

**Policy terminated because Medicaid covers codes in the same manner as
Health Choice.**

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1.0 Description of the Procedure, Product, or Service

Positron Emission Tomography (PET) is a nuclear medicine imaging modality that produces images of the distribution of an injected radiopharmaceutical as it is metabolized by the body. PET radiopharmaceuticals are positron-emitting radioisotope tracers, so named because they bond to other substances in the recipient's bloodstream, such as glucose or water, and allow physiologic and pathologic activity in tissues and organs to be traced as the compound travels through the body. PET is used to assess biochemical activity, cellular metabolism, and the physiology and pathology of various organs and tissues to characterize the effects of disease on biochemical process, often before there is any anatomic evidence of disease. PET is not capable of creating pictures with the anatomic detail of x-rays, computed tomography (CT) scans or magnetic resonance imaging (MRI) scans.

There are numerous radiotracers available. The one most commonly used, especially in regard to oncological indications, is the glucose analog FDG. Use of PET imaging with FDG (2-[fluorine-18]-floro-2-deoxyd-glucose) is potentially useful in cancer imaging because it has been found that tumor cells use an increased amount of glucose.

FDG-SPECT, also referred to as metabolic SPECT (single photon emission computed tomography), or PET using a gamma camera, is a general term describing an imaging technique in which a SPECT gamma camera is used to detect photons emitted from decaying positrons associated with the metabolism of FDG. SPECT cameras can provide images reflecting the metabolic activity of tissues, similar to PET scanning.

2.0 Eligible Recipients

2.1 General Provisions

To be eligible, NCHC recipients must be enrolled on the date of service.

3.0 When the Procedure, Product, or Service Is Covered

3.1 General Criteria

NCHC covers procedures, products, and services related to this policy when they are medically necessary and

- a. the procedure, product, or service is individualized, specific, and consistent with symptoms or confirmed diagnosis of the illness or injury under treatment, and not in excess of the recipient's needs;
- b. the procedure, product, or service can be safely furnished, and no equally effective and more conservative or less costly treatment is available; **AND**
- c. the procedure, product, or service is furnished in a manner not primarily intended for the convenience of the recipient, the recipient's caretaker, or the provider.

3.2 Specific Criteria

Positron Emission Tomography is considered medically necessary and is eligible for coverage under the NC Health Choice Program for the following applications:

3.2.1 Myocardial Imaging

- a. Perfusion PET imaging for further evaluation of recipients who have had an equivocal nuclear stress test or stress echo within the past 60 days.
- b. Perfusion PET imaging in recipients who are at least 65 yrs old or have BMI >40 for the following indications:
 1. Evaluation of symptoms consistent with myocardial ischemia to diagnose or exclude coronary artery disease;
 2. Established coronary artery disease with recurrent atypical symptoms;
 3. Evaluation of regional myocardial blood flow in the recipient with multiple vessel coronary artery disease with a view to identifying a “culprit” lesion for revascularization; **OR**
 4. Evaluation of asymptomatic recipients who by virtue of risk factor status are at intermediate or high risk of coronary artery disease.
- c. Metabolic PET imaging to determine myocardial viability in recipients with established coronary artery disease and left ventricular systolic dysfunction when BOTH of the following additional criteria are also met:
 1. Revascularization is being considered and determination of myocardial viability will influence the decision regarding revascularization; **AND**
 2. Viability status is not defined by other testing

3.2.2 Brain Imaging

- a. Refractory seizures/epilepsy: Presurgical evaluation to locate the foci of intractable seizure activity in recipients who have failed conventional medical therapy
- b. Fronto-temporal lobe dementia and Alzheimer’s disease: Use of PET is approved only to differentiate between Fronto-Temporal Dementia and Alzheimer’s Disease, when the recipient’s clinical presentation fits both diagnoses and other conventional testing has been unable to reveal a definitive diagnosis

3.2.3 Oncologic Imaging

- a. Brain Cancer: To differentiate radiation necrosis from recurrent brain tumor in recipients with a confirmed brain cancer diagnosis who have been treated with radiation therapy
- b. Breast Cancer:
 1. As an adjunct to standard imaging modalities (e.g., CT, MRI, and/or Ultrasound) in the staging of breast cancer with distant metastases, excluding staging of axillary nodes.

