

UNC CANCER NETWORK
 CANCER TREATMENT IN NORTH CAROLINA
NORTH CAROLINA COMMUNITY COLLEGE
 ONCOLOGY LECTURES

February 19, 2020

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UNC CANCER NETWORK

Which of the following is the leading cause of cancer deaths in North Carolina.

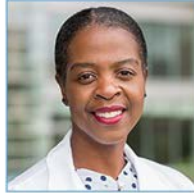
Lung and bronchus	A
Prostate	B
Breast	C
Colorectal	D

Total Results: 0

Answers to this poll are anonymous

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OUR PRESENTER



Marjory Charlot
MD, MPH, MSc

Dr. Marjory Charlot specializes in the medical management of lung cancer with a particular interest in locally advanced and metastatic disease. Her research interests include racial disparities in cancer outcomes, interventions to improve cancer care delivery for medically underserved populations, and the influence of patient and provider characteristics on cancer outcomes. Her most recent project focuses on patient and community engagement to help address low minority patient participation in cancer clinical trials.

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OUR PRESENTER



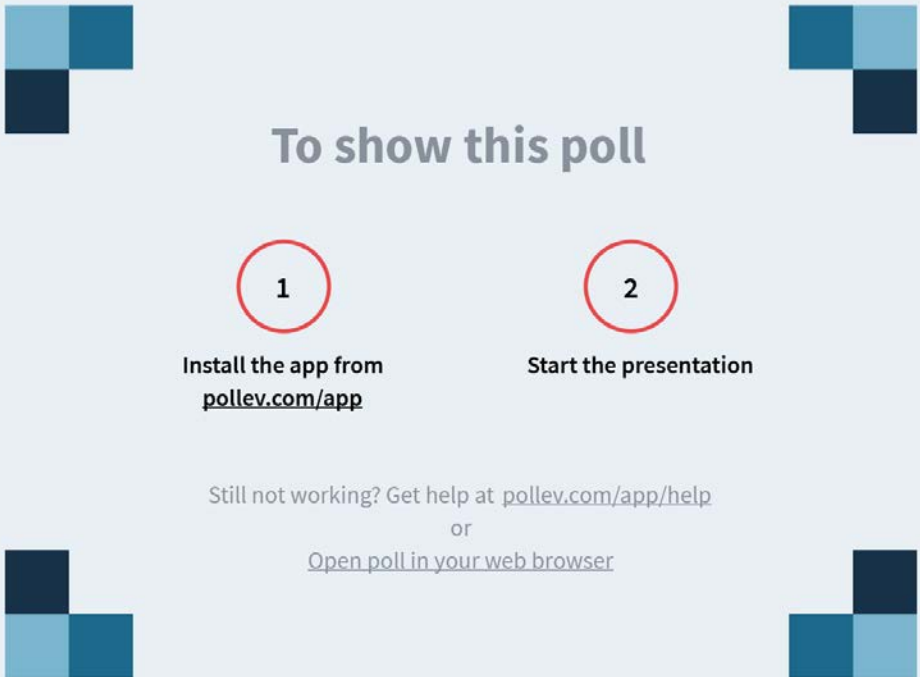
Tammy Allred
RN, OCN

Tammy Allred has worked in different aspects of nursing from the med/surg floor, giving chemotherapy, hospice, clinical trials, and now with lung cancer patients. She says she's finally doing what she loves, combining all her experience in all these areas and navigating patients through all the phases of their lung cancer experience.

The North Carolina native, originally from Chapel Hill, has been working in oncology for over 30 years and loving it. She is one of two lung cancer nurse navigators at the UNC Cancer Center and she is the first person a patient sees.

Allred is known to her colleagues as a hard-working and very caring nurse who always goes the extra mile for her patients and their families. She regularly makes presentations about lung cancer care and treatment to national and regional oncology organizations and she is very active with the North Carolina Lung Cancer Partnership.

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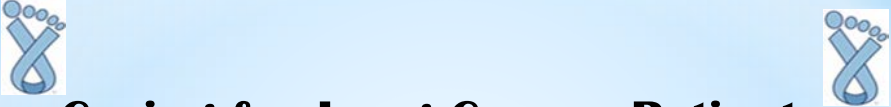
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Caring for Lung Cancer Patients

Dr. Marjory Charlot, MD
UNC Thoracic Oncologist

And

Tammy Allred, RN, OCN
UNC Thoracic Oncology Nurse Navigator



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Objectives

- ❖ Describe the types, stages and diagnostic needs for treatment :
 - Pathophysiology of lung cancers
 - incidence and survival of lung cancer
 - risk factors and signs/symptoms
 - diagnostic tests and screening
- ❖ Discuss the treatment options and side effects management for lung cancer patients ; as well as the emotional impact and needs of patients.
- ❖ Discuss the impact oncology nurse in the improvement outcomes and quality of life in lung cancer patients.
- ❖ Survivorship for lung cancer patients



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Pathophysiology of lung cancers



Small cell lung cancer

- Arises in peribronchial locations and infiltrates the bronchial submucosa.
- Widespread metastases occur early in the course of the disease, with common spread to the mediastinal lymph nodes, liver, bones, adrenal glands, and brain.
- Production of various peptide hormones leads to a wide range of paraneoplastic syndromes; the most common of these are the [syndrome of inappropriate secretion of antidiuretic hormone \(SIADH\)](#) and the syndrome of ectopic adrenocorticotropic hormone (ACTH) production.
- Autoimmune phenomena may lead to various neurologic syndromes, such as [Lambert-Eaton syndrome](#).
- Most cases are found in smokers, however, less than 2% are from non-smokers.

