Overview of Lung Cancer

Definition of Lung Cancer

Incidence and Mortality Lung Cancer

Presentation Outline

- Overview of Lung Cancer
- Signs, Symptoms and Risk Factors
- Anatomy of the Lungs
- Histologic Types of Lung Cancer
- New Lung Cancer Screening Recommendations
- Multiple Primary and Histology Coding Rules Refresher
- Collaborative Stage Data Collection System (CSv02.04)
- C.S. Site Specific Factors
- NCCN/ASCO Treatment Guidelines by Stage
- Text Documentation
Lung Cancer Kills More People Than…

Lung Cancer Survival by Stage

Trends in Tobacco Use and Lung Cancer Death Rates* in the US

Lung Cancer Survival by Stage

*The 5-year survival for small cell lung cancer (6%) is lower than that for non-small cell (18%).

*5-year survival rate for all stages combined is only 16%.

*Only 15% of lung cancers are diagnosed at a localized stage, for which the 5-year survival rate is 52%.

*1-year relative survival for lung cancer increased from 37% in 1975-1979 to 44% in 2005-2008, largely due to improvements in surgical techniques and combined therapies.
Geographic Patterns in Lung Cancer Death Rates* by State, US, 2005-2009: 

**Males**


**Females**


Appalachia and Major U.S. Rivers

Poverty Rates in Appalachia, 2005-2009
http://arc.gov
Mississippi River, Ohio River, Missouri River
http://voanews.com

U.S. Adult Smoking Rates

Adult Smoking Rates
http://www.cdc.gov

Signs and Symptoms

Symptoms may include persistent cough, sputum streaked with blood, shortness of breath, wheezing, chest pain, voice change, and recurrent pneumonia or bronchitis, hoarseness, pain when swallowing, high pitched sound when breathing.

Signs and Symptoms

* Persistent cough
* Unexplained dyspnea (SOB)
* Sputum with blood (Hemoptysis)
* Excessive sputum production
* Weight loss & fatigue & anorexia
* Hoarseness or change in voice
* Shoulder or other joint pain
* Chest, back or arm pain
* Recurring episodes of pleural effusion, pneumonia or bronchitis
**Signs and Symptoms**

- Persistent cough
- Blood in sputum
- Persistent chest pain
- Unexplained weight loss
- Fatigue

**Risk Factors**

- Cigarette smoking
- Other tobacco smoking
- Passive smoking - 2nd hand smoke
- Occupational carcinogens
- Asbestos exposure
- Residential carcinogens
- Radon exposure
- Having had certain other cancers
- Family member with lung cancer
- Having had other lung disease
- TB, bronchitis & emphysema
- Nutritional deficiencies
- Air pollution
- Viruses

**Tobacco Use**

- Smoking main contributor
- Cigarette smoke contains over 69 known carcinogens
- Radionuclides
- Nitrosamines
- Benzene
- Acetone
- Cadmium

**Radon Gas**

- Radon is a radioactive gas produced in soil, rocks and volcanic vents
- Radon can enter a house through cracks in the foundation and can build up in the home
- Radon is a known cause of lung cancer

**Additional Resources**

- [http://www.awesomevapor.com](http://www.awesomevapor.com)
- [http://premierradon.net](http://premierradon.net)
- [http://pillartopost.com/epa](http://pillartopost.com/epa)
Asbestos

- Asbestos and lung cancer
- Asbestos and mesothelioma

Air and Water Pollution

- High levels of air pollution
- Drinking water containing high levels of arsenic

Viruses

- Implicated viruses include Human Papilloma Virus (HPV), Simian Virus (SV40), cytomegalovirus (CMV).
- These viruses may effect the cell cycle allowing uncontrolled cell division

Lung Anatomy

* 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
* C34.9 Lung, NOS

* Source: SEER Training: ICD-O-3 Site Codes
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.

The **lingula**, found only in the left lung, is a projection of the upper lobe of the left lung thought to be a remnant of an ancient middle lobe of the left lung.

