Greater Manchester Cancer

NHS
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Greater Manchester Emergency Pathways for Lung Cancer

Greater Manchester Cancer Lung Pathway Board &

Lung Cancer & Thoracic Surgery Directorate, Wythenshawe Hospital, Manchester University NHS Foundation Trust &

Lung Oncology Service, The Christie NHS Foundation Trust

Version 1.2

Contents

Authors

Dr Matthew Evison,
Consultant Chest Physician, MFT

Dr Christopher Brockelsby,
Consultant Chest Physician, MFT & Leighton Hospital

Mr Kandadai Rammohan,
Consultant Thoracic Surgeon, MFT

Emma Halkyard,
Lung Cancer Nurse Specialist, The Christie

Dr Yvonne Summers,
Medical Oncologist, The Christie

Introduction

This set of clinical pathways aims to ensure all patients across Greater Manchester with an intra-thoracic oncological emergency related to a suspected or known diagnosis of lung cancer (massive haemoptysis, malignant airway obstruction, SVCO and combinations of these emergencies) can rapidly access diagnostics, interventional radiology, thoracic surgery and systemic anti-cancer therapy when required. Rapid access can help prevent patient deterioration in unstable complications of thoracic malignancy and ensure the best patient outcomes*.

In many situations, local diagnostics, interventional radiology services and outpatient referral pathways can provide the required service to manage these patients. However, if urgent inpatient diagnostics, interventions and /or treatment are required or if local resources do not have the capacity, then these pathways describe how to access urgent inpatient transfer/ admission to The Christie and / or Wythenshawe lung cancer service. These pathways can facilitate rapid access to inpatient services to ensure optimal patient outcomes in emergency scenarios which include where the following on-site services may be accessed:

The Christie:
- Inpatient initiation of systemic therapy for SCLC for GM region (outside of Wythenshawe locality)
- Inpatient initiation of concurrent CRT for SCLC for GM region
- Interventional radiology for SVCO stenting

Wythenshawe:
- Diagnostics including daily endobronchial ultrasound (EBUS)& image guided percutaneous biopsy
- Lung cancer physician of the week overseeing the Pulmonary Oncology Unit alongside medical oncology team
- Interventional radiology service for bronchial artery embolization & SVC stenting
- Daily consultant thoracic surgeon on call for emergency surgical interventions (7-dayservice)
- Inpatient initiation of systemic therapy for SCLC for Wythenshawe patients or inpatient transfers requiring emergency diagnostics/interventions

Summary of referral contacts (consultant-consultant referral considered gold standard):

For admission to The Christie Hospital, contact the on-call medical oncology SpR via The Christie switchboard

For admission to the pulmonary oncology unit – call the RAPID hub co-ordinator on 0161 291 4100 Monday-Friday 9am-5pm & you will be put through to the consultant physician of the week. Please ensure referral proforma is emailed to mft.lungcancerreferrals@nhs.net

For admission to the thoracic surgical unit - contact on-call Thoracic surgical consultant at Wythenshawe Hospital (MFT) via switchboard on 0161 998 7070 (or registrar on bleep 2047). Please ensure referral proforma is emailed to 525@mft.nhs.uk

*These pathways relate to cases of suspected or known lung cancer but could be accessed by other cancers teams if the treating team feel the thoracic team at Wythenshawe could provide appropriate rapid input into an oncological emergency.

Major Haemoptysis

Massive haemoptysis is defined as loss of at least 200 mL of blood in 24 hours or 50 mL per episode or may also be defined as circulatory collapse, respiratory failure or need for blood transfusion driven by the haemoptysis

Immediate management

1. If airway at imminent risk then contact local ICU team if appropriate for consideration of airway protection
2. Stabilise patient – secure airway, transfusion, correct bleeding abnormalities, position lateral lying with bleeding side dependent
3. Commence intravenous tranexamic acid 1g QDS and consider prophylactic IV antibiotics to prevent secondary infection (ensure anaerobic cover)'
4. Request CT Chest with contrast – specifically requesting 'contrast timed on the aortic arch' or 'bronchial artery embolization protocol'

Definitive management:

Definitive management is centred on arterial embolization through vascular interventional radiology or rigid bronchoscopy & endobronchial treatment under the thoracic surgical team

Options:

1. Discuss with local Interventional radiology team to consider bronchial artery embolization
2. Admission to the Pulmonary Oncology Unit at Wythenshawe Hospital for inpatient assessment for bronchial artery embolization
3. Refer to the on call thoracic surgical team at Wythenshawe hospital. **Referring consultant to discuss with on call thoracic surgeon consultant via switch board at Wythenshawe. This may be considered the most appropriate referral route in the out of hours setting**

- To refer patients for inpatient transfer or admission to the pulmonary oncology unit please contact the consultant of the week for POU via the RAPID hub at Wythenshawe 0161 291 4100 Monday-Friday 9am-5pm. Please ensure referral proforma is emailed to: mft.lungcancerreferrals@nhs.net
- If deemed suitable for surgical intervention patient will be transferred to Thoracic surgical ward at Wythenshawe hospital – referring team to complete proforma and email to surgical navigator (mft.rapidlungsurgery@nhs.net) and thoracic surgical team (525@mft.nhs.uk)

Ensure estimated prognosis and ceiling of care have been established and discussed with the patient prior to transfer

References:

Kathuria, H., Hollingsworth, H.M., Vilvendhan, R. et al. Management of life-threatening hemoptysis. j intensive care 8, 23 (2020). https://doi.org/10.1186/s40560-020-00441-8

Malignant Airway Obstruction - High Risk

High risk malignant airway obstruction defined as:

- In the judgement of the treating clinician based on radiological features and / or symptoms
- >50% obstruction of a major airway (Trachea / main bronchi)
- Need for supplementary oxygen, Type II respiratpry failure (elevated CO2) or severe tachypnoea (RR >30) attributed to the airway obstruction

Immediate management

1. If airway at imminent risk then contact local ICU team if appropriate for consideration of airway support
2. Refer to the on call thoracic surgical team at Wythenshawe hospital. **Referring consultant to discuss with on call thoracic surgeon consultant via switch board ay Wythenshawe.**
3. If deemed suitable for surgical intervention patient will be transferred to Thoracic surgical ward at Wythenshawe hospital – referring team to complete proforma and email to surgical navigator (mft.rapidlungsurgery@nhs.net) and thoracic surgical team (525@mft.nhs.uk)
4. **Ensure estimated prognosis and ceiling of care have been established and discussed with the patient prior to transfer**

If this is a new presentation, then a tissue diagnosis will be achieved during surgical intervention and further action following airway intervention will depend on histology (see below). If the diagnosis is already established the patient will be returned to the treating teams.

Small cell lung cancer

Consider urgent admission to The Christie Hospital (GM Patients) or the Pulmonary Oncology Unit at Wythenshawe Hospital (Wythenshawe patients or inpatient transfers for diagnostics)* to commence treatment (*see small cell lung cancer referral criteria & referral proforma)

Vs

Urgent outpatient oncology referral.

Brain imaging may be needed to complete staging if limited stage to inform the addition of thoracic radiotherapy / PCI

Non-small cell lung cancer

Following airway intervention and discharge continue work up with PET/brain imaging if locally advanced and discuss at sector MDT for further management

- To refer patients for inpatient transfer or admission to the pulmonary oncology unit please contact the consultant of the week for POU via the RAPID hub at Wythenshawe 0161 291 4100 Monday-Friday 9am-5pm & Please ensure referral proforma is emailed to: mft.lungcancerreferrals@nhs.net
- To refer patients to The Christie for inpatient admission for small cell lung cancer treatment, complete the GM SCLC immediate referral proforma (send to the-christie.lungnurseteam@nhs.net) and discuss with the on-call medical oncology SpR via Christie switchboard'

Malignant airway obstruction and SVCO can occur simultaneously. It is important to identify such cases as it has implications for management and the sequence of treatments – particularly with an aim of treating SVCO prior to general anaesthetic induction for airway management – **see SVCO & malignant airway obstruction section**

Malignant Airway Obstruction - Low Risk

Low risk malignant airway obstruction defined as:

- In the judgement of the treating clinician based on radiological features and / or symptoms
- <50% obstruction of a major airway (Trachea / main bronchi)
- None of the clinical features of high risk airway obstruction

Immediate management

1. If diagnosis already established – discuss at sector MDT for management strategies – e.g. external beam radiotherapy, outpatient referral for surgical airway management, systemic therapy in responsive diseases e.g. small cell lung cancer

2. If a diagnosis not established – follow standard GM diagnostic and staging algorithm and normal diagnostic pathways but consider the need for urgent tissue sampling (recommended to be within 48 hours).

