

LUNG EOD, SSDI & Grade

Presented by Lori Somers, RN
SHRI VIDEO TRAINING SERIES | Iowa Cancer Registry
Recorded 1/2023



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LUNG C340-C349

EOD Primary Tumor
EOD Regional Lymph Nodes
EOD Metastasis

EOD Data v2.1 NAACCR 2022
SEER*RSA

EOD Home > Schema List > Lung

Lung

Primary Site

C340-C343, C348-C349

Notes

8000-8700, 8720-8790, 8972, 8980

C340 Main bronchus
C341 Upper lobe, lung
C342 Middle lobe, lung
C343 Lower lobe, lung
C348 Overlapping lesion of lung
C349 Lung, NOS

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EOD General Coding Instructions

EXTENT OF DISEASE (EOD) 2018 GENERAL CODING INSTRUCTIONS Published October 2022

Effective with cases diagnosed January 1, 2018 and forward

Prepared by
Data Quality, Analysis and Interpretation Branch
Surveillance Research Program
Division of Cancer Control and Population Sciences
National Cancer Institute
U.S. Department of Health and Human Services
Public Health Service
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https://seer.cancer.gov/tools/staging/eod/2018_Extent_of_Disease_General_Instructions.pdf₃

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LUNG EOD Primary Tumor

Note 1: Bronchopneumonia (infection) not same as obstructive pneumonitis (atelectasis, inflammation, bronchiectasis) distal to an obstructing lesion.

Note 2: Code 100 only applies to lepidic pattern, minimally invasive adenoca

Note 3: Code 200 is to be used for superficial spreading tumors only. Path report must state superficial spreading. These tumors are uncommon, use sparingly. If in doubt, do not use this code.

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EOD PRI Tumor Notes

Note 4: Code 300 for localized cancer where size defines EOD. Not 100 (lepidic), 200 (superficial spread) or 400.

Note 5: Atelectasis is failure of lung to expand or inflate completely. Caused by blocked airway, tumor, general anesthesia, pneumonia or other lung infections. Aka collapsed lung

- For staging: atelectasis must present with obstructing tumor

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EOD PRI Tumor Notes

Note 6: Specific info about visceral pleural invasion captured in codes 450 (PL1, PL2, or NOS) and 500 (PL3). Elastic layer involvement has prognostic significance for lung cancer.

Note 7: Penetration of visceral pleural indicates progression of invasion, even in small tumors.

Note 8: Separate ipsilateral tumor nodules of same histo type (intrapulm mets) are coded either 500 (same) or 700 (diff) lobe. Separate tumor nodules in contra lung are assigned in EOD mets.

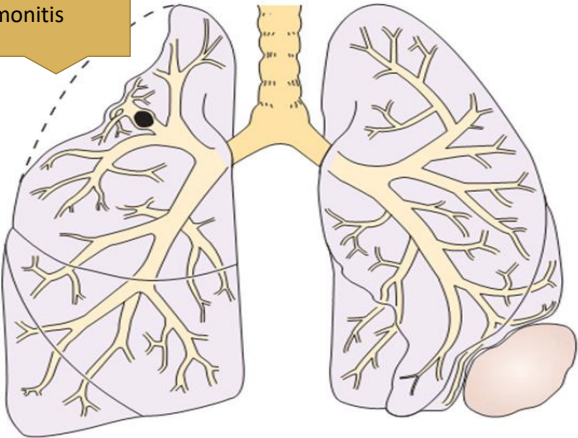
Note 9: Occult carcinoma occurs when tumor is proven by presence of malign cells or bronch washings, but no other evidence of tumor. EOD coded to 980, 000, 00.

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Atelectasis

Code 450
atelectasis/obstructive
pneumonitis



Absorption Compression

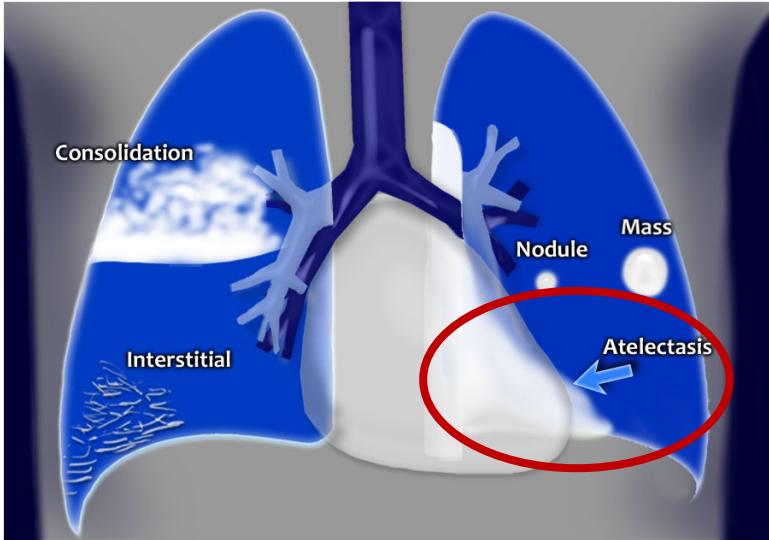
- Atelectasis caused by airway obstruction and absorption of air from the involved lung area **on the left** and by compression of lung tissue **on the right**.

