

INTERNATIONAL ASSOCIATION FOR THE STUDY OF LUNG CANCER Pleural Mesothelioma T Classification–9th Edition

CLINICAL T (cT)

cTI: Tumor limited to the ipsilateral pleura with **Psum**^a ≤12mm with no involvement of the fissure (Fmax^b ≤5mm)

PATHOLOGICAL T (pT)

pTI: Tumor limited to the ipsilateral pleura with no involvement of the fissure



cT2: Tumor involving the ipsilateral pleura with $Psum^a \leq 12mm$ and with any of the following:

- involvement of the fissure (Fmax^b >5mm)
- mediastinal fat invasion

 solitary area of chest wall soft tissue invasion; or

Tumor involving the ipsilateral pleura with **Psum^a >12mm but ≤30mm**, with or without:

- involvement of the fissure (Fmax^b >5mm)
- mediastinal fat invasion
- solitary area of chest wall soft tissue invasion

pT2: Tumor involving the ipsilateral pleura and with any of the following:

- · involvement of the fissure
- ipsilateral lung parenchyma invasion
- diaphragm (non-transmural) invasion

cT3: Tumor involving the ipsilateral pleura with **Psum^a > 30 mm**; with or without:

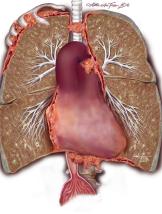
- involvement of the fissure (Fmax^b >5mm)
- mediastinal fat invasion
- solitary area of chest wall soft tissue invasion

pT3: Tumor limited to the ipsilateral pleura (with or without fissure involvement) and with invasion of any of the following:

- mediastinal fat
- surface of pericardium
- endothoracic fascia
- solitary area of chest wall soft tissue

тз

Т4



cT4: Tumor with invasion of any of the following (any Psum^a):

- chest wall bony invasion (rib)
- mediastinal organs (heart, spine, esophagus, trachea, great vessels)
- diffuse chest wall invasion

• direct tumor extension through the diaphragm or pericardium

- direct extension to the contralateral pleura
- presence of malignant pericardial effusion

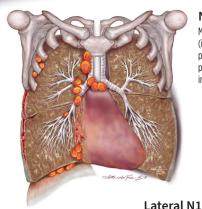
pT4: Tumor with invasion of any of the following:

- chest wall bony invasion (rib)
- mediastinal organs (heart, spine esophagus, trachea, great vessels)
- diffuse chest wall invasion
- transmural invasion of the diaphragm or pericardium
- direct extension to the contralateral pleura
- presence of malignant pericardial effusion

Gill RR, Nowak AK, Giroux DJ, et al. The International Association for the Study of Lung Cancer mesothelioma staging project: Proposals for revisions of the "T" descriptors in the forthcoming ninth edition of the TNM classification for pleural mesothelioma. J Thorac Oncol. 2024;S1556-0864.



INTERNATIONAL ASSOCIATION FOR THE STUDY OF LUNG CANCER Pleural Mesothelioma N Classification-9th Edition

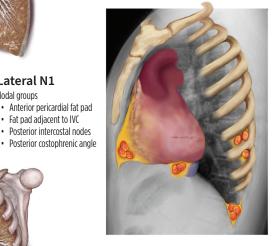


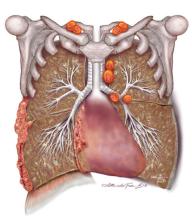
Ν1

Nodal groups

 Anterior pericardial fat pad Fat pad adjacent to IVC Posterior intercostal nodes

Metastases to ipsilateral intrathoracic lymph nodes (includes ipsilateral bronchopulmonary, hilar, subcarinal, paratracheal, aortopulmonary, para-esophageal, peridiaphragmatic, pericardial fat pad, intercostal, and internal mammary nodes)





N2

Metastases in the contralateral mediastinal, ipsilateral or contralateral supraclavicular lymph nodes

Billè AR, Ripley RT, Giroux DJ, et al. Proposals for the N descriptors in the forthcoming 9th edition of the TNM classification for pleural mesothelioma. J Thorac Oncol. in press 2024.

Figure. Courtesy of International Association for the Study of Lung Cancer. Permission must be requested and granted before photocopying or reproducing this material for distribution.



