

## Clinical Indications for PET/CT

East Midlands  
April 2008

Clinical/diagnostic problem	Recommendation	Comment
Brain and Spinal Cord	[B]  [B]  [B] [C]  [C] [C]	Indicated: <ul style="list-style-type: none"> <li><input type="checkbox"/> Suspected tumour recurrence when anatomical imaging is difficult or equivocal and management will be affected. Often a combination of methionine and FDG PET scans will need to be performed</li> <li><input type="checkbox"/> Benign versus malignant lesions, where there is uncertainty on anatomical imaging and a relative contraindication to biopsy</li> <li><input type="checkbox"/> Identifying the grade of brain malignancy</li> <li><input type="checkbox"/> Investigation of the extent of tumour within the brain or spinal cord</li> </ul> Not indicated routinely: <ul style="list-style-type: none"> <li><input type="checkbox"/> Secondary tumours in the brain</li> <li><input type="checkbox"/> Assess tumour response to therapy</li> </ul>
Paratoid	[C]  [C] [C]	Indicated: <ul style="list-style-type: none"> <li><input type="checkbox"/> Identification of metastatic disease in the neck from a diagnosed malignancy</li> </ul> Not indicated routinely: <ul style="list-style-type: none"> <li><input type="checkbox"/> Differentiation of Sjogrens Syndrome from malignancy in the salivary glands</li> <li><input type="checkbox"/> Primary tumour of the parotid to distinguish benign from malignant disease</li> </ul>
Malignancies of the Oropharynx	[C] [B]	Indicated: <ul style="list-style-type: none"> <li><input type="checkbox"/> Identify extent of the primary disease</li> <li><input type="checkbox"/> Identify tumour recurrence in previously treated carcinoma</li> </ul> Not indicated routinely: <ul style="list-style-type: none"> <li><input type="checkbox"/> Preoperative staging of known</li> </ul>

	[C] [C]	oropharyngeal tumours <input type="checkbox"/> Search for primary with nodal metastases.
Larynx	[C] [C] [C]	Indicated: <input type="checkbox"/> Identify tumour recurrence in previously treated carcinoma Not indicated routinely: <input type="checkbox"/> Staging known laryngeal tumours <input type="checkbox"/> Identification of metastatic disease in the neck from a diagnosed malignancy
Thyroid	[B] [C] [B]	Indicated: <input type="checkbox"/> Assessment of patients with elevated thyroglobulin and negative iodine scans for recurrent disease Not indicated routinely: <input type="checkbox"/> Assessment of tumour recurrence in medullary carcinoma of the thyroid Not indicated: <input type="checkbox"/> Routine assessment of thyroglobulin positive recurrence with radioiodine uptake
Parathyroid	[C]	Not indicated routinely: <input type="checkbox"/> Localisation of parathyroid adenomas with methionine when other investigations are negative
Lung	[A] [A] [A] [C] [C]	Indicated: <input type="checkbox"/> Differentiation of benign versus malignant lesions where anatomical imaging or biopsy are inconclusive or there is a relative contraindication to biopsy <input type="checkbox"/> Preoperative staging of non small cell primary lung tumours <input type="checkbox"/> Staging of lung cancer prior to radical radiotherapy <input type="checkbox"/> Assessment of recurrent disease in previously treated areas where anatomical imaging is unhelpful Not indicated routinely: <input type="checkbox"/> Assessment of response to treatment
Oesophagus	[B]	Indicated: <input type="checkbox"/> Staging of primary cancer

	[C]  [C]	<input type="checkbox"/> Assessment of disease recurrence in previously treated cancers Not indicated routinely: <input type="checkbox"/> Assessment of neoadjuvant chemotherapy
Stomach	[C]  [C]	Indicated: <input type="checkbox"/> No routine indication Not indicated routinely (but may be helpful): <input type="checkbox"/> Assessment of gastro-oesophageal malignancy and local metastases
Small Bowel	[C]  [C]	Indicated: <input type="checkbox"/> No routine indication Not indicated routinely: <input type="checkbox"/> Proven small bowel lymphoma to assess extent of disease
Breast Cancer	[C]  [C]  [C]  [C]  [C]  [C]	Indicated: <input type="checkbox"/> Assessment and localisation of brachial plexus lesions in breast cancer (Radiation effects versus malignant infiltration) <input type="checkbox"/> Assessment of the extent of disseminated breast cancer Not indicated routinely: <input type="checkbox"/> Axillary node status (breast cancer) especially where there is a relative contraindication to axillary dissection <input type="checkbox"/> Assessment of multifocal disease within the difficult breast (dense breast or equivocal radiology) <input type="checkbox"/> Suspected local recurrence <input type="checkbox"/> Assessment of chemotherapy response Not indicated: <input type="checkbox"/> Routine assessment of primary breast cancer
Liver: Primary Lesion	[C]	Not indicated: <input type="checkbox"/> Routine assessment of hepatoma
Liver: Secondary Lesion	[C]  [C]  [C]	Indicated: <input type="checkbox"/> Equivocal diagnostic imaging (CT, MRI, Ultrasound) <input type="checkbox"/> Assessment pre and post therapy intervention <input type="checkbox"/> Exclude other metastatic disease prior to