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Atelectasis



Consolidation Interstitial Nodule Mass Atelectasis

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EOD Pri Tumor

Code	Description
000	In situ, Noninvasive, intraepithelial SCIS = squamous cell carcinoma in situ AIS = adenoca in situ: adenoca w/pure lepidic pattern </=3 cm
100	Minimally invasive adenoca >with predom lepidic pattern meas </= 3 cm >with invasive component meas </= 5 mm
200	Superficial spreading tumor, any size >with invasive component limited to bronchial wall >with or without proximal extension to MSB (uncommon)
300	Any size tumor; confined to lung; localized NOS

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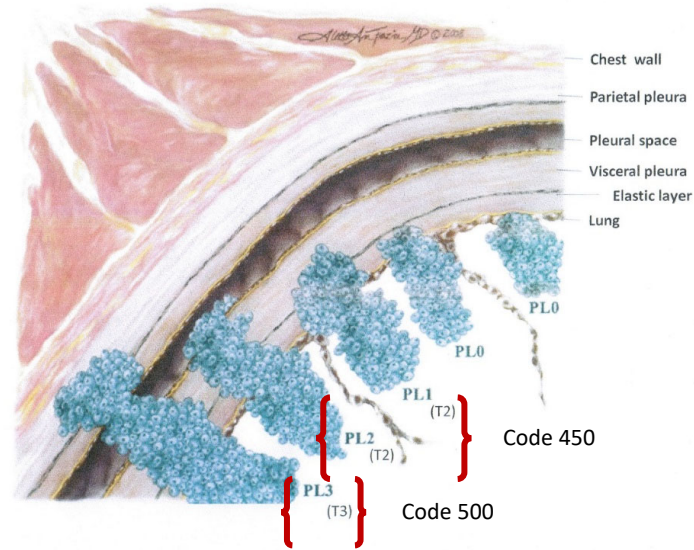
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Code	Description
400	Any size tumor >adjacent ipsilateral lobe (direct tumor invasion) >confined to hilus >MSB, NOS (w/o involvement of carina) >including extension from other part of lung
450	Any size tumor >atelectasis/obstructive pneumonitis [see Note 1, Note 5] >pleural NOS >Pulmonary ligament >Visceral pleural (PL1 or PL2) [see Note 6]
500	Any size tumor >Brachial plexus, inferior branches or NOS >Chest wall (thoracic wall) separate lesion – see EOD mets >Pancoast tumor (superior sulcus syndrome) NOS >Parietal pericardium, Pericardium, NOS >Parietal pleural (PL3) [see Note 4] >>Phrenic nerve Separate tumor nodule(s) in same lobe as the primary [see Note 8]

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Pleural Invasion



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Code	Description
600	Tumor limited to the carina
650	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 ext Esophagus Mediastinum, extrapulmonary or NOS Nerve(s) >Cervical sympathetic (Horner's syndrome) >Recurrent laryngeal (vocal cord paralysis) >Vagus Trachea

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Code	Description
675	Any size tumor >Adjacent rib, Rib NOS >Skeletal muscle >Sternum
700	Heart Inferior vena cava Neural foramina Vertebra(e) (vertebral body) Visceral pericardium Separate tumor nodule(s) in different ipsilateral lobe [see Note 8] Further contiguous extension
800	No evidence of primary tumor
980	Tumor proven by presence of malig cells in sputum or bronchial washings but not visualized by imaging or bronch "occult" carcinoma. [see Note 9]
999	Unknown; extension not stated Primary cannot be assessed Not documented in pt record; DCO

