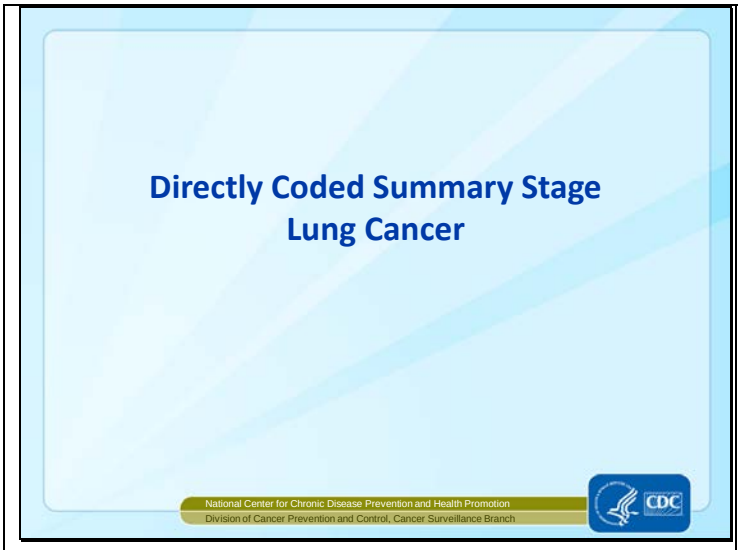
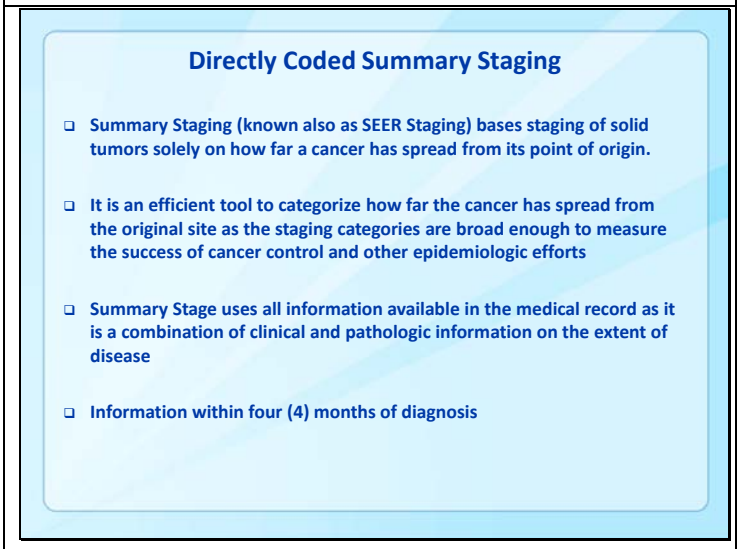


1

After much deliberation, consensus was reached by CDC, SEER and the Commission on Cancer's (CoC) American College of Surgeons (ACS) that Directly Coded Summary Stage was, for most registries, a more efficient method of recording if and how far a solid tumor had extended from the point of origin.

With the advent of AJCC TNM and Collaborative Staging, some registries either lost touch with or never were exposed to this method of staging. It was decided that Directly Coded Summary Staging would be required from all reporters for CDC's National Program of Cancer Registries (NPCR -- not CS derived). Registries that report to the ACS or SEER will need to meet additional criteria as set forth by the ACS or the National Institutes of Health (NIH).

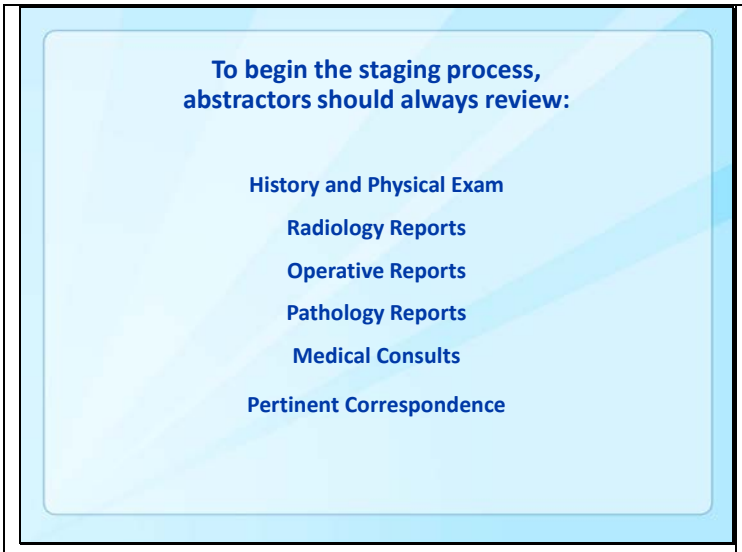
The following slides will look at how a Registrar needs to approach Summary Staging. It will be a review for some and new information for others.