**Great Vessels**

- Code laterality for all lung sub-sites except carina
- Code the laterality for the lung in which the tumor originated
- Count cancer in both lungs as separate primaries unless metastasis from one side to the other is documented
- Always check that multiple pulmonary nodules are not metastasis from another primary site
- If both lungs have nodules or tumors and the lung of origin is not known, assign code 4.
- Diffuse bilateral lung nodules is the only time when laterality = 4
- Always check that multiple pulmonary nodules are not metastasis from another primary site

**Regional Lymph Nodes**

- NX: Regional lymph nodes cannot be assessed
- N0: No regional lymph node metastasis
- N1: Metastasis in ipsilateral peribronchial and/or ipsilateral hilar lymph nodes and intrapulmonary nodes, including involvement by direct extension
- N2: Metastasis in contralateral mediastinal and/or subcarinal lymph node(s)
- N3: Metastasis in contralateral mediastinal, contralateral hilar, ipsilateral or contralateral scalene, or supravacuicular lymph node(s)
N2 is defined as metastasis in ipsilateral mediastinal (left side of diagram) and/or subcarinal lymph node(s) (right side of diagram).

N3 is defined as metastasis in contralateral mediastinal, contralateral hilar, ipsilateral or contralateral scalene, or supraclavicular lymph node(s), whereas M1b is defined as distant metastases (in extrathoracic organs), and this would include distant lymph nodes.

M1a is defined as separate tumor nodule(s) in a contralateral lobe; tumor with pleural nodules or malignant pleural (or pericardial) effusion. This is an image of tumor with malignant pleural effusion (lymph nodes).

A tumor that falls short of completely traversing the elastic layer of the visceral pleura is defined as PL0. A tumor that extends through the elastic layer is defined as PL1 and one that extends to the surface of the visceral pleura as PL2. Extension of the tumor to the parietal pleura is defined as PL3.
World Health Organization (WHO) divides lung cancer into two major classes based on histology, therapy and prognosis.

The main classes of lung cancer are:

- **Small Cell Lung Cancer (SCLC)**
- **Non-Small Cell Lung Cancer (NSCLC)**
  - Large Cell Carcinoma
  - Large Cell Neuroendocrine Carcinoma
  - Squamous Cell Carcinoma
  - Adenocarcinoma
  - Bronchoalveolar Carcinoma

Small Cell Lung Carcinoma (SCLC)

- A type of lung cancer made up of small, round cells.
- Small cell lung cancer is less common than non-small cell lung cancer.
- Often grows more quickly.

The name is often shortened to SCLC. Another name for SCLC is oat cell cancer because the cancer cells may look like oats (flat shape) when viewed under a microscope, grows rapidly and quickly spreads to other organs.

Source: webmd.com

Non-Small Cell Lung Carcinoma (NSCLC)

- Non-Small Cell Lung Cancer is the most common type of Lung Cancer.
- Is usually grows and spreads more slowly than small cell lung cancer.

Non-small cell lung cancer is divided into 3 subcategories:

- Large cell carcinomas make up a group of cancers that look large and abnormal under a microscope.
- Squamous cell carcinoma originates in the thin, flat cells that line the passages of the respiratory tract.
- Adenocarcinoma begins in the cells that form the lining of the lungs.
Non-Small Cell Lung Carcinoma (NSCLC)

- Squamous or epidermoid (807.3) - least likely to recur after resection; frequently a central or bronchial lesion.
- Adenocarcinoma (814.3) - usually slow-growing, but can metastasize widely; usually a peripheral lesion.
- Bronchioloalveolar (82503) - a very specific subtype adenocarcinoma with a distinct characteristic presentation and behavior. These tumors arise in the alveolar sacs in the lungs.
- Large cell carcinoma (80123) - also called giant cell or clear cell.
- Other subtypes of adenocarcinoma are acinar, papillary, and mucinous.
- Adenosquamous carcinoma (85603) - a specific histologic variant containing both epithelial (squamous and glandular (adeno) cells.

Carcinoids (824.3) - arise from neuroectoderm (which generates supporting structures of lung).
- Melanomas, sarcomas and lymphomas may also arise in the lung.
- Non-small cell carcinoma (80463) - a general term used sloppily to separate small cell from the "non-small cell" types such as adenocarcinoma, Squamous cell carcinoma, large cell, etc.

* Only use 8046/3 when there is no other type of non-small cell carcinoma contained in the source documents.