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EOD Regional LNs

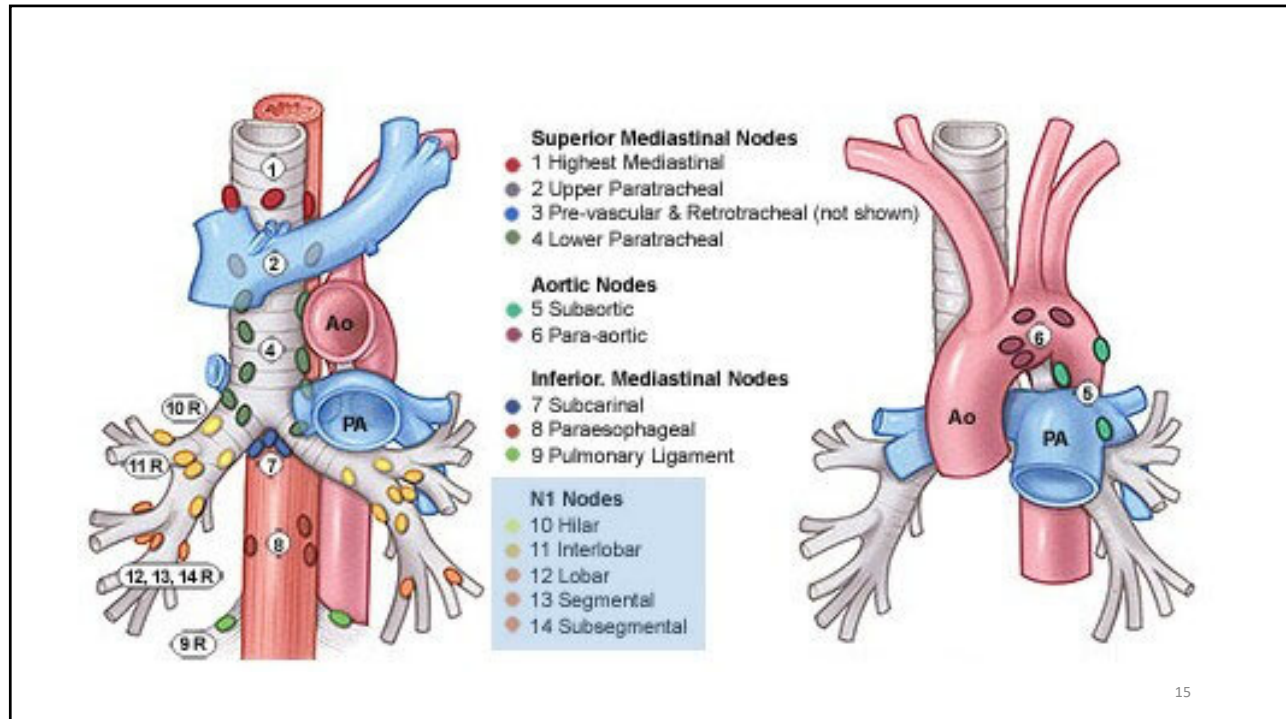
Note 1: Code only regional nodes and nodes, NOS in this field. Distant nodes are coded in EOD mets.

Note 2: "Vocal cord paralysis," "superior vena cava syndrome," and "compression of the trachea or the esophagus" are classified as mediastinal lymph node involvement (code 400) unless there is a statement of involvement by direct extension from the primary tumor.

Note 3: Code 800 if regional LNs are involved, NOS

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LUNG EOD Reg LNs

Code	Description
000	No regional LN involvement
300	IPSILATERAL nodes only Bronchial, hilar, intrapulmonary [interlobar, lobar, segmental, subsegmental] Peri/parabronchial
400	IPSILATERAL nodes only Carina (tracheobronchial) (tracheal bifurcation) Mediastinal, ipsilateral or NOS >Numerous mediastinal LNs here... Peritracheal, NOS >Azygos (lower peritracheal) Precarinal Pretracheal, NOS

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Code	Description
600	IPSILATERAL OR CONTRALATERAL Low cervical Proximal root Pulmonary root Scalene (inferior deep cervical) Sternal notch Supraclavicular (transverse cervical)
700	CONTRALATERAL OR BILATERAL Bronchial Hilar Mediastinal >numerous named mediastinal nodes
800	Regional lymph node(s), NOS Lymph node(s), NOS
999	Unknown; regional nodes(s) not stated Regional nodes cannot be assessed Not documented in patient record, DCO

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Q&A

ASK A SEER CTR #21095 5-15-2019

Question: Can you take terms lymphadenopathy, mass, palpable, enlarged LNs for coding EOD Reg Nodes?

Answer: This change was done to be in line with AJCC. There are many reasons for lymph nodes to be enlarged, or for there to be lymphadenopathy. Although this is common with cancer (especially for lung), it's not always due to cancer. Also, it was determined that lymph node involvement was being coded as positive when it shouldn't have been, based on terminology like "lymphadenopathy," which is not necessarily a term that is diagnostic of cancer involvement, although it is commonly used by radiologists.

- **A clinician's interpretation (other than a radiologist) is needed to confirm whether lymphadenopathy is cancer involvement or not.**

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Lymph Node involvement

5. **Terms meaning lymph node involvement:** For solid tumors, the terms “fixed” or “matted” and “mass in the hilum, mediastinum, retroperitoneum, and/or mesentery” (with no specific information as to tissue involved) are recorded as involvement of lymph nodes.

a. Other terms, such as “palpable,” “enlarged,” “visible swelling,” “shotty,” or “lymphadenopathy” should be ignored for solid tumors, unless there is a statement of involvement by the clinician or the patient was treated as though regional nodes were involved.

