Collecting Cancer Data: Lung

NAACCR 2009-2010 WEBINAR SERIES

Questions

• Please use the Q&A panel to submit your questions
• Send questions to “All Panelist”

Fabulous Prizes
Agenda

- Overview
- CSv2
- MP/H Rules
- Treatment

Overview

Lung

Epidemiology

- **Estimated new cases and deaths** from lung cancer (non-small cell and small cell combined) in the United States in 2009:
  - New cases: 219,440
  - Deaths: 159,390

- **Estimated new cases and deaths** from lung cancer (non-small cell and small cell combined) in Canada in 2009:
  - New Cases: 23,400
  - Deaths: 20,500
Function

- Respiration
- Protection against infection
- Alter the pH of the blood
- Filter gas micro-bubbles
- Shock absorber for the heart

Multiple Primary Rules

Lung

Histology Rules
UNKNOWN IF SINGLE OR MULTIPLE TUMORS

- Rule M1
  - When it is not possible to determine if there is a single tumor or multiple tumors, opt for a single tumor and abstract as a single primary.
Multiple Primary Rules
SINGLE TUMOR
• Rule M2
  — A single tumor is always a single primary.

Multiple Primary Rules
MULTIPLE TUMORS
• Rule M3
  — Tumors in sites with ICD-O-3 topography codes that are different at the second (Cx.xx) and/or third character (Cx.x) are multiple primaries.
• Rule M4
  — At least one tumor that is non-small cell carcinoma (8046) and another tumor that is small cell carcinoma (8041-8045) are multiple primaries.

Multiple Primary Rules
MULTIPLE TUMORS
• Rule M5
  — A tumor that is adenocarcinoma with mixed subtypes (8255) and another that is bronchioloalveolar (8250-8254) are multiple primaries.
• Rule M6
  — A single tumor in each lung is multiple primaries.
Multiple Primary Rules
MULTIPLE TUMORS
• Rule M7
  – Multiple tumors in both lungs with ICD-O-3 histology codes that are different at the first (xxx), second (xx) or third (x) number are multiple primaries.
• Rule M8
  – Tumors diagnosed more than three (3) years apart are multiple primaries.

MULTIPLE TUMORS
MULTIPLE TUMORS
• Rule M9
  – An invasive tumor following an in situ tumor more than 60 days after diagnosis is a multiple primary.
• Rule M10
  – Tumors with non-small cell carcinoma, NOS (8046) and a more specific non-small cell carcinoma type (Chart 1) are a single primary.

MULTIPLE TUMORS
MULTIPLE TUMORS
• Rule M11
  – Tumors with ICD-O-3 histology codes that are different at the first (xxx), second (xx) or third (x) number are multiple primaries.
• Rule M12
  – Tumors that do not meet any of the above criteria are a single primary.
Question

• A patient was diagnosed with 3 lung tumors. One in left lower lobe, one in right lower lobe and one in the right upper lobe. All tumors had the same histology.
• Pathologist is calling this one primary with "bilateral multicentricity and metachronous in time of origin."
• How do I code/abstract this case??
• One primary with metastasis or three primaries?

Answer

• Per Lung Rule M12, this is a single primary.
  – Curator
    (I & R Team 45146)

Histology Rules

SINGLE TUMOR

• Rule H1
  – Code the histology documented by the physician when there is no pathology/cytology specimen or the pathology/cytology report is not available.
• Rule H2
  – Code the histology from a metastatic site when there is no pathology/cytology specimen from the primary site.
• Rule H3
  – Code the histology when only one histologic type is identified.
Question

• Imaging report stated the patient had a 3 cm spiculated mass presumably a non-small cell carcinoma of the right upper lung.
• No histologic diagnosis was made.
• Is the histology 80463, non-small cell carcinoma?