Source: FCDS Monthly Memo Nov 2003

Large Cell Carcinoma

- Incidence: 15%
- More often peripheral mass; either single or multiple masses; may be central
- Named for the large, round cells seen in this cancer
- Grow quickly and spread so usually are diagnosed in later stage


Squamous Cell Carcinoma

- Arises from bronchial epithelium (i.e. major bronchi), confined to bronchial wall with no lymph node metastases
- As growth occurs, cavitation may develop in lung distal to tumor.
- Tumor may occur in apex & upper respiratory zone
- Growth rate: slow growth
- Five year survival is 90% or more if no 2nd SCC present

Sources: Adam and Medline Plus

Adenocarcinoma

- Majority Arises from terminal bronchioles
- Tend to be located in the periphery of the lung
- Cancer that begins in the cells that line the alveoli and make substances such as mucus.
- 80% contain mucin
- A slow growing cancer that can take years to develop into invasive cancer
- Most common subtype in nonsmokers
- In US, 50% of lung carcinomas in women are adenocarcinoma
- Incidence: >40%

Clinical features
- May be associated with scarring
- Grows slower than SCC
- 5 year survival:
  - Stage I - 69%
  - Stage II - 40%
  - Stage IIIA - 17%
  - Stage IIIB - 5%
  - Stage IV - 8%

Gross description
- Poorly circumscribed gray-yellow lesions, single or multiple, may be mucoid
- 77% involve visceral pleura producing puckering/pleural retraction, 65% are peripheral
- Usually not cavity
- Often associated with a peripheral scar or honeycombing (scar appears to be response to tumor)
- Rarely spreads into pleural space to coat visceral and parietal pleura and resemble diffuse mesothelioma

This is a peripheral adenocarcinoma of the lung

http://www.pathologyoutlines.com

Bronchoalveolar Adenocarcinoma

**Travis Classification**
- Adenocarcinoma in situ (AIS) (formerly Bronchioalveolar Carcinoma - BAC) which is a pre-invasive lesion
- Minimally invasive adenocarcinoma (MIA) <3cm nodule with <5mm invasion
- These neoplasms have a better prognosis than other lung cancers.
- Composed of columnar cells that proliferate along the framework of alveolar septae, a so-called "lepidic" growth pattern. The cells are well-differentiated.

Under the microscope, an image such as that on the left shows thickened walls of the gas-exchanging sacs in the lungs called alveoli.

The classic description of this pattern is lepidic, meaning "scale-like."

X-rays and other imaging shows a picture that looks remarkably like pneumonia, as shown on the right.

Patients with BAC are routinely diagnosed as having pneumonia for weeks or months before a diagnosis of cancer is actually established.

Lung Cancer Histology Groups

http://stageiv.files.wordpress.com

Lung Cancer Screening

Low Dose Helical CT (LDCT or also known as spiral CT)


August 2011 - National Lung Screening Trial (NLST) Results
- Screening with low-dose spiral CT compared to CXR reduced lung cancer deaths among older heavy smokers by 20%.
- Improved detection of lung cancer at early stage is key to increased survival and improved mortality.
- Weigh Benefits/Risk of lung cancer screening using CT scan
- Recommend Screening in High Risk Population:
  - Current/Former Smoker
  - Age 55-74 Years
  - Smoking History of at least 20-30 pack-years (varies by organization)
  - No personal history of lung cancer
- Frequency of Screening - Annual

Endorsement/Adoption of Guideline
- American Cancer Society (ACS)
- American Lung Association (ALA)
- American College of Chest Physicians (ACCP)
- American Association for Thoracic Surgery (AATS)
- ASCO/NCCN Clinical Practice Guidelines (ASCO/NCCN)
- United States Preventative Services Task Force
ALA Developing an Educational Portfolio for Patients to Explain:

- The difference between a screening process and a diagnostic test
- Cancer Screening is testing for cancer before there are any symptoms
- The benefits, risks and costs (emotional, physical and economic)
- That not all lung cancers will be detected through use of low dose CT scanning

ALA issued a Call to Action for Hospitals and Screening Centers to:

- Establish ethical policies for advertising/promoting lung cancer screening services
- Develop educational materials to assist patients in having thoughtful discussions between patients and physicians regarding lung cancer screening
- Provide lung cancer screening services with access to multidisciplinary teams that can deliver the needed follow-up for evaluation of nodules.
Lung Cancer Workup
Endoscopic ultrasound (EUS)

CT-Guided Needle Aspiration Biopsy

Illustration www.health.uab.edu

http://www.urmc.rochester.edu/encyclopedia

Lung Cancer Workup
Thoracentesis

Thoracotomy

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.