Non-small cell lung cancer Both exposure (environmental or occupational) to particular agents and an individual's susceptibility to these agents are thought to contribute to one's risk of developing lung cancer. In the United States, active smoking is responsible for approximately 90% of lung cancer cases. Occupational exposures to carcinogens account for approximately 9-15% of lung cancer cases. That is further divided further into squamous cell carcinoma, adenocarcinoma, and large cell carcinoma histologies.

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QUESTION!!

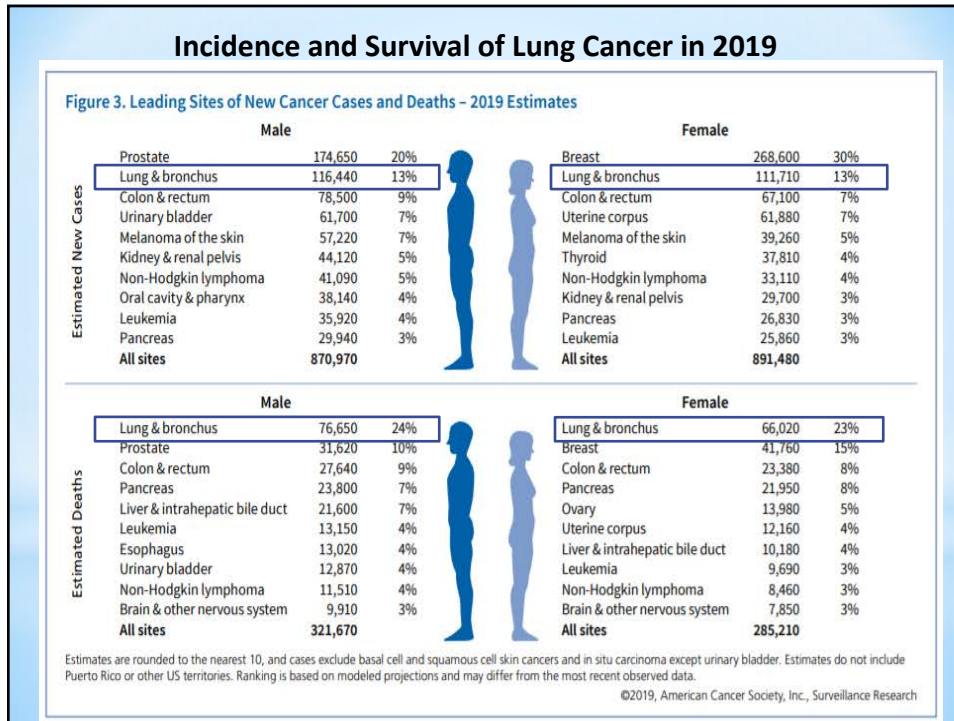
Lung cancer is a smoker's disease and happens only in older aged persons. It never happens to young healthy, nonsmokers. True or False?



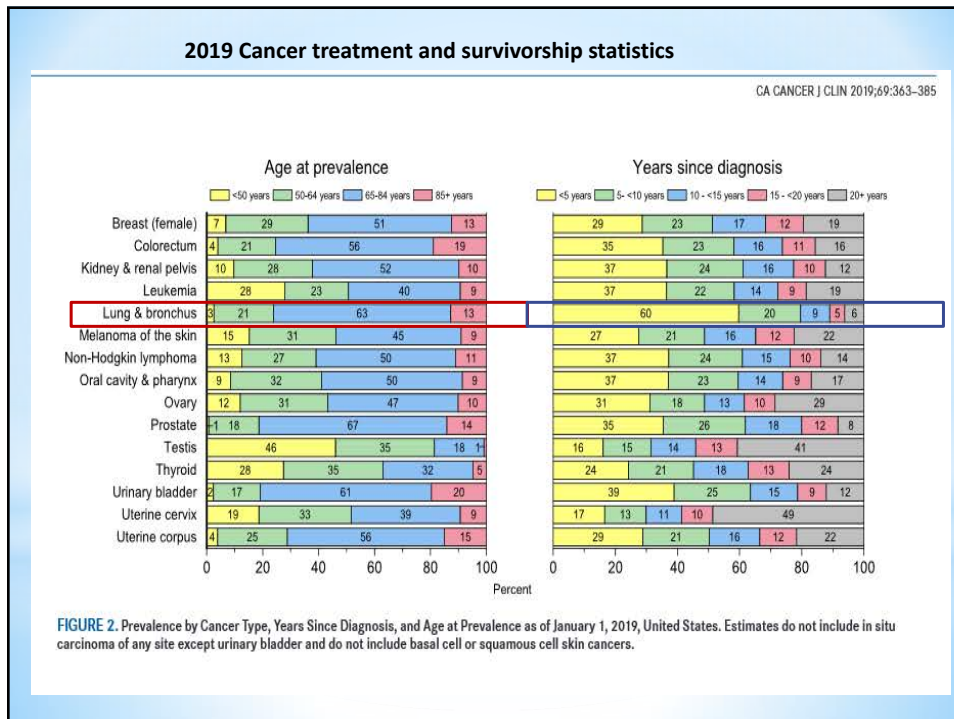
FALSE!!
It is **NOT** a smoker's disease and happens to people of All ages. If you have lungs... you are at risk.