3. If a lack of capacity locally, consider inpatient admission / transfer to the pulmonary oncology unit at Wythenshawe Hospital for inpatient EBUS (available daily) +/- inpatient chemotherapy if SCLC

Small cell lung cancer

Consider urgent admission to The Christie Hospital (GM Patients) or the Pulmonary Oncology Unit at Wythenshawe Hospital (Wythenshawe patients or inpatient transfers for diagnostics)* to commence treatment (*see small cell lung cancer referral criteria & referral proforma)

Vs

Urgent outpatient oncology referral.

Brain imaging may be needed to complete staging if limited stage to inform the addition of thoracic radiotherapy / PCI

Non-small cell lung cancer

Following airway intervention and discharge continue work up with PET/brain imaging if locally advanced and discuss at sector MDT for further management

- To refer patients for inpatient transfer or admission to the pulmonary oncology unit please contact the consultant of the week for POU via the RAPID hub at Wythenshawe 0161 291 4100 Monday-Friday 9am-5pm & Please ensure referral proforma is emailed to: mft.lungcancerreferrals@nhs.net

- To refer patients to The Christie for inpatient admission for small cell lung cancer treatment, complete the GM SCLC immediate referral proforma (send to the-christie.lungnurseteam@nhs.net) and discuss with the on-call medical oncology SpR via Christie switchboard'

Ensure estimated prognosis and ceiling of care have been established and discussed with the patient prior to transfer

Malignant airway obstruction and SVCO can occur simultaneously. It is important to identify such cases as it has implications for management and the sequence of treatments – particularly with an aim of treating SVCO prior to general anaesthetic induction for airway management – **see SVCO & malignant airway obstruction section**

Greater Manchester Cancer
Oncological Emergencies Pathway

Malignant Superior Vena Cava Obstruction ('SVCO')

Clinically significant SVCO as judged by treating clinician based on radiological features and/or symptoms

Suggested references – 'Proposed grading system for SVCO syndrome' Yu et al 2008 Journal of Thoracic Oncology

Immediate management

1. **Consider dexamethasone up to 4mg BD** (understanding the evidence base is limited and caution if lymphoma felt to be a high probability)
2. **Arrange urgent tissue sampling** (recommended to be within 48 hours)*. **Notify pathology team to expect urgent sampling to provide morphology result within 24 hours**
1. **Consider urgent stent for severe SVCO symptoms** (cerebral or laryngeal oedema) **or those who cannot undergo tissue sampling due to severity of symptoms**

Small cell lung cancer

Consider urgent admission to The Christie Hospital (GM Patients) or the Pulmonary Oncology Unit at Wythenshawe Hospital (Wythenshawe patients or inpatient transfers for diagnostics)* to commence treatment (*see small cell lung cancer referral criteria & referral proforma)

Vs

Urgent outpatient oncology referral.

Brain imaging may be needed to complete staging if limited stage and inform addition of thoracic radiotherapy.

Non-small cell lung cancer

Consider urgent admission to pulmonary oncology unit at Wythenshawe Hospital for SVCO stent via on site vascular interventional radiology.

Vs

Arrange local SVCO stent via vascular interventional radiology service.

Following stent and discharge continue work up with PET/brain imaging if locally advanced and discuss at sector MDT.