• TTF-1 is very important in distinguishing primary from metastatic adenocarcinoma.

• Most primary lung adenocarcinomas are TTF-1 positive.

• Squamous cell lung carcinomas are often TTF-1 negative.

• Other squamous cell IHC tests - p63 positive and cytokeratin positive.

• Other adenocarcinoma IHC tests - CEA, B72.3, BER-EP4, and MOC3.

  These stains are negative for mesothelioma.

  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+.

NCCN Guidelines

Biomarkers

*EGFR
  * Epidermal Growth Factor Receptor

*ERCC1
  * Endonuclease of the nucleotide excision repair complex

*K-ras oncogene

*RRM1
  * Regulatory subunit of ribonucleotide reductase

*EML4-ALK Fusion Oncogene

Lung Cancer Workup
Immunohistochemical Stains (IHC)

Small Cell Lung CA 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.
Lung MPH Rules
Terms and Definitions

Chart 1 - Lung Biology Groups and Specific Types

Multiple Primary Rules
T1 is defined as a tumor 3 cm or less in greatest dimension, surrounded by lung or visceral pleura, without bronchoscopic evidence of invasion more proximal than the lobar bronchus (i.e., not in the main bronchus). T1a is defined as a tumor 2 cm or less in greatest dimension (upper left). T1a is also defined as a superficial spreading tumor of any size with its invasive component limited to the bronchial wall, which may extend proximally to the main bronchus (lower left). T1b is defined as a tumor more than 2 cm but 3 cm or less in greatest dimension (right).

Code 100 is generally used when there is a tumor size and the lesion/mass is clearly confined to the lung. Code 300 would be used when you have limited information, such as this case. Do you have a size from the x-ray or any other type of report?

If you can find a size, then you could use 100 with that size. Based on the information you have given, you would not get a T value on this case unless you can find a tumor size.

* Code 300 would also be used if the only information you had was "tumor confined to lung."
9/17/2013

**Atelectasis Due to Pleural Effusion**

*15mm mass in left lung apex highly suspicious for malignancy.*

*There is massive left sided pleural effusion with atelectasis and collapse of the left lung.*

*Would I use code 550 for CS Ext if atelectasis is caused by pleural effusion and the pleural effusion is malignant?*

*Extension code 550 is the appropriate code, based on the atelectasis and the collapse of the left lung.*

*The pleural effusion, now coded in CS Mets at DX, would be code 15 since malignant pleural effusion is on the same side as the primary malignancy.*

**CS and TNM**

**Atelectasis**

*The collapse or closure of the lung resulting in reduced or absent gas exchange (not same as pneumothorax)*

*May affect part or all of one lung*

*May be acute or chronic*

*Respiratory distress*

**Bronchopneumonia**

*Acute inflammation of the walls of the bronchioles*

*Characterized by multiple foci of isolated, acute consolidation in one or more pulmonary lobules*

*Consolidation is the swelling (edema or inflammatory exudate) or hardening of the lung tissue*

**CS and TNM**

**Layers of the Pleura**

*A tumor that fails short of completely traversing the elastic layer of the visceral pleura is defined as PL0. A tumor that extends through the elastic layer is defined as PL1 and one that extends to the surface of the visceral pleural as PL2. Extension of the tumor to the parietal pleura is defined as PL3.*

**Pleural and Pericardial Effusion**

**CS and TNM**

**T3 includes separate tumor nodules in the same lobe. T4 includes separate tumor nodules in a different ipsilateral lobe.**

**T2**

*OBSEQUIA DATA RETAINED (V619): Pleural effusion reclassified as distant metastasis in AJCC 7th Edition, see CS Mets at DX code 15*

*Antemortem pleural effusion
Pleural effusion, M5*

**T3**

*OBSEQUIA DATA RETAINED (V620): Separate pleural tumors reclassified as distant metastases in AJCC 7th Edition, see CS Mets at DX code 24*

*Pleural tumors separate from direct pleural invasion*

**T4**

*OBSEQUIA DATA RETAINED (V630): Pericardial effusion reclassified as distant metastases, see CS Mets at DX code 20*

*Pericardial effusion, M5; malignant pericardial effusion*
T4 is defined as tumor of any size that invades any of the following: mediastinum, heart, great vessels (upper right), trachea (upper left), recurrent laryngeal nerve, esophagus (lower right), vertebral body (lower left), carina (lower left), or separate tumor nodule(s) in a different ipsilateral lobe.

