

## Lung cancer staging according to IASLC staging system for lung cancer, 8th edition

This module adopts the latest guidelines for lung cancer staging based on the TNM-8 model.

*The American Joint Committee on Cancer (AJCC) staging manual has become the benchmark for classifying patients with cancer, defining prognosis, and determining the best treatment approaches. Many view the primary role of the tumor, lymph node, metastasis (TNM) system as that of a standardized classification system for evaluating cancer at a population level in terms of the extent of disease, both at initial presentation and after surgical treatment, and the overall impact of improvements in cancer treatment. The rapid evolution of knowledge in cancer biology and the discovery and validation of biologic factors that predict cancer outcome and response to treatment with better accuracy have led some cancer experts to question the utility of a TNM-based approach in clinical care at an individualized patient level. In the Eighth Edition of the AJCC Cancer Staging Manual, the goal of including relevant, nonanatomic (including molecular) factors has been foremost, although changes are made only when there is strong evidence for inclusion. [CA Cancer J Clin 2017;67:93–99. © 2017 American Cancer Society.]*

The module can be launched via any of the following voice commands: “lung mass,” “lung tumor,” “lung nodule,” “pulmonary mass,” “pulmonary tumor,” or “pulmonary nodule.” For a complete list of voice commands used in this module, see Appendix A below.

Upon launching the module, clinicians are initially presented with two data entry fields (Dominant Tumor Size and Location), a blank findings template showing all possible headers, and placeholders for display of T-stage, N-stage, M-stage, and overall stage. See Figure 1 below.

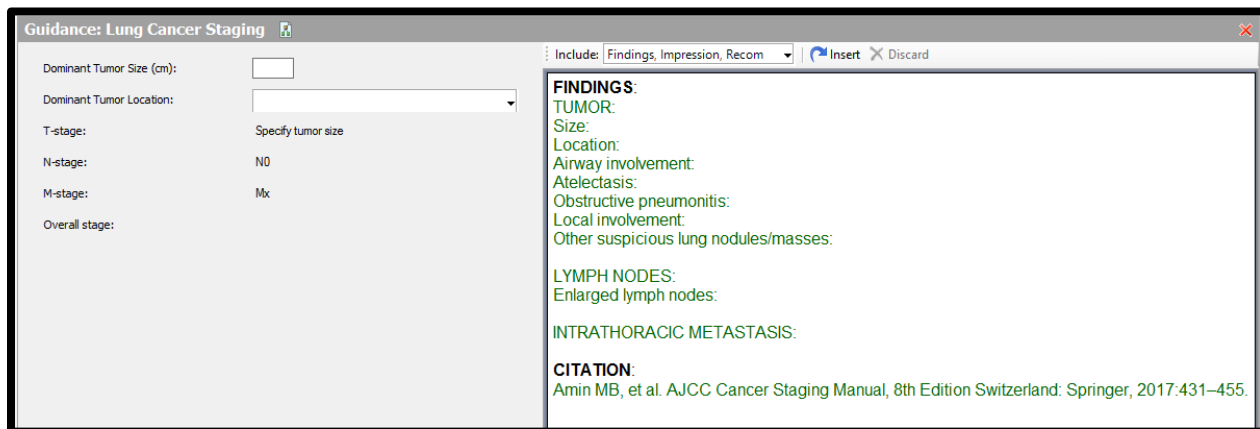


Figure 1

Upon entering values for Dominant Tumor Size and Location, additional data entry fields appear, and the Findings begin to populate. All other fields default to no/blank and are reflected as such in the Findings until that field is updated by the clinician. To include staging information in the Findings, be sure to select “Yes” on “Include stage in report”. See Figure 2 below.

To enter lymph node nodules, select the icon on that field to launch the image map and make selections as appropriate. Clinicians may select either the nodule on the anatomical illustration or on the text description of that lymph node station on the image map. See Figure 3 below.

A full TNM-8 Lung Cancer Staging graphic is included below in Appendix B.

**Guidance: Lung Cancer Staging**

Dominant Tumor Size (cm): 1.7

Dominant Tumor Location: RUL

Airway involvement: Distal bronchi

Atelectasis: No

Obstructive pneumonitis: Yes, hilum not involved

Tumor contact/abuts:

Local invasion:

Separate nodule(s)/mass(es): No

Intrathoracic metastasis:

Lymph nodes: 2L: Left upper paratracheal, 4L: Left lower p.