***If a lack of diagnostic capacity, consider inpatient admission / transfer to the pulmonary oncology unit at Wythenshawe Hospital for inpatient EBUS (available daily) and inpatient SVCO stenting if NSCLC or inpatient chemotherapy if SCLC**

Notes:

- To refer patients to The Christie for inpatient admission for small cell lung cancer treatment, complete the GM SCLC immediate referral proforma (send to the-christie.lungnurseteam@nhs.net) and discuss with the on-call medical oncology SpR via Christie switchboard'
- To refer patients for inpatient transfer or admission to the pulmonary oncology unit please contact the consultant of the week for POU via the RAPID hub at Wythenshawe 0161 291 4100 Monday-Friday 9am-5pm & Please ensure referral proforma is emailed to: mft.lungcancerreferrals@nhs.net
- If an alternative diagnosis to primary lung cancer is made e.g. lymphoma, then refer urgently to appropriate team

Further references: *ESMO Handbook of Oncological Emergencies*

SVCO and Malignant airway obstruction

SVCO and malignant airway obstruction can sometimes occur at the time and both require intervention. Given the complexity, these patients are likely to be best managed through transfer to the Pulmonary Oncology Unit at Wythenshawe Hospital (outside of a critical airway scenario requiring the expert care of a thoracic surgical unit.

The important step is early identification of the dual pathology and discussing this as part of the referral.

Guiding principles

Ideally the SVCO is addressed first and requires urgent tissue sampling if histological diagnosis is unknown.

In NSCLC (or in SCLC in which the symptoms are too critical to commence treatment) if both SVCO and airway intervention are required an SVCO stent should be completed first followed by airway intervention. This is due to the concern of cardiovascular collapse at point of induction anaesthesia in untreated SVCO and cerebral oedema.

To refer patients for inpatient transfer or admission to the pulmonary oncology unit please contact the consultant of the week for POU via the RAPID hub at Wythenshawe 0161 291 4100 Monday-Friday 9am-5pm or email mft.lungcancerreferrals@nhs.net

Alternatively, in critical cases or in the out of hours setting, refer to the on call thoracic surgical team at Wythenshawe hospital. **Referring consultant to discuss with on call thoracic surgeon consultant via switch board at Wythenshawe.**

If deemed suitable for surgical intervention patient will be transferred to Thoracic surgical ward at Wythenshawe hospital – referring team to complete proforma and email to surgical navigator (mft.rapidlungsurgery@nhs.net) and thoracic surgical team (525@mft.nhs.uk)

Ensure estimated prognosis and ceiling of care have been established and discussed with the patient prior to transfer

Urgent suspected small cell lung cancer
(no pathological diagnosis requiring urgent diagnostics)

There may be circumstances where urgent diagnostics and treatment decisions / commencement is required in suspected small cell lung cancer not covered in this guidance. This could include:

- Rapidly deteriorating performance status will a narrow window of opportunity for diagnosis & treatment

- Other complications of SCLC best managed in an inpatient setting and rapid commencement of treatment (e.g. syndrome of inappropriate ADH – particularly if refractory to initial treatment)

In these circumstances the urgent inpatient diagnostic services at Wythenshawe can be accessed, if felt appropriate by the local parent team and acceptable to the patient.

Refer to the consultant of the week on POU to discuss inpatient admission / transfer for urgent diagnostics and inpatient commencement of chemotherapy if proven SCLC

- To refer patients for inpatient transfer or admission to the pulmonary oncology unit please contact the consultant of the week for POU via the RAPID hub at Wythenshawe 0161 291 4100 Monday-Friday 9am-5pm or email mft.lungcancerreferrals@nhs.net

- **Ensure estimated prognosis and ceiling of care have been established and discussed with the patient prior to transfer**

New diagnosis of small cell lung cancer
(pathologically confirmed)

In the event of a new diagnosis of small cell lung cancer see the **GM Small cell Lung Cancer Immediate Referral Pro-forma For Systemic Treatment** and refer as per GM criteria here:

- To **The Christie Hospital** (excluding patients within Wythenshawe Hospital geographical catchment): letter of referral to the-christie.new-referrals@nhs.net + GM SCLC immediate referral pro-forma to the-christie.lungnurseteam@nhs.net **Clinically urgent cases should be discussed with the medical oncology specialist Registrar on-call via switchboard.**
- To **Wythenshawe Hospital** (geographical catchment patients excluding those who require concurrent radiotherapy) for inpatient transfer or admission to the pulmonary oncology unit contact the consultant of the week for POU via the RAPID hub at Wythenshawe 0161 291 4100 Monday-Friday 9am-5pm or email mft.lungcancerreferrals@nhs.net
- Ensure estimated prognosis and ceiling of care have been established and discussed with patient prior to admission or transfer of care
- List for patient case discussion in the Sector MDT but do not delay referral to appropriate treatment centre as above

There may be circumstances where urgent admission is required in small cell lung cancer, e.g.