2

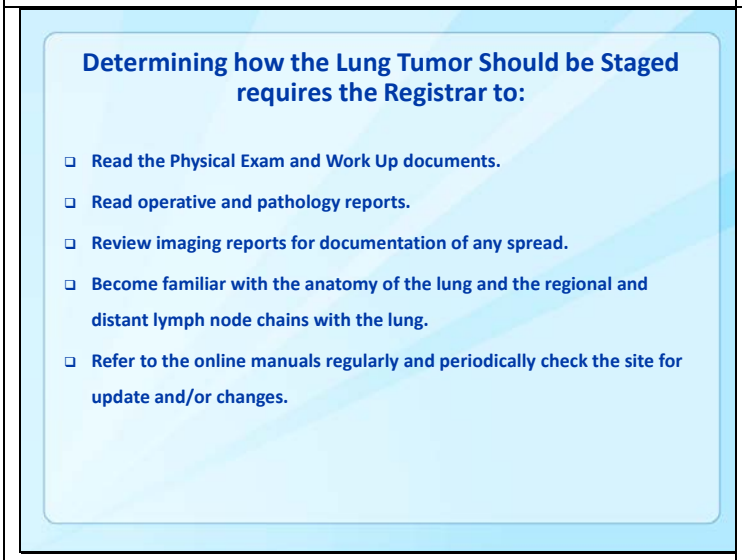
As the slide states, Summary Staging is based only on whether or how far a malignancy has spread and is an efficient method of assigning that information in a usable format. It is the most basic staging system and is utilized for staging most solid tumors. It should be noted that in the SEER Summary Staging Schema, Kaposi Sarcoma, Lymphomas and Hematopoietic Diseases are addressed. The schemas are not the same methodology as the solid tumors but Registrars need to be aware they are provided.

Summary Staging timing is limited to information obtained through the completion of surgeries in the first course of treatment, or within 4 months of diagnosis in the absence of disease progression; whichever is longer.



3

Although Summary Staging is a much less cumbersome staging methodology, the Registrar will still need to read and evaluate the same data that are utilized to assign AJCC TNM or Collaborative Staging.

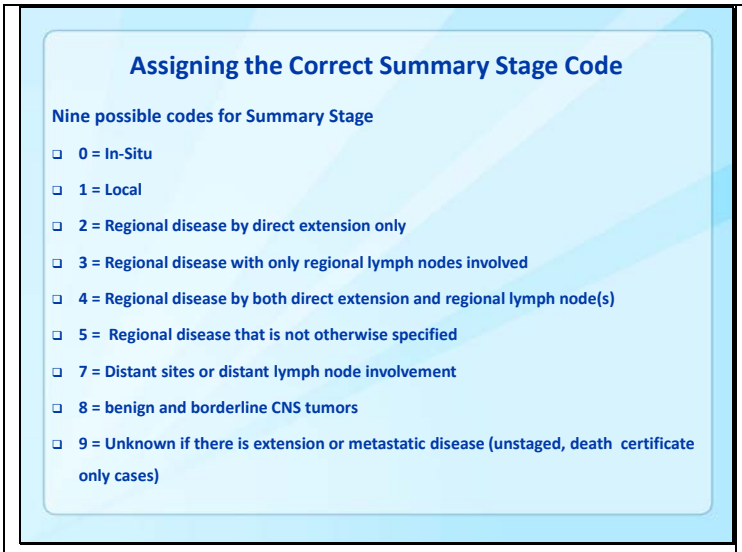


4

When staging lung cancers, Registrars need to familiarize themselves with the anatomy of the lung and the lymphatic chains associated with it. In addition, it is important to be aware of which situations are considered distant vs. regional when assessing progression of disease beyond the lung. History and physical exam documentation will provide information on the findings from the physical as reported by the physician, including an overall report of the patient's general health status. The physician will likely include important information such as the symptoms including shortness of breath and blood associated with coughing which could indicate an advanced stage of disease. All documentation relating to stage of disease is important.