		metastectomy
Pancreas	[C] [C] [C]	Indicated: <input type="checkbox"/> Staging a known primary Not indicated routinely: <input type="checkbox"/> Differentiation of chronic pancreatitis from pancreatic carcinoma <input type="checkbox"/> Assessment of pancreatic masses to determine benign or malignant status
Colon and Rectum	[A] [B] [C] [C] [C] [C]	Indicated: <input type="checkbox"/> Assessment of recurrent disease <input type="checkbox"/> Prior to metastectomy for colorectal cancer. Not indicated routinely: <input type="checkbox"/> Assessment of tumour response <input type="checkbox"/> Assessment of a mass that is difficult to biopsy Not indicated: <input type="checkbox"/> Assessment of polyps <input type="checkbox"/> Staging a known primary
Renal and Adrenal	[C] [C] [C] [C]	Indicated: <input type="checkbox"/> Assessment of possible adrenal metastases Not indicated routinely: <input type="checkbox"/> Paraganglionomas or metastatic pheochromocytoma to identify sites of disease Not indicated: <input type="checkbox"/> Assessment of renal carcinoma <input type="checkbox"/> Pheochromocytoma – MIBG scanning is usually first choice
Bladder	[C] [C] [C]	Indicated: <input type="checkbox"/> No routine indication Not indicated routinely: <input type="checkbox"/> Staging a known primary in selected cases <input type="checkbox"/> Recurrence with equivocal imaging
Prostate	[C]	Not indicated: <input type="checkbox"/> FDG in prostate cancer assessment

Testicle	[B] [B] [C]	Indicated: <input type="checkbox"/> Assessment of recurrent disease from seminomas and teratomas <input type="checkbox"/> Assessment of residual masses Not indicated routinely: <input type="checkbox"/> Assessment of primary tumour staging
Ovary	[C]	Indicated: <input type="checkbox"/> In difficult management situations to assess local and distant spread
Uterus: Cervix	[C] [C]	Indicated: <input type="checkbox"/> No routine indication Not indicated routinely: <input type="checkbox"/> In difficult situations to define the extent of disease both in advanced disease or determining the operability of large stage 1B2 (>4cm) cancers
Uterus: Body	[C]	Indicated: <input type="checkbox"/> No routine indication
Lymphoma	[B] [B] [B] [C] [C] [B] [C] [C] [C]	Indicated: <input type="checkbox"/> Staging of Hodgkins lymphoma. <input type="checkbox"/> Staging of NonHodgkins lymphoma <input type="checkbox"/> Assessment of residual masses for active disease <input type="checkbox"/> Identification of disease sites when there is suspicion of relapse from clinical assessment. <input type="checkbox"/> Assessment of remission from lymphoma <input type="checkbox"/> Response to chemotherapy <input type="checkbox"/> Pre-transplant assessment Not indicated routinely: <input type="checkbox"/> Assessment of bowel lymphoma <input type="checkbox"/> Assessment of bone marrow to guide biopsy
Musculoskeletal Tumours	[B] [B]	Indicated: <input type="checkbox"/> Soft tissue primary mass assessment to distinguish high grade malignancy from low or benign disease <input type="checkbox"/> Soft tissue mass biopsy site – to direct biopsy to most malignant area

	[B] [B] [C] [B]	<input type="checkbox"/> Staging of primary soft tissue malignancy to assess nonskeletal metastases <input type="checkbox"/> Assessment of recurrent abnormalities in operative sites <input type="checkbox"/> Assessment of osteogenic sarcomas for metastatic disease <input type="checkbox"/> Follow up to detect recurrence or metastases
Skin Tumours	[B] [C] [C] [B]	<p>Indicated:</p> <input type="checkbox"/> Malignant melanoma with known dissemination to assess extent of disease <input type="checkbox"/> Malignant melanoma in whom a sentinel node biopsy was not or can not be performed in stage II (AJCC updated classification). <p>Not indicated routinely:</p> <input type="checkbox"/> Staging of skin lymphomas <p>Not indicated:</p> <input type="checkbox"/> Malignant melanoma with negative sentinel node biopsy (see St Johns Dermatology website for management protocol)
Metastases from unknown primary	[C] [C]	<p>Indicated:</p> <input type="checkbox"/> Determining the site of an unknown primary when this influences management <p>Not indicated:</p> <input type="checkbox"/> Widespread metastatic disease when the determination of the site is only of interest.

**All other indications must have prior funding agreed by the patient's PCT prior to referral. This should be arranged via the Lead Cancer Clinician at the referring Trust.**