

Oncology clinical indications for PET

Breast Cancer

- Staging patients at high risk for metastasis
- Restaging after radiation and/or chemotherapy
- Evaluate response to treatment; recurrence

Colorectal Cancer

- Preoperative staging in high risk patients
- Localize recurrent disease when CEA is elevated or rising
- Evaluation for scar vs. recurrence in patients with a history of rectal ca and a pre-sacral mass post surgery and radiation

Esophageal Cancer

- Pre-surgical staging to evaluate regional nodal and distant metastases
- Restaging to evaluate recurrent and/or distant disease

Head and Neck Cancer

(excludes CNS and thyroid cancer)

- Preoperative evaluation of regional nodal and distant metastases
- Assess presence of residual/recurrent tumor

Lymphoma

(Hodgkin's and non-Hodgkin's)

- Initial staging – PET is substantially more sensitive and specific than gallium scintigraphy with SPECT in the evaluation of lymphoma
- Complementary to CT for primary staging
- Highly accurate for evaluation of residual mass post-chemotherapy
- Evaluation before possible high dose therapy with transplantation and as a routine follow-up tool after transplantation

Melanoma

(excludes regional; node evaluation)

- Whole body staging in high risk patients
- Restaging to evaluate recurrent and/or distant sites of disease

Non-small Cell Lung Cancer (NSCLC)

- Preoperative staging to evaluate mediastinum and distant disease
- Restaging to determine recurrent and/or distant disease after surgery, radiation therapy or chemotherapy

Solitary Pulmonary Nodule

- Characterize indeterminate lung nodule as benign or malignant

Thyroid Cancer

- Staging of thyroid cancer of follicular cell origin previously treated by thyroidectomy and radioiodine ablation with an elevated or rising serum Tg > 10 ng/ml and negative 1_131 WBS

Brain Tumor*

- Differentiate recurrent tumor from radiation necrosis

Ovarian Cancer*

- Localize recurrent tumor

Non-Oncology indications for PET

Myocardial

- Assess myocardial viability and perfusion

Seizure Disorders

- Pre-surgical evaluation to localize focus of refractory seizures

Alzheimer's Disease*

- Evaluate early memory loss/cognitive decline
- Differentiate Alzheimer's from other types of dementia

* not approved by Medicare

Reimbursement

Medicare coverage criteria for NCSLC (lung cancer), lymphoma, melanoma, colorectal cancer, esophageal cancer and head and neck cancer:

- **Diagnosis:** PET is covered in clinical situations in which the PET results may assist in avoiding invasive diagnostic procedures, **OR** in which the PET may assist in determining an optimal anatomical location to perform an invasive procedure.
- **Staging and/or restaging:** PET is covered in clinical situations in which **1)** (a) the stage of the cancer remains in doubt after standard workup, including conventional imaging, **OR** (b) the use of PET would replace one or more conventional imaging studies when it is expected that conventional imaging is insufficient for the clinical management of the patient **and 2)** clinical management of the patient would differ depending on the state of the cancer identified. PET will be covered for restaging **AFTER** the completion of treatment for the purpose of detecting residual disease or recurrence.
- **SPN** – Solitary lesion < 4cm; patient has not had a negative PET scan within 90 days.

Medicare coverage criteria for breast cancer:

- **Staging patients with distant metastasis or restaging patients** with locoregional recurrence or metastasis as an adjunct to other imaging modalities; and for monitoring tumor response to treatment for women with locally advanced and metastatic breast cancer when a change in therapy is anticipated.

Medicare coverage criteria for thyroid cancer:

- **Restaging** of recurrent or residual thyroid cancers of follicular cell origin that have been previously treated by thyroidectomy and radioiodine ablation and have a serum thyroglobulin >10 ng/ml and negative I-131 whole body scan performed.

Private payers and PET:

- Most private payers require pre-authorization for PET scans.
- Many private payers cover PET scans for expanded indications like ovarian cancer, pancreatic cancer, cervical cancer, brain cancer and other cancers. Please verify with the PET center as to specific coverage and preauthorization criteria.