Operative, pathology and imaging reports relating to the lung cancer need to be carefully scrutinized. Of note if tumors are not completely resected - this does not impact Summary Staging. Chest X-ray will likely be done when the patient first presents with symptoms. CT, MRI and PET scans of the chest should be carefully reviewed for extent of disease such as pleural effusion, adenopathy, and/or invasion of chest wall or vertebrae, for example. Bone scans are often done to identify metastases.

Additional imaging may be done as the physician determines necessary and all reports should be reviewed by the Registrar. The reports will be able to assist in finding the location of tumor or tumors, nodal involvement, size of tumor, and/or regional and distant sites, for example.



5

Summary Staging is correctly assigning one of nine single-digit codes that describes the tumor extent at the time of diagnosis. There are nine codes that can be assigned in general, but only 8 possible for most cancers. Code 8 is used for benign and borderline CNS tumors.

The codes for Summary Stage are in ascending order, starting with the most minimal tumor involvement or growth up to distant spread. A thorough evaluation of the medical record(s) documentation will normally provide the information for the accurate coding of Summary Stage.

An in-depth explanation of the Summary Stage categories can be found at http://seer.cancer.gov/tools/ssm/.

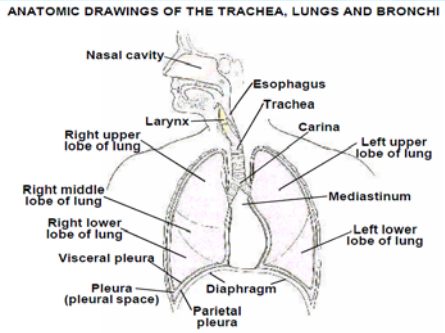
Code 9, or unknown stage should be used only when all efforts to establish the stage of disease have been exhausted, it is an unknown primary site, or it is a death certificate only case (which can only be assigned by the central cancer registry).

Code 5 or Regional, NOS should likewise only be assigned when a more specific regional stage cannot be determined.

6

These lists are extremely important when assigning a Summary Stage. For example: a tumor “adherent to” or “probable” are considered involvement by tumor. Staging could be seriously miss assigned if the Registrar is not aware that both terms are important when determining tumor extent. **SEE page 15**

Know the Anatomy of the Lung



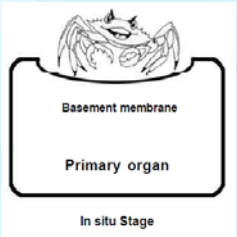
Source: http://www.seer.cancer.gov/tools/ssm/respir.pdf

7

In order to assign the correct summary stage code, registrars need to know the anatomy of the lung.

What does In-Situ Mean?

- **In-Situ is defined as malignancy without invasion.**
  - Only occurs with epithelial or mucosal tissue
  - **Must be microscopically diagnosed** to visualize the basement membrane.
- **In-Situ of the lung may also be referred to as non-invasive, pre-invasive, or intraepithelial.**
- **If pathology states the tumor is in-situ with microinvasion it is no longer staged as in-situ but is considered to be at least a localized disease.**



In situ Stage

8

In-Situ tumors are found on the surface of the organ and microscopically have characteristics of malignant tumors. However, an in-situ lesion has not yet invaded or penetrated through the basement membrane. That is why it is so important to ascertain that the in-situ lesion has been microscopically evaluated.

A diagnosis of in-situ with micro-invasion takes it out of the in-situ stage category and it is considered at least localized. These micro-invasive cells are now able to penetrate and be carried through the lymphatic system or blood and invade other organs. It is important to know that in-situ stage is assigned for carcinoma and melanomas but never for sarcomas.

