

BC Cancer Approved Indications for FDG-PET in the Clinical Management of Adult Oncology Patients

Brain

1. Evaluation of recurrent brain tumor versus post-treatment necrosis.

Breast Carcinoma

1. Evaluation of possible metastases when it cannot otherwise be confirmed and patient management would be significantly influenced (eg. equivocal conventional imaging studies and clinical suspicion or laboratory evidence of recurrence with negative conventional imaging).
2. Evaluation of response to therapy if it cannot be determined by other means and would significantly impact patient management.

NOTE: No defined indications in screening, routine evaluation of primary breast cancer, initial staging of axillary lymph nodes or in the routine assessment of response.

Gastrointestinal (esophagus, colorectal)

1. Esophageal Carcinoma
 - a. Base-line evaluation of medically fit patient considered eligible for surgical esophagectomy.
 - b. Evaluation post-chemotherapy and radiotherapy for patient deemed eligible for radical resection of residual disease.
2. Colorectal Carcinoma
 - a. Determination of stage in patient with potentially resectable recurrence.

Gynecologic (cervical)

1. Staging of locally advanced cervical cancer.
2. Staging of recurrent disease in patients being considered for pelvic exenteration.

NOTE: No defined indications in endometrial, ovarian or vulvar cancers.

Head and Neck Cancer (non-CNS, non-thyroid)

1. Diagnosis of primary site in patients presenting with squamous cell carcinoma metastatic to cervical lymph nodes with no obvious primary on conventional work-up.
2. Staging in patients with nasopharyngeal carcinoma and N2 or N3 nodal disease.
3. Staging in patients with level IV cervical lymph node metastases.
4. Diagnosis of suspected recurrence in the absence of other definitive evidence in patients being considered for salvage therapy.
5. Evaluation of cervical lymph nodes in patients for whom radical neck dissection is a part of the treatment plan for advanced primary disease.

Lung (non-small cell lung cancer)

1. Staging of patients with clinical Stage I and IIA lesions.
2. Staging of potentially resectable Stage IIB and III disease.
3. Planning for radical radiotherapy.
4. Staging prior to resection of solitary lung metastasis.

NOTE: No defined indications exist for bronchial carcinoid or small cell lung cancer.

Lymphoma (updated March 2012)

1. At diagnosis (staging) for patients with curable aggressive non-Hodgkin lymphoma (diffuse large B-cell lymphoma, all sub-types including primary mediastinal B-cell lymphoma; peripheral T-cell lymphoma, including specified and unspecified subtypes) and Hodgkin lymphoma.
2. Post-chemotherapy for patients with advanced stage curable aggressive non-Hodgkin lymphoma (diffuse large B-cell lymphoma, all sub-types including primary mediastinal B-cell lymphoma; peripheral T-cell lymphoma, including specified and unspecified subtypes) and Hodgkin lymphoma with residual CT abnormalities ≥ 2 cm to assess need for radiation therapy.
3. Limited stage (IA or IIA, non-bulky) Hodgkin lymphoma following 2 cycles of ABVD to plan remaining treatment.
4. Limited stage (IA or IIA, non-bulky) diffuse large B-cell lymphoma (all subtypes, including primary mediastinal B-cell lymphoma) following 3 cycles of R-CHOP to plan remaining treatment.
5. Evaluation of patients newly diagnosed with solitary plasmacytoma to exclude multiple myeloma.

NOTE: No defined indication in the routine evaluation of low grade lymphomas.

Melanoma

1. Evaluation of patients with Stage III (Any T, N1-3, M0) disease for whom radical surgery is planned.
2. Evaluation of patients with Stage IV disease (initial or recurrent) for whom surgery for limited metastatic disease is planned.

NOTE: No defined indication in patients with Stage I and II melanoma or for unknown primary site metastatic melanoma.

Sarcoma

1. Evaluation of primary soft tissue mass prior to biopsy to identify high grade areas and guide biopsy.
2. Staging of locally advanced (10 cm or greater in maximum dimension) high grade soft tissue sarcomas.
3. Staging of Ewing's sarcoma and rhabdomyosarcoma in adults.
4. Detection of suspected local recurrence of soft tissue sarcoma after definitive treatment.
5. Evaluating early response of gastrointestinal stromal tumors (GIST) to treatment with imatinib mesylate.

Solitary pulmonary nodule (characterization)

1. Undiagnosed solitary lung nodule in patients at high risk from trans-thoracic needle biopsy.

Testicular Carcinoma (germ cell)

1. As an adjunct to initial staging of patients with Stage II seminomatous (SGCT) and non-seminomatous germ cell tumors (NSGCT).
2. Post-treatment evaluation of residual masses.
3. Detection of recurrent disease in the setting of rising tumor markers and absence of radiologic evidence of disease.

NOTE: No defined indication in prostate, renal cell, or bladder carcinoma.

Thyroid Carcinoma

1. Detection of suspected recurrence post-definitive therapy based on rising thyroglobulin levels in the circumstance of a negative radio-iodine study (papillary and follicular carcinomas).

NOTE: No defined indication in the evaluation of thyroid nodules or anaplastic thyroid carcinoma.

Other cancers given specific clinical indications, as approved by the BC Cancer, on an individual basis

It is recognized in clinical practice that there may be clinical scenarios that do not meet specific guidelines but where expert medical opinion indicates the procedure could have a major impact on patient management. PET scan referrals in these cases will be reviewed on an individual basis and if approved by consensus, the patient will be offered participation in the study.