Example: Palpable axillary lymph nodes found, consistent with mets. Record as involvement of lymph nodes.

Example: Enlarged renal hilar nodes found on CT, positive for cancer. Record as involvement of lymph nodes.

b. The terms “homolateral,” “ipsilateral,” and “same side” are used interchangeably.

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Lymph Node Text Examples

Incomplete: 4/28/2022 CT chest 19 mm mass Rt lung apex that abuts pleural surface, could represent malignancy. A 6x8 mm nodule along Rt minor fissure, most likely infrafissural LN. No pleural effusion. Mediastinal and Rt hilar adenopathy to 16 mm. Rad Onc: Metastatic carcinoma, probably lung primary. No TNM by MD. **EOD Reg Nodes 999**

Complete: “1/24/2022 RT CNSLT: cT3N2M1a SCC of presumed RUL with 3 nodules R lung and 1 nodule L lung. Bulky mediastinal adenopathy to 3.5 cm.” The treating physician is calling adenopathy positive and has staged it N2. **EOD Reg Nodes 400**

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EOD Mets

Note: 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 non-bloody 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. Code 00 in the absence of any other metastasis.

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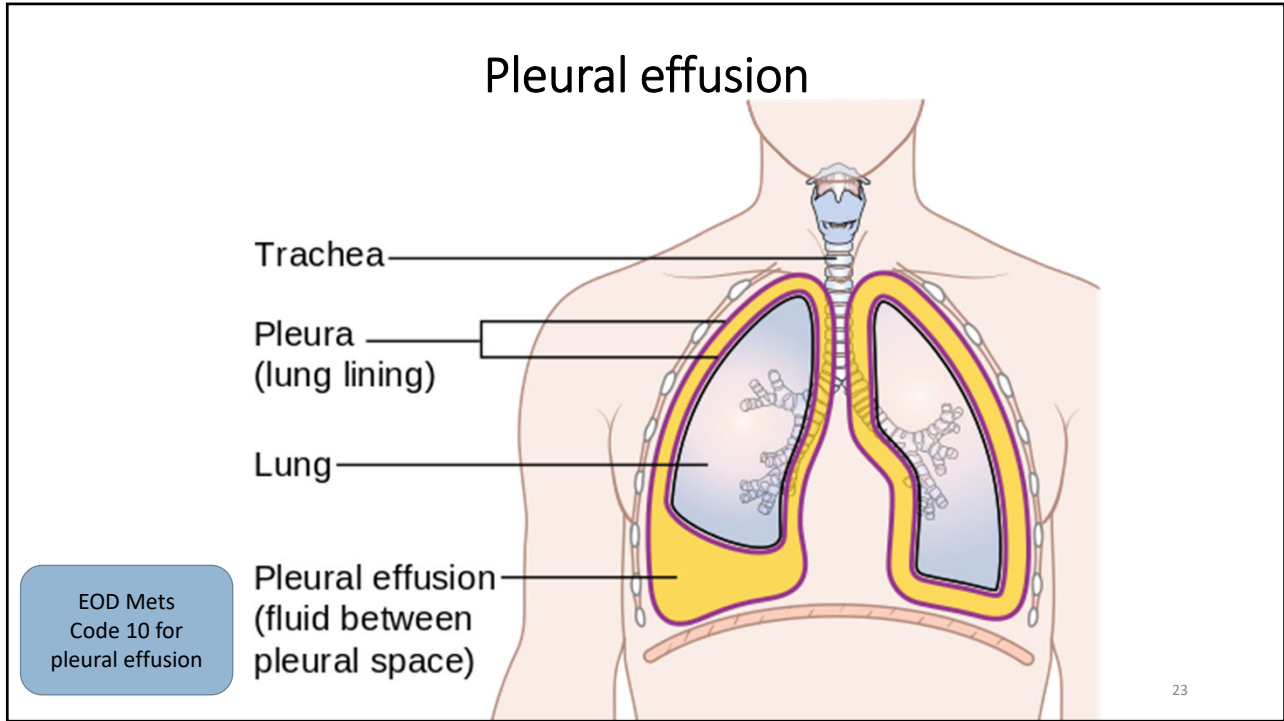
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EOD Mets