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Cancer Screening




Cervical cancer (via Pap Smear): **Impact : 75% decrease in deaths**

Colorectal cancer (colonoscopy): **Impact: 60% decrease in incidence, 31% decrease in deaths**

Landmarks in Lung Cancer Screening

- February 2015: CMS finalized its guidelines for lung cancer screening; national coverage goes into effect immediately.
- May 2014: The Medicare Evidence & Coverage Advisory Committee voted against recommending national Medicare coverage for lung cancer screening.
- December 2013: The U.S. Preventive Services Task Force recommended annual lung cancer screening in adults aged 55 to 80 years who have a 30 pack-year smoking history and current smokers or those who have quit within 15 years.
- August 2011: The National Lung Screening Trial reports its results in The New England Journal of Medicine: Screening with low-dose computed tomography represented a 20% relative reduction in lung cancer mortality.
- April 2004: The National Lung Screening Trial reached its accrual target.
- September 2002: The National Lung Screening Trial, a U.S. National Cancer Institute-sponsored study, is jointly conducted by Lung Screening Study screening centers.

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National Comprehensive Cancer Network®

NCCN Guidelines Version 1.2020

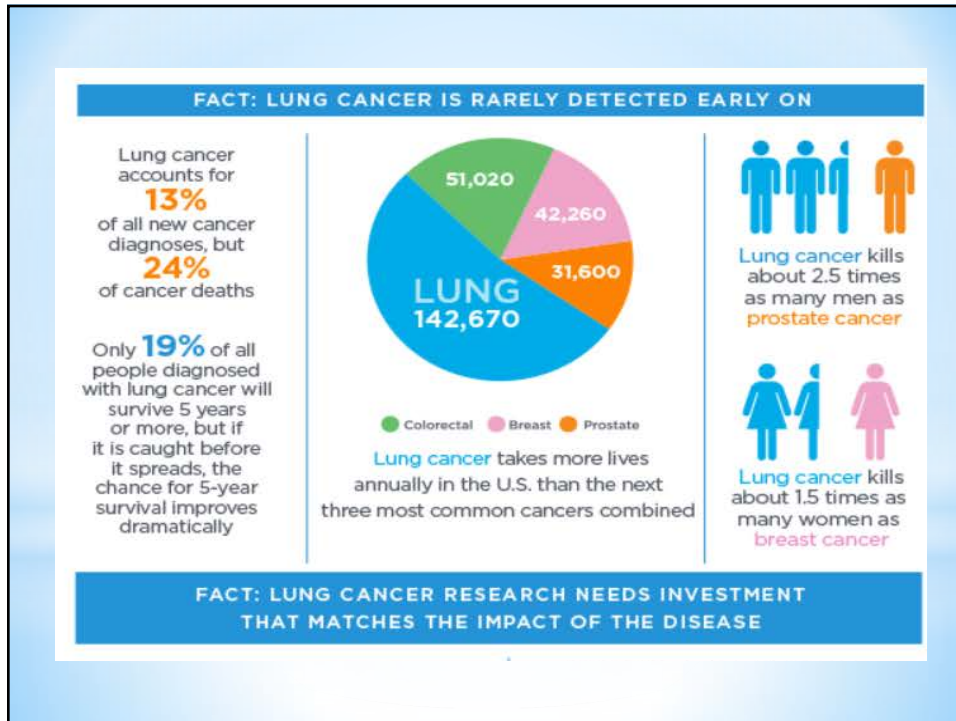
Lung Cancer Screening

[NCCN Guidelines Index](#)
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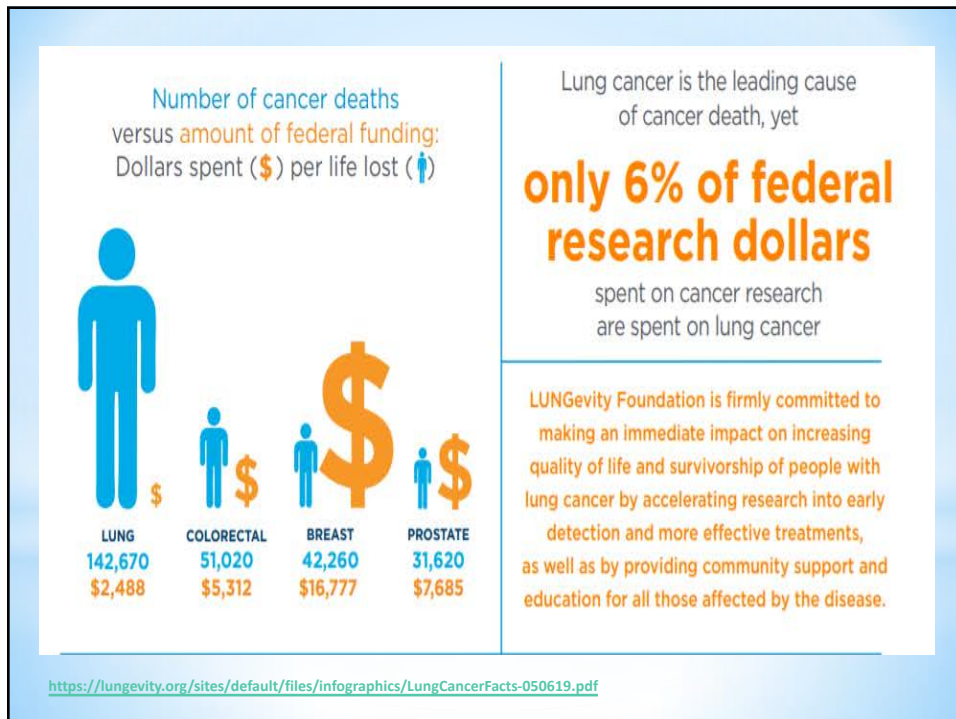
RISK ASSESSMENT ^{a,b}	RISK STATUS	SCREENING
<ul style="list-style-type: none"> • Smoking history^c • Radon exposure^d • Occupational exposure^e • Cancer history^f • Family history of lung cancer in first-degree relatives • Disease history (COPD or pulmonary fibrosis) • Smoking exposure^g (second-hand smoke) • Absence of symptoms or signs of lung cancer (if symptoms, see appropriate NCCN Guidelines) • Functional status to support curative intent treatment • Lung cancer survivors (see Surveillance in the NCCN Guidelines for Non-Small Cell Lung Cancer) 	High risk:^h Group 1 • Age 55–77 y and • ≥30 pack-year history of smoking and • Smoking cessation <15 y (category 1) or Group 2 • Age ≥50 y and • ≥20 pack-year history of smoking and • Additional risk factors (other than second-hand smoke) that increase the risk of lung cancer to ≥1.3% (see footnote i)	In candidates for screening, shared patient/physician decision-making is recommended, including a discussion of benefits/risks ^j → Low-dose CT (LDCT)^k (category 1) → See Screening Findings (LCS-2)
	Moderate risk: • Age ≥50 y and • ≥20 pack-year history of smoking or second-hand smoke exposure ^g • No additional risk factors	In candidates for screening, shared patient/physician decision-making is recommended, including a discussion of benefits/risks ^{i,j} → LDCT^k → See Screening Findings (LCS-2)