- Rapidly deteriorating performance status with a narrow window of opportunity for treatment
- Complications of small cell lung cancer requiring immediate urgent management at local hospital (e.g. syndrome of inappropriate ADH); referral to appropriate treatment centre as above when patient is clinically stable

There may be circumstances where the small cell pathway is not appropriate:

- Rapid patient deterioration (very poor performance score or approaching end of life) where parent team decision with patient and family is for Best Supportive Care; onward referral to local specialist palliative care pathways should be made; list for patient case discussion in the Sector MDT for completeness

SOP for in-patient transfer to Wythenshawe Hospital

Admission under Thoracic Surgical Team to F3

Registrar or Consultant should contact on-call Thoracic surgical registrar or consultant at Wythenshawe Hospital (MFT) on bleep 2047 via switchboard on 0161 998 7070 to discuss the case.

1. The referring team should organise, via PACS, for relevant imaging to be transferred to Wythenshawe for the attention of Thoracic Surgical consultant on-call and email surgical navigator on mft.rapidlungsurgery@nhs.net to facilitate the transfer of images and request of relevant letters and reports.

2. The referring clinician needs to complete all sections of the pro-forma and email to 525@mft.nhs.uk (in addition to the phone call above)

3. The case will be discussed with the on-call Thoracic consultant and a decision will be fed back to referring team within 24 hours.

4. Following acceptance for transfer the Wythenshawe thoracic surgical team will contact the surgical navigator on mft.rapidlungsurgery@nhs.net to confirm acceptance and facilitate transfer.

5. Patients should be listed for transfer to Ward F3

6. When all relevant details have been obtained, surgical navigators will prepare a red folder with the patient correspondence to ward F3

7. The surgical navigators will also inform waiting list if needed of the planned transfer of the patient and need to identify a surgical operating slot

8. On receipt of the patient details, ward F3 will liaise with the referring Trust to get a handover and arrange transfer.

9. On arrival to the ward the nurses will inform the admitting surgical team, surgical waiting list, surgical navigators and if needed thoracic anaesthetists of the patients arrival.

10. The ward nurses will inform the lung cancer specialist nurses to review the patient. The nurses are available Monday to Friday 8.30-5pm. If outside these hours, the on- call palliative care team can be contacted. If no urgent issues, the lung cancer specialist nurses will see within routine hours.

11. If urgent transfer is needed out of routine hours, thoracic surgical registrar will liaise directly with the referring team and ward F3 to arrange transfer. The surgical navigators and waiting list teams must be emailed to be informed of the plans still.

12. Following acceptance transfer must be arranged within 24-48 hours of referral with surgery/intervention arranged within 48 -72 hours of referral unless deemed not clinically urgent.

13. If the patient is not clinically urgent, this will be documented clearly in the patient notes.

14. Once a plan has been agreed, the surgical team will contact the referring team.

A discussion needs to occur between the referring clinician and the patient/family regarding the likely diagnosis (if not confirmed), the clinical severity, the proposed management plan. Discussion around escalation of care and resuscitation is mandatory prior to transfer or intervention. These discussions must be documented on the pro-forma (see attached).

SOP for Inpatient transfer to Wythenshawe Hospital

Admission under Physician Team to Pulmonary Oncology Unit

To refer patients for inpatient transfer or admission to the pulmonary oncology unit please contact the consultant of the week for POU via the RAPID hub at Wythenshawe 0161 291 4100 Monday-Friday 9am-5pm or email mft.lungcancerreferrals@nhs.net

1. The referring team should organise, via PACS, for relevant imaging to be transferred to Wythenshawe for the attention of consultant of the week and email RAPID HUB on mft.lungcancerreferrals@nhs.net to facilitate the transfer of images and request of relevant letters and reports. For urgent transfers / admissions please contact the consultant on call for POU.

