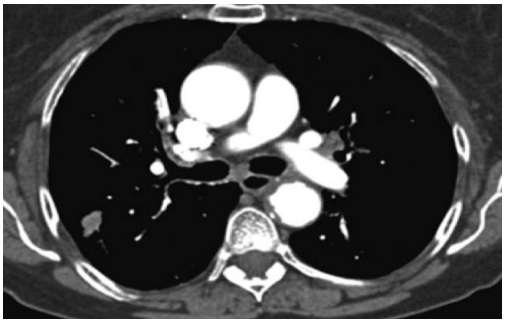
GROUP ONE: SHOULD BE CONSIDERED FOR RADICAL SURGERY

Tumour with normal hilar and mediastinum on staging CT with no distant metastases

Including: solid pulmonary nodules ≥5mm diameter and BROCK risk ≥10% or persistent sub-solid nodules for ≥3months or solid component ≥5mm or progressive GGO/MDO
Excluding: pure ground glass nodules, or stable sub-solid nodules with solid component ≤5mm.

Diagnostic Tests

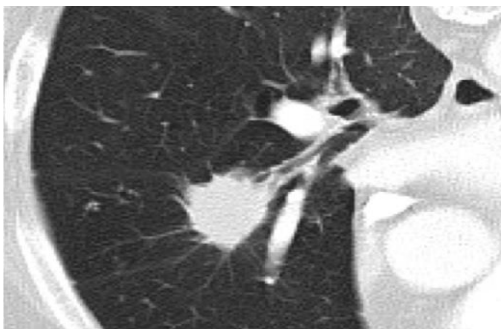
- PET-CT
- Consider CT Guided Bx
- or EBUS bronchoscopy/brushings



Factors favouring EBUS:
Presence of a bronchus sign ± central position ± high risk of pneumothorax from percutaneous approach e.g. severe emphysema.

Mandatory data set for MDT discussion:

- **PET-CT results**
- **Performance status, FEV_1 and DLco**
- **Clinical History**



Physiological Tests (Request Simultaneously)

- Spirometry and diffusion capacity
- ECG
- Creatinine clearance/ eGFR

Request echocardiogram if:

- Age ≥65
- Heart murmur
- Abnormal ECG
- Known ischaemic heart disease/ valvular disease
- Diabetes mellitus

Request CPET if:

- Ischaemic Heart Disease
- TLCO < 60%
- Disproportionate breathlessness
- Interstitial Lung Disease

Notes and Guidance

Peripheral tumour = positioned In the outer 2/3 of the thorax based on axial CT images
If biopsy is considered high risk , or probability of malignancy is borderline it maybe appropriate to wait PET results. If any positive hilar/ mediastinal nodes on PET request staging EBUS

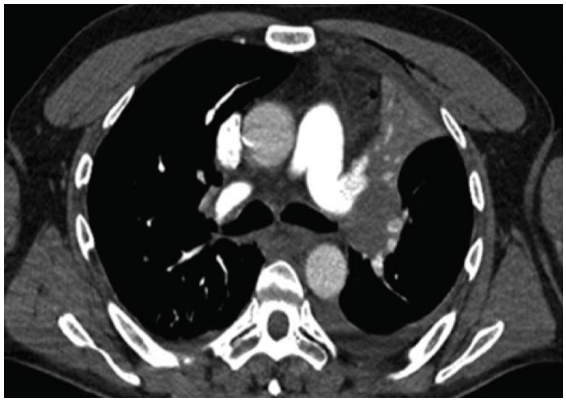
GROUP TWO: SHOULD BE CONSIDERED FOR RADICAL SURGERY

N1 lymphadenopathy with normal mediastinum on staging CT with no distant metastases.

PET-CT has a 15% false positive rate and 25% false negative rate for N2/3 disease in this category, therefore EBUS is required regardless of PET findings.
Prevalence of N2/3 disease in this category is 20-25%

Diagnostic Tests

- PET-CT
- Bronchoscopy and staging EBUS
- Contrast enhanced CT/MRI brain



Staging EBUS definition:
Systematic examination of all N3, N2 followed by N1 nodes and sampling of any node ≥5mm, targeting a minimum of 3 lymph node stations.

Mandatory data set for MDT discussion:

- **PET-CT results, EBUS pathology results**
- **Performance status, FEV_1 and DLCO, post-operative predicted FEV_1 and DLCO**

Physiological Tests (Request Simultaneously)

- Spirometry and diffusing capacity
- ECG
- Creatinine clearance/ eGFR

Request echocardiogram if:

- Age ≥65
- Heart murmur
- Abnormal ECG
- Known ischaemic heart disease/ valvular disease
- Possibility of pneumonectomy
- DM

Request CPET if:

- Ischaemic Heart Disease
- TLCO < 60%
- Disproportionate Breathlessness
- Interstitial Lung Disease

Notes and Guidance

Central tumour= positioned in the inner 1/3 of the thorax based on axial CT image
If staging EBUS is negative (including N1 nodes) and no pathology from bronchoscopy then consider CT-guided biopsy

GROUP THREE: MAY BE CONSIDERED FOR RADICAL SURGERY

Primary tumour and discrete mediastinal lymphadenopathy on staging CT with no distant metastases.

