Lung Cancer Diagnosis Pathway Map
Version 2021.03

Disclaimer: The pathway map is intended to be used for informational purposes only. The pathway map is not intended to constitute or be a substitute for medical advice and should not be relied upon in any such regard. Further, all pathway maps are subject to clinical judgment and actual practice patterns may not follow the proposed steps set out in the pathway map. In the situation where the reader is not a healthcare provider, the reader should always consult a healthcare provider if he/she has any questions regarding the information set out in the pathway map. The information in the pathway map does not create a physician-patient relationship between Ontario Health (Cancer Care Ontario) and the reader.
Target Population

- Patients who present with signs or symptoms suspicious of lung cancer.

Pathway Map Considerations

- Primary care providers play an important role in the cancer journey and should be informed of relevant tests and consultations. Ongoing care with a primary care provider is assumed to be part of the pathway. For patients who do not have a primary care provider, Health Care Connect is a government resource that helps patients find a doctor or nurse practitioner.

- Throughout the pathway map, a shared decision-making model should be implemented to enable and encourage patients to play an active role in the management of their care. For more information see Person-Centered Care Guideline and EBS #19-2 Provider-Patient Communication.

- Hyperlinks are used throughout the pathway map to provide information about relevant Ontario Health (Cancer Care Ontario) tools, resources and guidance documents.

- The term ‘health care provider’, used throughout the pathway map, includes primary care providers and specialists, e.g. family doctors, nurse practitioners, and emergency physicians.

- Multidisciplinary Cancer Conferences (MCCs) may be considered for all phases of the pathway map. For more information on Multidisciplinary Cancer Conferences, visit MCC Tools.

- For more information on wait time prioritization, visit Surgery.

- Clinical trials should be considered for all phases of the pathway map.

- Psychosocial oncology (PSO) is the interprofessional specialty concerned with understanding and treating the social, practical, psychological, emotional, spiritual and functional needs and quality-of-life impact that cancer has on patients and their families. Psychosocial care should be considered an integral and standardized part of cancer care for patients and their families at all stages of the illness trajectory. For more information, visit EBS #19-3.

* Note. EBS #19-2 and EBS #19-3 are older than 3 years and are currently listed as 'For Education and Information Purposes'. This means that the recommendations will no longer be maintained but may still be useful for academic or other information purposes.
Lung Cancer Diagnosis Pathway Map

Screen for psychosocial needs, and assessment and management of symptoms. Click here for more information about symptom assessment and management tools.

Consider the introduction of palliative care, early and across the cancer journey. Click here for more information about palliative care.

Evaluation of patients with high suspicion of lung cancer may be performed within structures facilitating organized diagnostic assessment. Evaluation of patients with high suspicion of lung cancer may be performed within structures facilitating organized diagnostic assessment.

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**Diagnostic Procedures**

**Screen for psychosocial needs, and assessment and management of symptoms.** [Click here for more information about symptom assessment and management tools](#)

Consider the introduction of palliative care, early and across the cancer journey. [Click here for more information about palliative care](#)

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**A Statement from the Fleischner Society**

**Lung Cancer Imaging Guidelines**

- **Central mass or nodule:**
  - May be performed by surgeon or radiologist:
    - Bronchoscopy
    - Endobronchial ultrasound
    - Interventional Radiology (EBS #17.6)

- **Interventional Radiology**
  - Needle biopsy not possible
  - PET/CT scan (If not previously done)
    - [PET Scans Ontario](#)

- **Cytology**
  - Cell block should be obtained
  - And/or Pathology

- **Thoracic Surgery**
  - For diagnostic purposes
  - Follow-up by family physician, specialist or pulmonary nodule clinic
  - Follow-up CT
  - As per Fleischner guidelines

- **Cytology**
  - Cell block should be obtained
  - And/or Pathology

- **Positively results**
  - Negative but high level of clinical suspicion
  - Thoracic Surgery
  - For diagnostic purposes
  - Cytology
  - Cell block should be obtained
  - And/or Pathology

- **Repeat biopsy or other diagnostic testing**
  - As appropriate
  - Thoracic Surgery
  - For diagnostic purposes

- **Change in result**
  - Stable
  - Change in result

- **Positively results**
  - Negative for cancer
  - Proceed to primary care provider for follow-up

- **Positively results**
  - Negative for cancer
  - Proceed to primary care provider for follow-up

- **Positively results**
  - Positive for cancer
  - Proceed to primary care provider for follow-up

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* Depending on local resources, radial miniprobe navigational bronchoscopy with lung biopsy may be considered.