	Low risk: • Age <50 y and/or • <20 pack-year history of smoking	Lung cancer screening not recommended
	(No specific criteria listed for this row in the image)	Lung cancer screening not recommended

^aIt is recommended that institutions performing lung cancer screening use a multidisciplinary approach that includes the specialties of thoracic radiology, pulmonary medicine, and thoracic surgery.
^bLung cancer screening is appropriate to consider for high-risk patients who are potential candidates for definitive treatment. Chest x-ray is not recommended for lung cancer screening.
^cAll current smokers should be advised to quit smoking, and former smokers should be advised to remain abstinent from smoking. For additional cessation support and resources, smokers can be referred to <http://www.smokefree.gov>. Lung cancer screening should not be considered a substitute for smoking cessation. Smoking history should document both extent of exposure in pack-years and the amount of time since smoking cessation in former smokers. See also the [NCCN Guidelines for Smoking Cessation](#).
^dDocumented sustained and substantially elevated radon exposure.
^eAgents that are identified specifically as carcinogens targeting the lungs: silica, cadmium, asbestos, arsenic, beryllium, chromium, diesel fumes, nickel, coal smoke, and soot.
^fThere is increased risk of developing new primary lung cancer among survivors of lung cancer, lymphomas, cancers of the head and neck, or smoking-related cancers.

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RISK FACTORS of Lung Cancer

- ✓ **Smoking** is the #1 cause for cancer – not just lung cancer.
- ✓ **Second hand smoke** - live with smokers have a 24% increase in developing lung cancer than those who do not.
- ✓ **Radon/Radioactive dust**
- ✓ **Air Pollution**
- ✓ **Genetic susceptibility** - plays a contributing role in the development of lung cancer, especially in those who develop the disease at a young age.
- ✓ **Familial Predisposition**
- ✓ **Hormonal factors** - new findings that hormones effect risks for lung cancer (i.e. estrogen)
- ✓ **Infectious factors** -TB or other recurrent infections of the lungs
- ✓ **Lung diseases** – COPD is associated with 4-6X the risk of nonsmoker for the development of lung cancer
- ✓ **Arsenic**
- ✓ **Asbestos** - workers who do not smoke have a 5X risk of developing l lung cancer than non-smokers, and workers who smoke have a risk that is 50- 90 X greater than non-smokers
- ✓ **Occupational exposure** – Additional occupational exposures that increase risk include rubber manufacturing, paving, roofing, painting, and chimney sweeping.



