

RESPIRATORY TRACT AND THORAX

Trachea:

The trachea is a cartilaginous and fibromuscular tube that extends from the inferior aspect of the cricoid cartilage (sixth cervical vertebra level) to the main carina (fifth thoracic vertebra level). Its length is 10-12 cm in adults (of which 2-4 cm is extrathoracic and 6-9 cm intrathoracic). The tracheal wall has four different layers: mucosa, submucosa, cartilage or muscle, and adventitia. The posterior tracheal wall lacks cartilage and instead is supported by a thin band of smooth muscle.

Lungs:

The lungs are covered by the visceral pleura, which is contiguous with the parietal pleura as it reflects from the lateral surfaces of the mediastinum. The visceral pleura forms in-foldings into both lungs, which are called fissures. There are two complete fissures in the right lung and one complete fissure with an incomplete fissure in the left; these separate the different lung lobes. The pleura also forms the pulmonary ligament, which is a double layer of pleura that extends posteriorly along the mediastinum from the inferior pulmonary vein to the diaphragm.

Penetration of the visceral pleura indicates a progression of invasion, even in small (≤ 3 cm) tumors. Visceral pleural invasion is considered present both in tumors that extend to the visceral pleural surface (type PL2 invasion), and in tumors that penetrate beyond the elastic layer of the visceral pleura (type PL1 invasion).

There are two mainstem bronchi (right and left) and three lobar bronchi (right), with a total of ten segmental bronchi; two lobar bronchi are found on the left, with a total of eight segmental bronchi. The functional subunits of each lung are called segments and have a close relation with the segmental bronchi, as described. The right lung comprises ten segments: three in the right upper lobe, two in the right middle lobe, and five in the right lower lobe. The left lung comprises eight segments: four in the left upper lobe and four in the left lower lobe.

RESPIRATORY TRACT AND THORAX

TRACHEA

8000-8700, 8720-8790, 9700-9701

C339

C339 Trachea

Note 1: The following sources were used in the development of this chapter

- SEER Extent of Disease 1988: Codes and Coding Instructions (3rd Edition, 1998) (<https://seer.cancer.gov/archive/manuals/EOD10Dig.3rd.pdf>)
- SEER Summary Staging Manual-2000: Codes and Coding Instructions (<https://seer.cancer.gov/tools/ssm/>)
- Collaborative Stage Data Collection System, version 02.05: <https://cancerstaging.org/cstage/Pages/default.aspx>

Note 2: See the following chapters for the listed histologies

- 8710-8714, 8800-8934, 8940-9137, 9141-9582: *Soft Tissue*
- 8935-8936: *GIST*
- 9140: *Kaposi Sarcoma*

Note 3: Summary Stage is the only applicable staging system for this site/histology/schema.

SUMMARY STAGE

0 In situ, intraepithelial, noninvasive

1 Localized only (localized, NOS)

- Invasive tumor confined to trachea

2 Regional by direct extension only

- Adjacent connective tissue
 - Arch of aorta
 - Azygos vein, right
 - Brachiocephalic vein
 - Carotid sheath
 - Common carotid artery(ies)
 - Jugular arch
 - Phrenic nerves
 - Pretracheal fascia

- Recurrent laryngeal nerve
- Subclavian artery(ies)
- Vagus nerve
- Adjacent organ(s)/structure(s)
 - Cricoid cartilage
 - Esophagus
 - Pleura, NOS
 - Parietal
 - Visceral
 - Right and left main bronchi
 - Sternum
 - Thymus
 - Thyroid gland
 - Vertebral column

3 Regional lymph node(s) involved only

- Mediastinal, NOS
 - Posterior (tracheoesophageal)
- Paratracheal
- Pretracheal
- Tracheal, NOS
- Regional lymph node(s), NOS
 - Lymph node(s), NOS

4 Regional by BOTH direct extension AND regional lymph node(s) involved

- Codes (2) + (3)

7 Distant site(s)/lymph node(s) involved

- Distant site(s) (including further contiguous extension)
- Distant lymph node(s), NOS
- Distant metastasis, NOS
 - Carcinomatosis
 - Distant metastasis WITH or WITHOUT distant lymph node(s)

9 Unknown if extension or metastasis

THYMUS

8000-8700, 8720-8790, 9700-9701

C379

C379 Thymus

Note 1: The following sources were used in the development of this chapter

- SEER Extent of Disease 1988: Codes and Coding Instructions (3rd Edition, 1998) (<https://seer.cancer.gov/archive/manuals/EOD10Dig.3rd.pdf>)
- SEER Summary Staging Manual-2000: Codes and Coding Instructions (<https://seer.cancer.gov/tools/ssm/>)
- Collaborative Stage Data Collection System, version 02.05: <https://cancerstaging.org/cstage/Pages/default.aspx>
- Chapter 35 *Thymus*, in the AJCC Cancer Staging Manual, Eighth Edition (2017) published by Springer International Publishing. Used with permission of the American College of Surgeons, Chicago, Illinois.

Note 2: See the following chapters for the listed histologies

- 8710-8714, 8800-8934, 8940-9137, 9141-9582: *Soft Tissue*
- 8935-8936: *GIST*
- 9140: *Kaposi Sarcoma*

SUMMARY STAGE

0 In situ: noninvasive, intraepithelial

1 Localized only (localized, NOS)

- Confined to thymus, NOS
- No mediastinal or pleura involvement or UNKNOWN if involved

2 Regional by direct extension only

- Brachiocephalic vein
- Chest wall
- Confined to thymus WITH mediastinal or pleural involvement
- Direct invasion of pericardium
- Extrapericardial pulmonary artery or vein
- Lung
- Phrenic nerve
- Superior vena cava

3 Regional lymph node(s) involved only

- Ascending aorta
- Cervical (low anterior)
- Hilar
- Internal mammary
- Lower jugular
- Mediastinal (lower, middle, NOS)
- Para-aortic
- Paratracheal (lower, upper, NOS)
- Peri-thymic
- Peri-thyroid
- Pericardial
- Phrenic (inferior, superior)
- Precricoid/delphian
- Pretracheal
- Prevascular
- Subaortic/aortopulmonary window
- Subcarinal
- Supraclavicular/venous angle: confluence of internal jugular and subclavian vein
- Regional lymph node(s), NOS
 - Lymph node(s), NOS

4 Regional by BOTH direct extension AND regional lymph node(s) involved

- Codes (2) + (3)

7 Distant site(s)/lymph node(s) involved

- Distant site(s) (including further contiguous extension)
 - Extrathoracic sites
 - Separate pleural or pericardial nodule(s)
- Distant lymph node(s), NOS
- Distant metastasis, NOS
 - Carcinomatosis
 - Distant metastasis WITH or WITHOUT distant lymph node(s)
 - OR with pleural or pericardial nodule(s) metastasis

9 Unknown if extension or metastasis

LUNG

8000-8700, 8720-8790, 8972, 8980, 9700-9701

C340-C343, C348-C349

C340 Main bronchus

C341 Upper lobe, lung

C342 Middle lobe, lung

C343 Lower lobe, lung

C348 Overlapping lesion of lung

C349 Lung, NOS

Note 1: The following sources were used in the development of this chapter

- SEER Extent of Disease 1988: Codes and Coding Instructions (3rd Edition, 1998) (<https://seer.cancer.gov/archive/manuals/EOD10Dig.3rd.pdf>)
- SEER Summary Staging Manual-2000: Codes and Coding Instructions (<https://seer.cancer.gov/tools/ssm/>)
- Collaborative Stage Data Collection System, version 02.05: <https://cancerstaging.org/cstage/Pages/default.aspx>
- Chapter 36 *Lung*, in the AJCC Cancer Staging Manual, Eighth Edition (2017) published by Springer International Publishing. Used with permission of the American College of Surgeons, Chicago, Illinois.

Note 2: See the following chapters for the listed histologies

- 8710-8714, 8800-8934, 8940-8971, 8973-8975, 8981-9045, 9054-9137, 9141-9582: *Soft Tissue*
- 8935-8936: *GIST*
- 9050-9053: *Pleural Mesothelioma*
- 9140: *Kaposi Sarcoma*

Note 3: “Bronchopneumonia” is not the same thing as “obstructive pneumonitis” and should not be coded as such.

Note 4: Atelectasis is the failure of the lung to expand (inflate) completely. This may be caused by a blocked airway, a tumor, general anesthesia, pneumonia or other lung infections, lung disease, or long-term bedrest with shallow breathing. Sometimes called a collapsed lung.

- For staging purposes, atelectasis must present with an obstructing tumor (code 2)

Note 5: Specific information about visceral pleura invasion (PL1 or PL2) or parietal pleural invasion (PL3) are coded as regional (code 2). Elastic layer involvement has prognostic significance for lung cancer.

Note 6: Separate ipsilateral tumor nodules of the same histopathological type (intrapulmonary metastases) are coded either regional (code 2) for same lobe or distant (code 7) for different ipsilateral lobe or contralateral lung.

Note 7: “Vocal cord paralysis,” “superior vena cava syndrome,” and “compression of the trachea or the esophagus” are classified as mediastinal lymph node involvement (code 3) unless there is a statement of involvement by direct extension from the primary tumor.

Note 8: Most pleural and pericardial effusions with lung cancer are due to tumor. In a few patients, however, multiple cytopathological examinations of pleural and/or pericardial fluid are negative for tumor, and the fluid is nonbloody and is not an exudate. Where these elements and clinical judgment dictate that the effusion is not related to the tumor, the effusion should be excluded as a staging element.

Note 9: Occult carcinoma occurs when tumor is proven by the presence of malignant cells or bronchial washings, but there is no other evidence of the tumor. These cases are coded as unknown (code 9).

SUMMARY STAGE

0 In situ, intraepithelial, noninvasive

- Adenocarcinoma in situ (AIS): adenocarcinoma with pure lepidic pattern, less than or equal to 3 cm in greatest dimension
- Squamous cell carcinoma in situ (SCIS)

1 Localized only (localized, NOS)

- Adjacent ipsilateral lobe
- Confined to carina, NOS
- Confined to hilus
- Confined to lung, NOS
- Main stem bronchus, NOS (without involvement of the carina)
 - Including extension from other part of lung
- Minimally invasive adenocarcinoma
 - Adenocarcinoma tumor WITH predominantly lepidic pattern (AIS) measuring less than or equal to 3 cm in greatest dimension
 - WITH invasive component measuring less than or equal to 5 mm in greatest dimension
- Superficial tumor, WITH invasive component limited to bronchial wall
 - WITH or WITHOUT proximal extension to main stem bronchus

2 Regional by direct extension only

- Atelectasis/obstructive pneumonitis
 - Extends to hilar region, involving part or all of lung
- Blood vessel(s) (major)
 - Aorta
 - Azygos vein
 - Pulmonary artery or vein
 - Superior vena cava (SVC syndrome)
- Carina from lung
- Compression of esophagus or trachea not specified as direct extension
- Diaphragm (separate lesion-see code 7)
- Esophagus
- Main stem bronchus less than 2.0 cm from carina
- Mediastinum, extrapulmonary or NOS
- Nerve(s)
 - Cervical sympathetic (Horner's syndrome)
 - Recurrent laryngeal (vocal cord paralysis)
 - Vagus
- Pancoast tumor (superior sulcus syndrome), NOS
- Parietal pericardium
- Parietal pleura
- Pericardium, NOS
- Phrenic nerve
- Pleura, NOS
- Pulmonary ligament
- Separate tumor nodule(s) in the same lobe as the primary
- Visceral pleura
- Trachea

3 Regional lymph node(s) involved only

- **IPSILATERAL** nodes only
 - Bronchial
 - Carinal (tracheobronchial) (tracheal bifurcation)
 - Hilar (bronchopulmonary) (proximal lobar) (pulmonary root)
 - Intrapulmonary
 - Interlobar
 - Lobar
 - Segmental
 - Subsegmental
 - Mediastinal, NOS
 - Anterior
 - Aortic (above diaphragm), NOS
 - Peri/para-aortic, NOS

- Ascending aorta (phrenic)
 - Subaortic (aortic-pulmonary window)
 - Inferior mediastinal
 - Paraesophageal
 - Pulmonary ligament
 - Subcarinal
 - Posterior (tracheoesophageal)
 - Superior mediastinal
 - Paratracheal (left, right, upper, low, NOS)
 - Prevascular
 - Retrotracheal
- Peri/parabronchial
- Periesophageal
- Pericardial
- Peritracheal, NOS
 - Azygos (lower peritracheal)
- Precarinal
- Pretracheal, NOS
- Regional lymph node(s), NOS
 - Lymph node(s), NOS

4 Regional by BOTH direct extension AND regional lymph node(s) involved

- Codes (2) + (3)

7 Distant site(s)/lymph node(s) involved

- Distant site(s) (including further contiguous extension)
 - Abdominal organs
 - Adjacent rib
 - Chest wall (thoracic wall)
 - Contralateral lung/main stem bronchus
 - Contralateral main stem bronchus
 - Heart
 - Inferior vena cava
 - Neural foramina
 - Pericardial nodules or pleural effusion (malignant) (ipsilateral, contralateral, bilateral, NOS)
 - Pleural tumor foci or nodules on ipsilateral lung (separate from direct extension) or contralateral lung
 - Rib
 - Separate tumor nodule(s) in contralateral lung
 - Separate tumor nodule(s) in a different ipsilateral lobe
 - Skeletal muscle

