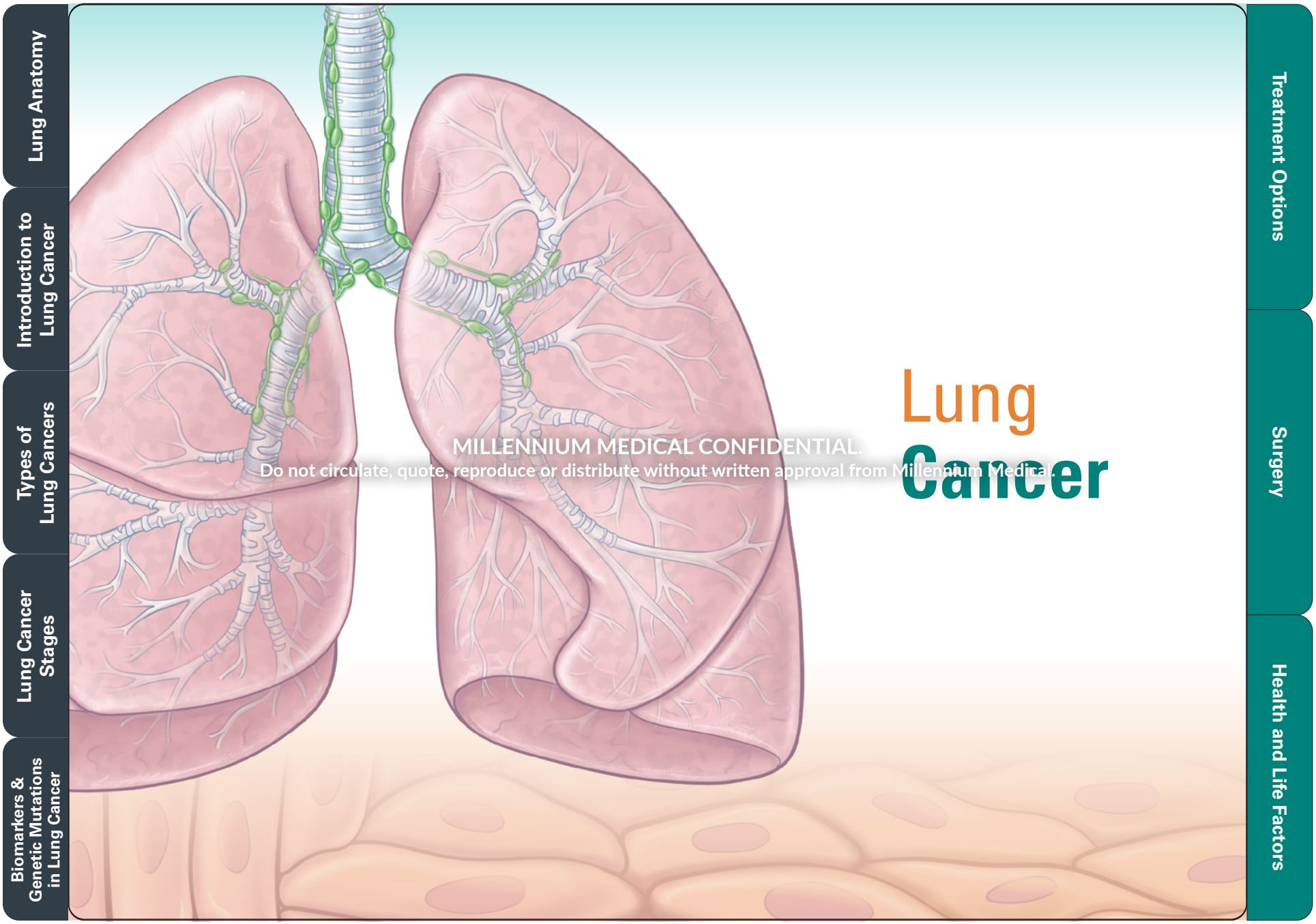
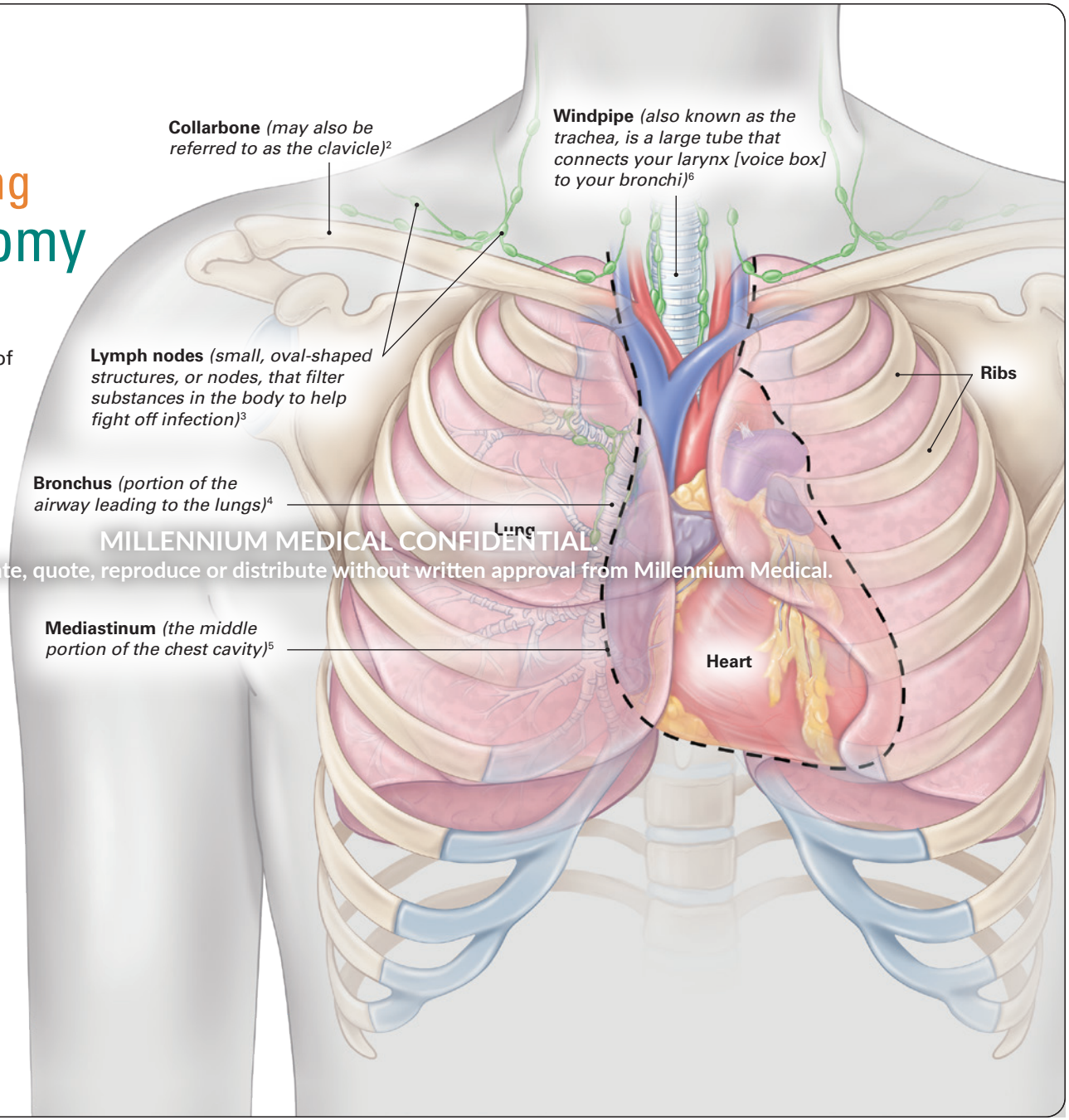


