


Seventh Edition Staging 2017  
Lung

Donna M. Gress, RHIT, CTR



**AJCC**  
American Joint Committee on Cancer  
Validating science. Improving patient care.

No materials in this presentation may be repurposed in print or online without the express written permission of the American Joint Committee on Cancer. Permission requests may be submitted at [cancerstaging.org](http://cancerstaging.org).

---

---

---

---

---

---

---

---

This webinar is sponsored by

**The Centers for Disease Control and Prevention**

Supported by the Cooperative Agreement Number DP13-1310

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



National Center for Chronic Disease Prevention and Health Promotion  
National Program of Cancer Registries

---

---

---

---

---


---

---

---

Overview

- Provide key information for lung on
  - Common staging issues and questions
  - Exceptions and cautions for T, N, M
  - Diagnostic procedures vs. treatment
  - Treatment satisfying stage classification criteria
  - Blank vs. X



3 Copyright © 2017 AJCC. All Rights Reserved

---

---

---

---

---

---


---

---

**Learning Objectives**

- Analyze common staging issues and questions
- Determine exceptions and cautions for T, N, M
- Distinguish diagnostic procedures vs. treatment
- Identify treatment satisfying stage classification criteria
- Recognize difference between blank vs. X

4 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

---

---

---

---

**Lung Staging**



---

---

---

---

---

---


---

---

**Clinical T Category**

- Critical to read main and subcategories
  - Information to assign subcategory may reside in main category
  - Example: T2a instructions in T2
- Need to review all categories
  - May meet size of T2 but have invasion of T3 structures
  - Many different criteria involved including size and invasion
- Critical to understand anatomic and disease terms
  - Many different anatomical structures play a role
  - Disease terms such as atelectasis
- TX has two different criteria

6 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

---


---

---

---

### Clinical T Category

- No simple answer when more than 1 tumor
- Multiple synchronous tumors
  - Arise independently
  - Usually different cell types or subtypes
  - Stage by largest tumor
  - **Must** use (m) to indicate multiple tumors
- Separate tumor nodules
  - Primary lesion spreading to other areas in lung
  - Intrapulmonary spread is terminology used
  - Assignment of T or M category depends on location
  - Not multiple tumors so (m) is **never** used



7 Copyright © 2017 AJCC. All Rights Reserved.

---

---

---

---

---


---

---

---

### Clinical N and M Categories

- **Caution** for interpretation of nodal involvement
  - Imaging or mediastinoscopy reports
  - **CANNOT** use these descriptive terms
    - Mass
    - Adenopathy
    - Enlargement
- Modern imaging very sensitive
  - Use physician statements
  - Registrars must use critical thinking when reviewing info
  - Many reasons for enlarged nodes, not always cancer
- Critical to assign M subcategories
  - Not used to differentiate stage group
  - Data important to evaluate and change future stage groups



8 Copyright © 2017 AJCC. All Rights Reserved.

---

---

---

---

---


---

---

---

### Pathologic T Category

- Clinical T category information used
  - Don't forget to include, except when disproven by resection
- Important when assigning T category
  - Read all category criteria to choose appropriate
  - Always assign subcategory if possible, be specific
- Must understand anatomical location of tumor and spread
  - Pleural based is not involving pleura
  - Location of main bronchus, lobar bronchus, hilum
- Clarifications in chapter
  - Direct invasion into adjacent ipsilateral lobe not separate nodule
  - Vocal cord paralysis
  - Pancoast tumors



9 Copyright © 2017 AJCC. All Rights Reserved.

---

---

---

---

---

---


---

---

### Pathologic T Category

- No simple answer when more than 1 tumor
- May change when more info available from resection
- Multiple synchronous tumors
  - Arise independently
  - Usually different cell types or subtypes
  - Stage by largest tumor
  - **Must** use (m) to indicate multiple tumors
- Separate tumor nodules
  - Primary lesion spreading to other areas in lung
  - Intrapulmonary spread is terminology used
  - Assignment of T or M category depends on location
  - Not multiple tumors so (m) is **never** used

10 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

### Pathologic N and M Categories

- Include nodal imaging unless disproven on node dissection
  - As long as 1 node microscopically examined meets pN criteria
  - pN includes clinically involved and microscopically proven
- Remember to include biopsied nodes during workup
  - Add biopsied nodes to nodes resected
- Assigning correct cM or pM
  - M1a microscopically proven, M1b on imaging = pM1b
  - Not **all** mets must be microscopically proven to assign pM
  - No mets microscopically proven is cM for pathologic M category
- Errata for M1b
  - Distant metastasis (in **extrathoracic organs**)

11 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

### Criteria for Clinical Classification

- Patient undergoing diagnostic workup
  - Physical exam for lung function, potential supraclavicular nodes
  - History for risk factors
  - Imaging of lung and regional nodes
  - Sputum cytology
  - Bronchoscopy with biopsy and transbronchial needle aspiration
  - Imaging-guided needle biopsies or FNA
  - Thoracentesis
  - Mediastinoscopy
  - Video-assisted thoracic surgery (VATS) and open surgical biopsy
  - Endobronchial or endoscopic ultrasound guided biopsy
  - Navigational bronchoscopy
  - Bx adds time and risk, not always needed for treatment decisions
- Rare incidental findings

12 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

---


---

---

---

### Diagnostic vs. Treatment

- Diagnostic procedures
  - Sampling of lung tumor
  - Not intended to remove entire tumor
  - Not known if entire tumor is removed at this point
  - Don't be confused by surgical procedures, such as VATS
- Surgical treatment of primary site
  - Resection of lung tumor
  - Extent of resection depends on clinical stage
  - Margin status does not change whether this is treatment
  - If nodal dissection not done, still considered treatment



13 Copyright © 2017 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### Treatment Satisfying Stage Classification

- Pathologic staging
  - Resection of lung tumor
  - Nodal dissection
    - Sampling from multiple stations as described in chapter
    - Not required to qualify for staging
  - Contraindication for surgery is usually positive mediastinal nodes
    - If surgical resection, must have formal mediastinal node dissection
- Postneoadjuvant therapy staging
  - Must meet standard guidelines, such as NCCN or ASCO
  - Indications for neoadjuvant
    - T3 & T4 superior sulcus tumor
    - Limited other T3 & T4 situations
    - Positive mediastinal nodes
  - Definitive concurrent chemoradiation is most common



14 Copyright © 2017 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### Blank vs. X

- Tell patient's story through staging
- Clinical staging – story of pt's diagnosis and workup
  - cTX = physician did not examine patient, no imaging, no staging procedures
  - cTX = sputum or bronchial washings have malignant cells, imaging & bronchoscopy negative
  - cT blank = registrar had no access to information
  - cT blank = no workup for pt, incidental finding at surgical treatment
- Pathologic staging – pt's story through surgical treatment
  - pTX = someone lost specimen between OR and path dept
  - pT blank = pt didn't have surgical treatment
  - pT blank = registrar had no access to information



15 Copyright © 2017 AJCC. All Rights Reserved

---

---

---

---

---

---

---

---

Case Scenario



---

---

---

---

---


---

---

---

Diagnostic Workup

- History/chief complaint
  - 70 year old male with diabetes mellitus, hypertension, osteoarthritis, shortness of breath
- Physical exam
  - No information provided by registrar
- Imaging
  - PET/CT: 2.7x2.2cm spiculated RLL lung mass, SUV 9.87 indicates malignancy, no hypermetabolic metastatic disease or adenopathy
- Procedure
  - RLL lung bx (no information regarding how performed or findings)
- Pathology report
  - Adenocarcinoma, moderately differentiated, RLL lung bx



17 Copyright © 2017 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

Clinical Staging Information

- Physical exam
  - No information for staging, only SOB may be relevant to diagnosis
- Imaging
  - 2.7x2.2cm RLL lung mass
  - No adenopathy
- Procedure
  - No staging information
- Pathology report
  - No staging information



18 Copyright © 2017 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### Clinical Staging Answer & Rationale

- cT1b
  - 2.7cm largest dimension on imaging
  - No indication of involvement of other structures in T categories
- cN0
  - No involvement of hilar or mediastinal nodes on imaging
- cM0
  - No signs or symptoms of mets
- Stage IA



19 Copyright © 2017 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### Treatment

- History & physical
  - 70 year old male with diabetes mellitus, hypertension, osteoarthritis, shortness of breath
  - PET/CT: RLL lung mass, no nodal involvement, tiny nodule RML
- Operative report
  - Right lower lobectomy, mediastinal and hilar lymphadenectomy: indurated mass superior segment of RLL, involves visceral pleura, fissure between middle & lower lobe not involved
- Pathology report
  - Adenocarcinoma, mod diff, 3 of 5 hilar nodes positive, bronchial and vascular margins negative, tumor extends onto visceral pleura; level 9, 7, 8, 12, 4: all benign lymphoid tissue.



20 Copyright © 2017 AJCC. All Rights Reserved

---

---

---

---

---


---

---

---

### Pathologic Staging Information

- Surgery
  - Patient had surgical resection qualifying for pathologic staging
- Clinical staging information
  - cT1b cN0 cM0
- Operative report
  - Involves visceral pleura
- Pathology report
  - No tumor size documented by registrar
  - Visceral pleural involvement
  - Conflicting statements on nodes
    - 3/5 hilar nodes involved
    - List of nodes shows 5 nodes negative
      - List of node levels has 3 mediastinal and maybe 2 hilar
      - Doubt level 4 nodes, maybe level 14?



21 Copyright © 2017 AJCC. All Rights Reserved

---

---

---

---

---

---


---

---

### Pathologic Staging Answer & Rationale

- pT2a
  - Used 2.7cm imaging tumor size since path report size is missing
  - Extends to surface of visceral pleura
- pN1
  - Hilar nodes involved
  - Mediastinal nodes not involved
- cM0
  - No signs or symptoms of mets
- Stage IIA

22 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

---

---

---

---

### Information and Questions on AJCC Staging



---

---

---

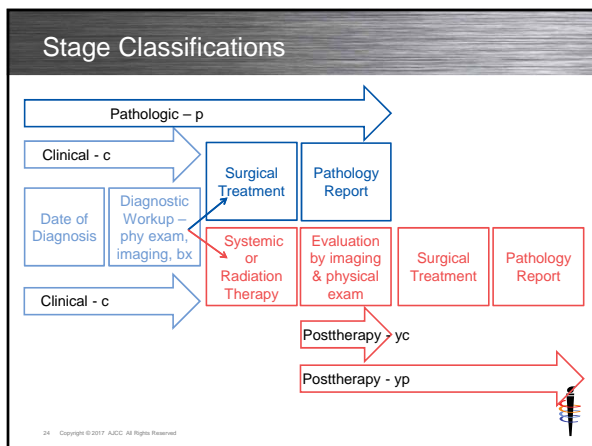
---

---

---

---

---



---

---

---

---

---

---

---


---



**AJCC Web site**

- <https://cancerstaging.org>
- Cancer Staging Education **Registrar menu** includes
  - Timing is Everything – Stage Classifications
  - Critical Clarifications for Registrars
  - Disease Site Webinars
    - 5 sites: melanoma, lung, breast, prostate, colorectum
  - AJCC Curriculum for Registrars
    - 4 free self-study modules of increasing difficulty on staging rules
      - Each module consists of 7 lessons, including recorded webinar with quizzes
  - Presentations
    - Self-study or group lecture materials, including blank vs. X

25 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

---

---


---

---

**AJCC Web site**

- <https://cancerstaging.org>
- Cancer Staging Education **Physician menu** includes
  - Articles
    - 18 articles on AJCC 7<sup>th</sup> edition staging in various medical journals
  - Webinars
    - 14 free webinars on 7<sup>th</sup> edition staging rules and some disease sites
- Cancer Staging Education **General menu** includes
  - Staging Moments
    - 15 case-based presentations in cancer conference format to promote accurate staging with answers and rationales

26 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

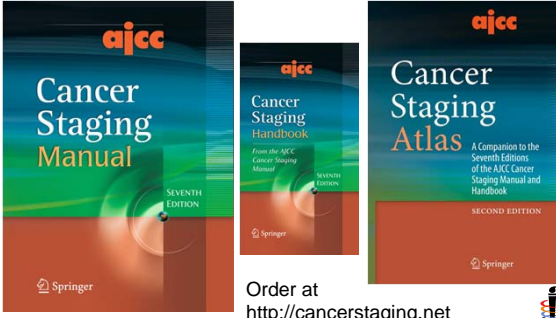
---

---

---


---

**AJCC Cancer Staging Manual and Atlas**



Order at <http://cancerstaging.net>

27 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

---


---

---


---

**CAnswer Forum**

- Submit questions to AJCC Forum
  - Located within CAnswer Forum
  - Provides information for all
  - Allows tracking for educational purposes
- <http://cancerbulletin.facs.org/forums/>



28 Copyright © 2017 AJCC. All Rights Reserved



---

---

---

---

---

---

---

---

**Summary**



---

---

---

---

---


---

---

---

**Summary**

- Employ critical thinking to understand disease site
  - Analyze common staging issues affecting stage assignment
  - Determine exceptions and cautions for T, N, M
  - Utilize guidelines available to registrars
- Tell patient's story through accurate staging
  - Utilize correct stage classifications
  - Distinguish diagnostic procedures vs. treatment
  - Identify treatment satisfying stage classification criteria
  - Recognize difference in story between blank vs. X
- Identify resources for AJCC staging



---

---

---

---

---

---

---

---

Thank you

Donna M. Gress, RHIT, CTR  
AJCC Technical Specialist



**AJCC**  
American Joint Committee on Cancer  
633 N. Saint Clair, Chicago, IL 60611-3211  
Leading science. Improving patient care.  
cancerstaging.org



No materials in this presentation may be repurposed without the express written permission of the American Joint Committee on Cancer. Permission requests may be submitted at cancerstaging.org

---

---

---

---

---

---


---

---

Upcoming Webinar

Seventh Edition Staging 2017

Melanoma Cancer  
July 20, 2017



---

---

---

---

---

---

---

---

This webinar is sponsored by

**The Centers for Disease Control and Prevention**

Supported by the Cooperative Agreement Number DP13-1310

The findings and conclusions in this report are those of the authors and do not necessarily represent the official position of the Centers for Disease Control and Prevention.



National Center for Chronic Disease Prevention and Health Promotion  
National Program of Cancer Registries

---

---

---

---

---

---

---

---