Include stage in report: Yes

Extrathoracic metastasis: Unknown

T-stage: T1b

N-stage: N3

M-stage: Mx

Overall stage: IIIB

Include: Findings, Impression, Recom

**FINDINGS:**

**TUMOR:**  
 Size: 1.7 cm  
 Location: right upper lobe  
 Airway involvement: present, distal bronchi only  
 Atelectasis: no adjacent atelectasis  
 Obstructive pneumonitis: adjacent pneumonitis, does not extend to hilum  
 Local involvement: absent  
 Other suspicious lung nodules/masses: absent

**LYMPH NODES:**  
 Enlarged lymph nodes: present, left upper paratracheal and left lower paratracheal

**INTRATHORACIC METASTASIS:**  
 No intrathoracic metastasis.

**IMPRESSION:**  
 Lung nodule measuring 1.7 cm in the right upper lobe (T1b).  
 Enlarged contralateral nodes (N3).  
 No intrathoracic metastasis (Mx).  
 The imaging features suggest stage IIIB disease.

**CITATION:**  
 Amin MB, et al. AJCC Cancer Staging Manual, 8th Edition Switzerland: Springer, 2017:431-455.

Figure 2.

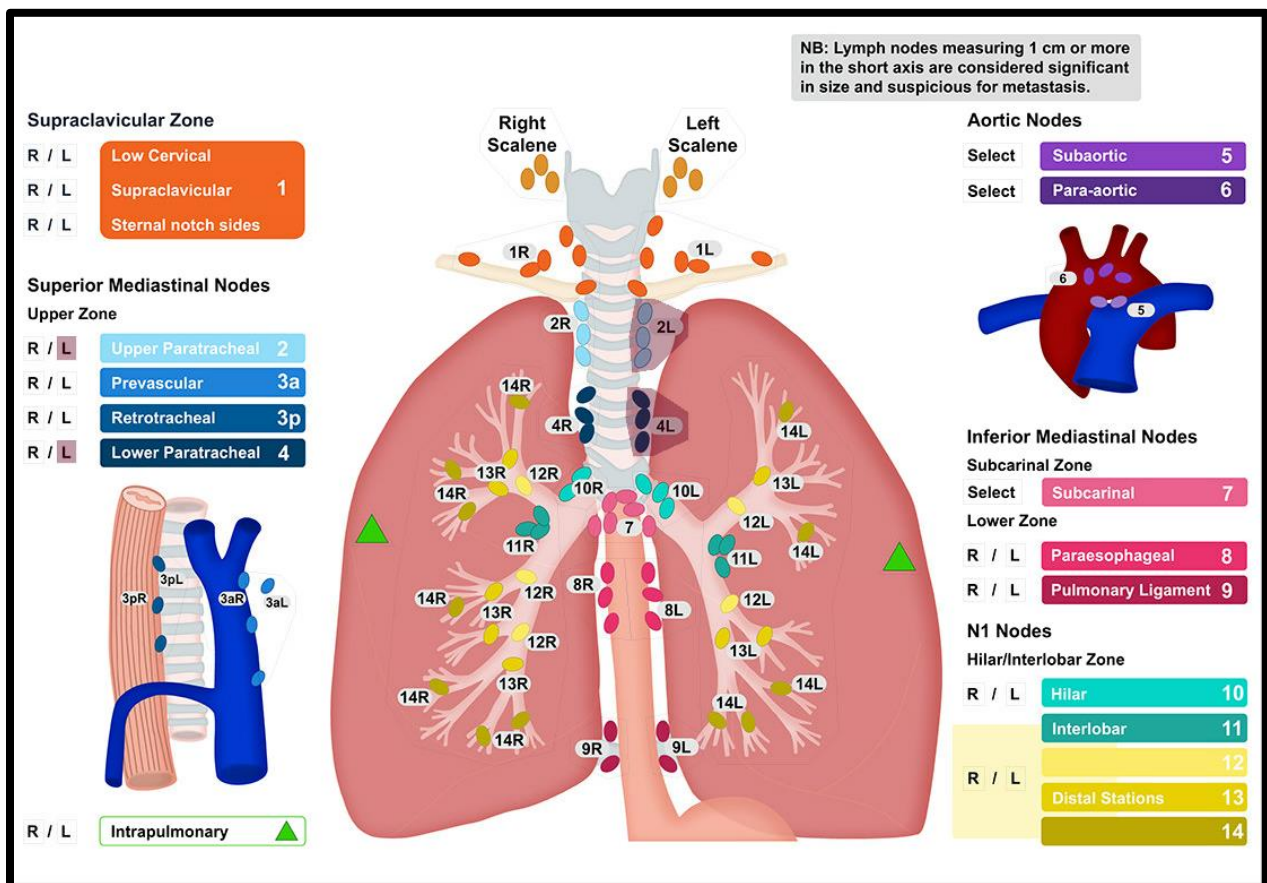


Figure 3.

Appendix A – Lung Cancer Staging module voice commands

<b>Dominant Tumor Size (cm)</b>	<b>size</b>
<b>Dominant Tumor Location</b>	<b>location</b>
---RUL	---right upper lobe
---RML	---right middle lobe
---RLL	---right lower lobe
---LUL	---left upper lobe
---Lingula	---lingula
---LLL	---left lower lobe
<b>Airway involvement</b>	<b>airway involvement</b>
---No	---absent
---Main bronchi	---main bronchi
---Distal bronchi	---distal bronchi
---Invades carina	---invades carina
---Invades trachea	---invades trachea
<b>Atelectasis</b>	<b>atelectasis</b>
---No	---absent
---Yes, does not extend to hilum	---does not extend to hilum
---Yes, extends to hilum	---extends to hilum
---Yes, complete lung collapse	---complete lung collapse
<b>Obstructive pneumonitis</b>	<b>obstructive pneumonitis</b>
---No	---absent
---Yes, hilum involved	---hilum involved
---Yes, hilum not involved	---hilum not involved
<b>Tumor contacts/abuts</b>	<b>contacts abuts</b>
---visceral pleura	--- visceral pleura
---chest wall	---chest wall
---diaphragm	---diaphragm
---parietal pericardium	---parietal pericardium
---mediastinum	---mediastinum
---heart	---heart
---great vessels	---great vessels
---esophagus	---esophagus
---vertebral body	---vertebral body
---superior sulcus	---superior sulcus
<b>Local invasion</b>	<b>local invasion</b>