FRONT COVER

Understanding Lung Anatomy

The lungs are a sponge-like organ in the chest made up of a left side (2 lobes) and right side (3 lobes). The primary job of the lungs is to absorb oxygen from the air during inhalation while removing carbon dioxide from the body during exhalation.[1]



Introduction to Lung Cancer

How Common Is Lung Cancer?

Lung cancer is the third most common type of cancer in the United States.[7]

Who Is at Risk?

70

Usually occurs in older people with the average age of diagnosis being approximately 70 years old[8]

Current and past smokers[9]

Other Risk Factors May Include[9]:

- Previous cancer history
- Family history
- Occupational exposures
- Other lung diseases
- Exposure to infections

Most lung cancers do not have any signs or symptoms until they have spread.[10]

Most Common Signs and Symptoms of Lung Cancer[10]

- Cough that does not go away
- Coughing up blood or rust colored spit
- Chest pain worsened by coughing or laughing
- Hoarseness
- Loss of appetite
- Unexplained weight loss
- Shortness of breath
- Feeling tired
- Lung infections that don't heal
- New onset of wheezing

Lung cancer can occur in smokers and non-smokers.[11]

Testing

Multiple tests may be done to help determine the presence of lung cancer, including[12]:

- **Computed tomography (CT)** uses x-rays to make detailed cross-sectional images of the body. A CT scanner takes many pictures and then a computer combines them to show the part of your body being studied[12]
- **Positron emission tomography (PET)** uses a small amount of radioactive sugar that is introduced into the bloodstream and shows up primarily in cancer cells[13]
- **Tissue biopsy** is when body tissues are removed from the body.[14] These tissues, cells, or organs may then be studied under a microscope, a process called **histology**[15]