* If the endobronchial ultrasound transbronchial needle aspiration is negative but there is a high level of suspicion of lung cancer, a mediastinoscopy should be completed.

* Results go to ordering and referring physician and family physician.

* For more information about biomarkers, refer to the Lung Cancer Tissue Pathway.

* Follow-up as per the Fleischner guidelines. For more information see Guidelines for Management of Small Pulmonary Nodules Detected on CT Scans: A Statement from the Fleischner Society. (2005). Radiology, 237, 395-400.
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Diagnostic Procedures (cont'd)

Screen for psychosocial needs, and assessment and management of symptoms. [Click here for more information about symptom assessment and management tools]

Consider the introduction of palliative care, early and across the cancer journey. [Click here for more information about palliative care]

Obtain sufficient tissue sample for histological and molecular diagnosis via least invasive, most accessible and most likely to up-stage the patient. [Cancer Imaging Guidelines]

Tests on pleural fluid:
- Cytology (cell block should be obtained)
- Lactate dehydrogenase
- Protein concentration
- Glucose
- Amylase
- Cell count and differential
- Culture and sensitivity

From page 4

Suspected stage IV Based on scans and/or patient history

Thoracentesis Perform procedure promptly. Can be done for diagnosis or for symptom relief. Note: If malignant cells found, this condition makes the patient inoperable. [Cancer Imaging Guidelines]

Thoracic Surgery For diagnostic purposes

Cytology Cell block should be obtained And/Or Pathology

Results
- Positive for cancer (Stage IV)
- Suspicious or negative but high level of clinical suspicion
- Repeat biopsy, thoracentesis or other diagnostic testing As appropriate

Cytology Cell block should be obtained And/Or Pathology

Results
- Positive for cancer
- Negative for cancer
- Change in result
- Stable

Follow up by specialist

From page 4

Pleural effusion

Thoracentesis

Pleural effusion

Obtain sufficient tissue sample for histological and molecular diagnosis via least invasive, most accessible and most likely to up-stage the patient. [Cancer Imaging Guidelines]

Positive for cancer

Negative and low level of clinical suspicion

Follow up by specialist

Negative and low level of clinical suspicion

Results
- Stable
- Change in result

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Proceed to Page 7

Results go to ordering and referring physician and family physician.

For more information about biomarkers, refer to the Lung Cancer Tissue Pathway.

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Screen for psychosocial needs, and assessment and management of symptoms. **Click here for more information about symptom assessment and management tools**

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**Lung Cancer Diagnosis Pathway Map**

**Staging**

**Pathological Non-Small Cell Lung Cancer Diagnosis (NSCLC)**

- **Clinical Stage I**
  - PET/CT scan
  - PET Scans Ontario

**Pathological Small Cell Lung Cancer Diagnosis (SCLC)**

- **Clinical Stage I**
  - MRI brain
  - For stage I, II, III, and IV. No MRI if patient is clinical stage I and asymptomatic
  - Cancer Imaging Guidelines

**Medical history, physical exam and blood work**

- If not already performed, CT chest and abdomen
- Cancer Imaging Guidelines

**Tests to be completed**

**Clinical Stage II or IIIA**

- Invasive Mediastinal Staging
  - EBS #17-6
  - Medietinoscopy or Endobronchial Ultrasound

**Clinical Stage IIIB or IIIC**

**Clinical Stage IV**

- **PET/CT scan** (if not previously done)
  - PET Scans Ontario

**Tests to be completed**

**PET/CT scan** (if not previously done)

- PET/CT scan
  - PET Scans Ontario

**PET/CT scan**

- If unexpected metastasis, bone scan, pain or abnormal calcium and alkaline phosphatase.
  - Cancer Imaging Guidelines

**PET Scans Ontario**

- If unexpected metastasis, bone scan, pain or abnormal calcium and alkaline phosphatase.
  - Cancer Imaging Guidelines

**PET/CT scan**

- If unexpected metastasis, bone scan, pain or abnormal calcium and alkaline phosphatase.
  - Cancer Imaging Guidelines

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1. If emergency situation, symptomatic brain metastases, superior vena cava obstruction, spinal compression or stage I-III disease.