In-Situ Equivalent Terms

Behavior Code of 2
Non-infiltrating
Noninvasive
Pre-invasive
Stage 0
Intraepithelial

In-Situ Cancer is coded as Summary Stage 0.

Review of the *SEER Summary Staging Manual 2000* will help to clarify the definitions and terms for specific malignancies.

9

There are multiple synonymous terms that denote if the cancer is in-situ and the Registrar needs to become acquainted with those terms. Newer Registrars may find it helpful to post a listing of the equivalent terms near their work station.

It is important to remember that sites that do not have an epithelial layer cannot be assigned an in-situ stage since they do not have a basement membrane which is required for diagnosis as in-situ.

In-situ stage can be assigned to carcinomas and melanomas, but sarcomas are never described as in-situ.

Staging In-situ Lung Cancers Requires Knowledge of a Specific Exception

In-situ is a non-invasive malignancy and is coded as '0'

UNLESS

- Primary Tumor was documented in the pathology report as having only an in-situ behavior but there is an additional statement confirming malignancy has spread and is present in regional node(s) or in a distant site.
- Should that occur, the in-situ stage is not valid and the stage must be documented to reflect regional or distant disease.

10

What Does Localized Mean?

Single tumor confined to one lung.

- Confined to the:
  - Carina
  - Hilus of the lung
  - Main stem bronchus
- Extension from other parts of the lung to:
  - Main stem bronchus ≥ 2 cm from Carina##
  - Main stem bronchus, NOS##
- Localized, NOS

Localized Disease is coded as Summary Stage 1.

Considered regional in historical stage

11

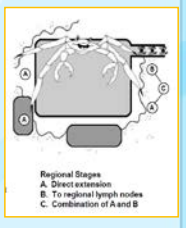
Localized lung cancer includes various descriptions that may be documented in the record as reflected in this slide. With lung in particular, it is important to use the SS 2000. There have been many changes from the SS 1977 which can severely impact assigning the correct staging code.

Important to know: Extension from other parts of lung to Main Stem Bronchus, NOS or >/= 2 cm has been changed from regional in the historical stage to localized in SS2000

What Does Regional Disease Mean?

Regional Disease indicates that the tumor has gone beyond the organ of origin but is not considered distant.

- **Regional by direct extension (code 2)**
  Tumor has invaded surrounding organ(s) or adjacent tissues. May also be referred to as direct extension or contiguous spread.
- **Regional to lymph nodes (code 3)**
  Tumor cells may have traveled through the lymphatic system to regional lymph nodes where they remain and begin to "grow."
- **Regional by direct extension and lymph nodes (code 4)**
  Extension into adjacent structures or organs and lymph node involvement are both present.
- **Regional (as stated by the physician but the site[s] of regional spread is/are not clearly documented) (code 5)**



12

Regional disease has many avenues of presentation.

Regional by direct extension or contiguous spread (Coded as 2) occurs when the tumor invades into adjacent tissue or ograns. Review the record to be certain that there are no nodes or distant tumor involvement before assigning this code. There are 4 distinctive Summary Staging codes to define each of the regional disease categories.

Regional to lymph nodes or code 3 indicates that tumor cells have found their way to node(s) that are considered regional and have actively begun "to grow." The record should document that nodal involvement is the only disease other than the primary in order to assign code 3.

Regional by both direct extension and involving regional lymph nodes is coded as 4.
Code 5 indicates there is a physician statement that patient has regional lung cancer but no other documentation.

If there is lymph node involvement but the chain is not named in the records, assume that the chain is regional.

Staging of Regional Disease

- **Review records for documentation confirming that tumor is more than localized.**
- **Review all pertinent reports looking for specific regional disease references and exclusions of distant spread.**
  - Terms to watch for are seeding, implants and nodules – scrutinize diagnostic reports for regional disease spreading references to eliminate that spread is not distant.

Caution: A diagnosis of cancer with lymph node metastases means some nodes have involvement by tumor – always confirm that the lymph nodes are regional.