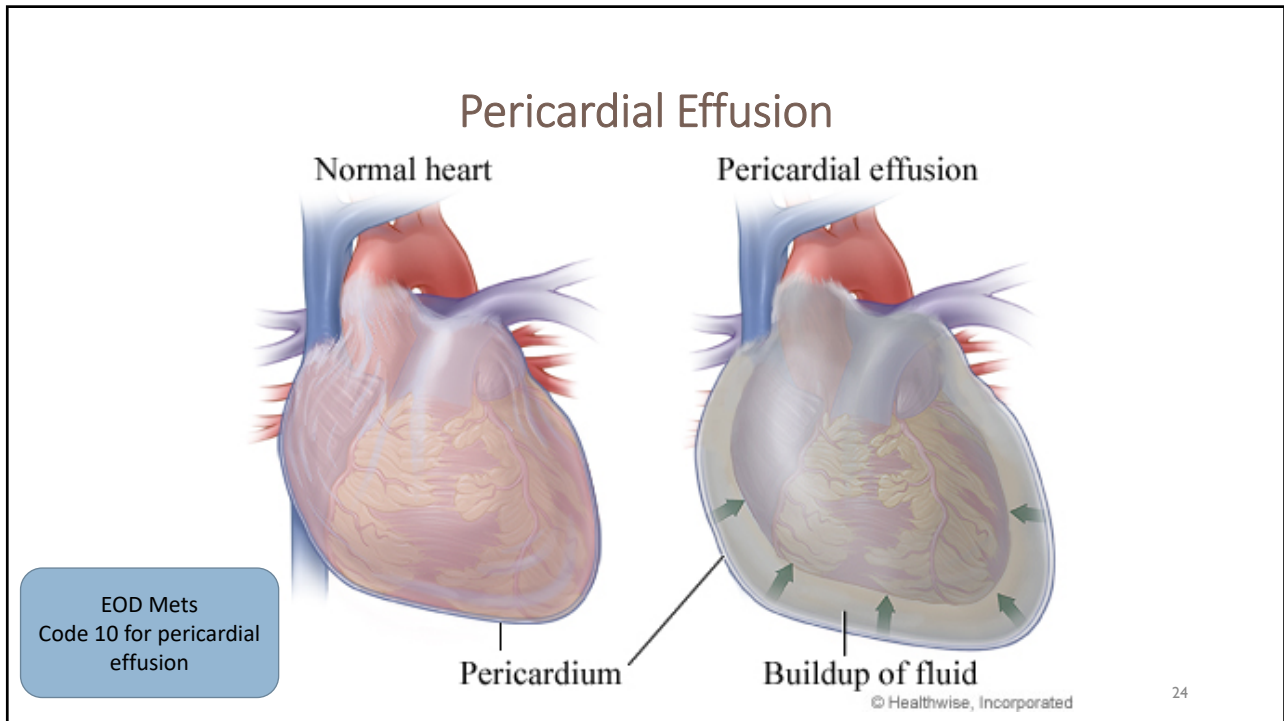
Code	Description
00	No distant mets; unknown if distant mets
10	Pericardial effusion or pleural effusion (malignant) (ipsilateral, contralateral, bilateral, NOS); Pericardial nodules Contralateral lung/MSB; Contralateral MSB Separate tumor nodule(s) in contralateral lung
20	Single distant lymph node involved >Cervical; >Distant lymph node, NOS
30	Single extrathoracic metastasis in a single organ
50	Multiple extrathoracic metastases in a single organ or in multiple organs Abdominal organs, skin of chest, separate lesion in chest wall or diaphragm. Multiple distant lymph node(s): Cervical, Distant NOS Carcinomatosis; Distant metastases WITH or WITHOUT distant lymph node(s)
70	Distant metastases, NOS
99	DCO

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SSDI

- #3929 Separate Tumor Nodules
- #3937 Visceral and Parietal Pleural Invasion
- #3938 ALK Rearrangement [start 2021 dx]
- #3939 EGFR Mutational Analysis [start 2021 dx]

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Separate Tumor Nodules #3929

- Refers to a single tumor with intrapulmonary mets in ipsilateral (**same**) lung.
- Defined as intrapulmonary mets in same lobe or same lung originating from a single lung primary at time to dx.
- **Bx of tumor may or may not be performed**
- **Histology of separate tumors must be the same**
 - [If not all tumors are biopsied, ASSUME they are the same histology.]
- Record from imaging reports and path reports

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Separate Tumor Nodules

Notes

Note 1: Physician statement of Separate Tumor Nodules in the ipsilateral (same) lung can be used to code this data item when no other information is available. See discussion of terminology in Note 4.

- › Separate tumor nodules in the contralateral lung are not coded in this data item.

Note 2: Code the presence and location of separate tumor nodules, also known as intrapulmonary metastasis, at the time of diagnosis in this item. Separate tumor nodules can be defined clinically (by imaging) and/or pathologically. They can be in the same or different lobes of the same lung as the primary tumor. Their location is used to assign the T in the TNM system.

Note 3: For this item, only code separate tumor nodules of the same histologic type as the primary tumor, also referred to as intrapulmonary metastases.