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Symptoms and Signs of Lung Cancer	
Symptoms and signs from primary tumor	
Central Tumors	Peripheral Tumors
Cough	Pain
Hemoptysis	Shortness of breath
Shortness of breath	Pleural effusion
Wheezing	Cough
Postobstructive pneumonia	
Symptoms and signs from regional spread	
Superior vena cava obstruction (superior vena cava syndrome)	
Recurrent laryngeal nerve palsy (hoarseness)	
Phrenic nerve palsy (elevated hemidiaphragm and worsening dyspnea)	
Brachial nerve root compression (Horner syndrome)	
Brachial nerve root compression by superior sulcus tumors	
Esophageal compression (dysphagia)	
Airway compression (dyspnea and superior)	
Symptoms and signs from metastatic spread	
Brain metastases	
Spinal cord compression	
Bone pain	
Liver metastases	
Hepatomegaly	
Paraneoplastic syndromes	Commonly associated histology
Hypercalcemia	Squamous cell carcinoma
Trousseau syndrome	Adenocarcinoma
Clubbing	All types
Hypertrophic pulmonary osteoarthropathy	Non-small cell carcinoma
SIADH	Small cell carcinoma
Ectopic ACTH production	Small cell carcinoma
Eaton-Lambert syndrome	Small cell carcinoma
Central nervous system	Multiple
SIADH: Syndrome of inappropriate secretion of antidiuretic hormone	
ACTH: Adrenocorticotrophic hormone	

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STANDARD TESTS FOR DIAGNOSIS OF LUNG CANCER

Endoscopic Ultrasound (EUS)
 Endoscope with ultrasound probe
 Esophagus
 Biopsy needle
 Lymph nodes with cancer
 Cancer

Pulmonary Function Test
 Patient takes a deep breath and blows as hard as possible into tube
 Clip on nose
 Technician monitors and encourages patient during test
 Machine records the results of the respiratory test

Bronchoscopy
 Trachea
 Bronchi
 Cancer

Fine-Needle Aspiration Biopsy of the Lung
 Biopsy needle
 Cancer

CORE Biopsy
 Biopsy needle
 Cancer

PET Scan
 PET/CT scan

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PROGRESS IN LUNG CANCER TREATMENT

1970s SURGERY

1970s RADIATION

1980s CHEMOTHERAPY

1990s CHEMOTHERAPY COMBINATIONS

2000s TARGETED THERAPY

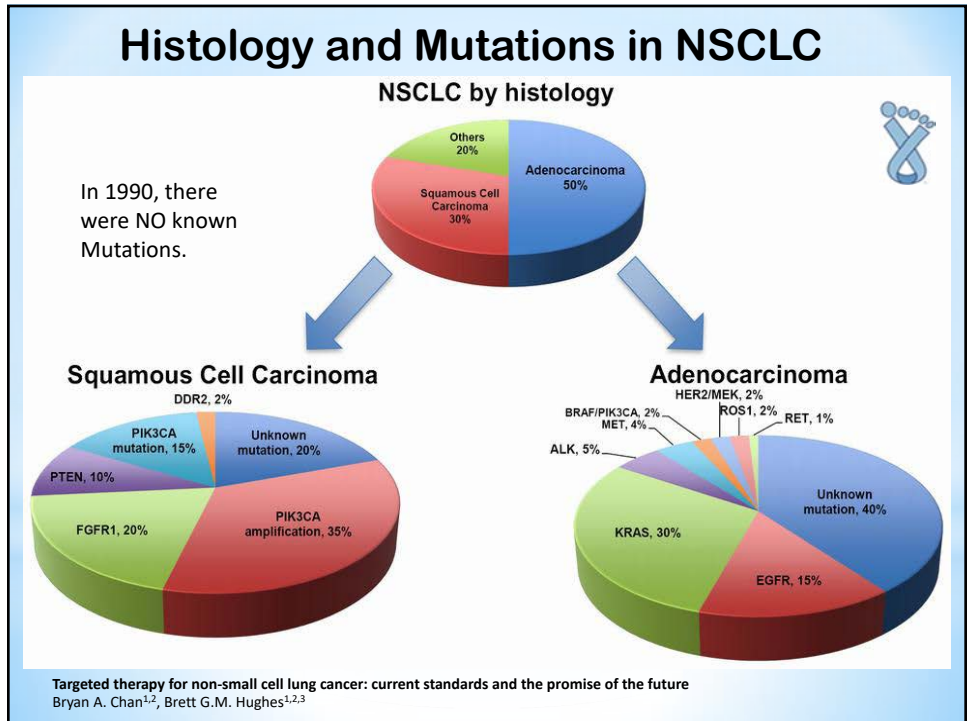
2000s TARGETED THERAPY PLUS CHEMOTHERAPY