PET-CT has a 15% false positive rate and 25% false negative rate for N2/3 disease in this category, therefore EBUS is required regardless of PET findings.
Prevalence of N2/3 disease in this category is 60%

Diagnostic Tests (Request Simultaneously)

- PET-CT
- Staging EBUS
- Contrast enhanced CT/MRI brain

Staging EBUS definition:
Systematic examination of all N3, N2 followed by N1 nodes and sampling of any node ≥5mm, targeting a minimum of 3 lymph node stations.

Mandatory data set for MDT discussion:

- **PET-CT results, EBUS pathology results, brain Imaging results**
- **Performance status, FEV_1 and DLCO, post-operative predicted FEV_1 and DLCO, renal function**

Physiological Tests (Request Simultaneously)

- Spirometry and diffusing capacity
- ECG
- Creatinine clearance/ eGFR

Request echocardiogram if:

- Age ≥65
- Heart murmur
- Abnormal ECG
- Known ischaemic heart disease/ valvular disease
- Possibility of pneumonectomy

Request CPET if:

- Ischaemic Heart Disease
- TLCO <60
- Disproportionate Breathlessness
- Interstitial lung Disease

Notes and Guidance

Discrete mediastinal lymphadenopathy has well defined borders allowing easy measurements and is not conglomerate with other lymph node stations.
It is non-bulky (≤3cm).
If staging EBUS is negative consider cervical mediastinoscopy.

Discuss at High Risk MDT

GROUP FOUR: NOT CONSIDERED FOR RADICAL SURGERY

Conglomerate and invasive nodal malignancy on staging CT with no distant metastases.

Radiology is considered diagnostic for malignancy and pathological confirmation only required prevalence of N2/3 disease is in the category is 100%.

Diagnostic Tests (Request Simultaneously)

- PET-CT
- Diagnostic EBUS
- Contrast enhanced brain imaging (CT or MR)

Diagnostic EBUS definition:
Targeted sampling of nodal disease for pathological confirmation, tumour sub-typing and molecular pathology.

Mandatory data set for MDT discussion:

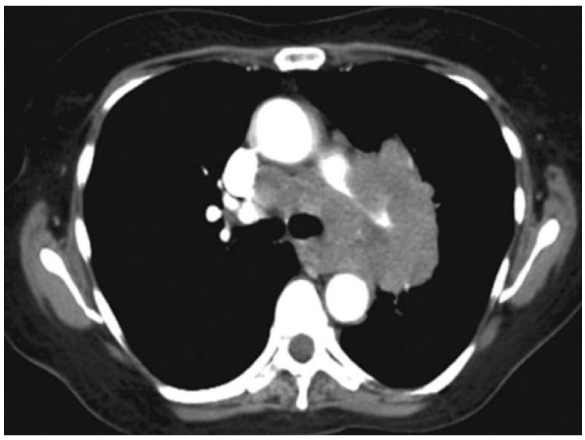
- **PET-CT results, EBUS pathology results, brain imaging results**
- **Performance status, FEV_1 and DLCO, renal function**

Physiology Tests (Request Simultaneously)

- Spirometry and diffusing capacity
- Creatinine clearance/ eGFR

Notes and Guidance

Invasive mediastinal lymphadenopathy has poor defined boarders and cannot be easily measured. It forms conglomerate disease with other nodal stations.
Not a surgical candidate unless palliative intervention required.



May still be a candidate for radical radiotherapy. Refer to Oncology locally .

GROUP FIVE:
Metastatic disease on staging CT.

Follow this algorithm in cases where there is clear evidence of stage 4 on CT. In cases of uncertain findings there may need to additional clarification test e.g. liver USS/MR, triple phase adrenal wash out CT or PET-CT.

Diagnostic Tests

Choose most appropriate sampling technique to yield adequate pathology for tumour sub-typing and targeted therapy assessment: Consider

EBUS
SCF lymph node FNA
Liver or other site biopsy.
Pleural aspiration ± Medical thoracoscopy if sympathetic pleural effusion.

Ensure non- MDT clinicians performing biopsies are informed about tissue requirements for targeted therapy.

Mandatory data set for MDT discussion:

- **Pathology results**
- **CT results**
- **Performance status**

Oligometastatic Disease is the presence of ≤3 mets in ≤2 sites.

These patients may be suitable for radical treatment, ideally within a clinical trial.

Careful discussion at MDT is required.