- › In the case of multiple tumor nodules determined to be the same primary, if not all nodules are biopsied, assume they are the same histology

Note 4: Other situations that display multiple lesions are NOT coded in this item. Assign code 0 if the multiple lesions belong to one of these other situations. Refer to the AJCC Staging Manual 8th Edition for standardized and precise definitions of the situations which aren't separate tumor nodules. They are

- › second primary tumors, also called synchronous primary tumors (not the same histology as the primary tumor)
- › multifocal lung adenocarcinoma with ground glass/lepidic features
- › diffuse pneumonic adenocarcinoma

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Separate Tumor Nodules

Note 5: "Synchronous" describes the appearance in time compared to the primary tumor. Do not code this item based solely on the word "synchronous". If separate nodules are described as "metachronous," the nodules may be evidence of progression of disease in which case they would not be coded here.

Note 6: If there are multiple tumor nodules or foci and the terminology used is not readily identifiable as one of the situations described in Note 4, consult with the pathologist or clinician. If no further information is available, assign code 7 and DO NOT use the information to assign a T category or extent of disease.

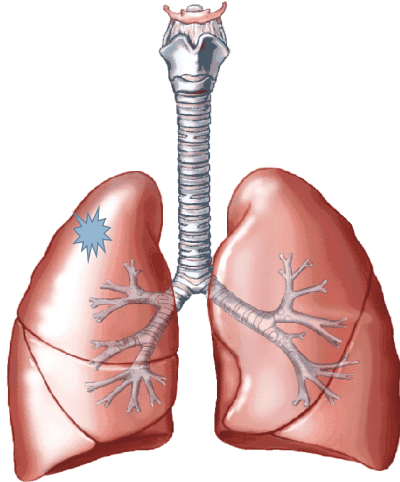
Note 7: Code 0 if relevant imaging or resection is performed and there is no mention of separate tumor nodules.

Note 8: Code 9 if there is no relevant imaging or resection of the primary site.

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Code 0



- No separate tumor nodules; single tumor only
- Separate tumor nodules of same histo type not identified/not present
- Intrapulmonary mets not present
- Multiple nodules described as multiple foci of adenoca in situ or minimally invasive adenoca.
- Note 4 & 7

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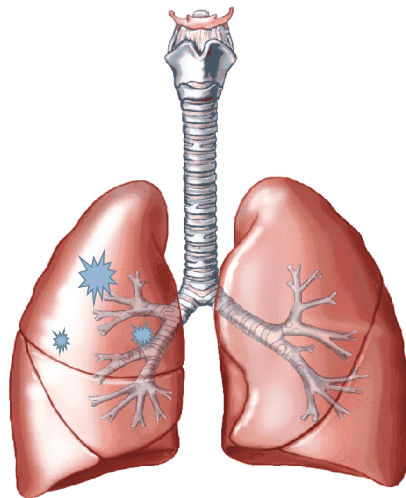
Code 1

Separate tumor nodules:

>same histo type

>same lobe

Look at cT3



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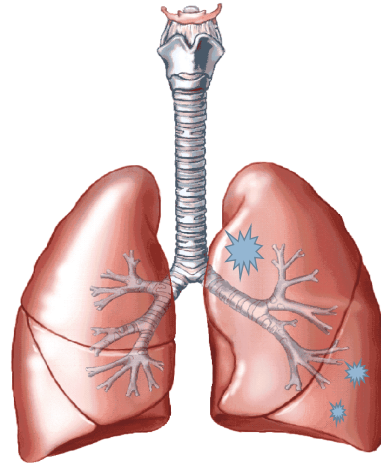
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Code 2

Separate tumor nodules:

- >same histo type
- >same lung
- >different lobe

Look at cT4



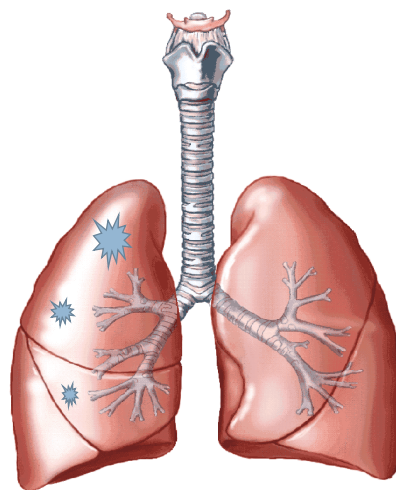
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Code 3

Separate tumor nodules:

- >same histo type
- >same lung
- >same AND different lobes



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SSDI #3929

Code	Description
4	Separate tumor nodules of same histo type in ipsilat lung, unknown if same or different lobe(s)
7	Multiple nodules or foci of tumor present, not classifiable based on Notes 3 and 4
8	Not applicable: Info not collected
9	Not documented in med record Primary tumor is in situ Separate tumor nodules not assessed or unknown if assessed

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Forum QnA:

- Q: Does there have to be proof that nodules are the same histologic type to be coded 1-4? Or can the assumption be made that they are of the same histologic type unless specified otherwise?
- A: Per note 2, separate tumor nodules can be defined clinically by imaging, so not all separate tumor nodules need to be confirmed microscopically. Unless specified otherwise, you can assume they are all the same histologic type.