13

As mentioned, regional disease can be present in many sites – lymph nodes and direct extension. It is important to remain aware that with the drainage in the lymphatic channels from the tumor site, a cell or cells from the tumor can result in lymph nodes or organs anywhere in the body to become involved. The Registrar needs to evaluate to determine whether nodal involvement is regional or distant before assigning the stage.

Regional by Direct Extension

- **Atelectasis/obstructive pneumonitis**
- **Extension to:**
  - **Blood Vessels**
    - **Aorta***
    - **Azygos vein**
    - **Pulmonary artery or vein**
    - **Superior vena cava (SVC Syndrome)**
  - **Brachial plexus from superior sulcus*#**
  - **Carina from lung**
  - **Chest (thoracic wall)***
  - **Diaphragm***
  - **Esophagus**
  - **Main stem bronchus <2 cm from the Carina**

If any of these tissues are involved Code as Stage 2 provided NO lymph nodes are involved

*Considered distant in SS 1977
#Considered distant in Historical Stage

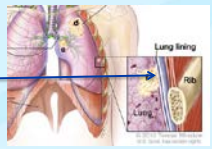
Regional by direct extension only is coded as Summary Stage 2.

14

Regional by direct extension (coded as 2) means the pathway of the primary site grows directly into a regional site but no further. There are no nodes identified as being involved. The listing on this slide shows that direct extension offers several pathways that the primary tumor can take and be considered regional direct.

Regional by Direct Extension, Cont'd

- **Mediastinum, Extrapulmonary or NOS**
- **Nerves**
  - **Cervical sympathetic (Horner's syndrome)**
  - **Phrenic**
  - **Recurrent laryngeal (vocal cord paralysis)**
  - **Vagus**
- **Pancoast Tumor (Superior sulcus syndrome)*#**
- **Parietal (medistinal) Pleura***
- **Parietal pericardium#**
- **Pericardium, NOS**
- **Pleura, NOS**
- **Pulmonary Ligament**
- **Trachea**
- **Visceral pleura**



*Considered distant in SS 1977
#Considered distant in Historical Stage

Regional by direct extension only is coded as Summary Stage 2.

15

Regional by direct extension (coded as 2) means the pathway of the primary site grows directly into a regional site but no further. **There are no nodes identified as being involved**. The listing on this slide shows that direct extension offers several pathways that the primary tumor can take and be considered regional direct.

Regional by Direct Extension, cont'd

- Multiple masses or separate tumor nodule(s) in the SAME lobe*#
- Multiple masses or separate tumor nodule or nodules in the main stem bronchus
- Tumor of the main stem bronchus < 2 cm from the carina*

*Considered localized in SS 1977
#Considered localized in Historic Stage

Regional by direct extension only is coded as Summary Stage 2.

16

Regional Nodes for a Lung Primary

Regional IPSILATERAL lymph nodes for lung include:

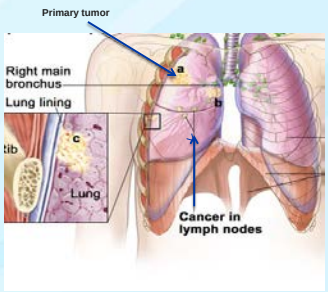
- Aortic (above the diaphragm)
  - Peri/para-aortic
  - Ascending aorta (phrenic)
  - Subaortic (aortico-pulmonary window)
- Bronchial
- Carinal (tracheobronchial, tracheal bifurcation)
- Hilar (bronchopulmnary, proximal lobar, pulmonary root)
- Intrapulmonary
  - Interlobar
  - Lobar
  - Segmental
  - Subsegmental
- Mediastinal
  - Anterior
  - Posterior (tracheoesophageal)
- Pericardial

Regional to Lymph Nodes only is coded as Summary Stage 3.

17

Regional Nodes for a Lung Primary cont'd

- Peri/parabronchial
- Peri/paraesophageal
- Peri/paratracheal
  - Azygos (lower Peritracheal)
- Pre- and retrotracheal
  - Precarinal
- Pulmonary ligament
- Subcarinal
- Regional Lymph Nodes (NOS)



Regional to Lymph Nodes only is coded as Summary Stage 3.