2. The referring clinician needs to complete all sections of the pro-forma and email to mft.lungcancerreferrals@nhs.net

3. A decision will be fed back to referring team within 24 hours.

4. Following acceptance for transfer the patients should be listed for transfer to POU

5. When all relevant details have been obtained a red folder with the patient correspondence will be completed in the RAPID Hub and patient will be added to the Tracking Board

6. If an SVC intervention is agreed, the POU physician on call will discuss with IR and must request this on EPR

7. On receipt of the patient details POU will liaise with the referring Trust to get a handover and arrange transfer.

8. On arrival to the ward the nurses will inform the on call POU physician.

9. The ward nurses will inform the lung cancer specialist nurses to review the patient. The nurses are available Monday to Friday 8.30-5pm. If outside these hours, the on- call palliative care team can be contacted. If no urgent issues, the lung cancer specialist nurses will see within routine hours.

10. If urgent transfer is needed out of routine hours.

11. Following acceptance transfer must be arranged within 24-48 hours of referral with intervention arranged within 48 -72 hours of referral unless deemed not clinically urgent.

12. If the patient is not clinically urgent, this will be documented clearly in the patient notes.

A discussion needs to occur between the clinician and the patient/family regarding the likely diagnosis (if not confirmed), the clinical severity, the proposed management plan. Discussion around escalation of care and resuscitation is mandatory prior to transfer or intervention. These discussions must be documented on the pro-forma.

Proforma for urgent transfer to Wythenshawe Hospital for Thoracic Oncology Emergencies

Patient Name	
NHS Number	
Primary Diagnosis (if known)	
Oncology emergency	◯ Massive haemoptysis ◯ High risk malignant airway obstruction ◯ Low risk malignant airway obstruction ◯ SVCO ◯ SVCO + malignant airway obstruction ◯ Other: .....
Admission destination	◯ F3 - Thoracic Surgery ◯ POU - Thoracic Physicians
Co morbidities	
Performance Status	
Clinical Frailty Score	

Proforma for urgent transfer to Wythenshawe Hospital for Thoracic Oncology Emergencies

Medications	
Resuscitation status & escalation status	
Treatment plan (if known)	
Details of discussion with patient and family	
Clinician Name	
Clinician Contact: Bleep & Email Address	

Small Cell Lung Cancer:
Immediate Referral Pro-forma for Systemic Treatment

Patient Name		NHS Number	

Referral to **Wythenshawe:** geographical catchment area excluding patients needing concurrent chemo-radiotherapy **Christie:** all patients excluding Wythenshawe Hospital catchment area	◯ The Christie Hospital • Email this form to **the-christie.lungnurseteam@nhs.net** • Usual letter of referral to **the-christie.new-referrals@nhs.net**	◯ Wythenshawe Hospital
Referring Hospital and Consultant		
Patient Location	◯ Patients Home	◯ Ward (give location and phone number)
Referring Hospital Patient Key Worker Name		
Referral for systemic treatment assessment via	◯ **Outpatient Clinic** Med Onc appointment within 7 days	◯ **Inpatient admission** Patient requires urgent management e.g hypoNa, SVCO, rapid deterioration (days); to be discussed with SpR on-call via Switchboard
Sector MDT discussed date/ planned discussion		
Source of Histo/Cytological diagnosis (lab reference no and location if known)		
Stage* (if known) *advise limited/extensive stage as a minimum		
SVCO present clinically or radiologically	◯ **Yes**	◯ **No**

ECOG PS	◯ **0**	◯ **1**	◯ **2**	◯ **3**
Bloods: Na, LDH, Adjusted Ca, Alk Phos				
Bloods: include abnormal Hb, Platelets, white cell count				
Bloods: eGFR(mls/m)				
PMH/Comorbidity				

Patient has capacity	◯ **Yes**	◯ **No**
Social red flags		
Confirm patient informed of diagnosis and referral	◯ **Yes**	
Patient and family wishes (if known)		

Clinician Name		Clinician Contact	Bleep: Email: