LUNG CANCER

FCDS 2011 Educational Webcast Series
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Updated for 2011 Requirements and CSv02.03.02
Presentation Outline

- Overview
- Anatomy of Lung
- Multiple Primary and Histology Coding Rules Refresher
- Collaborative Stage Data Collection System (CSv02.03.02)
- 2011 FCDS Required C.S. Site Specific Factors
- NCCN and ASCO Treatment Guidelines by Stage
- Documentation
OVERVIEW
Lung Cancer
Leading cause of all cancer deaths

- 2011 estimates - New Cancer Cases – United States
  - 221,130 new lung cancers 14% of all cancer diagnoses
  - 115,060 male lung cancer
  - 106,070 female lung cancer

- 2011 estimates - Cancer Deaths – United States
  - 156,940 lung cancer deaths 27% of all cancer deaths
  - 85,600 male lung cancer deaths
  - 71,340 female lung cancer deaths

- 2011 estimates – New Cancer Cases and Cancer Deaths – Florida
  - 17,150 new lung cancer cases
  - 11,460 lung cancer deaths

Source: American Cancer Society Cancer Facts and Figures 2011
Age-adjusted Cancer Death Rates.* Males by Site, US, 1930-2007

*Per 100,000, age adjusted to the 2000 US standard population.

Note: Due to changes in ICD coding, numerator information has changed over time. Rates for cancer of the liver, lung and bronchus, and colon and rectum are affected by these changes.


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2 Cancer Facts & Figures 2011
Age-adjusted Cancer Death Rates,* Females by Site, US, 1930-2007

*Per 100,000, age adjusted to the 2000 US standard population.

Note: Due to changes in ICD coding, numerator information has changed over time. Rates for cancer of the liver, lung and bronchus, and colon and rectum are affected by these changes.


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Lung Cancer Facts

- Lung cancer accounts for more deaths than any other cancer in both men and women.
- Since 1987, more women have died each year from lung cancer than from breast cancer.
- Lung cancer causes more deaths than the next three common cancers combined (colon, breast, prostate).
- Smoking contributes to 80% and 90% of lung cancer deaths in women and men, respectively.
- Exposure to second-hand smoke causes 3,400 cancer deaths among non-smokers every year.
- 5-year survival rate for all stages combined is only 16%.
- For cases detected with localized disease, 5-year survival rate is 53%, but only 15% of lung cancers are diagnosed at an early stage.
- Men’s incidence rates began declining more than 20 years ago, while women’s rates just recently began to decline slightly.  

References

ANATOMY
OVERVIEW

LUNG ANATOMY

ICD-O-3 SITE TERMS

C34.0  Main bronchus
C34.1  Upper lobe, lung
C34.2  Middle lobe, lung (right lung only)
C34.3  Lower lobe, lung
C34.8  Overlapping lesion of lung
C34.9  Lung, NOS
C33.9  Trachea, NOS

Source: SEER Training: ICD-O-3 Site Codes
LUNG ANATOMY

The hilum is the space in each lung where the bronchus and blood vessels enter the lung.

The apex is the rounded area at the top of each lung.
LUNG ANATOMY

MEDIASTINUM

Source: Springer Images. Figure adapted from Atlas of Human Anatomy, 2nd ed. Contents of the superior and middle mediastinum. http://www.springerimages.com/Images/MedicineAndPublicHealth/1-10.1007_978-1-60327-372-5_4-9
LUNG ANATOMY

The lungs are surrounded by the ribs and intercostal muscles.

Picture Source: Modern Medical Guide
Harold Shryock, M.D
Regional lymph nodes cannot be assessed

N0 No regional lymph node metastases

N1 Metastasis in ipsilateral peribronchial and/or ipsilateral hilar lymph nodes and intrapulmonary nodes, including involvement by direct extension

N2 Metastasis in ipsilateral mediastinal and/or subcarinal lymph node(s)

N3 Metastasis in contralateral mediastinal, contralateral hilar, ipsilateral or contralateral scalene, or supraclavicular lymph node(s)
LUNG ANATOMY

TUMOR LOCATION IMPACTS STAGE

Lung Cancer Histology

- The World Health Organization (WHO) divides lung cancer into two major classes based on histology, therapy and prognosis.
  - Non-Small Cell Lung Cancer (NSCLC)
  - Small Cell Lung Cancer (SCLC)
Non-Small Cell vs. Small Cell Lung Cancer

- Most common lung cancer
- Grows more slowly than SCLC
- 3 main types:
  - Adenocarcinoma 40%
  - Squamous 25-30%
  - Large-Cell 10-15%
- 15% of all lung cancer
- Usually begin in the bronchi
- Nearly always caused by smoking
- Spreads more quickly than NSCLC
- Frequently metastatic to mediastinal lymph nodes or distant sites at presentation

Source: Medline Plus
Table 2 in: Kenfield SA, Wei EK, Stampfer MJ, Rosner BA, Coldiz GA (2008): "Comparison of Aspects of Smoking Among Four Histologic Types of Lung Cancer"
Adenocarcinoma

- A slow growing cancer that can take years to develop into invasive cancer
- Tend to be located in the periphery of the lung
- Most common type of lung cancer among women and in non-smokers

Source: Lungcancer.com/College of American Pathologists
Adenocarcinoma Classification Revised

- Adenocarcinoma in situ (AIS) (formerly Bronchioalveolar Carcinoma - BAC) which is a pre-invasive lesion
- Minimally invasive adenocarcinoma (MIA) <3cm nodule with <5mm invasion
- Invasive adenocarcinoma (includes formerly non-mucinous BAC) – acinar, papillary, micropapillary, or solid with mucin
- Invasive adenocarcinoma variants (includes formerly mucinous BAC) – mucinous, colloid, fetal, or enteric morphologies
Squamous Cell Carcinoma

- Squamous cell lung cancer commonly starts in the bronchi and may not spread as rapidly as other lung cancers.
- The location of the cancer makes the treatment somewhat more difficult than other forms of lung cancer.
- Diagnosing squamous cell lung cancer in its initial state is very important.

Source: Medline Plus
Large Cell Carcinoma

- Named for the large, round cells seen in this cancer
- Grow quickly and spread so usually are diagnosed in later stage

Chest X-ray vs. CT

This X-ray shows a single lesion (pulmonary nodule) in the upper right lung (seen as a light area on the left side of the picture). The nodule has distinct borders (well-defined) and is uniform in density. Tuberculosis (TB) and other diseases can cause this type of lesion.

This CT scan shows a single lesion (pulmonary nodule) in the right lung. This nodule is seen as the light circle in the upper portion of the dark area on the left side of the picture. A normal lung would look completely black in a CT scan.

Source: University of Maryland Medical Center
Adenocarcinoma - chest X-ray

This chest X-ray shows adenocarcinoma of the lung. There is a rounded light spot in the right upper lung (left side of the picture) at the level of the second rib. The light spot has irregular and poorly defined borders and is not uniform in density. Diseases that may cause this type of X-ray result would be tuberculous or fungal granuloma, and malignant or benign tumors.

- Reviewed last on: 9/28/2005
- Mosby Publishing Company

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National Lung Screening Trial (NLST)

Introduction

The National Lung Screening Trial (NLST) compared two ways of detecting lung cancer: low-dose helical computed tomography (CT) and standard chest X-ray. Both chest X-rays and low-dose helical CT scans have been used to find lung cancer early, but the effects of these screening techniques on lung cancer mortality rates had not been determined. NLST enrolled 53,454 current or former heavy smokers from 33 sites and coordinating centers across the United States.

In November 2010, the initial findings from the NLST were released. On June 29, 2011, the primary results were published online in the New England Journal of Medicine and appeared in the print issue on August 4, 2011. These findings reveal that participants who received low-dose helical CT scans had a 20.0 percent lower risk of dying from lung cancer than participants who received standard chest X-rays.

The NCI press release and Q&A related to these published results provide a fuller explanation of the findings.
NEW NCCN SCREENING GUIDELINES

Published October, 2011
BASED ON THE NATIONAL LUNG SCREENING TRIAL RESULTS

- Low-dose CT (LDCT) yields a decrease in lung cancer specific mortality of 20% when compared to chest x-ray alone.
- 40% of the cancers detected in the CT-screening group were Stage IA, 12% were stage IIIB, and 22% were Stage IV.
- 21% of the cancers detected in the Chest X-ray group were Stage IA, 13% were stage IIIB, and 36% were Stage IV.
Goal: to detect disease at a stage when it is not causing symptoms and when treatment is most successful.

- Mainly refers to Non-Small Cell Lung Cancer (85% of lung cancers)
- Spiral (helical) low-dose CT (LDCT)
- Category 1 recommendation (based on high-level evidence, ie: randomized controlled trials):
  - High Risk Individuals: Age 55-74 years, 30 pack-year or more history of smoking tobacco and If former smoker, have quit within 15 years
  - Annual screening until age 74.
- Category 2B recommendation (based on lower-level evidence, ie: non-randomized studies and observational data):
  - High Risk Individuals Age ≥50 years, 20 or more pack-year history of smoking tobacco and
  - One additional risk factor (see next slide)
  - Annual screening until age 74
ADDITIONAL RISK FACTORS

- Cancer history (lung, lymphoma, H&N or smoking related)
- Lung disease history
- Family history of lung cancer
- Radon exposure
- Occupational exposure

NOTE: NCCN does not feel that exposure to second-hand smoke is an independent risk factor because the data are either weak or variable.
Moderate and Low-Risk Individuals

- **Moderate Risk Individuals:** Age ≥50 years and 20 or more pack-year history of smoking tobacco or second-hand smoke exposure, but no additional lung cancer risk factors. No recommendation by NCCN for lung cancer screening. (2A recommendation based on non-randomized studies and observational data.

- **Low-Risk Individuals:** Age < 50 years and/or smoking history < 20 pack-years. No recommendation by NCCN for lung cancer screening. (2A recommendation based on non-randomized studies and observational data.)
NSCLC – Good Prognostic Factors

- Early stage disease at diagnosis
- Good Performance Status (ECOG 0,1,2)
- No significant weight loss (not more than 5%)
- Female gender
BIOMARKERS

Data show that targeted therapy is potentially very effective in patients with specific gene mutations or rearrangements.

Several biomarkers have emerged as prognostic (patient survival) and predictive (therapeutic efficacy) for NSCLC.
BIOMARKERS

EGFR
Epidermal Growth Factor Receptor

ERCC1
5’ endonuclease of the nucleotide excision repair complex

K-ras oncogene

RMM1
Regulatory subunit of ribonucleotide reductase

EML4-ALK Fusion Oncogene
STAGING

- TNM staging revisions (AJCC 7\textsuperscript{th} edition) effective for cases diagnosed after January 1, 2010
Diagram illustrates the key changes to the T and M descriptors in the TNM-7 system.

Nair A et al. Radiographics 2011;31:215-238
NSCLC - SURVIVAL

Stage Distribution and 5-year Relative Survival by Stage at Diagnosis for 2001-2007, All Races, Both Sexes

<table>
<thead>
<tr>
<th>Stage at Diagnosis</th>
<th>Stage Distribution (%)</th>
<th>5-year Relative Survival (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Localized (confined to primary site)</td>
<td>15</td>
<td>52.0</td>
</tr>
<tr>
<td>Regional (spread to regional lymphnodes)</td>
<td>22</td>
<td>24.2</td>
</tr>
<tr>
<td>Distant (cancer has metastasized)</td>
<td>56</td>
<td>3.6</td>
</tr>
<tr>
<td>Unknown (unstaged)</td>
<td>7</td>
<td>8.1</td>
</tr>
</tbody>
</table>

Source: SEER/U.S. National Institutes of Health
Immunohistochemical Staining

Squamous cell carcinomas are often TTF-1 negative, p63 positive and cytokeratin 5/6 positive, whereas Adenocarcinomas are usually TTF-1 positive.

The stains that are positive for adenocarcinoma include CEA, B72.3, BER-EP4, MOC31, and TTF-1. These stains are negative for mesothelioma.

TTF-1 is very important in distinguishing primary from metastatic adenocarcinoma because most primary carcinomas are TTF-1 positive. TTF-1 is typically negative for squamous cell carcinoma. However, TTF-1 is positive in tumors from patients with thyroid cancer. Thyroglobulin is present in tumors from patients with thyroid cancer, but it is negative in lung cancer tumors.

Pulmonary adenocarcinoma is usually CK7+ and CK20-, whereas metastatic adenocarcinoma of the colorectum is usually CK7- and CK20+. 
Small Cell Lung Cancer

- In 2011 it is estimated that 33,000 new cases of SCLC will occur in the United States.
Small Cell Lung Cancer at Presentation

When compared to NSCLC, SCLC has:

- More rapid doubling time
- Higher growth fraction
- Earlier development of widespread metastases

SCLC typically presents with:

- a large hilar mass
- bulky mediastinal lymphadenopathy that causes cough and dyspnea
SCLC Scanning

- While CT can detect early stage NSCLC, it does **not** appear to be helpful in detecting SCLC, most likely due to the aggressiveness of SCLC which results in the development of symptomatic disease between annual scans, limiting the potential effect on mortality.

- PET scans can increase staging accuracy with SCLC, and PET/CT is superior to PET alone. 15% of patients are up-staged from limited to extensive stage while only 5% are down-staged from extensive to limited stage by PET.

- Bone scans are positive in up to 30% of patients without bone pain or an abnormal alkaline phosphatase level.

- Brain MRI or CT can identify CNS metastases in 10-15% of patients at diagnosis, 30% of which are asymptomatic. PET/CT is inferior to MRI or CT for the detection of brain metastases.
SCLC Staging

The Veteran’s Administration Lung Group 2-stage classification scheme has been used to define the extent of disease in patients with SCLC.

- **Limited Stage:**
  
  Disease confined to the ipsilateral hemithorax, which can be safely encompassed within a radiation field.

- **Extensive Stage:**
  
  Disease beyond the ipsilateral hemithorax, including malignant pleural or pericardial effusion or hematogenous metastases.

Using the new TNM staging system,

- **Limited Stage is:** any T any N M0, except T3-4 due to multiple lung nodules that do not fit in a tolerable radiation field.

- **Extensive Stage is:** any T any N M1a/b, and T3-4 due to multiple lung nodules.
SCLC Prognostic Factors

• Adverse prognostic factors with Limited Stage Disease:
  • Poor performance status (3-4),
  • Extensive Stage disease,
  • weight loss, and
  • markers associated with excessive bulk of disease (ie: LDH - lactate dehydrogenase)

• Favorable prognostic factors with Limited Stage Disease:
  • Female gender,
  • age < 70 years,
  • normal LDH, and
  • Stage 1 disease

• Favorable prognostic factors with Extensive Stage Disease:
  • Younger age, good performance status, normal creatinine level, normal LDH and a single metastatic site
SCLC BIOMARKERS

- Nearly all SCLCs are immunoreactive for keratin, epithelial membrane antigen, and thyroid transcription factor-1 (TTF-1).

- Most SCLCs also stain positive for markers of neuroendocrine differentiation, including chromogranin A, neuron-specific enolase, neural cell adhesion molecule (NCAM; CD56) and synaptophysin.

  - However, these markers alone cannot distinguish SCLC from NSCLC because approximately 10% of NSCLC will be immunoreactive for at least one of these neuroendocrine markers.
MULTIPLE PRIMARY RULES

HISTOLOGY CODING RULES
ICD-O-3 Site/Histology table

Multiple Primary and Histology Coding Rules

January 01, 2007

National Cancer Institute
Surveillance Epidemiology and End Results Program
Bethesda, MD
Lung Equivalent Terms, Definitions, Charts, Tables and Illustrations
C340-C349
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

Introduction
Use these rules only for cases with primary lung cancer.

Lung carcinomas may be broadly grouped into two categories, small cell and non-small cell carcinoma. Frequently a patient may have two or more tumors in one lung and may have one or more tumors in the contralateral lung. The physician may biopsy only one of the tumors. Code the case as a single primary (See Rule M1, Note 2) unless one of the tumors is proven to be a different histology. It is irrelevant whether the other tumors are identified as cancer, primary tumors, or metastases.

Equivalent or Equal Terms
- Low grade neuroendocrine carcinoma, carcinoid
- Tumor, mass, lesion, neoplasm (for multiple primary and histology coding rules only)
- Type, subtype, predominantly, with features of, major, or with ___ differentiation

Obsolete Terms for Small Cell Carcinoma (Terms that are no longer recognized)
- Intermediate cell carcinoma (8044)
- Mixed small cell/large cell carcinoma (8045) (Code is still used; however current accepted terminology is combined small cell carcinoma)
- Oat cell carcinoma (8042)
- Small cell anaplastic carcinoma (No ICD-O-3 code)
- Undifferentiated small cell carcinoma (No ICD-O-3 code)

Definitions

Adenocarcinoma with mixed subtypes (8255): A mixture of two or more of the subtypes of adenocarcinoma such as acinar, papillary, bronchoalveolar, or solid with mucin formation.

Adenosquamous carcinoma (8560): A single histology in a single tumor composed of both squamous cell carcinoma and adenocarcinoma.

Bilateral lung cancer: This phrase simply means that there is at least one malignancy in the right lung and at least one malignancy in the left lung. Do not base multiple primary decision on this phrase; bilateral does not mean this is a single primary. Use the multiple primary rules to decide whether to code bilateral lung cancers as a single or multiple primary.

Combined small cell carcinoma (8045): A small cell carcinoma that is combined with a non-small cell carcinoma. The combinations are small cell and adenocarcinoma, or squamous cell carcinoma, or large cell carcinoma.
Lung Equivalent Terms, Definitions, Charts, Tables and Illustrations
C340-C349
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

**Large cell carcinoma** (8012): Large cell is a diagnosis that is used when the tumor is a non-small cell carcinoma that is undifferentiated. Because the tumor is undifferentiated, the pathologist cannot find glandular (adeno), or squamous differentiation.

**Large cell neuroendocrine carcinoma** (8013): A non-small cell carcinoma with neuroendocrine differentiation proven by immunohistochemical stain, currently classified as large cell carcinoma. These tumors require further study before being included as a separate category in a histologic classification.

**Most invasive:** The tumor with the greatest continuous extension.

**Neuroendocrine carcinoma** (8246): Neuroendocrine carcinoma is a group of carcinomas that include typical carcinoid tumor and small cell carcinoma. Code the specific histology when given. Code neuroendocrine carcinoma, NOS (8246) when no specific histology is documented.

**Non-small cell carcinoma** (8046): The term non-small cell is used two ways, as a group term describing all carcinomas that are not small cell; and as a default diagnosis when there isn’t enough tissue to classify the tumor beyond the exclusion of small cell.

**Pancoast tumor:** An anatomic designation (not a specific histology) for a lung cancer that starts in the upper lobe of the lung and extends outward to destroy the ribs and vertebrae. The tumor may compress or directly invade the brachial plexus (nerve bundles) of the neck, causing pain. Pancoast tumor may also be called superior sulcus tumor.

**Pleomorphic carcinoma** (8022): A poorly differentiated non-small cell carcinoma (squamous cell carcinoma, adenocarcinoma, or large cell carcinoma) containing spindle cells and/or giant cells or, a carcinoma containing only spindle cells and giant cells. These fall under the general category of sarcomatoid carcinoma.

**Sarcomatoid carcinoma:** A group of tumors that are non-small cell in type and contain spindle cells and/or giant cells. Depending on the histologic features the tumor may be designated: pleomorphic carcinoma (8022); spindle cell carcinoma (8032); giant cell carcinoma (8031), carcinosarcoma (8980); or pulmonary blastoma (8972)

**Small cell carcinoma:** Malignant epithelial tumor consisting of small cells. There are many types of lung cancer, but most can be categorized into one of two basic types, "small cell carcinoma" or “non-small cell carcinoma”

**Undifferentiated carcinoma** (8020): A high grade malignancy lacking glandular structures or other specific features that can be used to better classify the tumor. Undifferentiated carcinoma is used by pathologists when they believe the tumor is a carcinoma (not lymphoma, melanoma, or sarcoma) but they are not sure if the tumor is small cell or non-small cell.
Lung Equivalent Terms, Definitions, Charts, Tables and Illustrations
C340-C349
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

Chart 1 – Lung Histology Groups and Specific Types
Note: This chart is based on the WHO Classification of Tumors for tumors of the lung. The chart is not a complete listing of histologies that may occur in the lung.

Chart Instructions: Use this chart with multiple primary rule M10 to identify types of non-small cell carcinoma. Use this chart with the histology rules to code the most specific histologic term. The tree is arranged in descending order. Each branch is a histology group, starting with the NOS or group terms and descending into the specific types for that group. As you follow the branch down, the terms become more specific.

- Malignant neoplasm, NOS and Malignant tumor cells (8000 and 8001)
- Carolinoma, NOS, Carcinoma, undifferentiated, NOS and Carcinoma, anaplastic, NOS (8010, 8020 and 8021)
- Non-Small Cell CA (8046)
- Sarcomatoid CA (8033)
  - Carcinoma, NOS (8240)
  - Combined Small Cell CA, NOS (8045)
  - Small Cell CA, NOS (8041)

  - Alveolar cell carcinoma (8249)
  - Fusiform cell CA (8043)

  - Clear cell adenoCA (8310)
  - Mucoepidermoid CA (8840)

- Large cell CA, NOS (8012)
  - Large cell neuroendocrine CA (8013)
  - Large cell CA with rhabdoid phenotype (8014)
  - Lymphoepithelioma like CA (8082)
  - Basaloid CA (8123)
  - Clear cell CA (8310)

- AdenoCA, NOS (8140)
  - Adenosquamous CA (8860)
  - Squamous Cell CA, NOS (8070)

- AdenoCA, NOS (8140)
  - Adenoid cystic CA (8200)
  - Mucous and Mucoepidermoid CA (8430)

- AdenoCA, NOS (8140)
  - Papillary squamous cell CA (8082)
  - Squamous cell CA, clear cell type (8084)
  - Squamous cell CA, keratinizing, NOS (8071)
  - Squamous cell CA, large cell, nonkeratinizing, NOS (8072)
  - Squamous cell CA, small cell, nonkeratinizing, (8073)
Chart 2 – Most Common Lung Histology Groups

Chart Instructions: Use this chart to identify the most common group terms and histology types.

Note: This chart is based on the WHO Classification of Tumors for tumors of the lung. The chart is not a complete listing of histologies that may occur in the lung.
<table>
<thead>
<tr>
<th>Column 1: Required Terms</th>
<th>Column 2: Additional Required Terms</th>
<th>Column 3: ICD-O-3 Term</th>
<th>Column 4: ICD-O-3 Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Giant cell carcinoma AND spindle cell carcinoma</td>
<td></td>
<td>Giant cell and spindle cell carcinoma</td>
<td>8030</td>
</tr>
<tr>
<td>Small cell carcinoma AND one of the histologies in Column 2</td>
<td>Adenocarcinoma</td>
<td>Combined small cell carcinoma</td>
<td>8045</td>
</tr>
<tr>
<td></td>
<td>Large cell carcinoma</td>
<td>Mixed small cell carcinoma</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Squamous cell carcinoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Squamous cell carcinoma* AND large cell nonkeratinizing</td>
<td></td>
<td>Squamous cell carcinoma, large cell, nonkeratinizing</td>
<td>8072</td>
</tr>
<tr>
<td>Squamous cell carcinoma AND small cell nonkeratinizing</td>
<td></td>
<td>Squamous cell carcinoma, small cell, nonkeratinizing</td>
<td>8073</td>
</tr>
<tr>
<td>Squamous cell carcinoma* AND one of the histologies in Column 2</td>
<td>Spindle cell carcinoma</td>
<td>Squamous cell carcinoma, spindle cell</td>
<td>8074</td>
</tr>
<tr>
<td></td>
<td>Sarcomatoid</td>
<td>Squamous cell carcinoma, sarcomatoid</td>
<td></td>
</tr>
<tr>
<td>A combination of at least two of the histologies in Column 2**</td>
<td>Acinar</td>
<td>Adenocarcinoma with mixed subtypes**</td>
<td>8255**</td>
</tr>
<tr>
<td></td>
<td>Bronchioloalveolar carcinoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bronchioloalveolar carcinoma non mucinous (Clara cell/type II pneumocyte)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bronchioloalveolar carcinoma mucinous (goblet cell)</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bronchioloalveolar carcinoma mixed mucinous and non-mucinous</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Clear cell adenocarcinoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Papillary adenocarcinoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Solid adenocarcinoma</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Well-differentiated fetal adenocarcinoma</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Lung Terms and Definitions

Lung Equivalent Terms, Definitions, Charts, Tables and Illustrations
C340-C349
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

<table>
<thead>
<tr>
<th>Column 1: Required Terms</th>
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<th>Column 3: ICD-O-3 Term</th>
<th>Column 4: ICD-O-3 Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adenocarcinoma AND squamous cell carcinoma</td>
<td></td>
<td>Adenosquamous carcinoma</td>
<td>8560</td>
</tr>
<tr>
<td>Note: Diagnosis must be adenocarcinoma (NOS), not a subtype of adenocarcinoma</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Epithelial carcinoma AND myoepithelial carcinoma</td>
<td></td>
<td>Epithelial-myoeplithelial carcinoma</td>
<td>8562</td>
</tr>
</tbody>
</table>

* Squamous cell carcinoma and epidermoid carcinoma are synonyms.

** DO NOT USE code 8255 for adenocarcinoma combined with mucinous subtypes such as mucinous “colloid” adenocarcinoma (8480) mucinous cystadenocarcinoma (8470) or signet ring adenocarcinoma (8490).
Lung Multiple Primary Rules - Flowchart

(C340 - C349)
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

* Prepare one abstract. Use the histology coding rules to assign the appropriate histology code.
** Prepare two or more abstracts. Use the histology coding rules to assign the appropriate histology code to each case abstracted.

<table>
<thead>
<tr>
<th>UNKNOWN IF SINGLE OR MULTIPLE TUMORS</th>
<th>DECISION</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>M1 Is it impossible to determine if there is a single tumor or multiple tumors?</td>
<td>YES</td>
<td>SINGLE Primary*</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>Go to Single Tumor or Multiple Tumors</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>SINGLE TUMOR</th>
<th>DECISION</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>M2 Is there a single tumor?</td>
<td>YES</td>
<td>SINGLE Primary*</td>
</tr>
<tr>
<td></td>
<td>NO</td>
<td>Go to Multiple Tumors.</td>
</tr>
</tbody>
</table>

Tumor(s) not described as metastasis.

1. Use this rule only after all information sources have been exhausted.
2. Use this rule when only one tumor is biopsied but the patient has two or more tumors in one lung and may have one or more tumors in the contralateral lung. (See detailed explanation in Lung Equivalent Terms and Definitions)

Tumor not described as metastasis.

The tumor may overlap onto or extend into adjacent/contiguous site or subsite.
Lung Multiple Primary Rules - Flowchart

(C340 - C349)
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

* Prepare one abstract. Use the histology coding rules to assign the appropriate histology code.
** Prepare two or more abstracts. Use the histology coding rules to assign the appropriate histology code to each case abstracted.

MULTIPLE TUMORS
Multiple tumors may be a single primary or multiple primaries.

M3
Are there tumors in sites with ICD-O-3 topography codes that are different at the second (Cxxx) and/or third character (Cxx)?

YEB
MUTIPLE Primaries**

NOTES
Tumors not described as metastases.

This is a change in rules; tumors in the trachea (C33) and in the lung (C34) were a single lung primary in the previous rules.

M4
Is at least one tumor non-small cell carcinoma (8046) and another tumor small cell carcinoma (8041-8045)?

NO

M5
Is there a tumor that is adenocarcinoma with mixed subtypes (8255) and another that is bronchoalveolar (8250-8254)?

YES
MUTIPLE Primaries**

NO

Next Page
Lung Multiple Primary Rules - Flowchart
(C340 - C349)
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

* Prepare one abstract. Use the histology coding rules to assign the appropriate histology code.
** Prepare two or more abstracts. Use the histology coding rules to assign the appropriate histology code to each case abstracted.

MULTIPLE TUMORS, continued

<table>
<thead>
<tr>
<th>DECISION</th>
<th>NOTES</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tumors not described as metastases.</td>
<td></td>
</tr>
</tbody>
</table>

**M6**

Is there a **single** tumor in each lung?

- **YES**
  - MULTIPLE Primaries**
  - When there is a single tumor in each lung abstract as multiple primaries unless stated or proven to be metastatic.

- **NO**

**M7**

Are there **multiple** tumors in both lungs with ICD-O-3 histology codes that are different at the first (xxx), second (xxxx) or third (xxxx) number?

- **YES**
  - MULTIPLE Primaries**

- **NO**

**M8**

Are there tumors diagnosed more than three (3) years apart?

- **YES**
  - MULTIPLE Primaries**

- **NO**

Next Page
Lung Multiple Primary Rules - Flowchart
(C340 - C349)
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)
* Prepare one abstract. Use the histology coding rules to assign the appropriate histology code.
** Prepare two or more abstracts. Use the histology coding rules to assign the appropriate histology code to each case abstracted.

### MULTIPLE TUMORS, continued

<table>
<thead>
<tr>
<th>DECISION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Is there an invasive tumor following an in situ tumor more than 60 days after diagnosis?</td>
</tr>
<tr>
<td>YES</td>
</tr>
<tr>
<td>MULTIPLE Primaries**</td>
</tr>
<tr>
<td>NO</td>
</tr>
</tbody>
</table>

### NOTES

- Tumors not described as metastases.

1. The purpose of this rule is to ensure that the case is counted as an incident (invasive) case when incidence data are analyzed.
2. Abstract as multiple primaries even if the medical record/physician states it is recurrence or progression of disease.

### M10

| ARE there tumors with **non-small cell carcinoma** (8046) **and** a more **specific** non-small cell carcinoma **type** (Chart 1)? |
| YES |
| SINGLE Primary* |
| NO |

---

Next Page
Lung Multiple Primary Rules - Flowchart

(C340 - C349)
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

* Prepare one abstract. Use the histology coding rules to assign the appropriate histology code.
** Prepare two or more abstracts. Use the histology coding rules to assign the appropriate histology code to each case abstracted.

MULTIPLE TUMORS, continued

<table>
<thead>
<tr>
<th>Decision</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>M11: Do the tumors have ICD-O-3 histology codes that are different at the first (xxx), second (xx), or third (xx) number?</td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>MULTIPLE Primaries**</td>
</tr>
<tr>
<td>NO</td>
<td>Adenocarcinoma in one tumor and squamous cell carcinoma in another tumor are multiple primaries.</td>
</tr>
<tr>
<td>M12: Does not meet any of the above criteria (M1 through M11).</td>
<td></td>
</tr>
<tr>
<td>YES</td>
<td>SINGLE Primary</td>
</tr>
<tr>
<td>NO</td>
<td>End of instructions for Multiple Tumors.</td>
</tr>
</tbody>
</table>

ERROR: Recheck rules. Stop when a match is found.

Rule M12 Examples: The following are examples of cases that use Rule M12. This is NOT intended to be an exhaustive set of examples; there are other cases that may be classified as a single primary.

Warning: Using only these case examples to determine the number of primaries can result in major errors.

Example 1: Solitary tumor in one lung, multiple tumors in contralateral lung
Example 2: Diffuse bilateral nodules (This is the only condition when laterality = 4)
Example 3: An in situ and invasive tumor diagnosed within 60 days
Example 4: Multiple tumors in left lung metastatic from right lung
Example 5: Multiple tumors in one lung
Example 6: Multiple tumors in both lungs
LUNG Histology Coding Rules - Flowchart
(C340 - C349)
(Excludes lymphoma and leukemia M8590-9989 and Kaposi sarcoma M9140)
SINGLE TUMOR

Rule | Action | Notes and Examples
---|---|---
**H1** Is there no **pathology/cytology** specimen or is the **pathology/cytology** report unavailable? | Yes | Code the histology documented by the physician.

1. Priority for using documents to code the histology
   - Documentation in the medical record that refers to pathologic or cytologic findings
   - Physician's reference to type of cancer (histology) in the medical record
   - CT, PET, or MRI scans
   - Chest x-rays

2. Code the specific histology when documented.

3. Code the histology to 8000 (cancer/malignant neoplasm, NOS) or 8010 (carcinoma, NOS) as stated by the physician when nothing more specific is documented.

**H2** Is the specimen from a metastatic site? (there is no pathology/cytology specimen from the primary site) | Yes | Code the histology from a metastatic site.

Code the behavior /3.

**H3** Is only **one histologic type** identified? | Yes | Code the histology.

Do not code terms that do not appear in the histology description.

**Example 1:** Do not code squamous cell carcinoma non-keratinizing unless the words "non-keratinizing" actually appear in the diagnosis.

**Example 2:** Do not code bronchioalveolar non-mucinous unless the words "non-mucinous" actually appear in the diagnosis.
LUNG Histology Coding Rules - Flowchart
(C340 - C349)
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

SINGLE TUMOR

<table>
<thead>
<tr>
<th>Rule</th>
<th>Action</th>
<th>Notes and Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>H4: Does the tumor have <strong>invasive and in situ</strong> components?</td>
<td>Code the invasive histologic type.</td>
<td></td>
</tr>
<tr>
<td>H5: Are there multiple histologies within the same branch such as:</td>
<td>Code the most specific histologic term using Chart 1</td>
<td>The specific histology may be identified as type, subtype, predominantly, with features of, major, or with _____ differentiation.</td>
</tr>
</tbody>
</table>
  - cancer/malignant neoplasm, NOS (8000) and a more specific histology? OR
  - carcinoma, NOS (8010) and a more specific carcinoma? OR
  - adenocarcinoma, NOS (8140) and a more specific adenocarcinoma? OR
  - squamous cell carcinoma, NOS (8070) and a more specific squamous cell carcinoma? OR
  - sarcoma, NOS (8800) and a more specific sarcoma? |

Example 1: Adenocarcinoma, predominantly mucinous. Code mucinous adenocarcinoma 8480.

LUNG Histology Coding Rules - Flowchart
(C340 - C349)
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

SINGLE TUMOR

Rule | Action | Notes and Examples
--- | --- | ---
H6 Are there multiple specific histologies or is there a non-specific with multiple specific histologies? | YES Code the appropriate combination/mixed code (Table 1). | The specific histologies may be identified as type, subtype, predominantly, with features of, major or with differentiation.


**Example 2** (multiple specific histologies): Combined small cell and squamous cell carcinoma. Code combined small cell carcinoma 8045.

**Example 3** (non-specific with multiple specific histologies): Adenocarcinoma with papillary and clear cell features. Code adenocarcinoma with mixed subtypes 8255.

H7 Code the numerically higher ICD-O-3 code.

This is the end of instructions for Single Tumor.
Code the histology according to the rule that fits the case.
**LUNG Histology Coding Rules - Flowchart**

(C340 - C349)

(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

**MULTIPLE TUMORS ABSTRACTED AS A SINGLE PRIMARY**

<table>
<thead>
<tr>
<th>Rule</th>
<th>Action</th>
<th>Notes and Examples</th>
</tr>
</thead>
<tbody>
<tr>
<td>H8</td>
<td>Is there no pathology/cytology specimen or is the pathology/cytology report unavailable?</td>
<td><strong>YES</strong>: Code the histology documented by the physician. <strong>NO</strong>: Is the specimen from a metastatic site? (there is no pathology/cytology specimen from the primary site)</td>
</tr>
</tbody>
</table>
|        | **YES**                                                                | 1. Priority for using documents to code the histology  

- Documentation in the medical record that refers to pathologic or cytologic findings  
- Physician’s reference to type of cancer (histology) in the medical record  
- CT, PET, or MRI scans  
- Chest x-rays  

2. Code the specific histology when documented.  
3. Code the histology to 8000 (cancer/malignant neoplasm, NOS) or 8010 (carcinoma, NOS) as stated by the physician when nothing more specific is documented. |
|        | **NO**                                                                 | Code the behavior /3.                                                             |

**Next Page**
LUNG Histology Coding Rules - Flowchart

(C340 - C349)
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M9140)

MULTIPLE TUMORS ABSTRACTED AS A SINGLE PRIMARY

<table>
<thead>
<tr>
<th>Rule</th>
<th>Action</th>
<th>Notes and Examples</th>
</tr>
</thead>
</table>
| H10  | Code the histology. | Do not code terms that do not appear in the histology description.  
*Example 1:* Do not code squamous cell carcinoma non-keratinizing unless the words "non-keratinizing" actually appear in the diagnosis.  
*Example 2:* Do not code bronchioalveolar non-mucinous unless the words "non-mucinous" actually appear in the diagnosis. |
| Is only one histologic type identified? | YES | |
| NO | |

| H11  | Code the histology of the most invasive tumor. | 1. This rule should only be used when the first three numbers of the histology codes are identical. (This is a single primary.)  
2. See the Lung Equivalent Terms, Definitions, Charts, Tables and Illustrations for the definition of most invasive.  
   - If one tumor is in situ and one is invasive, code the histology from the invasive tumor.  
   - If both/all histologies are invasive, code the histology of the most invasive tumor. |
| Is one tumor in situ and the other invasive or are both tumors invasive? | YES | |
| NO | |
LUNG Histology Coding Rules - Flowchart
(C340 - C349)
(Excludes lymphoma and leukemia M9590-9989 and Kaposi sarcoma M0140)

MULTIPLE TUMORS ABSTRACTED AS A SINGLE PRIMARY

<table>
<thead>
<tr>
<th>Rule</th>
<th>Action</th>
<th>Notes and Examples</th>
</tr>
</thead>
</table>
| H12  | Are there multiple histologies within the same branch such as:  
• cancer/malignant neoplasm, NOS (8000) and a more specific histology? OR  
• carcinoma, NOS (8010) and a more specific carcinoma? OR  
• adenocarcinoma, NOS (8140) and a more specific adenocarcinoma? OR  
• squamous cell carcinoma, NOS (8070) and a more specific squamous cell carcinoma? OR  
• sarcoma, NOS (8800) and a more specific sarcoma?  
| YES  | Code the most specific histologic term using Chart 1  
|      | The specific histology may be identified as type, subtype, predominantly, with features of, major, or with differentiation.  
|      | Example 1: Adenocarcinoma, predominantly mucinous. Code mucinous adenocarcinoma 8480.  
| NO   | Code the numerically higher ICD-O-3 code. |

This is the end of instructions for Multiple Tumors Abstracted as a Single Primary. Code the histology according to the rule that fits the case.
LUNG
C34.0-C34.9
Schema Selection


- Lung

- Click on Site Specific Schema tab on the left

- Select the **Lung Schema**

- All Florida Cases are coded in CSv02.03.02
<table>
<thead>
<tr>
<th>Natural Order • <strong>Alphabetical Order</strong> •</th>
</tr>
</thead>
<tbody>
<tr>
<td>LipUpper</td>
</tr>
<tr>
<td>MelanomaLipUpper</td>
</tr>
<tr>
<td>LipLower</td>
</tr>
<tr>
<td>MelanomaLipLower</td>
</tr>
<tr>
<td>LipOther</td>
</tr>
<tr>
<td>MelanomaLipOther</td>
</tr>
<tr>
<td>TongueBase</td>
</tr>
<tr>
<td>MelanomaTongueBase</td>
</tr>
<tr>
<td>TongueAnterior</td>
</tr>
<tr>
<td>MelanomaTongueAnterior</td>
</tr>
<tr>
<td>GumUpper</td>
</tr>
<tr>
<td>MelanomaGumUpper</td>
</tr>
<tr>
<td>GumLower</td>
</tr>
<tr>
<td>MelanomaGumLower</td>
</tr>
<tr>
<td>GumOther</td>
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<tr>
<td>MelanomaGumOther</td>
</tr>
<tr>
<td>FloorMouth</td>
</tr>
<tr>
<td>MelanomaFloorMouth</td>
</tr>
<tr>
<td>PalateHard</td>
</tr>
<tr>
<td>MelanomaPalateHard</td>
</tr>
<tr>
<td>PalateSoft</td>
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<tr>
<td>MelanomaPalateSoft</td>
</tr>
<tr>
<td>MouthOther</td>
</tr>
<tr>
<td>MelanomaMouthOther</td>
</tr>
<tr>
<td>BuccalMucosa</td>
</tr>
<tr>
<td>MelanomaBuccalMucosa</td>
</tr>
<tr>
<td>ParotidGland</td>
</tr>
<tr>
<td>SubmandibularGland</td>
</tr>
<tr>
<td>MelanomaPharynxOther</td>
</tr>
<tr>
<td>Esophagus</td>
</tr>
<tr>
<td>GISTEsophagus</td>
</tr>
<tr>
<td>EsophagusGEJunction</td>
</tr>
<tr>
<td>Stomach</td>
</tr>
<tr>
<td>GISTStomach</td>
</tr>
<tr>
<td>NETStomach</td>
</tr>
<tr>
<td>SmallIntestine</td>
</tr>
<tr>
<td>GISTSmallIntestine</td>
</tr>
<tr>
<td>NETSmallIntestine</td>
</tr>
<tr>
<td>Appendix</td>
</tr>
<tr>
<td>CarcinoïdAppendix</td>
</tr>
<tr>
<td>GISTAppendix</td>
</tr>
<tr>
<td>SinusEthmoid</td>
</tr>
<tr>
<td>MelanomaSinusEthmoid</td>
</tr>
<tr>
<td>SinusOther</td>
</tr>
<tr>
<td>MelanomaSinusOther</td>
</tr>
<tr>
<td>LarynxGlottic</td>
</tr>
<tr>
<td>MelanomaLarynxGlottic</td>
</tr>
<tr>
<td>LarynxSupraglottic</td>
</tr>
<tr>
<td>MelanomaLarynxSupraglottic</td>
</tr>
<tr>
<td>LarynxSubglottic</td>
</tr>
<tr>
<td>MelanomaLarynxSubglottic</td>
</tr>
<tr>
<td>LarynxOther</td>
</tr>
<tr>
<td>MelanomaLarynxOther</td>
</tr>
<tr>
<td>Trachea</td>
</tr>
<tr>
<td>AdnexaUterineOther</td>
</tr>
<tr>
<td>GenitalFemaleOther</td>
</tr>
<tr>
<td>Placenta</td>
</tr>
<tr>
<td>Penis</td>
</tr>
<tr>
<td>MerkelCellPenis</td>
</tr>
<tr>
<td>Prostate</td>
</tr>
<tr>
<td>Testis</td>
</tr>
<tr>
<td>GenitalMaleOther</td>
</tr>
<tr>
<td>Scrotum</td>
</tr>
<tr>
<td>MerkelCellScrotum</td>
</tr>
<tr>
<td>KidneyParenchyma</td>
</tr>
<tr>
<td>KidneyRenalPelvis</td>
</tr>
<tr>
<td>Bladder</td>
</tr>
<tr>
<td>Urethra</td>
</tr>
<tr>
<td>UrinaryOther</td>
</tr>
<tr>
<td>Conjunctiva</td>
</tr>
<tr>
<td>RespiratoryOther</td>
</tr>
<tr>
<td>MelanomaConjunctiva</td>
</tr>
<tr>
<td>Bone</td>
</tr>
<tr>
<td>EyeOther</td>
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<tr>
<td>Skin</td>
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<tr>
<td>MelanomaMalpais</td>
</tr>
<tr>
<td>SkinEyelid</td>
</tr>
<tr>
<td>MerkelCellSkin</td>
</tr>
<tr>
<td>MelanomaSkin</td>
</tr>
<tr>
<td>MelanomaMalignant</td>
</tr>
<tr>
<td>MycosisFungoides</td>
</tr>
<tr>
<td>SoftTissue</td>
</tr>
<tr>
<td>Peritoneum</td>
</tr>
<tr>
<td>Retropertitoneum</td>
</tr>
<tr>
<td>LymphomaOcularAdnexa</td>
</tr>
<tr>
<td>Orbit</td>
</tr>
<tr>
<td>Retinoblastoma</td>
</tr>
<tr>
<td>LymphomaOcularAdnexa</td>
</tr>
<tr>
<td>Brain</td>
</tr>
</tbody>
</table>
Lung

C34.0-C34.3, C34.8-C34.9

- 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

Note: Laterality must be coded for this site (except carina).

<table>
<thead>
<tr>
<th>CS Tumor Size</th>
<th>CS Site-Specific Factor 7 = 988</th>
</tr>
</thead>
<tbody>
<tr>
<td>CS Extension</td>
<td>CS Site-Specific Factor 8 = 988</td>
</tr>
<tr>
<td>CS Tumor Size/Ext Eval</td>
<td>CS Site-Specific Factor 9 = 988</td>
</tr>
<tr>
<td>CS Lymph Nodes</td>
<td>CS Site-Specific Factor 10 = 988</td>
</tr>
<tr>
<td>CS Lymph Nodes Eval</td>
<td>CS Site-Specific Factor 11 = 988</td>
</tr>
<tr>
<td>Reg LN Pos</td>
<td>CS Site-Specific Factor 12 = 988</td>
</tr>
<tr>
<td>Reg LN Exam</td>
<td>CS Site-Specific Factor 13 = 988</td>
</tr>
<tr>
<td>CS Mets at DX</td>
<td>CS Site-Specific Factor 14 = 988</td>
</tr>
<tr>
<td>CS Mets Eval</td>
<td>CS Site-Specific Factor 15 = 988</td>
</tr>
<tr>
<td>CS Site-Specific Factor 1</td>
<td>CS Site-Specific Factor 16 = 988</td>
</tr>
<tr>
<td>Separate Tumor Nodules/ipsilateral Lung</td>
<td>CS Site-Specific Factor 17 = 988</td>
</tr>
<tr>
<td>CS Site-Specific Factor 2</td>
<td>CS Site-Specific Factor 18 = 988</td>
</tr>
<tr>
<td>Visceral Pleural Invasion (VPI)/Elastic Layer</td>
<td>CS Site-Specific Factor 19 = 988</td>
</tr>
<tr>
<td>CS Site-Specific Factor 3 = 988</td>
<td>CS Site-Specific Factor 20 = 988</td>
</tr>
<tr>
<td>CS Site-Specific Factor 4 = 988</td>
<td>CS Site-Specific Factor 21 = 988</td>
</tr>
<tr>
<td>CS Site-Specific Factor 5 = 988</td>
<td>CS Site-Specific Factor 22 = 988</td>
</tr>
<tr>
<td>CS Site-Specific Factor 6 = 988</td>
<td>CS Site-Specific Factor 23 = 988</td>
</tr>
</tbody>
</table>

Histology Inclusion Table AJCC 7th ed.
Histology Exclusion Table AJCC 6th ed.
Collaborative Stage for TNM 7 - Revised 06/22/2009

Lung

Histology Inclusion Table AJCC 7th ed.

<table>
<thead>
<tr>
<th>Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>8000-8576</td>
</tr>
<tr>
<td>8940-8950</td>
</tr>
<tr>
<td>8980-8981</td>
</tr>
</tbody>
</table>
## CS Tumor Size

- **Note 1:** Do not code size of hilar mass unless primary is stated to be in the hilum.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>No mass/tumor found</td>
</tr>
<tr>
<td>001-988</td>
<td>001 - 988 millimeters (mm) (Exact size in mm)</td>
</tr>
<tr>
<td>989</td>
<td>989 mm or larger</td>
</tr>
<tr>
<td>990</td>
<td>Microscopic focus or foci only and no size of focus given</td>
</tr>
<tr>
<td>991</td>
<td>Described as &quot;less than 1 centimeter (cm)&quot;</td>
</tr>
<tr>
<td>992</td>
<td>Described as &quot;less than 2 cm,&quot; or &quot;greater than 1 cm,&quot; or &quot;between 1 cm and 2 cm&quot;</td>
</tr>
<tr>
<td></td>
<td>Stated as T1a with no other information on size</td>
</tr>
<tr>
<td>993</td>
<td>Described as &quot;less than 3 cm,&quot; or &quot;greater than 2 cm,&quot; or &quot;between 2 cm and 3 cm&quot;</td>
</tr>
<tr>
<td></td>
<td>Stated as T1b or T1 [NOS] with no other information on size</td>
</tr>
<tr>
<td>994</td>
<td>Described as &quot;less than 4 cm,&quot; or &quot;greater than 3 cm,&quot; or &quot;between 3 cm and 4 cm&quot;</td>
</tr>
<tr>
<td>995</td>
<td></td>
</tr>
</tbody>
</table>
Lung

CS Extension

- Note 1: Direct extension to or other involvement of structures considered M1 in AJCC staging is coded in the data item CS Mets. These structures include skeletal muscle; skin of chest; contralateral lung or mainstem bronchus; separate tumor nodule(s) in contralateral lung.
- Note 2: Distance from Carina: Assume tumor is greater than or equal to 2 centimeters (cm) from carina if lobectomy, segmental resection, or done.
- Note 3: Opposite Lung: If no mention is made of the opposite lung on a chest x-ray, assume it is not involved.
- Note 4: Bronchopneumonia: Bronchopneumonia is not the same thing as obstructive pneumonitis and should not be coded as such. Inflammation of the walls of the bronchioles, usually a result of spread of infection from the upper to the lower respiratory tract. Obstructive combination of atelectasis, bronchiectasis with mucous plugging, and parenchymal inflammation that develops distal to an obstruction.
- Note 5: Pulmonary Artery/Vein: An involved pulmonary artery/vein in the mediastinum is coded to 700 (involvement of major blood vessels of the lung/mediastinum is coded to 700).
- Note 6: Vocal cord paralysis (resulting from involvement of recurrent branch of the vagus nerve), superior vena cava (SVC) obstruction, or the esophagus may be related to direct extension of the primary tumor or to lymph node involvement. The treatment options and manifestations of disease extent fall within the T4-Stage IIIIB category; therefore, generally use code 700 for these manifestations. Peripheral and clearly unrelated to vocal cord paralysis, SVC obstruction, or compression of the trachea or the esophagus, code the lymph node involvement (code 200) in CS Lymph Nodes, unless there is a statement of involvement by direct extension from the primary.
- Note 7: Pleural effusion and pericardial effusion are coded in CS Mets at DX.
- Note 8: In some cases, the determination of the T category for TNM 6 or 7 staging is based on this field, CS Mets at DX, and CS Ext.
- Note 9: Code to the highest applicable code for CS Extension and then code the absence or presence of separate ipsilateral tumor nodules in CS Mets Factor 1, Separate Tumor Nodules/Ipsilateral lung. Code separate tumor nodules in contralateral lung in CS Mets at Dx.
- Note 10: Specific information about visceral pleura invasion is captured in codes 410-440 and CS Site-Specific Factor 2, Visceral Pleura Layer. Elastic layer involvement has prognostic significance for lung cancer.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>In situ, intraepithelial, noninvasive</td>
</tr>
<tr>
<td>100</td>
<td>Tumor confined to one lung</td>
</tr>
<tr>
<td></td>
<td>WITHOUT extension or conditions described in codes 200-800</td>
</tr>
<tr>
<td></td>
<td>EXCLUDING primary in main stem bronchus</td>
</tr>
<tr>
<td></td>
<td>EXCLUDING superficial tumor as described in code 110</td>
</tr>
</tbody>
</table>
CS Lymph Nodes

- **Note 1**: Code only regional nodes and nodes, NOS, in this field. Distant nodes are coded in CS Mets at DX. For illustration of regional nodes, see Table 1.66. Assume that at least regional lymph nodes are involved. If there is any mention of bilateral or contralateral mass, adenopathy or lymph nodes, code 600.
- **Note 2**: If at mediastinoscopy/x-ray, the description is "mass", "adenopathy", or "enlargement" of any of the lymph nodes named, assume that at least regional lymph nodes are involved. If there is any mention of bilateral or contralateral mass, adenopathy or lymph nodes, code 600.
- **Note 3**: The words "no evidence of spread" or "remaining examination negative" are sufficient information to consider regional lymph nodes, in the absence of any statement about nodes.
- **Note 4**: Vocal cord paralysis (resulting from involvement of the recurrent branch of the vagus nerve), superior vena cava (SVC) obstruction, trachea or the esophagus, may be related to direct extension of the primary tumor or to lymph node involvement. The treatment of these manifestations of disease extent fall within the T4-Stage IIIIB category; therefore, generally use CS Extension code 700 for SVC obstruction or compression of the esophagus, code these manifestations as mediastinal lymph node involvement (code 200) in CS Lymph Nodes, unless there is a direct extension from the primary tumor.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>No regional lymph node involvement</td>
</tr>
</tbody>
</table>
| 100  | Regional lymph nodes, ipsilateral:  
|      | Bronchial  
|      | Hilar (bronchopulmonary) (proximal lobar) (pulmonary root)  
|      | Intrapulmonary nodes, including involvement by direct extension:  
|      |   Interlobar  
|      |   Lobar  
|      |   Segmental  
|      |   Subsegmental  
|      |   Peri-parabronchial  
|      | Stated as N1 with no other information on regional lymph nodes |
| 200  | Regional lymph nodes, ipsilateral:  
|      | Stated as N1 with no other information on regional lymph nodes |
CS Mets at DX

- **Note 1:** Most pleural and pericardial effusions with lung cancer are due to tumor. In a few patients, however, multiple cytopathologic features of the pericardial fluid are negative for tumor, and the fluid is nonbloody and is not an exudate. Where these elements and clinical judgment related to the tumor, the effusion should be excluded as a staging element and the tumor should be classified as M0.
- **Note 2:** For contralateral (different lung) pleural effusion, use code 16 instead of code 40. For bilateral (same and different lung) pleural effusion, use code 40.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>No distant metastasis</td>
</tr>
<tr>
<td>10</td>
<td>OBSOLETE DATA CONVERTED V0200</td>
</tr>
<tr>
<td></td>
<td>See code 30</td>
</tr>
<tr>
<td></td>
<td>Distant lymph node(s), including cervical nodes</td>
</tr>
<tr>
<td>15</td>
<td>Malignant pleural effusion, ipsilateral or same lung</td>
</tr>
<tr>
<td>16</td>
<td>Malignant pleural effusion, contralateral or other lung</td>
</tr>
<tr>
<td>17</td>
<td>Malignant pleural effusion, ipsilateral and contralateral lungs (Bilateral pleural effusion)</td>
</tr>
<tr>
<td>18</td>
<td>Malignant pleural effusion, unknown if ipsilateral or contralateral lung</td>
</tr>
<tr>
<td>20</td>
<td>Malignant pericardial effusion</td>
</tr>
<tr>
<td>21</td>
<td>20 + (16 or 17)</td>
</tr>
<tr>
<td></td>
<td>Malignant pericardial effusion plus contralateral or bilateral pleural effusion</td>
</tr>
<tr>
<td>23</td>
<td>Extension to: Contralateral lung Contralateral main stem bronchus Separate tumor nodule(s) in contralateral lung Pleural tumor foci or nodules on contralateral lung</td>
</tr>
<tr>
<td>Code</td>
<td>Description</td>
</tr>
<tr>
<td>------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
| 25   | 23 + any of (15, 16, 17, 18, 20, 21, 24)  
Extension to contralateral lung plus pleural or pericardial effusion or separate pleural tumor foci |
| 26   | Stated as M1a with no other information on distant metastasis |
| 30   | Distant lymph node(s), including cervical nodes |
| 32   | 30 + any of (15, 16, 17, 18, 20, 21)  
Distant lymph nodes plus pleural or pericardial effusion |
| 33   | 30 + 24  
Distant lymph nodes plus pleural tumor foci |
| 35   | OBSOLETE DATA RETAINED V0200  
Separate tumor nodules reclassified in AJCC 7th Edition, coded in CS SSF 1  
Separate tumor nodule(s) in different lobe, same lung |
| 36   | 30 + 23  
Distant lymph nodes plus extension to contralateral lung |
| 37   | Extension to:  
Skeletal muscle  
Sternum  
Skin of chest |
| 38   | 37 + 23  
Extension in code 37 plus extension in code 23 |
| 39   | OBSOLETE DATA CONVERTED V0200  
See code 23  
Extension to:  
Contralateral lung |
<table>
<thead>
<tr>
<th>Row</th>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>42</td>
<td>(37 or 40) + any of (15, 16, 17, 18, 20, 21)</td>
<td>Distant metastasis plus pleural or pericardial effusion</td>
</tr>
<tr>
<td>43</td>
<td>(37 or 40) + 24</td>
<td>Distant metastasis plus pleural tumor foci</td>
</tr>
<tr>
<td>50</td>
<td>OBSOLETE DATA RETAINED V0200</td>
<td>Distant metastases + Distant node(s)</td>
</tr>
<tr>
<td></td>
<td>(10) + any of (35 to 40)</td>
<td></td>
</tr>
<tr>
<td>51</td>
<td>(37 or 40) + 30</td>
<td>Distant metastasis plus distant lymph node(s)</td>
</tr>
<tr>
<td>52</td>
<td>51 + any of (15, 16, 17, 18, 20, 21)</td>
<td>Distant metastasis plus distant lymph nodes plus pleural or pericardial effusion</td>
</tr>
<tr>
<td>53</td>
<td>51 + 24</td>
<td>Distant metastases plus distant lymph nodes plus pleural tumor foci</td>
</tr>
<tr>
<td>70</td>
<td>Stated as M1b with no other information on distant metastasis</td>
<td></td>
</tr>
<tr>
<td>75</td>
<td>Stated as M1 [NOS] with no other information on distant metastasis</td>
<td></td>
</tr>
<tr>
<td>99</td>
<td>Unknown; distant metastasis not stated</td>
<td></td>
</tr>
</tbody>
</table>

^ For CS Mets at DX codes 00 and 99, the M category for AJCC 7 staging is assigned based on the value of CS Tumor Size as shown in Table 7 for this schema.

* For all CS Met at DX codes, the M category for AJCC 6 staging is assigned based on the values of CS Tumor Size, CS Extension, CS Specific Factor 1, as shown in the Size Extension Mets SSF1 AJCC 6 Tables for this schema.
# CS Site-Specific Factor 1
## Separate Tumor Nodules - Ipsilateral Lung

- **Note 1:** Separate tumor nodules in the ipsilateral lung are coded separately from CS Extension. Separate tumor nodules in the contralateral lung, metastasis at DX.
- **Note 2:** Separate tumor nodules can be defined clinically (by imaging) and/or pathologically.
- **Note 3:** If separate tumor nodules are not mentioned in imaging and/or pathological reports, use code 000.

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>No separate tumor nodules noted</td>
</tr>
<tr>
<td>010</td>
<td>Separate tumor nodules in ipsilateral lung, same lobe</td>
</tr>
<tr>
<td>020</td>
<td>Separate tumor nodules in ipsilateral lung, different lobe</td>
</tr>
<tr>
<td>030</td>
<td>020 + 010</td>
</tr>
<tr>
<td></td>
<td>Separate tumor nodules, ipsilateral lung, same and different lobe</td>
</tr>
<tr>
<td>040</td>
<td>Separate tumor nodules, ipsilateral lung, unknown if same or different lobe</td>
</tr>
<tr>
<td>888</td>
<td>OBSOLETE DATA CONVERTED V0200</td>
</tr>
<tr>
<td></td>
<td>See code 988</td>
</tr>
<tr>
<td></td>
<td>Not applicable for this site</td>
</tr>
<tr>
<td>988</td>
<td>Not applicable: Information not collected for this case</td>
</tr>
<tr>
<td></td>
<td>(May include cases converted from code 888 used in CSv1 for &quot;Not applicable&quot; or when the item was not applicable. Use of code 988 may result in an error.)</td>
</tr>
</tbody>
</table>
## CS Site-Specific Factor 2

**Visceral Pleural Invasion (PL)/Elastic Layer**

- **Note 1:** AJCC Staging Manual 7th Edition includes a standardized and precise definition of visceral pleural invasion (PL). There are categories as follows:
  - **PL0:** Tumor that is surrounded by lung parenchyma or invades superficially into the pleural connective tissue beneath the elastic layer, not traversing the elastic layer of the pleura.
  - **PL1:** Tumor that invades beyond the elastic layer.
  - **PL2:** Tumor that extends to the surface of the visceral pleura.
  - **PL3:** Tumor that invades the parietal pleura.

Categories PL1 and PL2 are considered pleural invasion for staging and are classified as at least a T2. PL3 is classified as at least a T3 pleural invasion for TNM staging, and the T category is assigned based on other criteria. Other criteria can also raise the T category. When pathologists have difficulty assessing the relationship of the tumor to the elastic layer on routine hematoxylin and eosin (H and E) stain, a special elastic stain may be used to make the determination.

- **Note 2:** Code results as stated on the pathology report. Code 998 if no pathologic examination of pleura.
- **Note 3:** Metastasis to the pleura, that is pleural tumor foci or nodules separate from direct invasion, are coded in CS Mets at Dx (c0).

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>PL 0</td>
</tr>
<tr>
<td></td>
<td>No evidence of visceral pleural invasion (PL)</td>
</tr>
<tr>
<td></td>
<td>Tumor does not completely traverse the elastic layer</td>
</tr>
<tr>
<td>010</td>
<td>PL 1</td>
</tr>
<tr>
<td></td>
<td>Invasion beyond the visceral elastic pleura, but limited to the pulmonary pleura</td>
</tr>
<tr>
<td></td>
<td>Tumor extends through the elastic layer</td>
</tr>
<tr>
<td>020</td>
<td>PL 2</td>
</tr>
<tr>
<td></td>
<td>Invasion to the surface of the pulmonary pleura</td>
</tr>
<tr>
<td></td>
<td>Tumor extends to the surface of the visceral pleura</td>
</tr>
<tr>
<td>030</td>
<td>PL 3</td>
</tr>
<tr>
<td></td>
<td>Tumor extends to the parietal pleura</td>
</tr>
</tbody>
</table>
Four categories are defined for visceral pleural invasion:

- **PL0**: Tumor surrounded by lung parenchyma or invades superficially into pleural connective tissue beneath elastic layer but does not completely traverse elastic layer of pleura (not classified as pleural invasion for staging purposes)
- **PL1**: Tumor invades beyond elastic layer (classified as T2)
- **PL2**: Tumor extends to surface of the visceral pleura (classified as T2)
- **PL3**: Invasion of parietal pleura (classified as T3)

Figure 1-2-8. Layers of Visceral Pleura.
TREATMENT GUIDELINES
BY DISEASE TYPE AND STAGE
## SMALL CELL LUNG CANCER

### LIMITED STAGE
- Combination chemotherapy and radiation therapy to the chest.
  - Most common chemotherapy regimen is etoposide plus cisplatin or carboplatin
- Combination chemotherapy for patients with lung problems or who are very ill.
- Surgery followed by chemotherapy or chemotherapy plus radiation therapy to the chest.
- Clinical trials of new chemotherapy, surgery, and radiation treatments

### EXTENSIVE STAGE
- Combination chemotherapy.
- Radiation therapy to the brain, spine, bone, or other parts of the body where the cancer has spread, as palliative therapy to relieve symptoms and improve quality of life.
- Clinical trials of new chemotherapy treatments.

---

www.cancer.net
Chemotherapy as primary therapy:
- Limited stage (maximum of 4-6 cycles):
  - Cisplatin 60 mg/m² day 1 and etoposide 120 mg/m² days 1, 2, 3¹
  - Cisplatin 80 mg/m² day 1 and etoposide 100 mg/m² days 1, 2, 3²
  - Carboplatin AUC 5-6 day 1 and etoposide 100 mg/m² days 1, 2, 3³
  - During chemotherapy + RT, cisplatin/etoposide is recommended (category 1).
  - The use of myeloid growth factors is not recommended during concurrent chemotherapy plus radiotherapy.
- Extensive stage (maximum of 4-6 cycles):
  - Cisplatin 75 mg/m² day 1 and etoposide 100 mg/m² days 1, 2, 3⁴
  - Cisplatin 80 mg/m² day 1 and etoposide 80 mg/m² days 1, 2, 3⁵
  - Cisplatin 25 mg/m² days 1, 2, 3 and etoposide 100 mg/m² days 1, 2, 3⁶
  - Carboplatin AUC 5-6 day 1 and etoposide 100 mg/m² days 1, 2, 3⁷
  - Cisplatin 60 mg/m² day 1 and irinotecan 60 mg/m² days 1, 8, 15⁸
  - Cisplatin 30 mg/m² and irinotecan 65 mg/m² days 1, 8 every 21 days⁹
  - Carboplatin AUC 5 day 1 and Irinotecan 50 mg/m² days 1, 8, and 15¹⁰

Subsequent chemotherapy:
- Clinical trial preferred.
- Relapse < 2-3 mo, PS 0-2:
  - paclitaxel¹¹,¹²
  - docetaxel¹³
  - topotecan¹⁴,¹⁵
  - irinotecan¹⁶
  - ifosfamide¹⁷
  - gemcitabine¹⁸,¹⁹
- Relapse > 2-3 mo up to 6 mo:
  - topotecan PO or IV (category 1)¹⁴,¹⁵,²⁰
  - paclitaxel¹¹,¹²
  - docetaxel¹³
  - irinotecan¹⁶
  - gemcitabine¹⁸,¹⁹
  - vinorelbine²¹,²²
  - oral etoposide²³,²⁴
  - cyclophosphamide/doxorubicin/vincristine (CAV)¹⁴
- Relapse > 6 mo: original regimen²⁵,²⁶

Consider dose reductions versus growth factors in the poor performance status patient.

See References on SCL-B 2 of 2

*The regimens included are representative of the more commonly used regimens for Small Cell Lung Cancer. Other regimens may be acceptable.

Note: All recommendations are category 2A unless otherwise indicated.
Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.
## Non-Small Cell Lung Cancer

**Source:** National Cancer Institute Cancer Topics NSCLC


<table>
<thead>
<tr>
<th>Stage (TNM Staging Criteria)</th>
<th>Standard Treatment Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occult NSCLC</td>
<td>Surgery</td>
</tr>
<tr>
<td>Stage 0 NSCLC</td>
<td>Surgery</td>
</tr>
<tr>
<td></td>
<td>Endobronchial therapies</td>
</tr>
<tr>
<td>Stage I NSCLC</td>
<td>Surgery</td>
</tr>
<tr>
<td></td>
<td>Radiation therapy</td>
</tr>
<tr>
<td>Stage II NSCLC</td>
<td>Surgery</td>
</tr>
<tr>
<td></td>
<td>Neoadjuvant chemotherapy</td>
</tr>
<tr>
<td></td>
<td>Adjuvant chemotherapy</td>
</tr>
<tr>
<td></td>
<td>Radiation therapy</td>
</tr>
</tbody>
</table>
## NON-SMALL CELL LUNG CANCER

Source: National Cancer Institute Cancer Topics NSCLC

<table>
<thead>
<tr>
<th>Stage (TNM Staging Criteria)</th>
<th>Standard Treatment Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage IIIA NSCLC</td>
<td></td>
</tr>
<tr>
<td>Resected or resectable</td>
<td>Surgery</td>
</tr>
<tr>
<td>disease</td>
<td>Neoadjuvant therapy</td>
</tr>
<tr>
<td>Unresectable disease</td>
<td>Radiation therapy</td>
</tr>
<tr>
<td></td>
<td>Chemoradiation therapy</td>
</tr>
<tr>
<td>Superior sulcus tumors</td>
<td>Radiation therapy alone</td>
</tr>
<tr>
<td></td>
<td>Radiation therapy and surgery</td>
</tr>
<tr>
<td></td>
<td>Concurrent chemotherapy with radiation therapy and surgery</td>
</tr>
<tr>
<td></td>
<td>Surgery alone (for selected patients)</td>
</tr>
<tr>
<td>Chest wall tumors</td>
<td>Surgery</td>
</tr>
<tr>
<td></td>
<td>Surgery and radiation therapy</td>
</tr>
<tr>
<td></td>
<td>Chemotherapy combined with radiation therapy and/or surgery</td>
</tr>
</tbody>
</table>
### Stage IIB NSCLC

- Sequential or concurrent chemotherapy and radiation therapy
- Chemotherapy followed by surgery (for selected patients)
- Radiation therapy alone

### Stage IV NSCLC

- Combination chemotherapy
- Combination chemotherapy with bevacizumab or cetuximab
- Epidermal growth factor receptor tyrosine kinase inhibitors (for patients with EGFR mutations)
- Maintenance therapy following first-line chemotherapy
- External-beam radiation therapy (for palliation)
- Endobronchial laser therapy and/or brachytherapy (for obstructing lesions)
### SUMMARY OF RECOMMENDATIONS FOR TREATMENT BY STAGE --- NSCLC STAGE I TO IIIA

<table>
<thead>
<tr>
<th>Stage of cancer</th>
<th>Chemotherapy Recommendation</th>
<th>Radiation Therapy Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stage IA</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Stage IB</td>
<td>Not for every patient; may be used in specific situations</td>
<td>No</td>
</tr>
<tr>
<td>Stage IIA</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Stage IIB</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Stage IIIA</td>
<td>Yes</td>
<td>Not for every patient; may be used in specific situations</td>
</tr>
</tbody>
</table>

*Source: [www.cancer.net](http://www.cancer.net) American Society of Clinical Oncology Guideline on Adjuvant Treatment for Lung Cancer, July 2011*
CHEMOTHERAPY REGIMENS USED WITH RADIATION THERAPY

Concurrent Chemotherapy/RT Regimens*
- Cisplatin 50 mg/m² on day 1, 8, 29, and 36; etoposide 50 mg/m² days 1-5, 29-33; concurrent thoracic RT (preferred)**
- Cisplatin 100 mg/m² day 1, 29; vinblastine 5 mg/m²/weekly x 5; concurrent thoracic RT (preferred)
- Paclitaxel 45-50 mg/m² weekly over 1 hour; carboplatin AUC = 2 mg/mL/min over 30 min weekly; concurrent thoracic RT (category 2B)**

Sequential Chemotherapy/RT Regimens
- Cisplatin 100 mg/m² on day 1, 29; vinblastine 5 mg/m²/weekly on days 1, 8, 15, 22, 29; followed by RT
- Paclitaxel 200 mg/m² every 3 weeks over 3 hours, 2 cycles; carboplatin AUC 6, 2 cycles followed by thoracic RT

Concurrent Chemotherapy/RT Followed by Chemotherapy
- Cisplatin 50 mg/m² on day 1, 8, 29, 36; etoposide 50 mg/m² days 1-5, 29-33; concurrent thoracic RT followed by cisplatin 50 mg/m² and etoposide 50 mg/m² x 2 additional cycles (category 2B)**
- Paclitaxel 45-50 mg/m² weekly; carboplatin AUC 2, concurrent thoracic RT followed by 2 cycles of paclitaxel 200 mg/m² and carboplatin AUC 6 (category 2B)

*There are data that support full-dose cisplatin over carboplatin-based regimens. Carboplatin regimens have not been adequately tested.

**These regimens can be used as neoadjuvant chemoradiotherapy. Cisplatin and etoposide is the preferred regimen. If weekly carboplatin and paclitaxel is used because the patient is not able to tolerate concurrent full-dose cisplatin and radiotherapy, the treating physician should consider 3 cycles of full-dose platinum therapy after local treatment is completed.

---


---

Note: All recommendations are category 2A unless otherwise indicated.

Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.
CHEMOTHERAPY REGIMENS FOR ADJUVANT THERAPY

Published Chemotherapy Regimens

- Cisplatin 50 mg/m² days 1 and 8; vinorelbine 25 mg/m² days 1, 8, 15, 22, every 28 days for 4 cycles
- Cisplatin 100 mg/m² on day 1; vinorelbine 30 mg/m² days 1, 8, 15, 22; every 28 days for 4 cycles
- Cisplatin 75-80 mg/m² day 1; vinorelbine 25-30 mg/m² days 1 + 8, every 21 days for 4 cycles
- Cisplatin 100 mg/m² on day 1; etoposide 100 mg/m² days 1-3, every 28 days for 4 cycles
- Cisplatin 80 mg/m² on day 1, 22, 43, 64; vinblastine 4 mg/m² days 1, 8, 15, 22 then every 2 wks after day 43, every 21 days for 4 cycles

Other Acceptable Cisplatin-based Regimens

- Cisplatin 75 mg/m² on day 1; gemcitabine 1250 mg/m² on days 1, 8 every 21 days
- Cisplatin 75 mg/m²; docetaxel 75 mg/m² every 21 days
- Pemetrexed 500 mg/m² on day 1; cisplatin 75 mg/m² on day 1 for adenocarcinoma and large cell carcinoma and NSCLC NOS (without specific histologic subtype) every 21 days for 4 cycles

Chemotherapy Regimens for patients with comorbidities or patients not able to tolerate cisplatin

Paclitaxel 200 mg/m² on day 1, carboplatin AUC 6 on day 1, every 21 days

*These regimens can be used as neoadjuvant chemotherapy. They are to be given for 3 cycles prior to localized therapy. See Discussion for further information and references.


Note: All recommendations are category 2A unless otherwise indicated.

Clinical Trials: NCCN believes that the best management of any cancer patient is in a clinical trial. Participation in clinical trials is especially encouraged.

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DOCUMENTATION

Text Required!
2011 FCDS Text Requirements

Text fields provide validation for “Required” Data Items

- Text documentation should always include the following components:
  - Date(s) – include date(s) references – this allows the reviewer to determine event chronology
  - Date(s) – note when date(s) are estimated [i.e. Date of DX 3/15/2011 (est)]
  - Location – include facility/physician/ other location where the event occurred (test/study/treatment/other)
2011 FCDS Text Requirements

- Description of Event – include description of the event (test/study/treatment/other) – positive/negative findings

- Detailed Findings – include as much detail as possible – included documented treatment plan even if treatment is not initiated as planned

- Physician Interpretation of Findings - Include anything “relevant to this person/tumor” information only

- Edit your text documentation – don’t just copy/paste
2011 FCDS Text Requirements

- DO NOT REPEAT INFORMATION from section to section
- DO NOT USE non-standard or stylistic shorthand
- DO USE Standard Abbreviations (FCDS Appendix B)
- DO edit your text – keep it simple – but complete
- Critical to assessing data quality and training needs
2011 FCDS Text Requirements

ALL Diagnosis/Staging Fields have 1000 characters X 8 DX/Staging fields which totals 8000 characters

ALL Treatment Fields have 1000 characters X 6 TX fields which equal = 6000 characters

OMG that’s a lot of text.
"That's all folks!"