2000s NEXT-GENERATION TARGETED THERAPY

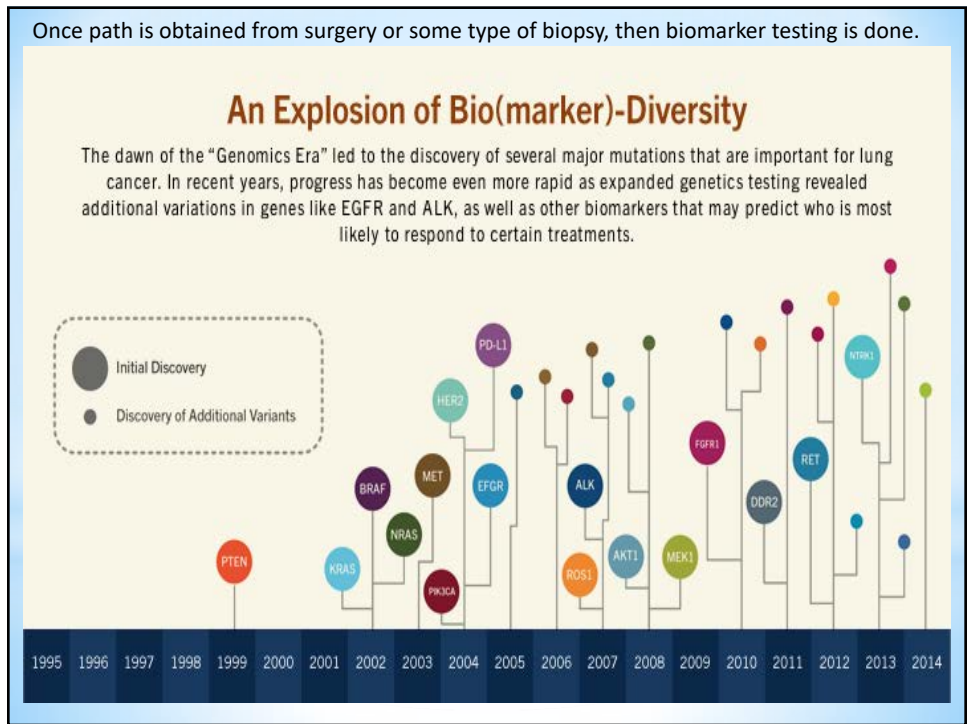
PRESENT IMMUNOTHERAPY

<https://www.gene.com/stories/lung-cancer-looking-back-and-moving-forward>

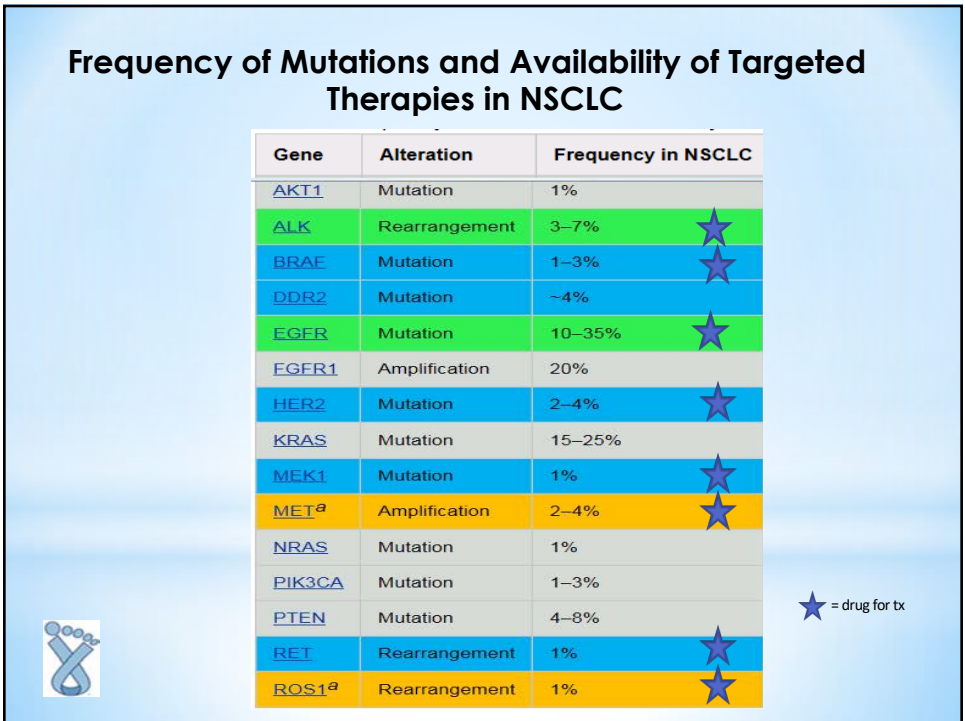
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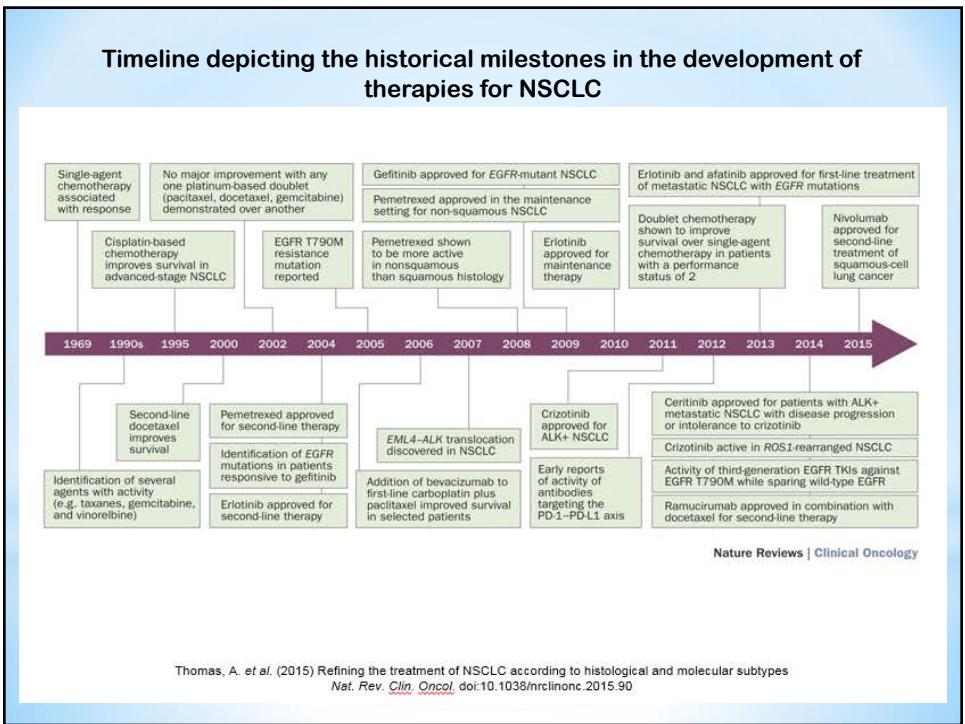
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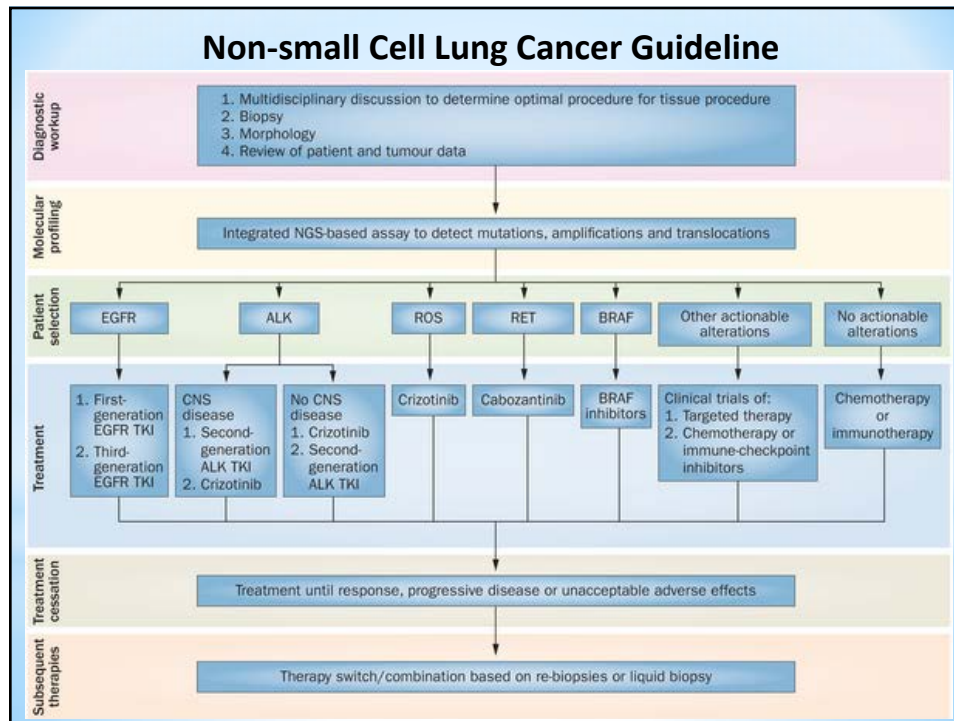
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Challenges of Biomarker Use for Second & Third Line treatment

- ✓ Tumor biopsy usually required for biomarker testing
- ✓ Tissue difficult to obtain in advanced NSCLC patients
- ✓ Re-biopsy in second line often not feasible
- ✓ Genetic variations between primary and metastatic tumors may occur
- ✓ A minority of patients harbor mutations that predict benefit of targeted therapy



Number of patients

1000

500

0

Enrolled patients (N)