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QnA

- Q: If a patient has a cT0 lung tumor, diagnosed due to mets from lung primary, how would separate tumor nodules be coded? A CT chest didn't identify any nodules.
- A: Code to none (0) since the CT of chest didn't show any.

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Separate Tumor Nodules

SSDI #3929	EOD Tumor	SS18
Code 1: Same histo (or assumed), in same (ipsilat) lobe as primary	Code 500	2
Code 2: Same histo (or assumed), in same (ipsilat) lung, different lobe	Code 700	7
Code 3: Same histo (or assumed), in same (ipsilat) lung, same and different lobes	Code 700	7
Code 7:	Do not code the info in EOD per note 6	Disregard info

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Visceral & Parietal Pleural Invasion SSDI # 3937

- Chap 36 AJCC definition of pleural/elastic layer invasion (PL). Four categories.
- Invasion beyond the elastic layer or to the surface of the visceral pleura
- Elastic stain is not needed in most cases to assess pleural for invasion
- VPI (visceral pleural invasion) relevant for peripheral lung tumors
- Source document: Record VPI as stated on path report

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Visceral & Parietal Pleural Invasion

Note 1: Phys statement of visceral and parietal pleural invasion can be used to code this data item when no other info avail.

Note 2: Code 0 for in situ behavior /2 tumors

Note 3: Surgical resection must be done to code

Note 4: Do not use imaging findings to code

Note 5: Code 9 when:

- FNA only is performed. FNA not adequate to assess invasion
- Surgical resection of pri site performed and no mention of visceral and/or parietal pleural invasion.

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SSDI #3937

Code	Description
0	Stated PL0 No evidence of visceral pleural invasion (PL) Tumor does not completely traverse the elastic layer ***Must be stated not present; cannot assume
4	Stated PL1 or PL2 Invasion of visceral pleura present, NOS
5	Stated PL3 Tumor invades into or through parietal pleural or chest wall
6	Tumor extends to pleura, NOS, not stated visceral or parietal
8	Not applicable
9	Not documented, no surgical resection, not assessed

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ALK Rearrangement # 3938 2021 dx

- Performed for patients with advanced non-small cell lung cancer (NSCLC) to identify which tumors sensitive to small-molecule ALK kinase inhibitors
- Prognostic marker
- Factor in determining appropriate therapy
- Presence of ALK protein predicts favorable response to therapy with targeted ALK inhibitor such as Crizotinib or Ceritinib
- Source Document: Path report or molecular report
- Effective 2021+ dx

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ALK Rearrangement

- Note 1: This SSDI effective 2021+ Leave blank for 2018-2020
- Note 2: Physician statement of ALK can be used
- Note 3: ALK may be recorded for all histologies and stages; primarily performed for advanced NSCLC
- Note 4: Most common ALK are
 - EML4-ALK
 - KIF5B-ALK
 - TFG-ALK
 - KLC1-ALK

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ALK Rearrangement

- Note 5: If positive and no mention of specific ALK, code 4
- Note 6: If neoadjuvant therapy given, record assay from tumor prior to neoadjuvant therapy
- Note 7: Code 9 when
 - Insufficient amount of tissue to perform test
 - Test done and documented to be equivocal
 - No microscopic confirmation of tumor
 - ASK not ordered, not done or unknown if done

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ALK #3938

Code	Description
0	Normal ALK Neg Neg for rearrangement, no rearrangement identified, no mutations (somatic) identified, not detected
1	Abn rearrangement identified/detected: EML4-ALK; KIF5B-ALK, TFG-ALK, and/or KLC1-ALK
2	Rearrangement identified/detected: Other ALK not listed in code 1
4	Rearrangement, NOS
7	Test ordered, results not in chart
8	Not applicable
9	Not documented in med rec. ALK rearrangement not assessed or unkn if assessed
<blank>	N/A Dx year is prior to 2021

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EGFR Mutational Analysis # 3939 2021 dx

- Performed on patients with advanced non-small cell lung cancer (NSCLC) to identify certain activating mutations in EGFR gene sensitive to tyrosine kinase inhibitors
- New for 2021 dx
- Prognostic marker and factor in determining appropriate therapy
- EGFR protein involved in cell signals that control cell division and survival. Mutations can cause high EGFR causing cancer cells to divide more rapidly.
- EXON 20 presence associated with resistance to EGFR drugs

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EGFR Mutational Analysis

- Note 1: Effective for dx 2021+. Leave blank 2018-2020 dx.
- Note 2: Physician statement of EGFR may be used
- Note 3: EGFR recorded for all histologies and stages; however, primarily performed for advanced NSCLC. If no info, code 9.
- Note 4: Most common EGFR:
 - Exon 18 Gly719
 - Exon 19 deletion
 - Exon 20 insertion
 - Exon 20 Thr790Met
 - Exon 21 Leu858Arg

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EGFR Mutational Analysis

- Note 5: If EGFR positive and no mention mutated codon, or NOS, code 4
- Note 6: If neoadjuvant therapy given, record assay from tumor specimens prior to neoadjuvant therapy.
 - If neoadjuvant therapy given, no EGFR results from pre-treatment specimens, report findings from post-treatment specimens
- Note 7: Code 9 when
 - Insufficient amount of tissue available to perform test
 - No microscopic confirmation of tumor
 - EGFR not ordered or not done, unknown if ordered or done.