18

SEER Summary Stage Manual 2000 Errata and Clarifications

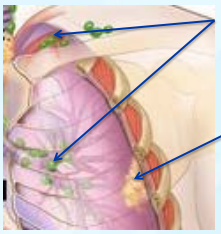
- On August 20, 2002, Errata and Clarifications to the SEER Summary Staging Manual 2000.
  - http://www.seer.cancer.gov/tools/ssm/
- See item # 22, Page 151:

  Replace note 5 with: ***If at mediastinoscopy/x-ray, the description is "mass," "adenopathy," or "enlargement" of the mediastinum or of any of the lymph nodes listed under Regional Lymph Nodes (see page 151 of the SS Manual), assume that at least regional lymph nodes are involved.***

19

Please be sure to check that your manuals have all the changes per the SEER errata – and for Lung note page 151

Regional by both Direct Extension and Ipsilateral Regional Lymph Nodes



Regional Direct and Ipsilateral Regional Lymph Node Involvement is coded as Summary Stage 4.

NOTE: A medical record with only a physician statement of Regional Disease is coded as Summary Stage 5.

20

Regional, NOS

*** It is unclear if the tissues involved are regional direct or lymph nodes.**

*** Physician statement says Regional with no additional documentation in the medical record.**

Regional Disease with no further information is coded as Regional, NOS - Summary Stage 5.

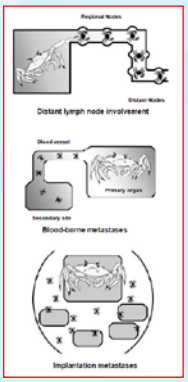
21

In some cases, the registrar may come across a case where the stage is documented by the physician as regional. There may be no additional information to show how the patient was staged or whether there were regional nodes or direct extension identified to assign the regional designation. In this case the registrar should code regional to a stage 5.

What is Distant Stage (code 7)?

Distant Stage indicates that the tumor has spread to areas beyond the regional sites.

- **These sites may be called:**
  - **Remote**
  - **Metastatic**
  - **Diffuse**
- **Distant lymph nodes are those that are not included in the drainage area of the primary tumor.**
- **Hematogenous metastases develop from tumor cells carried by the bloodstream and begin to grow beyond the local or regional areas.**



22

Distant metastases is the spread by tumor through blood or lymphatics that carry tumor cells to areas of the body beyond the primary or regional areas. While there are several sites that are normally expected to be involved in distant spreading, metastatic disease can occur in any distant site.

If there is evidence of spread but the terminology does not match any of the in the various categories in the manual, try to research the terms to match them. If there is no match, it is assumed the site is distant.

Distant Lymph Nodes

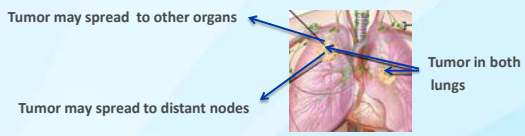
- **Cervical, NOS**
- **Contralateral/bilateral Hilar**
  - **Bronchopulmonary**
  - **Proximal lobar**
  - **Pulmonary Root**
- **Contralateral/bilateral Mediastinal**
- **Scalene (inferior deep cervical)**
  - **Ipsilateral**
  - **Contralateral**
- **Supraclavicular (Transverse Cervical)**
  - **Ipsilateral**
  - **Contralateral**
- **Other distant lymph nodes**

Distant Metastatic Disease is coded as Summary Stage 7.

23

This slide notes the most commonly affected distant lymph node chains. However, remember tumor cells can travel to any chain. Any node not included in the regional listing would be considered distant.

Extension to Distant Sites



Distant metastatic lung cancer is often found in:

Abdominal organs	Adjacent rib*
Contralateral main stem bronchus	Contralateral lung
Heart*	Skeletal muscle
Skin of chest	Sternum
Vertebra(e)	Visceral pericardium*

Pericardial effusion – either stated as malignant or NOS

Pleural effusion – either stated as malignant or NOS

*Considered regional in Historic Stage

Distant Metastatic Disease is coded as Summary Stage 7.