Types of Lung Cancer

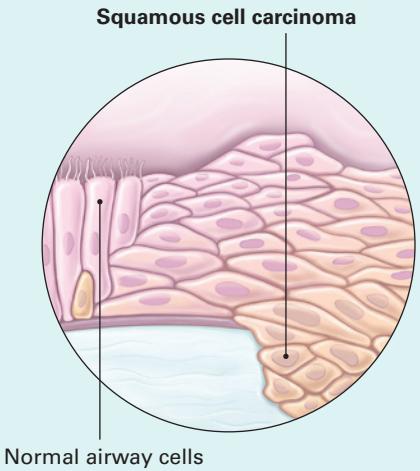
There are 2 main types of lung cancer: Non–small cell lung cancer (NSCLC) and small cell lung cancer (SCLC).[1]

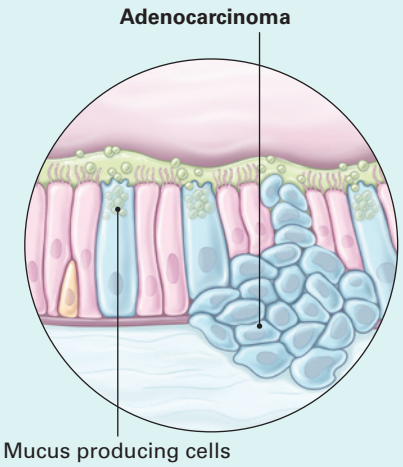
- **NSCLC** is the **most common** type of lung cancer, making up about 80–85% of lung cancers[8]
- **SCLC** is **less common**, accounting for about 10–15% of lung cancers[8]

Not every patient may fit into these categories. Every patient is unique. !

Subtypes of NSCLC[1]

- **Squamous cell carcinoma**
  - Starts in **squamous cells**, which are flat cells that line the inside of the airways in the lungs
- **Adenocarcinoma**
  - Starts in cells that normally secrete **mucus** or **fluids**





Lung Cancer
Stages

Staging is based on tumor characteristics, and proper classification helps doctors provide the options for treatment.[16]

Lung Cancer Stages[16]

Stage I	Tumor is smaller in size
Stage II	Tumor is larger, possibly involving the lymph nodes
Stage III	Tumor may be larger and lymph node involvement may be extensive
Stage IV	Cancer has spread to distant organs

Lung cancer is primarily classified by the **TNM system**, which is used to determine the stage, meaning the extent or spread of cancer.[16]

The TNM System[16]

T	N	M
Primary Tumor Tumor size, usually in centimeters	**Lymph Node** Lymph node involvement, can vary by number of nodes and location	**Metastasize** Spread to neighboring lung or to tissue outside the chest cavity

COMPOSITE

Non-tabbed short page with Stage I–IV behind

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Stage I*

Tumor has not spread to any lymph nodes. There is no metastasis to distant parts of the body.