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EGFR #3939

Code	Description
0	Normal EGFR negative, EGFR wild type Neg for mutations, no alterations, no mutations (somatic) identified, not detected
1	Abnormal (mutated)/detected in exon(s) 18, 19, 20 and/or 21
2	Abnormal (mutated)/detected but not in exon(s) 18, 19, 20, and/or 21
4	Abnormal (mutated)/detected, NOS, exon(s) not specified
7	Test ordered, results not in chart
8	Not applicable
9	Not documented in med record. EGFR not assessed or unknown if assessed
<blank>	N/A – Diagnosis year is prior to 2021

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Grade Fields

Grade Clinical

Grade Pathological

Grade Post Therapy Clin (yc)

Grade Post Therapy Path (yp)

Code	Grade Description
1	G1: Well differentiated
2	G2: Moderately differentiated
3	G3: Poorly differentiated
4	G4: Undifferentiated anaplastic
9	Grade cannot be assessed (GX); Unknown

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Forum Q&A:

Question: Lung biopsy of the LUL shows a **high grade** spindle cell histology malignant neoplasm. The patient goes onto have a resection/lobectomy and has an **anaplastic** pleomorphic spindle cell giant cell arising from mod diff adenocarcinoma - acinar, lepidic, micropapillary patterns. No further information than what is listed above from the pathology reports. Treating this as a lung case which does not offer high grade under the clinical grade section. Please advise below.

1) What is the clinical grade?

2) What is the pathologic grade?

Code	Grade Description
1	G1: Well differentiated
2	G2: Moderately differentiated
3	G3: Poorly differentiated
4	G4: Undifferentiated anaplastic
9	Grade cannot be assessed (GX); Unknown

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FORUM answer

- Answer: Clinical grade would be 9. "High" grade is not terminology collected for Lung.

Pathological grade would be 4. Per the note 3 in the Lung grade, "Anaplastic" is coded as G4. The pleomorphic (with the anaplastic grade) tumor is arising from the adenocarcinoma tumor (which is mod diff); however, you would still take the higher grade from the pleomorphic spindle cell.

1) What is the clinical grade? **9**

2) What is the pathologic grade? **4**

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Small Cell Lung Cancer anaplastic grade 4

- <https://cancerbulletin.facs.org/forums/forum/site-specific-data-items-grade-2018/124735-small-cell-carcinoma-grade>
- Small Cell Carcinoma is, by definition, anaplastic per the SSDI Working Group
- If the biopsy path report states Small Cell Carcinoma with no grade for a lung mass biopsy, we would record the clinical grade as 4 according to the above post.
- If a lobectomy is performed and the path report states Small Cell Carcinoma, G3, PD, do we record a pathological grade 4 due to the clinical grade being higher?

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Small Cell Lung Cancer anaplastic grade 4

- If the biopsy path report states Small Cell Carcinoma with no grade for a lung mass biopsy, we would record the clinical grade as 4 according to the above post.
 - Answer: If a biopsy is done, diagnosis small cell carcinoma of the lung, Grade is 4 (this is because Lung has a 4 grade system)
- If a lobectomy is performed and the path report states Small Cell Carcinoma, G3, PD, do we record a pathological grade 4 due to the clinical grade being higher?
 - Answer: If a lobectomy is performed and the path report states Small Cell Carcinoma, Grade is 4 because small cell carcinoma is always the highest grade and lung is a 4 grade system.

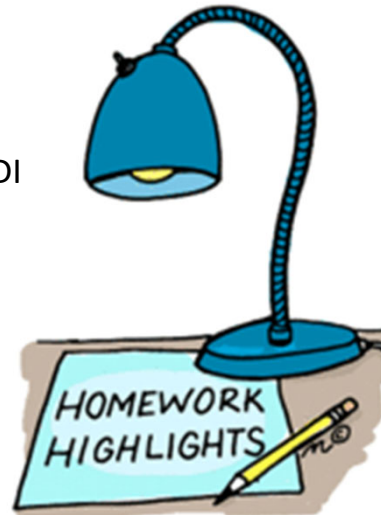
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Training | Coding CEs

- DX 2021-2022 EOD, Summ Stage, Grade, SSDI
 - Lung 01-05
 - Lung 06-10



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