose of changing providers is not medically necessary.
5. Positron emission tomography (PET) scan with or without computed tomography (CT) *is investigative and therefore, not covered* for all indications not specifically mentioned in the Medical Necessity Criteria section, including but not limited to:
 - a. Screening of asymptomatic patients, with or without risk factors for a specific condition or disease.
 - b. For the purpose of detecting recurrence or progression or predicting outcome beyond the completion of treatment in the absence of signs or symptoms (**referred to as surveillance**) of all cancers other than melanoma.
 - c. Diagnosis of Alzheimer's disease/dementia.
 - d. Neurologic applications in disorders associated with dementia or impaired movement, such as Alzheimer's disease, Huntington's disease, Wilson's disease, or Parkinson's disease.
 - e. Neurologic assessment of patients with cerebrovascular disorders, attention-deficit hyperactivity disorder (ADHD), autism spectrum disorders, schizophrenia, substance abuse, or head trauma.
 - f. Infection and inflammation assessment, including but not limited to chronic osteomyelitis, infection of hip arthroplasty or fever of unknown origin (FUO).
 - g. Assessment of all other diseases or conditions.
6. If the Medical Necessity and Coverage Criteria are met, Medica will authorize benefits within the limits in the member's plan document.
7. If it appears that the Medical Necessity and Coverage Criteria are not met, the individual's case will be reviewed by the medical director or an external reviewer. Practitioners are reminded of the appeals process in their Medica Provider Administrative Manual.

MEDICAL NECESSITY CRITERIA

NOTE: Requests for additional PET scans for the same indication for the sole purpose of changing providers is not medically necessary. (Please see Benefit Considerations section)

Oncology

I. Indications for PET scan with or without CT

A. **Initial PET scan for treatment guidance and/or staging**

All of the following criteria must be met:

1. There is a known or suspected malignancy as defined by **one of the following**:

a. **Known** diagnosis of cancer and **all of the following** are present:

- i. The stage of cancer is unknown or remains in doubt following other testing modalities (e.g., CT, MRI or ultrasound)
- ii. The stage of the cancer is needed to determine the type of treatment or surgical intervention
- iii. Treatment has not been initiated.

b. **Suspected** malignancy based on an abnormality found by other testing modalities (e.g., CT, MRI or ultrasound)

2. The type of tumor is **one of the following**:

- a. Solid tumor or mass
- b. Pulmonary nodule or mass
- c. Multiple myeloma or plasmacytomas
- d. Non-Hodgkin or Hodgkin Lymphoma

3. The PET scan is needed to determine **one of the following**:

- a. The anatomic location for an invasive procedure
- b. The appropriateness for invasive diagnostic or therapeutic procedure
- c. The extent of the malignancy, when results will assist with selection of treatment.

NOTE:

- In general, for most solid tumors, a diagnosis is made by biopsy prior to the performance of a PET. PET scans following a tissue diagnosis are performed for the purpose of staging, not diagnosis. Therefore, the use of PET for diagnosis is rarely considered medically necessary.
- PET scan for treatment guidance and staging is generally done at the same time. Two separate PET scans are not considered medically necessary.

B. **Restaging or subsequent scanning**

All of the following criteria must be met:

1. The type of tumor is **one of the following**:

- a. Solid malignant tumor
- b. Multiple myeloma or plasmacytomas
- c. Non-Hodgkin or Hodgkin Lymphoma

2. Initial course of treatment has been completed.

NOTE: For Hodgkin Lymphoma, two cycles of chemotherapy are considered a course of treatment in accordance with National Comprehensive Cancer Network (NCCN) guidelines.

3. **One of the following** criteria is met:

a. PET scan is needed following surgery, chemotherapy and/or radiation therapy to plan subsequent treatment (e.g., to check tumor response or tumor location)

b. PET scan is needed to assess **one of the following**:

- i. Treatment response (e.g., residual disease or progression)
- ii. Suspected recurrent disease as defined by **one of the following**:
 - (1) Abnormal findings on physical examination
 - (2) Abnormal laboratory tests or other imaging studies
 - (3) Signs and symptoms of recurrence
- iii. The extent of a known recurrence when other imaging modalities (e.g., CT, MRI or ultrasound) are either inconclusive or not indicated

4. PET scan will determine **one of the following**:

- a. A recommended course of treatment
- b. If current treatment should continue.

C. **Surveillance:**

PET scan for the purpose of detecting recurrence or progression, or for predicting outcome beyond the initial and subsequent completion of treatment in the **absence of signs or symptoms** for melanoma, when **all of**

the following criteria are met:

1. Stage IIB-IV
2. PET scan is performed no more frequently than one every four months
3. PET scan is performed within the first five years following completion of treatment.

NOTE: PET scan *is investigative and therefore not covered* for surveillance of all other cancers. See Benefit Considerations section.

- II. Written documentation from the medical record specifying the medical necessity according to the above criteria **is required**. Documentation **must include**, but is not limited to:
 - A. Previous diagnostic imaging report(s) and/or pathology report(s)
 - B. Detailed clinical history
 - C. Treatment plan.

Cardiology

- I. Indications for PET scan

One of the following indications must be met:

 - A. Myocardial perfusion assessment to **diagnose coronary artery disease (CAD)** or to **determine the severity of known CAD**.
 - B. Myocardial viability assessment, with or without myocardial perfusion imaging, to **determine candidacy for revascularization** (e.g., bypass surgery, stenting, angioplasty) when a single photon emission computed tomography (SPECT) or stress echocardiogram, completed within six months of the request, is inconclusive or unable to be completed.
 - C. Diagnosis or monitoring of cardiac sarcoidosis when magnetic resonance imaging (MRI) is inconclusive or contraindicated (e.g., implanted devices).
- II. Written documentation from the medical record specifying the medical necessity according to the above criteria **is required**. Documentation **must include**, but is not limited to:
 - A. Previous diagnostic imaging report(s)
 - B. Detailed clinical history.

Neurology

- I. Indications for PET scan
 - A. Identification or localization of seizure foci in individuals when **all of the following** criteria are met:
 1. Diagnosis of medically refractory epilepsy (seizures not controlled by medications)
 2. Surgery is planned or being considered
 3. Other testing modalities (e.g., MRI) did not conclusively identify or localize the seizure foci.
- II. Written documentation from the medical record specifying the medical necessity according to the above criteria **is required**. Documentation **must include**, but is not limited to:
 - A. Previous diagnostic imaging report(s)
 - B. Detailed clinical history.

CENTERS FOR MEDICARE & MEDICAID SERVICES (CMS)

- For Medicare members, refer to the following, as applicable at: <http://www.cms.hhs.gov/mcd/search.asp?>

DOCUMENT HISTORY

Original Effective Date	July 1, 2014
MPC Endorsement Date(s)	09/2014, 11/2015, 09/2016, 06/2017, 04/2018
Administrative Updates	05/01/2017, 08/2018

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