<i>---same selection options as Tumor Contacts/Abuts</i>	
<b>Separate nodule(s)/mass(es)</b>	<b>separate nodules</b>
---No	---no
---Same lobe	---same lobe
---Different lobe, same lung	---different lobe same lung
---Contralateral lung	---contralateral lung
---Mult, all same lobe	---multiple same lobe
---Mult, different lobes, all same lung	---multiple different lobe same lung
---Mult, some contralateral lung	---multiple contralateral lung

<b>Separate nodule max diameter (cm)</b>	separate nodule diameter
<b>Separate nodule/mass location</b>	separate nodule location
<i>---same selection options as Dominant Tumor Location</i>	
<b>Intrathoracic metastasis</b>	intrathoracic metastasis
---Suspicious pleural effusion	---pleural effusion
---Pleural nodule(s)	---pleural nodule
---Suspicious pericardial effusion	---pericardial effusion
---Pericardial nodule(s)	---pericardial nodule
<b>Lymph Nodes</b>	<b>lymph nodes</b>
---Right scalene	---right scalene
---Left scalene	---left scalene
---1: Right low cervical/supraclavicular	---right supraclavicular
---1: Left low cervical/supraclavicular	---left supraclavicular
---2R: Right upper paratracheal	---right upper paratracheal
---2L: Left upper paratracheal	---left upper paratracheal
---3A: Right prevascular	---right prevascular
---3A: Left prevascular	---left prevascular
---3P: Right retrotracheal	---right retrotracheal
---3P: Left retrotracheal	---left retrotracheal
---4R: Right lower paratracheal	---right lower paratracheal
---4L: Left lower paratracheal	---left lower paratracheal
---5: Subaortic	---subaortic
---6: Para-aortic	---para-aortic
---7: Subcarinal	---subcarinal
---8R: Right paraesophageal	---right paraesophageal
---8L: Left paraesophageal	---left paraesophageal
---9R: Right pulmonary ligament	---right pulmonary ligament
---9L: Left pulmonary ligament	---left pulmonary ligament
---10R: Right hilar	---right hilar
---10L: Left hilar	---left hilar
---Right peribronchial/more distal	---right peribronchial
---Left peribronchial/more distal	---left peribronchial
---Right intrapulmonary	---right intrapulmonary
---Left intrapulmonary	---left intrapulmonary
<b>Include stage in report</b>	<b>include stage</b>
---No	---no
---Yes	---yes
<b>Extrathoracic metastasis</b>	<b>extrathoracic metastasis</b>
---Unknown	---unknown
---No	---no
---Yes	---yes