24

If a primary site is adjacent to the site with metastases, the spread is likely direct extension. However, it is important to review diagnostic reports and possibly the findings during surgery to determine if the cancer involves the surface on the secondary organ. If so it would be regional by direct extension. If the metastases is inside the secondary organ it would be distant because it would be blood-borne involvement. Remembering that regional organs with mets ON the surface is likely direct extension but when only found IN the organ this is likely distant which will assist with documenting the correct stage.

Pleural Effusions

- ❑ If pleural effusion is determined to be negative for tumor, ignore it in the staging process.
- ❑ If a resection was done, the registrar is to assume the pleural effusion was negative.
- ❑ However, a pleural effusion NOS has not ruled out involvement so it should be considered involved in the staging to distant sites.

25

If pleural effusion is determined to be negative for tumor, ignore it in the staging process. However, pleural effusion NOS has not ruled out involvement so it should be considered involved in the staging to distant sites. If a resection was done, the registrar is to assume the pleural effusion was negative.

Extension to Distant Sites cont'd

- ❑ Further contiguous extension
- ❑ Separate tumor nodules in a different lobe#*
- ❑ Separate tumor nodules in the contralateral lung
- ❑ Metastasis

*Considered localized in SS 1977
#Considered localized in Historic Stage

Distant Sites or Nodes are coded as Summary Stage 7

26

SEER Summary Staging Manual – Lung Site Specific Notes

- ❑ Note 1: Bronchopneumonia is not the same as obstructive pneumonitis and should not be coded as such.
- ❑ Note 2: If a lobectomy, segmental resection or wedge resection is done it can be assumed the tumor is ≥2 cm from the carina.
- ❑ Note 3: If no mention is made of the opposite lung on a chest x-ray, assume it is not involved.
- ▪ Note 4: Ignore pleural effusion which is negative for tumor. Assume that a pleural effusion is negative if a resection done.

27

Site Specific Notes – cont'd

- Note 5: If at mediastinoscopy /x-ray the description is mediastinal mass/adenopathy or if any of the lymph nodes is named in Regional Lymph Nodes are mentioned, assume that mediastinal nodes are involved.
- Note 6: The words "no evidence of spread" and/or "remaining examination negative" are sufficient information to consider regional lymph nodes negative in the absence of any statement about nodes.
- Note 7: "Vocal cord paralysis," "superior vena cava syndrome," and "compression of the trachea or the esophagus" are classified as mediastinal lymph node involvement UNLESS there is a statement of involvement by direct extension from the primary tumor.

28

Tips for the Abstractor

- If review of the patient's records documents distant metastases, the Registrar can avoid reviewing records to identify local or regional disease.
- Documentation that contains a statement of invasion, nodal involvement or metastatic spread cannot be staged as in-situ even if the pathology of the primary tumor states it.
- If there are nodes involved, the stage must be at least regional.
- If there are nodes involved but the chain is not named in the pathology report, assume the nodes are regional.
- If the record does not contain enough information to assign a stage, it must be recorded as unstageable/unknown and coded as stage 9.

29

Remember to Read Carefully

- **Example: lung adenocarcinoma with pericardial node metastases.**
- **Don't be misled by the term metastases – It doesn't always mean distant disease. Pericardial nodes in this example are regional to the lung.**

30

Note for the Registrar: Don't be confused with the term "metastases." It is important to realize that the term means *spread* which can be regional or distant. This is a reason to become familiar with what is and what is not regional vs distant sites for the primary site being staged.

Exercise 1 – How would you stage this case?

- During routine physical the patient complained of increasing shortness of breath. She indicated it was becoming more difficult to catch her breath after any level of physical activity. She was noted by the physician to have rapid and shallow breathing. A chest X-ray was ordered which showed pleural effusion on the left.
- She was followed up with a CT of the chest which identified bilateral mediastinal adenopathy and a large pleural effusion on the left. In addition the CT showed probable liver mets. She underwent a thoracentesis with findings of malignant cells which were consistent with adenocarcinoma.
- The patient was admitted to hospice care.