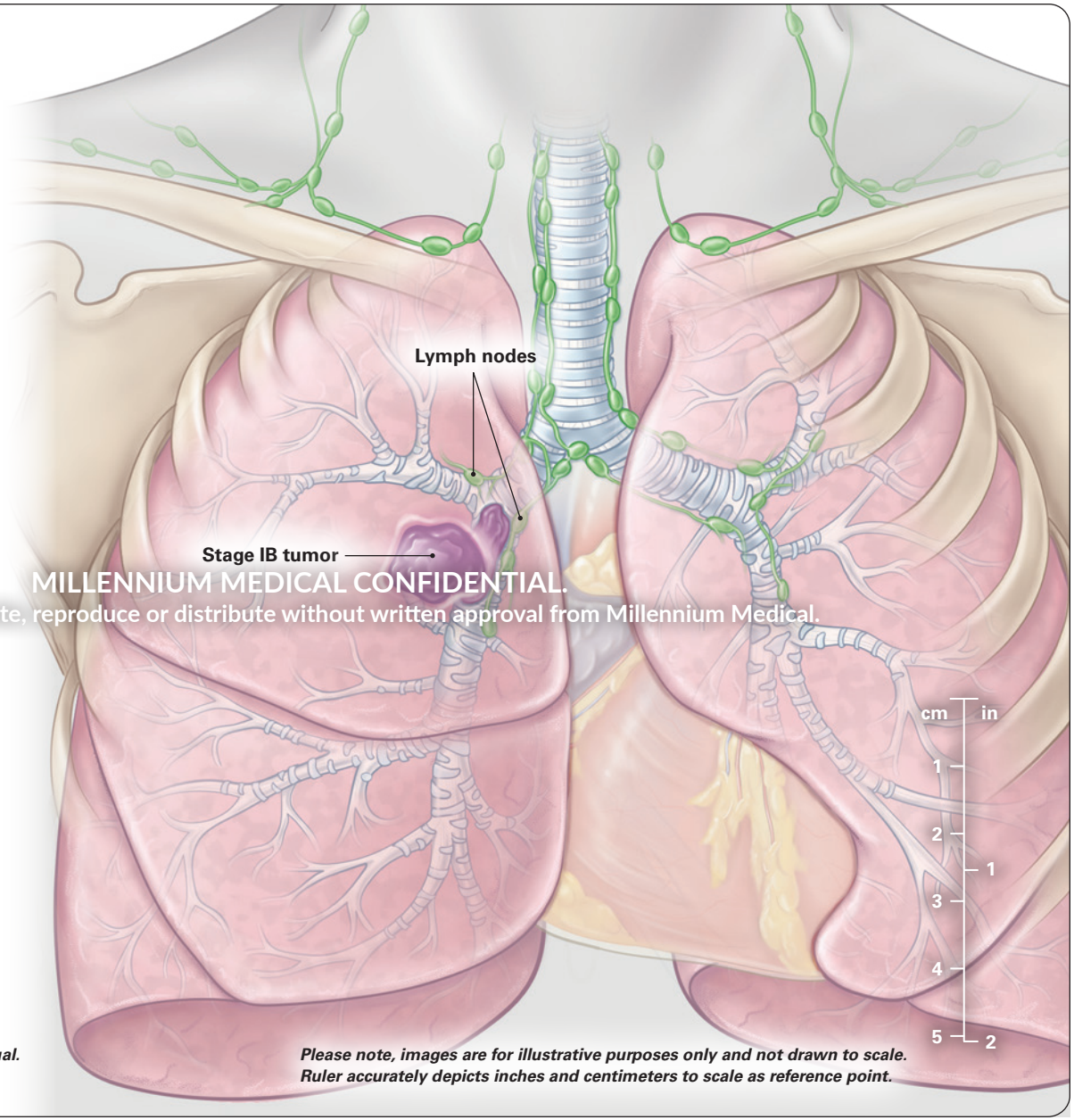
IA[16]

Tumor is **≤3 cm** in greatest dimension, surrounded by lung tissue, and is not in the main bronchus.

IB[16]

Tumor is **>3 cm** but **≤4 cm** or the tumor has either:

- Spread to the main bronchus or visceral pleura
- Contributed to complete or partial collapse of a lung or area of the lobe



**According to AJCC 8th Edition Staging Manual.*

Please note, images are for illustrative purposes only and not drawn to scale. Ruler accurately depicts inches and centimeters to scale as reference point.

Stage I

Stage I tab

Stage II*

There is no metastasis to distant parts of the body.

IIA[16]

The tumor is **>4 cm** but **≤5 cm** in greatest dimension.

IIB[16]