T4 includes tumor invasion of the superior vena cava and heart.

T4 includes tumor invasion of the aorta, esophagus, and vertebral body.

T4 includes tumor invasion of the superior vena cava and heart.
CS Lymph Nodes

REGIONAL LYMPH NODES

* NX 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)

Layers of the Pleura

A tumor that falls short of completely traversing the elastic layer of the visceral pleura is defined as PL0. A tumor that extends through the elastic layer is defined as PL1, and one that extends to the surface of the visceral pleura as PL2. Extension of the tumor to the parietal pleura is defined as PL3.

Lung

**CS Site-Specific Factor 1**
Separate Tumor Nodules - Ipsilateral Lung

<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>001</td>
<td>Separate tumor nodules, same side</td>
</tr>
<tr>
<td>002</td>
<td>Separate tumor nodules, different side</td>
</tr>
<tr>
<td>003</td>
<td>Separate tumor nodules, same side and different side</td>
</tr>
<tr>
<td>500</td>
<td>Not applicable - information not collected for this case</td>
</tr>
</tbody>
</table>

**CS Site-Specific Factor 2**
Plural/Elliptic Layer Invasion (Pli) by H and E or Elastic Stain

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>000</td>
<td>PL0 = No invasion of plural/spatial layer</td>
</tr>
<tr>
<td>010</td>
<td>PL1 = Invasion of subpleural layer but limited to the subpleural layer</td>
</tr>
<tr>
<td>020</td>
<td>PL2 = Invasion of more than subpleural layer</td>
</tr>
<tr>
<td>030</td>
<td>PL3 = Invasion of more than subpleural layer</td>
</tr>
<tr>
<td>040</td>
<td>PL4 = Invasion of subpleural layer</td>
</tr>
<tr>
<td>050</td>
<td>PL5 = Invasion of subpleural layer</td>
</tr>
<tr>
<td>060</td>
<td>PL6 = Invasion of subpleural layer</td>
</tr>
<tr>
<td>070</td>
<td>PL7 = Invasion of subpleural layer</td>
</tr>
<tr>
<td>080</td>
<td>PL8 = Invasion of subpleural layer</td>
</tr>
</tbody>
</table>

Treatment Options

http://livingwithcancerfacts.com
Small Cell Lung Cancer

**LIMITED STAGE**
- Combination chemotherapy and radiation therapy to the chest.
- 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.

Exception: T3-4 due to multiple lung nodules that do not fit in a tolerable radiation field.

Includes: T3-4 due to tumor/nodal volume too large to be encompassed in a tolerable radiation plan.

Small Cell Lung Cancer

**LIMITED STAGE**
- Any T
- Any N
- M0
- Confined to Chest

**EXTENSIVE STAGE**
- Any T
- Any N
- M1a
- M1b
- Includes: T3-4 due to multiple lung nodules or tumor/nodal volume too large to be encompassed in a tolerable radiation plan.

Lung Treatment Options by Stage

**Stage I Non-Small Cell Lung Cancer**
- Surgery (wedge resection, segmental resection, sleeve resection, or lobectomy).
- External radiation therapy (for patients who cannot have surgery or choose not to have surgery).
- A clinical trial of chemotherapy or radiation therapy following surgery.
- A clinical trial of surgery followed by chemoprevention.
- A clinical trial of treatment given through an endoscope, such as photodynamic therapy (PDT).

**Stage II Non-Small Cell Lung Cancer**
- Surgery (wedge resection, segmental resection, sleeve resection, lobectomy, or pneumonectomy).
- Chemotherapy followed by surgery.
- Surgery followed by chemotherapy.
- External radiation therapy (for patients who cannot have surgery or choose not to have surgery).
- A clinical trial of radiation therapy following surgery.
Non-Small Cell Lung Cancer

Lung Treatment Options by Stage:

Stage IIIA Non-Small Cell Lung Cancer

- Surgery followed by chemotherapy.
- Chemotherapy followed by surgery.
- Surgery followed by chemotherapy combined with radiation therapy.
- Surgery followed by radiation therapy.
- A clinical trial of new combinations of treatments

Stage IIIB NSCLC

- Resected or resectable disease
  - Surgery
  - Neoadjuvant therapy
  - Radiation therapy