INTERNATIONAL ASSOCIATION FOR THE STUDY OF LUNG CANCER
Pleural Mesothelioma TNM Definitions-9th Edition

Primary Tumor (T)					
Category	Clinical T (cT)	Pathologic T (pT)			
Тх	Tumor cannot be assessed				
TO	No tumor is present				
TI	Tumor limited to the ipsilateral pleura with Psum ^a \leq 12 mm with no involvement of the fissure (Fmax ^b \leq 5 mm)	Tumor limited to the ipsilateral pleura with no involvement of the fissure			
Τ2	Tumor involving the ipsilateral pleura with Psum ^a ≤12 mm and with any of the following: • Involvement of the fissure (Fmax ^b >5 mm) • Mediastinal fat invasion • Solitary area of chest wall soft tissue invasion or Tumor involving the ipsilateral pleura with Psum ^a >12 mm but =30 mm, with or without: • Involvement of the fissure (Fmax ^b >5 mm) • Mediastinal fat invasion • Solitary area of chest wall soft tissue invasion	Tumor involving the ipsilateral pleura and with any of the following: • Involvement of the fissure • Ipsilateral lung parenchyma invasion • Diaphragm (non-transmural) invasion			
ТЗ	Tumor involving the ipsilateral pleura with Psum ^a >30 mm; with or without: Involvement of the fissure (Fmax ^b >5mm) Mediastinal fat invasion Solitary area of chest wall soft tissue invasion	Tumor limited to the ipsilateral pleura (with or without fissure involvement) and with invasion of any of the following: • Mediastinal fat • Surface of pericardium • Endothoracic fascia • Solitary area of chest wall soft tissue			
Category	Clinical T (cT)	Pathologic T (pT)			
T4	 Tumor with invasion of any of the following (any Psum^a): Chest wall bony invasion (rib) Mediastinal organs (heart, spine, esophagus, trachea, great vessels) Diffuse chest wall invasion Direct tumor extension through the diaphragm or pericardium Direct extension to the contralateral pleura Presence of malignant pericardial effusion 	 Tumor with invasion of any of the following: Chest wall bony invasion (rib) Mediastinal organs (heart, spine esophagus, trachea, great vessels) Diffuse chest wall invasion Transmural invasion of the diaphragm or pericardium Direct extension to the contralateral pleura Presence of malignant pericardial effusion 			

^a Psum = pmax1 + pmax2 + pmax3 (sum of 3 measurements of maximal pleural thickness measured on axial images along the chest wall or mediastinum in each of the three divisions of the chest – upper, middle and lower divided by two lines; one at the top of the aortic arch and the second drawn at the top of the left atrium)

^b Fmax = maximal thickness of pleural tumor along the fissures measured on sagittal images



N Category	Clinical (cN) and pathologic (pN) N descriptors		
NX	Regional lymph nodes cannot be assessed		
NO	No regional lymph node metastasis		
N1	Metastases to ipsilateral intrathoracic lymph nodes (includes ipsilateral broncho- pulmonary, hilar, subcarinal, paratracheal, aortopulmonary, para-esophageal, peridia- phragmatic, pericardial fat pad, intercostal, and internal mammary nodes)		
N2	Metastases to contralateral lymph nodes. Metastases to ipsilateral or contralateral supraclavicular lymph nodes		

M Category	Clinical M descriptor (cM)
MO	No distant metastasis
M1	Distant metastasis present

Pleural Mesothelioma TNM Stages-9th Edition

	NO	N1	N2
TI	I	II	IIIA
T2	II	IIIA	IIIA
73	IIIA	IIIA	IIIA
T4	IIIB	IIIB	IIIB
M1	IV	IV	IV

 Wolf AS, Eisele M, Giroux DJ, et al. The International Association for the Study of Lung Cancer pleural mesothelioma staging project: Expanded database to inform revisions in the ninth edition of the TNM classification of pleural mesothelioma. J Thorac Oncol. 2024;S1556-0864.

2. Gill RR, Nowak AK, Giroux DJ, et al. The International Association for the Study of Lung Cancer mesothelioma staging project: Proposals for revisions of the "T" descriptors in the forthcoming ninth edition of the TNM classification for pleural mesothelioma. J Thorac Oncol. 2024;S1556-0864.

3. Bille AR, Ripley RT, Giroux DJ, et al. Proposals for the N descriptors in the forthcoming 9th edition of the TNM classification for pleural mesothelioma. J Thorac Oncol. in press 2024.

4. Kindler HL, Rosenthal A, Giroux DJ, et al. The IASLC Mesothelioma staging project: Proposals for the M descriptors in the forthcoming ninth edition the TNM classification for pleural mesothelioma. *J Thorac Oncol.*, in press 2024.

5. Nowak AK, Giroux DJ, Eisele M, et al. The IASLC Pleural Mesothelioma Staging Project: Proposal for revision of the TNM stage groupings in the forthcoming ninth edition of the TNM classification for pleural mesothelioma. J Thorac Oncol, in press 2024.