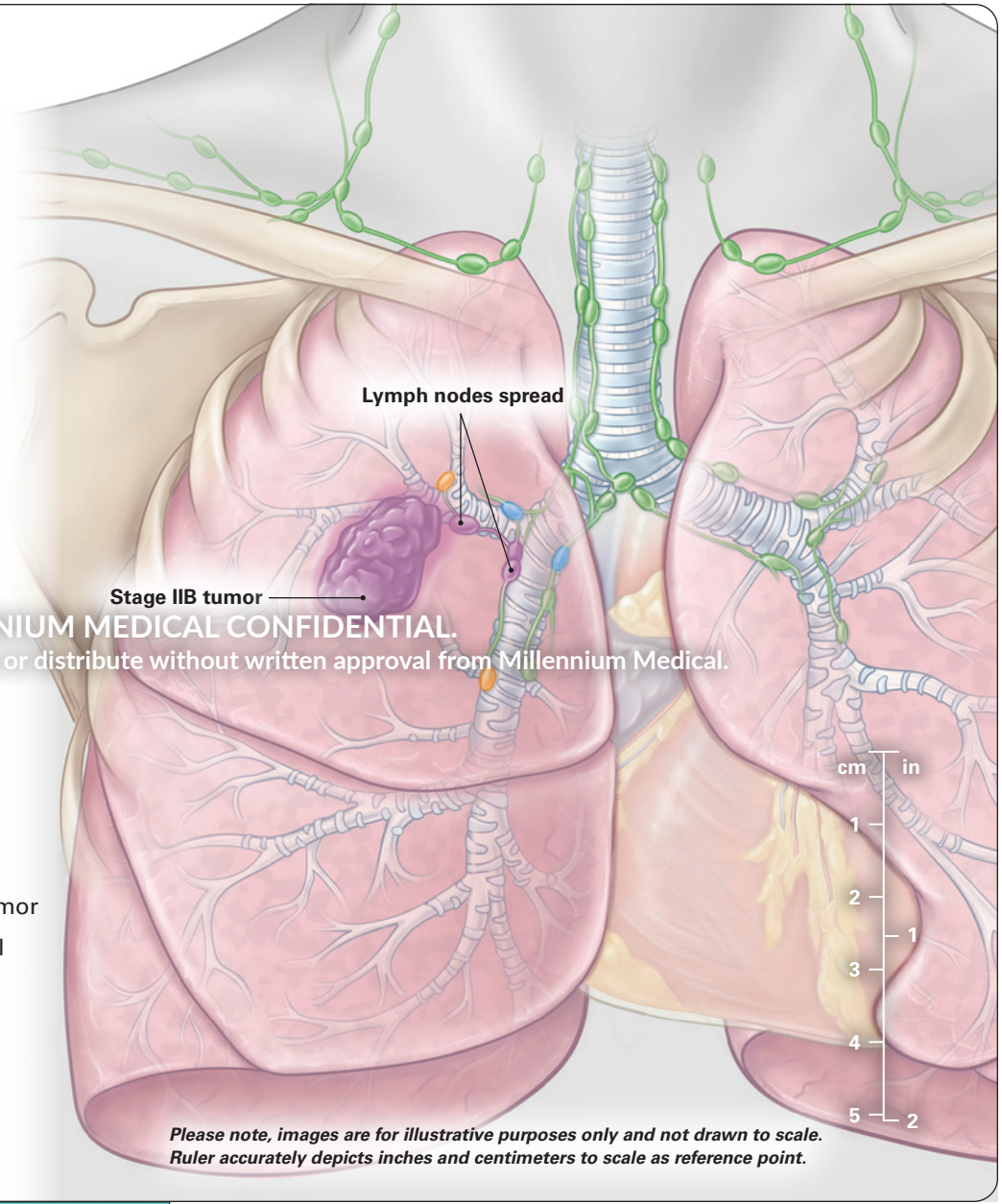
Tumor is **≤5 cm** in greatest dimension with metastasis to the lymph nodes as initial tumor presentation:

- Lymph nodes on the same side (**ipsilateral**) near the bronchi (**peribronchial** and/or
- **Ipsilateral hilar** and **intrapulmonary nodes**

OR

Tumor has not spread to any lymph nodes and size is **>5 cm** but **≤7 cm** in greatest dimension or the tumor has either:

- Additional nodules in the same lobe as the primary tumor
- Invasion of either: chest wall, phrenic nerve, or parietal pericardium



Please note, images are for illustrative purposes only and not drawn to scale. Ruler accurately depicts inches and centimeters to scale as reference point.

**According to AJCC 8th Edition Staging Manual.*

Stage II

Stage II tab

Stage III*

There is no metastasis to distant parts of the body.

IIIA[16]

Tumor can vary in size or with invasion, and has lymph node involvement.[†]

OR

The tumor, without lymph node involvement,[†] has grown to **>7 cm** in its greatest dimension or has either:

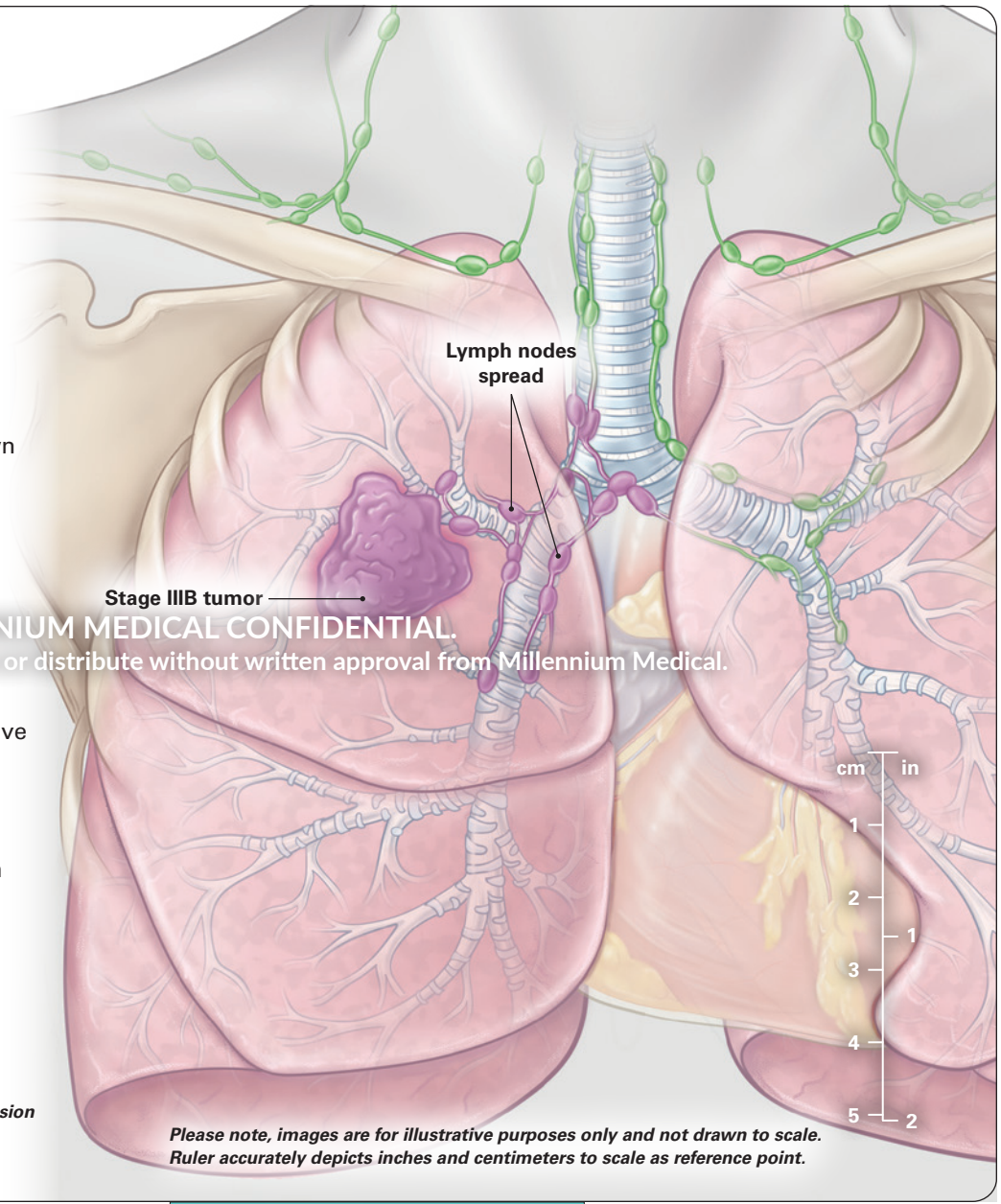
- Invaded nearby structures such as the **diaphragm**[16] (thin muscle below the lungs and heart that separates the chest from the abdomen)[17]
- Separate nodule(s) in a different ipsilateral lobe

IIIB[16]

Tumor can vary in size or with invasion, and has extensive lymph node involvement.[†]

IIIC[16]

Tumor **>5 cm** or with invasion, and has extensive lymph node involvement.[†]



Please note, images are for illustrative purposes only and not drawn to scale. Ruler accurately depicts inches and centimeters to scale as reference point.

**According to AJCC 8th Edition Staging Manual.*

[†]Refer to AJCC 8th Edition Staging Manual for specific definition of invasion and lymph node involvement for this stage.

Stage III

Stage III tab

Stage IV*

IVA[16]

Single metastasis is present in 1 distant organ or:

- Separate tumor nodule(s) in a **contralateral** (opposite) lobe
- Tumor with pleural/pericardial nodules or pleural/pericardial effusion

