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CHAMPVA POLICY MANUAL

CHAPTER: 2
SECTION: 26.9
TITLE: **PET (POSITRON EMISSION TOMOGRAPHY)**

AUTHORITY: 38 CFR 17.270(a) and 17.272(a)

RELATED AUTHORITY: 32 CFR 199.4(b)(2)(vii) and (c)(2)(ix)

I. EFFECTIVE DATE

- A. January 1, 1995, for FDG PET ischemic heart disease.
- B. December 1, 1995, for FDG (glucose analog 2-[flourine-18]-flouro-2-deoxy-D-glucose) PET, lung cancer.
- C. July 1, 2001, for FDG PET esophageal cancer, colorectal cancer, head and neck cancers (excluding **CNS** (central nervous system)).
- D. January 1, 2002, for FDG PET with gamma cameras for colorectal or colorectal metastatic cancer, lymphoma, and melanoma.
- E. February 27, 2002, for FDG PET breast cancer.
- F. April 1, 2002, for FDG PET imaging whole body for lung cancer, non-small cell; colorectal cancer; melanoma; lymphoma; head and neck cancer (excluding CNS cancers); esophageal cancer; presurgical evaluation of refractory seizures.
- G. October 1, 2002, for FDG PET (full and partial ring scanners), for determination of myocardial viability as a primary or initial diagnostic study before revascularization and following an inconclusive SPECT study.
- H. April 16, 2003, for FDG PET for high blood pressure, coronary artery disease, congestive heart failure, stroke and for restaging of previously treated follicular cell origin thyroid cancer with an elevated or rising serum thyroglobulin.
- I. **October 1, 2003, for FDG PET for perfusion of the heart using ammonia N-13 tracer.**

J. June 15, 2004, for FDG PET for suspected AD (Alzheimer's disease) and FTD (Fronto-temporal dementia).

II. PROCEDURE CODE(S)

- A. CPT codes: 78459, 78491-78492, 78608-78609, and 78810
- B. HCPCS Level II codes: G0030-G0047, G0210-G0234

III. DESCRIPTION

PET (Positron emission tomography) is a nuclear imaging procedure that uses short-lived radiopharmaceuticals to detect and quantify metabolic abnormalities of disease processes.

IV. POLICY

- A. PET scans require medical review.
- B. PET scans may be cost shared when performed to localize epileptogenic foci in patients with complex partial seizure disorders who are being considered for neurosurgical resection of the focus. Medical conditions may include:
 - 1. The patient's seizures are intractable to medical therapy.
 - 2. Prior diagnostic studies suggest, but do not confirm, the presence of a localized seizure.
 - 3. The seizure focus is located in an area of the brain amenable to surgical resection.
- C. PET scans may be covered for evaluation of ischemic heart disease when:
 - 1. The image agent used is Rb 82 (Rubidium 82). Rb 82 is the only PET radiopharmaceutical approval by the FDA for cardiac application.
 - 2. PET is used in place of, but not in addition to, **SPECT** (single photon emission computed tomography).
 - 3. SPECT was inconclusive (test results are equivocal, technically uninterpretable, or discordant with a patient's other clinical data).
- D. FDG PET scans may be covered for the diagnosis and management of lung cancer.

E. FDG PET for identifying unknown primary tumor suspected in the head and neck, initial staging of cervical lymphnode metastases, and detection of residual or recurrent head and neck cancer. [April 2000]

F. FDG PET for colon cancer.

G. FDG PET for breast cancer.

H. FDG PET for determination of myocardial viability as a primary or initial diagnostic study before revascularization and only following an inconclusive (SPECT) study.

I. FDG PET imaging whole body for:

1. colorectal cancer,
2. esophageal cancer,
3. head and neck cancer, excluding thyroid and CNS cancer,
4. lung cancer, non-small cell,
5. lymphoma,
6. melanoma, and
7. metabolic brain imaging for pre-surgical evaluation of refractory seizures.

J. FDG PET imaging whole body performed with gamma cameras for:

1. Recurrence of colorectal or colorectal metastatic cancer,
2. Staging and characterization of lymphoma, and
3. Recurrence of melanoma or melanoma metastatic cancer, and solitary pulmonary nodule following CT (Computed Tomography), or for initial staging of non-small cell lung cancer.

K. The use of FDG PET after a negative initial diagnostic work-up for an OPT (occult primary tumor), to rule out or detect additional metastatic sites for patients considering local or regional therapy, as part of the treatment plan for a single site of metastatic carcinoma outside the cervical lymph nodes.

L. The use of FDG PET for single indication, staging of thyroid cancer of follicular cell origin previously treated by thyroidectomy and radioiodine ablation with an elevated or rising serum thyroglobulin greater than 10 ng/ml and negative I-131 whole body scan.

M. The use of FDG PET for patients with high blood pressure, coronary artery disease, congestive heart failure, and stroke.

N. PET scans for other indications are covered when documented by reliable evidence as safe, effective and comparable or superior to the standard care (proven).

O. PET scan performed at rest or with pharmacological stress for non-invasive imaging of the perfusion of the heart for diagnosis and management of patients with known or suspected coronary artery disease using FDA-approved radiopharmaceutical ammonia N-13. This can be performed in place of, but not in addition to a SPECT, or when SPECT is found to be inconclusive.

P. PET scans for patients with a recent diagnosis of dementia and documented cognitive decline for at least six months who meet diagnostic criteria for both AD and FTD (Fronto-temporal dementia) and who have been evaluated for specific alternate neurodegenerative disease or causative factors.

V. EXCLUSIONS

PET is considered experimental/investigational (unproven) for the following:

1. The differential diagnosis of symptomatic intracranial masses.
2. The differentiation of low-grade and high-grade brain tumors.
3. The guidance of stereotatic biopsy of documented intracranial mass.
4. The differentiation of brain tumor from radionecrosis.
5. The monitoring of response of treatment in patients with brain tumors.
6. Assessment of cerebrovascular disease; including ischemic disease, hemorrhagic disease, and arteriovenous malformations.
7. The diagnosis, staging, and monitoring of treatment for:
 - (a) CNS,
 - (b) cervix cancer,
 - (c) germ-cell cancer,
 - (d) hepatocellular carcinoma,
 - (e) kidney tumors,
 - (f) musculoskeletal cancer,

- (g) ovarian cancer,
- (h) pancreatic cancer,
- (i) parathyroid cancer,
- (j) pituitary tumors,
- (k) prostate cancer,
- (l) testicular tumors,
- (m) initial staging of postsurgical thyroid cancer of cell types known to concentrate I-131 poorly, such as Hurthle cell and variants of papillary cancer, and
- (n) restaging of previously treated thyroid cancer of medullary cell origin with an elevated serum calcitonin and negative standard imaging tests.

8. The diagnosis, evaluation, and monitoring of response to treatment of:
 - (a) Huntington's disease,
 - (b) multi-infarct dementia,
 - (c) Pick's disease,
 - (d) progressive supranuclear palsy, and
 - (e) Wilson's disease
9. The diagnosis and assessment of schizophrenia.
10. The assessment of substance abusers.
11. The assessment of attention-deficit hyperactivity disorder.
12. The assessment of head trauma.
13. The use of FDG PET as part of an initial work-up for an OPT or when there are multiple sites of metastases from an OPT.

|| 14. The use of FDG PET for patients with MCI (mild cognitive impairment) or ||
|| for patients with early dementia (cognitive decline for less than 6 months). ||

END OF POLICY