31

Stage Case…Answer on next slide

Exercise 1 – How would you stage this case?

- During routine physical the patient complained of increasing shortness of breath. She indicated it was becoming more difficult to catch her breath after any level of physical activity. She was noted by the physician to have rapid and shallow breathing. A chest X-ray was ordered which showed pleural effusion on the left.
- She was followed up with a CT of the chest which identified bilateral mediastinal adenopathy and a large pleural effusion on the left. In addition the CT showed probable liver mets. She underwent a thoracentesis with findings of malignant cells which were consistent with adenocarcinoma.
- The patient was admitted to hospice care.
- Summary Stage 7 with Pleural effusion and liver metastases.
  (NOTE: Probable considered involvement based on the SS 2000 ambiguous terminology list)

32

Exercise 2 – How would you stage this case?

- Patient complained of a cough that did not respond to over the counter cough suppressants and was sent for a chest X-ray which identified a 6mm mass in the right lower lobe.
- CT of the chest showed a right suprahilar soft tissue mass which extended into the mediastinum. No nodal metastases noted.
- A needle biopsy was done which diagnosed a non-keratinizing squamous cell carcinoma, moderately differentiated.

33

Stage Case…Answer on next slide

Exercise 2 – How would you stage this case?

- Patient complained of a cough that did not respond to over the counter cough suppressants and was sent for a chest X-ray which identified a 6mm mass in the right lower lobe.
- CT of the chest showed a right suprahilar soft tissue mass which extended into the mediastinum. No nodal metastases noted.
- A needle biopsy was done which diagnosed a non-keratinizing squamous cell carcinoma, moderately differentiated.
- Summary Stage 2 – Direct extension to the mediastinum.

34

Exercise 3 – How Would You Stage This Case?

- Patient presented with complaints of weight loss and progressive wheezing. A chest X-ray resulted in findings of a 2 cm mass in the right middle lobe.
- She was referred for bronchoscopy revealing an adenocarcinoma. Further examination noted an enlarged cervical lymph node which was excised and found to be consistent with metastatic adenocarcinoma from the lung.
- The patient was treated with radiation therapy.

35

Stage Case…Answer on next slide

Exercise 3 – How Would You Stage This Case?

- Patient presented with complaints of weight loss and progressive wheezing. A chest X-ray resulted in findings of a 2 cm mass in the right middle lobe.
- She was referred for bronchoscopy revealing an adenocarcinoma. Further examination noted an enlarged cervical lymph node which was excised and found to be consistent with metastatic adenocarcinoma from the lung.
- The patient was treated with radiation therapy.
- Summary Stage 7 – Distant lymph node involvement.

36

Exercise 4 – How Would You Stage This Case?

Clinic Notes 01/15/2014.

- This 38 year old gentleman was referred for possible treatment with chemotherapy and/or radiation therapy by his primary care physician.
- He had presented with a continuing dry cough and was sent for a chest X-ray that returned findings of a right lung mass.
- His primary care physician then referred him to the Oncology Physician Group for treatment of his regional disease. After discussion, the patient decided to seek other treatment.

37

Stage Case…Answer on next slide

Exercise 4 – How Would You Stage This Case?

Clinic Notes 01/15/2014.

- **This 38 year old gentleman was referred for possible treatment with chemotherapy and/or radiation therapy by his primary care physician.**
- **He had presented with a continuing dry cough and was sent for a chest X-ray that returned findings of a right lung mass.**
- **His primary care physician then referred him to the Oncology Physician Group for treatment of his regional disease. After discussion, the patient decided to seek other treatment.**
- **Summary Stage 5 – Only clinic notes stating patient had regional disease.**

38

The CDC gratefully acknowledges Terese Winslow for granting permission to incorporate her illustrations into this presentation.

39

Excellent Resources for SEER Summary Staging

- **SEER Summary Stage 2000, SEER Training modules: http://training.seer.cancer.gov**
- **SEER Coding Manuals – Historic – 1977.**
- **http://training.seer.cancer.gov/modules_site_spec.html**
- **http://training.seer.cancer.gov/lung/**

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