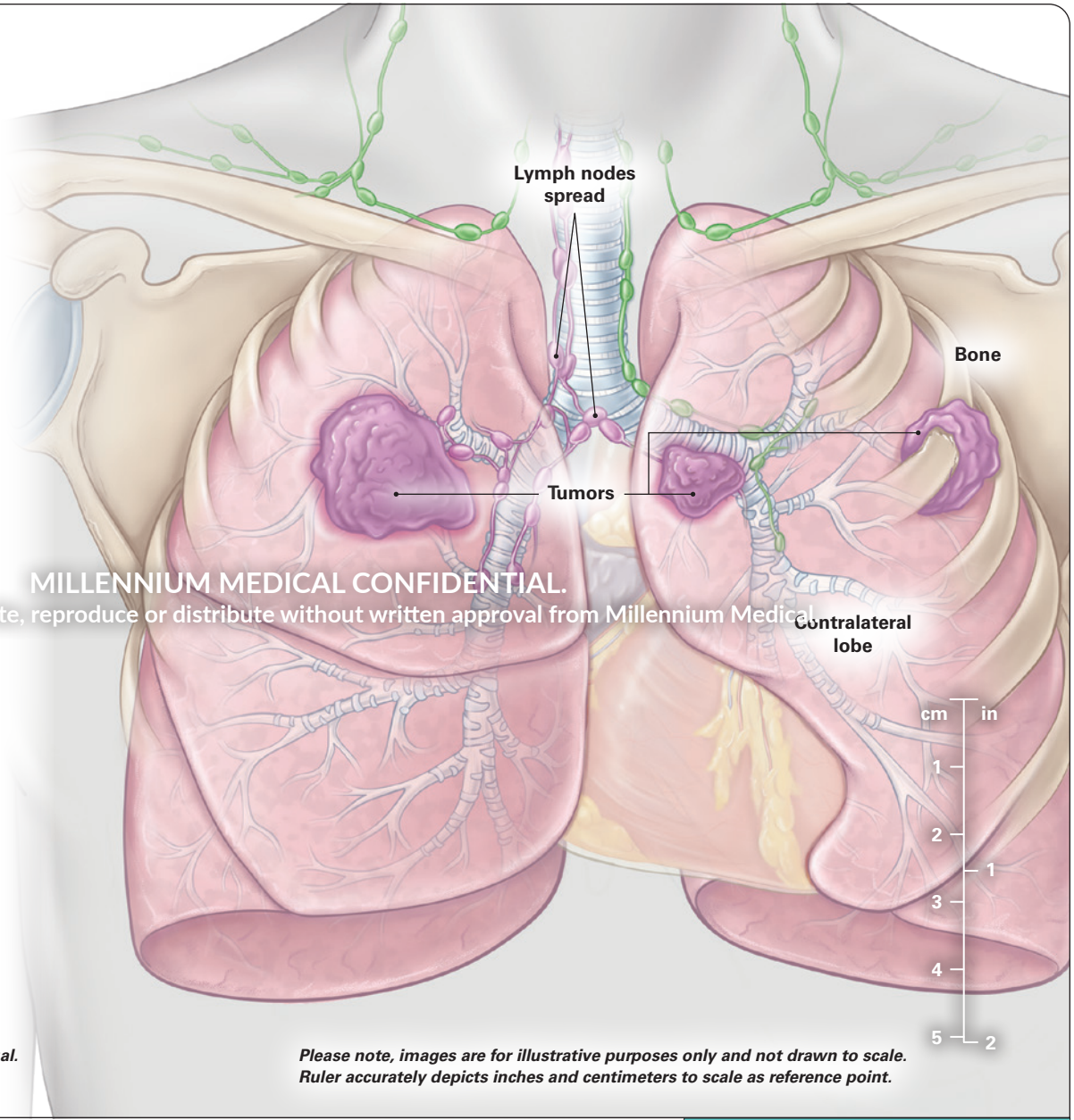
Lymph node metastasis can be regional. This is usually classified into the following zones: mediastinal, bronchial, and supraclavicular (collarbone).

Most common sites of metastatic spread include: brain, bone, adrenal glands, contralateral lung, liver, pericardium, kidneys, and subcutaneous (fatty) tissue.

IVB[16]

Multiple metastases in 1 or more distant organ(s).

**According to AJCC 8th Edition Staging Manual.*



Please note, images are for illustrative purposes only and not drawn to scale. Ruler accurately depicts inches and centimeters to scale as reference point.

Stage IV

Stage IV tab

Biomarkers & Genetic Mutations in Lung Cancer

What Is a Biomarker?[18]

A biomarker is a protein or gene that shows cancer characteristics.

What Is a Genetic Mutation?[19]

A genetic mutation is a change in the cell's normal DNA sequence. This can cause cancer.

Why Are They Important?[18]

Biomarkers and genetic mutations give insight into how well a cancer may (or may not) respond to a certain type of treatment.

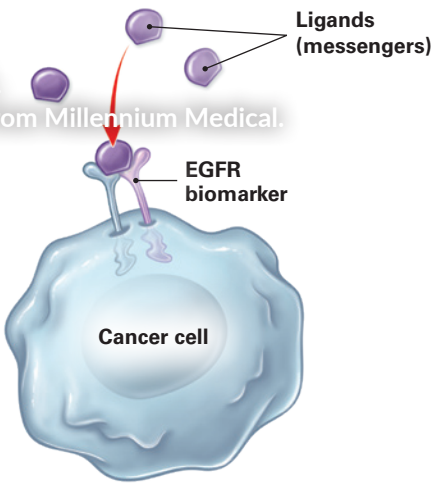
Why Should Patients Get Tested for Biomarkers and Genetic Mutations?[18]

Getting tested for **biomarkers** and **genetic mutations** may be helpful to choose better treatments, and spare treatments that are not helpful.

Examples of Biomarkers and Genetic Mutations That Can Be Detected Include[20]:

- EGFR, ALK, ROS1, BRAF, MET, RET, NTRK, KRAS, G12C, PD-L1, Others

EGFR is an example of a biomarker that may be detected on your cancer cells. When the ligand (messenger) binds to EGFR, it sends a message to the cell to make more cancer cells. Specific drugs can bind to EGFR to block this message, preventing more cancer cells from being made.[21]



Is biomarker testing important for me? ?