2. As an adjunct to standard imaging modalities (e.g., CT, MRI, and/or Ultrasound) in the restaging (after completion of treatment) of loco-regional recurrence or metastases.
 3. As an adjunct to standard imaging modalities (e.g., CT, MRI, and/or Ultrasound) in monitoring tumor response to treatment, in locally advanced and metastatic breast cancer, when a change in therapy is contemplated.
- c. Cervical Cancer (invasive): In the pre-treatment staging phase of newly diagnosed and locally advanced cervical cancer, as an adjunct to conventional imaging. A pathologic diagnosis of cervical cancer must be confirmed prior to PET and conventional imaging modalities (e.g., CT, MRI, and/or Ultrasound) are negative for extrapelvic metastases.
- d. Colorectal Cancer, Esophageal Cancer, Head and Neck Cancer (excluding central nervous system and thyroid cancers), Lymphoma, Melanoma, and Non-Small Cell Lung Cancer:
1. For diagnosis when PET results may assist in avoiding an invasive diagnostic procedure, or the results may assist in determining the optimal anatomical location to perform an invasive diagnostic procedure, and the diagnosis has not been confirmed by tissue biopsy.
 2. For staging when the stage of cancer remains in doubt after completion of standard diagnostic work-up, including CT, MRI, and/or Ultrasound; or the use of PET could replace one or more conventional imaging studies, when it is expected that conventional study information is insufficient for the clinical management of the recipient; and the clinical management of the recipient would differ depending on the stage of cancer identified.
 3. For restaging to detect residual disease after completion of treatment (surgery, chemotherapy and/or radiation treatment); or to detect suspected recurrence in the presence of clinical signs/symptoms suggestive of recurrent tumor (or also if rising CEA level in colorectal cancer); or to determine the extent of a known recurrence; or to potentially replace one or more conventional imaging studies (e.g., CT, MRI, and/or Ultrasound) when it is expected that the conventional study information is insufficient for the clinical management of the recipient.
- e. Thyroid Cancer: For restaging of recurrent or residual cancer of follicular cell origin when there has been previous thyroidectomy; and previous treatment with radioiodine ablation; and a serum thyroglobulin level of > 10 ng/ml; and a negative I-131 whole body scan. [NOTE: Dedifferentiation of a previously documented well-differentiated thyroid carcinoma may lead to loss of iodine-concentrating capacity and failure to produce thyroglobulin, leading to false negative iodine scans, and minimal if any rise in serum thyroglobulin levels. When this altered tumor behavior is established, repeat I-131 whole body scan and thyroglobulin level >10ng/ml are not required to meet criteria for PET imaging.]

- f. Testicular Cancer: For restaging in recipients with post-treatment signs, symptoms or findings suggestive of residual or recurrent disease (e.g., elevated tumor markers such as alpha fetoprotein or human chorionic gonadotropin)
- g. Unknown Primary Neoplasm Presenting With Metastatic Disease Outside of the Cervical Lymph Nodes
 - 1. For further evaluation when ALL FOUR of the following criteria are met:
 - (a) Tumor is limited to a single site of disease and is outside of the cervical lymph nodes;
 - (b) Local or regional treatment for a single site of metastatic disease is being considered;
 - (c) Standard work-up for an occult primary tumor is negative; **AND**
 - (d) PET will be used to rule out or detect additional sites of disease that would eliminate the rationale for local or regional treatment.
 - h. Small Solitary Pulmonary Nodules:
 - 1. For characterization of solitary pulmonary nodules when CT scan results were positive for an indeterminate or possibly malignant lesion not exceeding 4 cm in diameter; **OR**
 - 2. For serial evaluation of solitary pulmonary nodules when the PET scan is not being performed within 90 days of a negative PET scan.
 - i. Ovarian cancer: for suspected recurrence with rising CA-125 and negative or inconclusive CT imaging.
 - j. Other
 - For the diagnosis of chronic osteomyelitis.