- Skin of chest
- Sternum
- Vertebra(e) (vertebral body)
- Visceral pericardium
- Distant lymph node(s), NOS
 - IPSILATERAL or CONTRALATERAL
 - Low cervical
 - Proximal root
 - Pulmonary root
 - Scalene (inferior deep cervical)
 - Sternal notch
 - Supraclavicular (transverse cervical)
 - CONTRALATERAL/BILATERAL nodes
 - Bronchial
 - Cervical
 - Hilar (bronchopulmonary) (proximal lobar) (pulmonary root)
 - Mediastinal
 - Anterior
 - Aortic (above diaphragm), NOS
 - Peri/para-aortic, NOS
 - Ascending aorta (phrenic)
 - Subaortic (aortic-pulmonary window)
 - Inferior mediastinal
 - Paraesophageal
 - Pulmonary ligament
 - Subcarinal
 - Posterior (tracheoesophageal)
 - Superior mediastinal
 - Paratracheal (left, right, upper, low, NOS)
 - Prevascular
 - Retrotracheal
- Distant metastasis, NOS
 - Carcinomatosis
 - Distant metastasis WITH or WITHOUT distant lymph node(s)

9 Unknown if extension or metastasis

PLEURAL MESOTHELIOMA

9050-9053

C340-C343, C348-C349, C384

C340 Main bronchus

C341 Upper lobe, lung

C342 Middle lobe, lung

C343 Lower lobe, lung

C348 Overlapping lesion of lung

C349 Lung, NOS

C384 Pleura

Note 1: The following sources were used in the development of this chapter

- SEER Extent of Disease 1988: Codes and Coding Instructions (3rd Edition, 1998) (<https://seer.cancer.gov/archive/manuals/EOD10Dig.3rd.pdf>)
- SEER Summary Staging Manual-2000: Codes and Coding Instructions (<https://seer.cancer.gov/tools/ssm/>)
- Collaborative Stage Data Collection System, version 02.05: <https://cancerstaging.org/cstage/Pages/default.aspx>
- Chapter 37 *Malignant Pleural Mesothelioma*, in the AJCC Cancer Staging Manual, Eighth Edition (2017) published by Springer International Publishing. Used with permission of the American College of Surgeons, Chicago, Illinois.

Note 2: Code 0 is not applicable for this chapter.

Note 3: Most pleural effusions are due to tumor. When the cytopathological examinations of pleural fluid are negative for tumor, the effusion should be excluded as a staging element and the tumor should not be classified as metastasis.

- The physician statement of pleural effusion can be used to code this data item
- If the physician feels the pleural effusion is due to tumor, despite negative cytology, the physician's assessment can be used.
- If pleural fluid cytology is described as suspicious/suspicious for mesothelioma, code 7

SUMMARY STAGE

1 Localized only (localized, NOS)

- Confined to pleura, NOS
- Invasive tumor (mesothelioma) confined to pleura, NOS
- Ipsilateral parietal pleura WITH or WITHOUT involvement of
 - Diaphragmatic pleural
 - Mediastinal pleura
 - Parietal pleura
 - Visceral pleura

2 Regional by direct extension only

- Adjacent (connective) tissue, NOS
- Chest wall
- Confluent visceral pleural tumor (including any involvement of interlobar fissure)
- Diaphragmatic muscle
- Endothoracic fascia
- Ipsilateral pleural surfaces all involved
 - Diaphragmatic, parietal, mediastinal, and visceral
- Lung parenchyma, or lung involvement, NOS
- Mediastinal fat (mediastinal tissues)
- Mediastinal organs (direct extension)
- Nodule(s) beneath visceral pleural surface (ipsilateral pleura)
- Pericardium (extension through the internal surface) (non-transmural, NOS) WITHOUT pericardial effusion
- Pulmonary parenchyma (visceral pleural extension)
- Rib

3 Regional lymph node(s) involved only

- Aortic (above diaphragm), NOS
 - Ascending aorta (phrenic)
 - Peri/para-aortic
 - Subaortic (aortico-pulmonary window)
- Carinal (tracheobronchial) (tracheal bifurcation)
- Hilar (ipsilateral)
 - Bronchopulmonary
 - Proximal lobar
 - Pulmonary root
- Intercostal
- Internal mammary (parasternal)
- Intrapulmonary
 - Interlobar
 - Lobar
 - Segmental
 - Subsegmental
- Mediastinal, NOS (ipsilateral)
 - Anterior
 - Posterior (tracheoesophageal)
- Pericardial
- Peri/parabronchial
- Peri/paraesophageal (below carina)
- Peri/paratracheal (lower [azygos], upper, NOS)
- Pretracheal and retrotracheal (precarinal), NOS
- Prevascular
- Pulmonary ligament