Treatment Options

There are several treatment options available. What makes them different is how they attack the cancer.[20]

Chemotherapy	Drug treatment that kills cancer cells or stops them from dividing[22]
Radiation therapy	Cancer treatment used to kill cancer cells or shrink tumors using high-energy rays or the use of radioactive material[23]
Surgery	A procedure that removes cancerous tissue from the body[24]
Immunotherapy	Cancer treatment that uses the body's own immune system, either to increase or decrease activity, to kill cancer cells[25]
Targeted drug therapy	Treatment that attacks proteins responsible for cancer growth[26]

Combination Treatment and Dynamic Plan

A patient may need a **combination** of treatments. Treatment plans are often **dynamic**, meaning that as the cancer changes so do the therapies used to attack it. Your treatment team works together and may include different specialists and health care professionals to manage your care.[20,27]

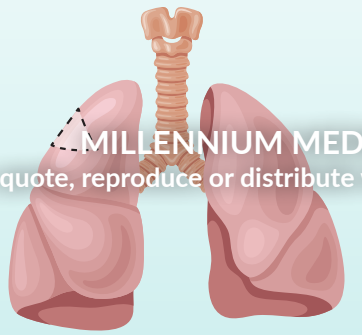
What questions do you have for your provider at this time?

Surgery

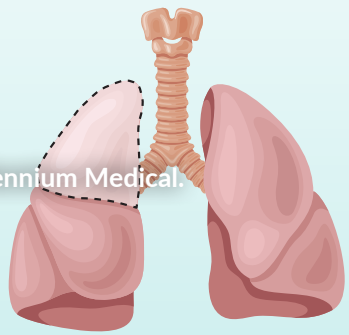
Types of Surgery[28]

There are several different types of lung cancer surgeries; they generally are different based on how much and where tissue is removed.

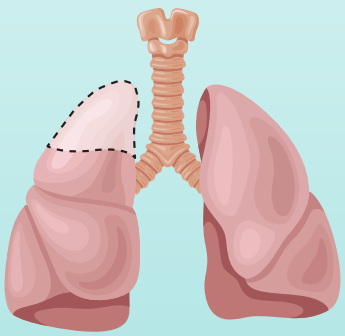
Wedge Resection: removal of a wedge-shaped piece of cancerous lung tissue.



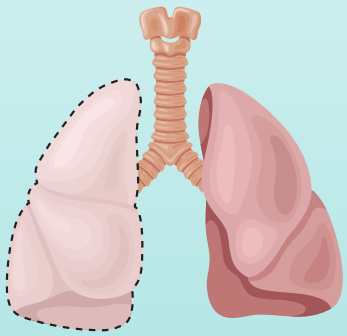
Lobectomy: removal of the lobe of the lung affected by cancer, most common type of lung surgery.



Segmentectomy: surgical removal of 1 to 4 of the segments that make up the lung lobe.



Pneumonectomy: complete removal of a lung.



Factors That Can Affect Your Patient's Health

"Social Determinants of Health" (SDOH) are the conditions under which a person is born, lives, grows, works, and ages. SDOH that cause chronic stress can make it difficult to lead a healthy lifestyle. Understanding your needs can help us offer better care.[29]

Life Factors & Personal Identity Discussion Guide

Health and Life Factors

Transportation[30]

Do you have an active driver's license and access to a personal vehicle?

Do you have access to public transportation or friends and family who can drive you to appointments?

Finances & Employment[30,31]

What is your current employment status?

Do you need help to get health insurance for you or your family?

Do you have trouble paying for medical care?

Food Security[30]

Do you have access to affordable and/or healthy meals?

Are you able to afford meals on a weekly basis?

Housing Security & Utilities[30,31]

Do you have stable and affordable housing?

Do you have access to affordable utility services, such as gas, electricity, water, and oil?

Are there any housing-related issues, including mold, bug infestation, poor heat, and water leaks?

Health Literacy[31]

Do you understand the information/paperwork that is presented to you?

Do you feel that when you look for help that there is a language barrier issue?

How happy are you with how you read?

Do you have any questions about your health, diagnosis, medications, or treatment plan?[31]

Personal Factors That Can Affect Your Care

Consider addressing any items that are important to you with your health care team:

Gender Identity[33]

What are your preferred name and pronouns?

What kind of gender-affirming changes are you undergoing? Are they medical (hormones, surgeries) or social (appearance, clothing, name changes, gender-marker changes)?

Sexual Orientation[36,37]

Would discussing personal identity, relationship status, or sexual function help in medical decision-making?

Cultural/Ethnic Identity[34]

Are there any aspects of your family life that play a role in your overall health or medical decision-making?

Do you have any cultural traditions that play a role in your medical decision-making?

Spirituality[35]

Do you have a religious or spiritual identity?

- If yes, how does it guide your decision-making?

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TENT CARD - BACK PANEL