4.0 When the Procedure, Product, or Service Is Not Covered

4.1 General Criteria

Procedures, products, and services related to this policy are not covered when

- a. the recipient does not meet the eligibility requirements listed in **Section 2.0**;
- b. the recipient does not meet the medical necessity criteria listed in **Section 3.0**;
- c. the procedure, product, or service unnecessarily duplicates another provider's procedure, product, or service; or
- d. the procedure, product, or service is experimental or investigational.

4.2 Specific Criteria

- a. The use of PET Scans for all indications other than those specifically listed in **Subsection 3.2** (including cancer of the liver, ovary, and pancreas, small cell lung cancer, and soft tissue sarcomas) is considered investigational and is not covered under the NC Health Choice Program.
- b. PET Scans are not covered for the initial diagnosis of breast cancer and staging of axillary lymph nodes.
- c. FDG-PET is not covered for evaluation of regional lymph nodes in staging of melanoma.
- d. The use of PET for restaging purposes typically does not occur at intervals of less than 50 calendar days.
- e. For serial evaluation of solitary pulmonary nodules, PET scans are not covered when performed within 90 days following a negative PET scan.
- f. Cardiac PET is eligible for coverage only when performed in place of, but not in addition to SPECT, or when the SPECT exam is inconclusive.
- g. PET is not covered as a screening test in recipients without specific signs and symptoms of disease.

5.0 Requirements for and Limitations on Coverage

5.1 Prior Approval

Prior approval is not required for PET scans.

6.0 Providers Eligible to Bill for the Procedure, Product, or Service

To be eligible to bill for procedures, products, and services related to this policy, providers shall

- a. meet NCHC qualifications for participation;
- b. be currently enrolled with NCHC; **AND**
- c. bill only for procedures, products, and services that are within the scope of their clinical practice, as defined by the appropriate licensing entity.

7.0 Additional Requirements

7.1 Compliance

Providers must comply with all applicable federal, state, and local laws and regulations, including the Health Insurance Portability and Accountability Act (HIPAA) and record retention requirements.

8.0 Policy Implementation/Revision Information

Original Effective Date: July 1, 2010

Revision Information:

Date	Section Revised	Change
July 1, 2010		Policy Conversion: Implementation of Session Law 2009-451, Section 10.32 "NC HEALTH CHOICE/PROCEDURES FOR CHANGING MEDICAL POLICY."
4/30/12	Throughout	Policy Termination

Attachment A: Claims-Related Information

Reimbursement requires compliance with all NCHC guidelines.

A. Claim Type

Professional (CMS-1500/837P transaction)

Institutional (UB-04/837I transaction)

B. Diagnosis Codes

Providers must bill the ICD-9-CM diagnosis codes(s) to the highest level of specificity that supports medical necessity.

C. Procedure Code(s)

HCPCS Codes				
G0219				
CPT Codes				
78459	78491	78492	78608	78609
78811	78812	78813	78814	78815
78816				
Revenue code				
404				
Procedure Codes				
92.01				
92.05				
92.12				
92.19				

The above codes pend for medical necessity review except for: 78810 and revenue code 404, which do not pend if the diagnosis is 162.3 (Malignant neoplasm of upper lobe bronchus or lung), 162.4 (Malignant neoplasm of middle lobe bronchus or lung) or 162.5 (Malignant neoplasm of lower lobe bronchus or lung).

D. Modifiers

Providers are required to follow applicable modifier guidelines.

E. Billing Units

The appropriate procedure code(s) used determines the billing unit(s).

F. Place of Service

Inpatient Hospital and Outpatient Hospital.

G. Co-payments

Co-payment(s) may apply to covered prescription drugs and services.

H. Reimbursement

Providers must bill their usual and customary charges.