- Subcardial
- Subcarinal
- Regional lymph node(s), NOS
 - Lymph node(s), NOS

4 Regional by BOTH direct extension AND regional lymph node(s) involved

- Codes (2) + (3)

7 Distant site(s)/lymph node(s) involved

- Distant site(s) (including further contiguous extension)
 - Brachial plexus
 - Cervical (neck) tissues
 - Contralateral lung
 - Contralateral pleura (direct contiguous extension)
 - Contralateral pleura/chest wall (discontinuous involvement)
 - Heart muscle
 - Intra-abdominal organs
 - Mediastinal organs (discontinuous involvement)
 - Mesothelioma WITH malignant pleural fluid
 - Pericardial effusion, malignant
 - Pericardium WITH pericardial effusion
 - Peritoneum (direct transdiaphragmatic extension of tumor)
 - Peritoneum (discontinuous extension of tumor)
 - Pleural effusion (see Note 3)
 - Spine
- Distant lymph node(s), NOS
 - Hilar (contralateral, bilateral)
 - Bronchopulmonary
 - Proximal lobar
 - Pulmonary root
 - Mediastinal (contralateral, bilateral)
 - Anterior
 - Posterior (tracheoesophageal)
 - Peridiaphragmatic (ipsilateral, contralateral)
 - Mediastinal
 - Scalene (ipsilateral, contralateral)
 - Inferior deep cervical
 - Supraclavicular (ipsilateral or contralateral)
 - Transverse cervical
- Distant metastasis, NOS
 - Carcinomatosis
 - Distant metastasis WITH or WITHOUT distant lymph node(s)

9 Unknown if extension or metastasis

RESPIRATORY OTHER

8000-8700, 8720-8790, 9700-9701

C390, C398-C399

C390 Upper respiratory tract, NOS

C398 Overlapping lesion of respiratory system and intrathoracic organs

C399 Ill-defined sites within respiratory system

Note 1: The following sources were used in the development of this chapter

- SEER Extent of Disease 1988: Codes and Coding Instructions (3rd Edition, 1998) (<https://seer.cancer.gov/archive/manuals/EOD10Dig.3rd.pdf>)
- SEER Summary Staging Manual-2000: Codes and Coding Instructions (<https://seer.cancer.gov/tools/ssm/>)
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Note 2: See the following chapters for the listed histologies

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- 8935-8936: *GIST*
- 9140: *Kaposi Sarcoma*

Note 3: Summary Stage is the only applicable staging system for this site/histology/schema.

SUMMARY STAGE

0 In situ, intraepithelial, noninvasive

1 Localized only (localized, NOS)

- Confined to site of origin

2 Regional by direct extension only

- Adjacent connective tissue
- Adjacent organ(s)/structure(s)
 - Descending aorta
 - Esophagus
 - Large (named) artery(ies)
 - Large (named) vein(s)
 - Pericardium (parietal, visceral [pericardium])
 - Phrenic nerve(s)
 - Pleura (parietal, visceral, NOS)

- Sternum
- Sympathetic nerve trunk(s)
- Thoracic duct
- Thymus
- Trachea
- Vertebra(e)

3 Regional lymph node(s) involved only

- Aortic (above diaphragm), NOS
 - Peri/para-aortic, NOS
 - Ascending aorta (phrenic)
 - Subaortic (aortico-pulmonary window)
- Carinal (tracheobronchial) (tracheal bifurcation)
- Hilar (bronchopulmonary) (proximal lobar) (pulmonary root)
- Intrapulmonary, NOS
 - Interlobar
 - Lobar
 - Segmental
 - Subsegmental
- Mediastinal, NOS
 - Anterior
 - Posterior (tracheoesophageal)
- Peri/parabronchial
- Pericardial
- Peri/paraesophageal
- Peri/paratracheal, NOS
 - Azygos (lower peritracheal)
- Pre- and retrotracheal, NOS:
 - Precarinal
- Pulmonary ligament
- Subcarinal
- Regional lymph node(s), NOS
 - Lymph node(s), NOS

4 Regional by BOTH direct extension AND regional lymph node(s) involved

- Codes (2) + (3)

7 Distant site(s)/lymph node(s) involved

- Distant site(s) (including further contiguous extension)
- Distant lymph node(s), NOS
- Distant metastasis, NOS
 - Carcinomatosis
 - Distant metastasis WITH or WITHOUT distant lymph node(s)

9 Unknown if extension or metastasis