Appendix B – TNM-8 Lung Cancer Staging graphic

## TNM STAGING OF LUNG CANCER - 8<sup>th</sup> EDITION

**Stage IV B (Any T, Any N, M1c)** ← **M1c** Multiple extrathoracic metastases (in one or more organs)

**Stage IV A (Any T, Any N, M1a/b)** ← **M1b** Single extrathoracic metastasis (including non-regional lymph nodes)  
 ← **M1a** Satellite (separate) tumor nodule(s) in contralateral lobe or Pleural or pericardial nodules or malignant effusion

**Distant metastasis M1** ← **DISTANT METASTASIS (M)**

**No distant metastasis M0**

Scalene (ipsi./ contralateral)	Supraclavicular	Hilar	Contralateral Mediastinal	Subcarinal	Ipsilateral Mediastinal	Hilar	Peribronchial	<b>LYMPH NODE (N)</b>								
●	●	●	●					<b>N3</b>	<b>Stage III B</b>				<b>Stage III C</b>			
-	-	-	-	●	●			<b>N2</b>	<b>Stage III A</b>				<b>Stage III B</b>			
-	-	-	-	-	-	●	●	<b>N1</b>	<b>Stage II B</b>				<b>Stage III A</b>			
-	-	-	-	-	-	-	-	<b>N0</b>	<b>IA1</b>	<b>IA2</b>	<b>IA3</b>	<b>IB</b>	<b>II A</b>	<b>II B</b>		
<b>PRIMARY TUMOR (T)</b>									<b>T1a</b>	<b>T1b</b>	<b>T1c</b>	<b>T2a</b>	<b>T2b</b>	<b>T3</b>	<b>T4</b>	
									<b>T1</b>			<b>T2</b>				
<b>1- Size (greatest dimension)</b>									≤ 1 cm	> 1 cm ≤ 2 cm	> 2 cm ≤ 3 cm	> 3 cm ≤ 4 cm	> 4 cm ≤ 5 cm	> 5 cm ≤ 7 cm	> 7 cm	
<b>2- Criteria of Extent</b>									<b>Endo-bronchial Location</b>		<b>Local Invasion</b>		<b>Separate Tumor Nodule(s)</b>			
<p><b>Stage I A1 (T1 (mi) N0 M0)</b>                      T1 (mi): Minimally invasive adenocarcinoma (solitary adenocarcinoma, ≤ 3 cm with a lepidic growth and ≤ 5 mm invasion in any focus)</p> <p><b>Stage 0 (Tis N0 M0)</b>                      Tis: Carcinoma in situ</p> <p><b>Occult Carcinoma (Tx N0 M0)</b>                      Tx: Tumor is proven histopathologically (+ Cytology) but not detected by imaging or bronchoscopy</p>									No extension proximal to the lobar bronchus**		Main bronchus (regardless of the distance to the carina)** vs. Atelectasis or obstructive pneumonitis extending to the hilum (entire or part of the lung)		Carina or Trachea			
									None; the tumor is surrounded by lung or visceral pleura		Visceral pleura		Chest wall (Including superior sulcus), phrenic nerve, parietal pleura and/or parietal pericardium		Diaphragm, Mediastinum, heart, great vessels, recurrent laryngeal nerve, esophagus and/or vertebral body	
									Absent		Absent		Present in the same lobe of the primary tumor		Present in a different ipsilateral lobe	

\* : The tumor is classified as T2a if ≤ 4 cm in size (or size cannot be determined) and T2b if > 4 cm and ≤ 5 cm  
 \*\* : The uncommon superficial spreading tumor with invasion limited to the bronchial wall is considered T1a regardless of size and extension proximal to the main bronchus