Answer

• Per the General Instructions, Priority for Using Documents to Code Histology, rule 3b allows for the circumstance of having no pathology report. It states we should code “from mention of type of cancer (histology) in the medical record.
• The doctors are making an educated guess based on size, shape, location of the type of this lung tumor. Code 8046/3.
  — Curator (I & R Team 28702)

Histology Rules

SINGLE TUMOR

• Rule H4
  — Code the invasive histologic type when a single tumor has invasive and in situ components.
• Rule H5
  — Code the most specific term using Chart 1 when there are multiple histologies within the same branch.
Histology Rules
SINGLE TUMOR

• Rule H6
  – Code the appropriate combination/mixed code (Table 1) when there are multiple specific histologies or when there is a non-specific with multiple specific histologies.

• Rule H7
  – Code the histology with the numerically higher ICD-O-3 code.

Question

• Path on lung biopsy was large-cell undifferentiated carcinoma, giant-cell type. Do we code large-cell 8012 or giant cell 8031?

Answer

• We can’t stop at Rule H5. Large cell, undifferentiated, and giant cell are not on the same branch of Chart 1.

• Follow Rule H7 and choose giant cell (8031) over large cell (8012) or undifferentiated (8020).
  – Curator
    (I & R Team 28723)
Histology Rules
MULTIPLE TUMORS
• Rule H8
  – Code the histology documented by the physician when there is no pathology/cytology specimen or the pathology/cytology report is not available.
• Rule H9
  – Code the histology from a metastatic site when there is no pathology/cytology specimen from the primary site.
• Rule H10
  – Code the histology when only one histologic type is identified.

Histology Rules
MULTIPLE TUMORS
• Rule H11
  – Code the histology of the most invasive tumor.
• Rule H12
  – Code the most specific term using Chart 1 when there are multiple histologies within the same branch.

Question
• 12/13/08 CT showed three lung masses. Two in the left upper lobe and one in the right lower lobe.
• An FNA on 12/15/08 of one of the left upper lobe masses shows a non-small cell carcinoma. No surgery is done and patient does not return. Based on MPH rules, this is abstracted as a single primary (M1).
• Are the New Data Items coded as:
  – Multiplicity Counter 03
  – Date of Multiple tumors 12/13/08 (CT date) or 12/15/08 (FNA date)
  – Type Multiple Tumors 40 (or 99).
**Answer**

- The coding instructions for the Date of Multiple Tumors states we use the date of diagnosis.
- However, code multiplicity counter to 99 because we don't know if the 3 tumors are all individual tumors OR if 2 of them are mets.
- Code the Type to 99 because of the same reason.

  — Curator
  (I & R Team 45208)

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**Quiz**

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**CSV2**

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Lung

Education & Training Team
Collaborative Stage Data Collection System
Version 2.03

Learning Objectives

• Understand anatomy
• Understand rationale behind changes and updates
• Understand use of codes and reporting
• Determine proper code use for accurate reporting
• Understand finding specific documentation
  – SSFs
  – Coding rules

Outline

• Overview of prognostic factors
• Overview of lung anatomy
• Review Collaborative Stage data items for lung
• Describe changes to lung in CSv2
Lung Prognostic Factors

- Cell type
  - Small vs. non-small cell
  - Mucinous vs. non-mucinous
- Clinical stage
- Bilateral involvement at diagnosis
- Performance status

Lung Anatomy

C34.0 Main bronchus
C34.1 Upper lobe, lung
C34.2 Middle lobe, lung
C34.3 Lower lobe, lung
C34.8 Overlapping lesion of lung
C34.9 Lung, NOS

Lung Anatomy

A = Mediastinum
B = Trachea
C = Great vessels
D = Carina
E = Heart or visceral pericardium

Note: Not shown = nerves and esophagus (behind trachea)
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Lung Anatomy

Important to be familiar with bronchus

Regional Lymph Nodes of Lungs and Mediastinum

What is New in CSv2 for Lung

• Used for carcinoid tumor
• CS Tumor Size – new descriptions
• CS Extension – new and obsolete codes
• CS Lymph Nodes – new descriptions
• CS Mets – new and obsolete codes
What is New in CSv2 for Lung

• CS Tumor Size/Ext Eval 1 now maps to 'c'
• Site-Specific Factor 1 – new data item
• Site-Specific Factor 2 – new data item
• Site-Specific Factors 3-25 – not applicable

CS Tumor Size

• Hilar mass
• Use of codes 997 and 998
• Use of codes 992 or 993

CS Tumor Size

• Site specific table due to special codes *
  – 000 = no mass/tumor found
  – 001-988 = exact size in mm
  – 989 = 989 mm or larger
  – 990 = microscopic focus or foci only
  – 991 = Described as < 1 cm
  – 992 = Described as < 2 cm, or > 1 cm, or between 1 cm and 2 cm
    Stated as T1a, NOS with no other info

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CS Tumor Size

- Site specific table due to special codes *
  - 993 = Described as < 3 cm, or > 2 cm, or between 2 cm and 3 cm
    Stated as T1 NOS or T1b, NOS with no other info
  - 994 = Described as < 4 cm, or > 3 cm, or between 3 cm and 4 cm
  - 995 = Described as < 5 cm, or > 4 cm, or between 4 cm and 5 cm

CS Extension Notes

- Note 1: Direct extension may be M1 in AJCC
- Note 2: Distance from carina
- Note 3: Opposite lung

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CS Extension Notes

- Note 4: Bronchopneumonia
- Note 5: Pulmonary artery/vein
- Note 6: Vocal cord paralysis
  SVC obstruction
  Compression of trachea or esophagus

CS Extension Notes

- Note 7: Pleural effusion and pericardial effusion
- Note 8: Determining T category
- Note 9: Separate tumor nodules in ipsilateral lung
- Note 10: Visceral pleural invasion

CS Extension

- Code 000 – In situ
- Code 100 – Confined to lung
  A = Tumor surrounded by lung
  B = Tumor surrounded by visceral pleura
  C = No invasion more proximal than a lobar bronchus
CS Extension

- Code 110 – Superficial tumor
- Code 115 – Stated as T1a
- Code 120 – Stated as T1b
- Code 125 – Stated as T1, NOS

CS Extension

- Code 200 – Involving main bronchus greater than 2cm from carina (A)
- Code 210 – Involving main bronchus NOS, distance unknown (B)

CS Extension

- Code 230 – Confined to hilus (A)
- Code 250 – Confined to carina (B)
- Code 300 – Localized, NOS
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CS Extension

• Code 400 – Partial atelectasis (A)
• Code 400 – Obstructive pneumonitis (B)

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CS Extension

• Code 410 – Extension to (not into) pleura
  – Including into but not through elastic layer
• Code 420 – Invasion of pleura, including invasion through the elastic layer
• Code 430 – Invasion of pleura NOS
• Code 440 – Invasion of pulmonary ligament

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CS Extension

• Code 450 – Obsolete: Extension to
  – Pleura, visceral or NOS
  – Pulmonary ligament
• Code 455 – Stated as T2a
• Code 460 – Stated as T2b
• Code 465 – Stated as T2, NOS
CS Extension

• Code 500 – Tumor in main bronchus less than 2cm from carina

• Code 520 – Combination code (A) [500+400]

• Code 530 – Obsolete

• Code 540 – Combination code

CS Extension

• Code 550 – Atelectasis or obstructive pneumonitis of entire lung (A)

CS Extension

• Code 560 – Parietal pericardium or pericardium, NOS (A)

• Code 570 – Stated as T3, NOS

• Code 590 – Phrenic nerve

• Code 600 – Brachial plexus, inferior branch or NOS, from superior sulcus, chest wall (C), diaphragm (D), Pancoast tumor (B), or parietal pleura (E)
CS Extension

- Code 610 – Superior sulcus tumor WITH encasement of subclavian vessels OR WITH unequivocal involvement of superior branches of brachial plexus (C8 or above – above clavicle)

CS Extension

- Code 650 – Obsolete: Multiple tumor nodule in same lobe
- Code 700 – Extension into major extrapulmonary structures
  - Ignore if involvement of artery/vein only within lung tissue
- Code 710 – Heart or visceral pericardium

CS Extension

- Codes 700 and 710
  A = Mediastinum
  B = Trachea
  C = Great vessels
  D = Carina
  E = Heart or visceral pericardium

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**CS Extension**

- Code 720 – Obsolete: Pleural effusion (moved to Mets at Dx)
- Code 730 – Adjacent rib
- Code 740 – Aorta
- Code 745 – Combination codes (740 + 710)

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**CS Extension**

- Code 750 – Vertebra, neural foramina
- Code 760 – Obsolete: Pleural tumor foci
- Code 770 – Inferior vena cava
- Code 780 – Obsolete: Contiguous adjacent rib + other codes

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**CS Extension**

- Code 785 – Obsolete: Pleural tumor foci separate from direct pleural invasion
- Code 790 – Obsolete: Pericardial effusion reclassified as distant metastasis
- Code 795 – Stated as T4, NOS
- Code 800 – Further contiguous extension
CS Extension

- Code 950 – No evidence of primary tumor
- Code 980 – Tumor proven in sputum or washings only - “occult” carcinoma
- Code 999 – Unknown, cannot be assessed, not documented

CS Tumor Size/Ext Eval

- Tumor size and extension
  - Determine T category
- Eval code important
- Eval code 1 maps to
  - Clinical staging basis

CS Lymph Nodes

<table>
<thead>
<tr>
<th>Station Code</th>
<th>CSLN</th>
</tr>
</thead>
<tbody>
<tr>
<td>1-9 ipsilateral</td>
<td>200</td>
</tr>
<tr>
<td>1-9 contralateral</td>
<td>600</td>
</tr>
<tr>
<td>10-14 ipsilateral</td>
<td>100</td>
</tr>
<tr>
<td>10-14 contralateral</td>
<td>600</td>
</tr>
</tbody>
</table>
CS Lymph Nodes - Notes

- Note 1: Field is for regional nodes only
- Note 2: Code node involvement based on specific descriptions
- Note 3: Coding nodes as negative
- Note 4: Vocal cord paralysis
  SVC obstruction
  Compression of trachea or esophagus

CS Lymph Nodes

- Code 000 – None, no regional node involvement
- Code 500 – Regional nodes, NOS
- Code 800 – Nodes, NOS
- Code 999 – Unknown, cannot be assessed, not documented

CS Lymph Nodes

- Code 100 corresponds to AJCC N1
- LN Stations 10-14
- Metastasis to ipsilateral peribronchial, ipsilateral hilar or intrapulmonary nodes including direct extension of primary tumor
- Stated as N1

CS Lymph Nodes

- Code 200 corresponds to AJCC N2
- LN Stations 1-9
- Metastasis to ipsilateral mediastinal (right side of diagram) and/or subcarinal nodes (left side of diagram)
- Stated as N2

CS Lymph Nodes

- Code 600 corresponds to AJCC N3
- Contralateral mediastinal or hilar nodes
- Ipsilateral / contralateral scalene or supraclavicular nodes
- Stated as N3

MX Eliminated

- MX has been eliminated from 7th Edition
  - Clinical M0
  - Unless clinical or pathologic evidence of mets
- cM only requires history and physical
- Infer cM0 unless known cM1
CS Mets at Dx

- Note 1: Pleural (and pericardial) effusions
- Note 2: Contralateral pleural or pericardial effusion
- Note 3: Code 10 has been made obsolete
  - All previously coded cases converted to code 30
- Note 4: Extension to & separate tumor nodules in contralateral lung

CS Mets at Dx

- Code 00 – No, none
- Code 10 – Obsolete
- Code 15 – Malignant pleural effusion, ipsilateral lung
- Code 16 – Malignant pleural effusion, contralateral lung

CS Mets at Dx

- Code 17 – Bilateral malignant pleural effusion
- Code 18 - Malignant Pleural effusion, unknown if ipsilateral or contralateral lung
- Code 20 – Malignant pericardial effusion
- Code 23 – Extension to: Contralateral lung or mainstem bronchus; Separate tumor nodule(s) in contralateral lung
CS Mets at Dx

- Code 24 – Discontinuous pleural tumor foci (A)

- Code 25 – Contralateral lung + Pleural or Pericardial effusion

- Code 26 – Stated as M1a

- Code 30 – Distant nodes, including cervical nodes

- Code 32 – Distant nodes + Pleural or Pericardial effusion

- Code 33 – Distant nodes + Pleural tumor foci

- Code 35 – Obsolete: Separate tumor nodules in different lobe, same lung (moved to CSSF1)

- Code 37 – Extension to sternum, skeletal muscle, skin of chest

- Code 39 – Obsolete: Changed to code 23

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CS Mets at Dx

- Code 40 – Abdominal organs
  Distant metastases except distant lymph node(s) (code 30) or those specified in codes 23 and 37
  Distant metastasis, NOS; Carcinomatosis

- Code 42 - Distant metastases + Pleural or Pericardial effusion

- Code 43 - Distant mets + Pleural tumor foci

CS Mets at Dx

- Code 50 – Obsolete: Distant nodes + distant mets

- Code 51 - Distant metastases + Distant lymph node(s)

- Code 52 – Distant metastases + Distant lymph nodes + Pleural or Pericardial effusion

- Code 53 – Distant metastases + Distant lymph nodes + Pleural tumor foci

CS Mets at Dx

- Code 70 – Stated as M1b

- Code 75 – Stated as M1, NOS

- Code 99 – Unknown, not documented
Mets at Dx-Metastatic Sites

• 4 new fields
  – Bone excluding marrow
  – Lung excluding pleura and pleural fluid
  – Brain excluding spinal cord and other CNS
  – Liver

• Code 0 when CS Mets at Dx is 00

• Code structure
  0 – No
  1 – Yes
  8 – Not applicable
  9 – Unknown

Site-Specific Factor 1: Separate Tumor Nodules

• Note 1: Coded separately from CS Extension
  – Except for nodules in contralateral lung
    • Collected in Mets at Dx

• Note 2: Defined clinically (imaging) or pathologically

• Note 3: Code 000
  – Not mentioned in imaging and/or pathology reports

Site-Specific Factor 1: Separate Tumor Nodules

• Code 000: No separate tumor nodules noted

• Code 010: Identified in same lobe ipsilateral lung

• Code 020: Identified in different lobe ipsilateral lung
Site-Specific Factor 1: Separate Tumor Nodules

- Code 030: Identified in ipsilateral lung
  - Same and different lobe
- Code 040: Identified in ipsilateral lung
  - Unknown if same or different lobe
- Code 888 and 988: Obsolete
- Code 999: Unknown

Site-Specific Factor 2: Visceral Pleural Invasion (VPI) / Elastic Layer

- Note 1: Relevant for peripheral lesions
- Note 2: Code results as stated on pathology report
  - Code 998 if no pathologic examination of pleura
- Note 3: Mets to the pleura

Microscopic Anatomy of Visceral Pleura

Moving from the visceral pleural surface to the lung parenchyma:

1. a single layer of mesothelial cells
2. a submesothelial connective tissue layer,
3. elastic fibers that usually form a single prominent layer (may also form a second discontinuous layer)
4. a connective tissue layer
Site-Specific Factor 2: Visceral Pleural Invasion (VPI) / Elastic Layer

- Code 000 – No evidence of visceral pleural invasion (PL 0)
- Code 010 – Invasion beyond the visceral elastic pleura, but limited to the pulmonary pleura (PL 1)
- Code 020 – Invasion to the surface of the pulmonary pleura (PL 2)
- Code 030 – Extends to parietal pleura (PL 3)
- Code 040 – Invasion of pleura, NOS
- Code 888 and 988 – Obsolete
- Code 998 – No histologic exam of pleura
- Code 999 – Unknown if VPI present

Conclusion

- Malignant pleural effusion or pericardial effusion
  – Moved from CS Ext to Mets at Dx
- Additional codes or additional descriptions
  – Accommodate physician statement with no further info
    - CS Extension
    - CS Lymph Nodes
    - CS Mets Dx
Conclusion

• 2 Site Specific Factors for Lung added to CSv2
  – Separate tumor nodules in same lung
    • Collected in SSF1
  – Visceral Pleural Invasion/Elastic Layer
    • Collected in SSF2

Inquiry & Response System

• Submit questions to Inquiry & Response System
  – Allows tracking for educational purposes
  – Provides information for all

• http://web.facs.org/coc/default.htm

Questions?
American Joint Committee on Cancer
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Collaborative Stage Data Collection System Web Site
www.cancerstaging.org/cstage

Work-up

• Pulmonary function test
• Bronchoscopy
• Mediastinoscopy
• Endobronchial ultrasound
• PET/CT scan
• MRI

Question

• A lung cancer patient had a mediastinoscopy and fine needle aspiration of two subcarinal nodes.
• No other procedures for tissue diagnosis were performed.
• Would this be coded under Surgical Diagnostic and Staging Procedure as biopsy of other than primary site or Scope of Regional Lymph Node Surgery?
Question

• What if a patient with lung cancer has a thoracentesis that serves the dual purpose of diagnosing & providing palliative (pain control)?
• What code is used in the Diagnostic, Staging & Palliative Field?
• Is this also coded in the surgery field?

Answer

• Aspiration of biopsy or removal of regional lymph nodes, whether for diagnosis or for treatment, is coded under Scope of Regional Lymph Node Surgery. See bullet 4 for Surgical Diagnostic and Staging Procedure (page 109) and bullet 2 for Scope of Regional Lymph Node Surgery (page 138).
  – [I & R Team 46400]

Answer

• A thoracentesis is the removal of pleural fluid through a long needle, classified as cytology.
• If a biopsy of tissue is not performed it is coded in the Diagnostic Confirmation field.
• Palliative thoracentesis is coded in the palliative treatment item, code 4 - if it helps with pain, or code 7 - if it improves the breathing function.
  – [I & R Team 45493]
Treatment

NCCN Clinical Practice Guidelines in Oncology™

- Excellent source for treatment recommendations
- [http://www.nccn.org](http://www.nccn.org)

Treatment-Non Small Cell Carcinoma

STAGE I, STAGE IIA, AND STAGE IIB (T1-2, N1) DISEASE

- Surgery
- Observation
- Chemotherapy
- Radiation
Treatment-Non Small Cell Carcinoma
STAGE IIB (T3, N0), STAGE IIIA, AND STAGE IIIB DISEASE
• Neoadjuvant chemo/radiation
• Resection
• Chemotherapy
• Chemoradiation
• Radiation

Treatment-Non Small Cell Carcinoma
STAGE IV
• Chemotherapy
• Radiation

Treatment-Small Cell Carcinoma
• Surgery (early stage disease only)
• Chemotherapy
• Radiation
Surgery

- 20 Excision or resection of less than one lobe, NOS
  - 23 Excision, NOS
  - 24 Laser excision
  - 25 Bronchial sleeve resection ONLY
  - 21 Wedge resection
  - 22 Segmental resection, including lingulectomy

Surgery

- 30 Resection of lobe or bilobectomy, but less than the whole lung (partial pneumonectomy, NOS)
  - 33 Lobectomy WITH mediastinal lymph node dissection

Surgery

- 45 Lobe or bilobectomy extended, NOS
  - 46 WITH chest wall
  - 47 WITH pericardium
  - 48 WITH diaphragm

- 55 Pneumonectomy, NOS
  - 56 WITH mediastinal lymph node dissection (radical pneumonectomy)
Surgery

- 65 Extended pneumonectomy
  - 66 Extended pneumonectomy plus pleura or diaphragm
- 70 Extended radical pneumonectomy

Radiation

- IMRT
- 3D Conformal
- 4-10 MV photons

Chemotherapy

- Cisplatin and
- Vinorelbine or
- Etoposide or
- Gemcitabine or
- Docetaxel
Questions?

Next Month...

- Change Management in Cancer Registry
  - Presented by Charlotte Wilhelm
  - January 7, 2010