- Unresectable disease
  - Radiation therapy
  - Chemoradiation therapy

- Superior sulcus tumors
  - Radiation therapy alone
  - Radiation therapy and surgery
  - Concurrent chemotherapy with radiation therapy and surgery
  - Surgery alone (for selected patients)

- Chest wall tumors
  - Surgery alone (for selected patients)
  - Radiation therapy
  - Chemotherapy combined with radiation therapy and/or surgery

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)

Lung Cancer Surgery

Non-Small Cell Lung Cancer

Stage (TNM Staging Criteria) | Standard Treatment Options
--- | ---
Stage 0 NSCLC | Surgery
Stage I NSCLC | Surgery
- Radiation therapy
Stage II NSCLC | Surgery
- Neoadjuvant chemotherapy
- Adjuvant chemotherapy
- Radiation therapy
Stage IIIA NSCLC | Surgery followed by chemotherapy.
- Chemotherapy followed by surgery.
- Surgery followed by chemotherapy combined with radiation therapy.
- Surgery followed by radiation therapy.
- A clinical trial of new combinations of treatments

Cancer Cannot be Removed w/ Surgery

- Chemotherapy and radiation therapy given as separate treatments over the same period of time.
- External radiation therapy alone (for patients who cannot be treated with combined therapy, as palliative treatment to relieve symptoms/improve quality of life).
- Internal radiation therapy or laser surgery, as palliative treatment to relieve symptoms and improve the quality of life.
- A clinical trial of new combinations of treatments

Non-Small Cell Lung Cancer

Stage (TNM Staging Criteria) | Standard Treatment Options
--- | ---
Stage IIA NSCLC | Resected or resectable disease
- Surgery
- Neoadjuvant therapy
- Adjacent therapy
Unresectable disease | Radiation therapy
- Chemoradiation therapy
Superior sulcus tumors | Radiation therapy alone
- Radiation therapy and surgery
- Concurrent chemotherapy with radiation therapy and surgery
- Surgery alone (for selected patients)
Chest wall tumors | Surgery alone (for selected patients)
- Radiation therapy
- Chemotherapy combined with radiation therapy and/or surgery

Non-Small Cell Lung Cancer

Stage (TNM Staging Criteria) | Standard Treatment Options
--- | ---
Stage IIIA NSCLC | Resected or resectable disease
- Surgery
- Neoadjuvant therapy
- Adjacent therapy
Unresectable disease | Radiation therapy
- Chemoradiation therapy
Superior sulcus tumors | Radiation therapy alone
- Radiation therapy and surgery
- Concurrent chemotherapy with radiation therapy and surgery
- Surgery alone (for selected patients)
Chest wall tumors | Surgery alone (for selected patients)
- Radiation therapy
- Chemotherapy combined with radiation therapy and/or surgery
Surgical Removal

Wedge or Segmental Resection
Removal of one or more lung segment

Lobectomy
Removal of entire lobe of the lung

Pneumonectomy
Removal of entire lung

Note: If a lobectomy was performed, assume that the tumor was more than 2 cm distal to the carina.

Surgery Codes DAM Appendix F

Text Documentation

- Avoid non-standard text
- Keep it simple
- No repetition
- Justify coded items
- FCDS DAM Appendix L

- DEFENSIVE ABSTRACTING
- CYA-Cover your abstract

Support ALL codes and dates with text - primary site, histology, staging workup, tumor size, nodal status, stage of disease, first course of RX

Text Documentation

- 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)
- Abbreviated text - be brief but complete - use abbreviations correctly.
- Text fields - if information is missing from the record, state that it is missing type not available (NA)

- Edit your text documentation
- DO NOT REPEAT INFORMATION from section to section
- Operative text - DO not enter the pathology info in the Op TEXT
  Ex: 8/26/12 ABC Facility Liver biopsy this shoud be part of pathology
- Pathology text - Example 8/26/12 ABC facility Liver biopsy metastatic adenocarcinoma
References

* National Cancer Institute
* FCDS Data Acquisition Manual
* American Society of Clinical Oncology
* American Society for Radiation Oncology
* 2013 Cancer Facts and Figures, American Cancer Society
* Collaborative Stage Data Collection System
* 2007 MPH Rules for Solid Tumors
* National Lung Screening Trial (NLST)