Available tumor samples for EGFR mutation analysis

Available tumor samples for EGFR gene amplification analysis

BR.21

30% Average percentage of patients providing tumor samples

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Surgical Candidate Assessment

- ❖ Size and Tumor location (clinically stage I, II, some IIIa)
- ❖ Pulmonary function status
- ❖ Assess Fev1 and DLCO
- ❖ May need exercise study
- ❖ May need perfusion scan
- ❖ Assess cardiac function



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Lung Cancer Stages and Treatments

Stage 1: Localized
 Stage 2: Larger (> 5 cm) or spread to local lymph nodes

Surgery, +/- chemotherapy

Stage 3: Locally advanced

Chemotherapy and radiation, +/- surgery

Stage 4: Advanced/metastatic

Chemotherapy +/- palliative radiation

Brain
 Tumor
 Bone
 Liver
 Right lung
 Adrenals
 Left lung

Lung Cancer: Stage, Treatments and Targeted Therapies - David Barbie, MD, Lowe Center for Thoracic Oncology, Dana-Farber Cancer Institute, November 2, 2013

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Patient Characteristics to Consider in Treatment Decisions

- ❖ Age
- ❖ Co-morbidities
- ❖ PS 0, 1 vs. PS 2
- ❖ Non-squamous vs. squamous histology
- ❖ Mutation positive vs. mutation wild type
 - ❖ Principally EGFR
- ❖ Non-smoker vs. smoker



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Which of the following statements are true???

- Lung cancer is the leading cause of all cancer deaths
- Lung cancer is only diagnosed among smokers
- Lung cancer screening is recommended for adults age 55-80 who have a 30 pack year smoking history and is a current smoker or quit within the last 15 years.
- A and B only
- A and C only
- None of the above



And the answer is.... e. A and C

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Radiotherapy in Stage I /II NSCLC

- ❖ While surgery is the most beneficial therapy radiation alone has been used in patients that can not tolerate surgery.
- ❖ Smaller tumors have better survival outcomes.
- ❖ In larger tumors cure is rare but local control may be obtained.
- ❖ Co-morbidities also influence survival rates
- ❖ Has been used to preoperatively but with little increase in survival benefit
- ❖ Cyberknife radiation can be done – must have fiducials placed via bronchoscopy



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Radiotherapy in Stage III NSCLC

- ❖ Traditional Dosing 1.8 – 2.0 Gy/ day in 2 dimensions to a total dose of 60 Gy standard of care until late 1990s
- ❖ Clinical trials have been ongoing looking at dosing up to 90 Gy
- ❖ Trials have looked at sequential vs concurrent chemo/rads with results showing that concurrent has better outcomes (sequential – happens one after the other. Concurrent – at same time. Can be more toxic)
- ❖ Trials have also looked at hyperfractionation which also seem to have better outcomes (dose is given twice a day rather than once)
- ❖ Conformal 3D radiotherapy is considered the new standard of care (tighter fields / less toxicity)



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Radiotherapy In Stage IV NSCLC

- ❖ Radiotherapy is used to treat brain metastasis and painful bone metastasis
- ❖ Prophylactic with small cell lung cancer – to brain
- ❖ Occasionally radiotherapy may be used to treat pneumonias caused by tumor obstruction resulting in cough, SOB and hemoptysis
- ❖ Stage IV radiotherapy is **always** palliative



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Radiation Patient and Nursing Care

- ❖ Assess patient and family's knowledge regarding treatment process
- ❖ Teach family about treatment plan and appropriate side effects
- ❖ Assess for skin changes during radiation - be sure patients are aware to monitor skin changes and prevent breakdown
- ❖ Assess for esophagitis in patients undergoing mediastinal radiotherapy
- ❖ Assess for pain management
- ❖ Assess for dietary interventions— be sure patient is able maintain intake of fluids and nutritional intake



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Small Cell Lung Cancer

- ❖ Most common in Smokers. Less than 2% are never smokers.
- ❖ Described in two stages : Limited – confined to chest;
Extensive - outside the chest
- ❖ Limited stage disease- disease confined to the chest that can be encompassed in one radiation port ; Extensive stage disease – outside of one radiation port.
- ❖ 20% cure rate for Limited Stage (LS) (only if caught in limited stage)
- ❖ Overall response rate 50-75%
- ❖ Untreated survival 6 weeks ; Treated survival ~9mo
- ❖ Most aggressive of all lung cancer types



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Treatment Options - Small Cell

- ❖ **Limited Stage Disease (LS)**- Chemotherapy in combination with radiation therapy
- ❖ **Extensive Stage Disease(ES)**- Chemotherapy and radiation to any painful areas for pain control
- ❖ **Chemotherapy used in SCLC:** Cisplatin + Etoposide(VP16) or Irinotecan; Carboplatin/ VP16 (Etoposide), Carboplatin/Cisplatin + Paclitaxel; Adriamycin + Cytosan.
- ❖ **LS** – prophylactic CRT is usually recommended; **ES**- radiotherapy may be used palliative (SVC, Brain mets, bone mets)
- ❖ **Clinical trials**



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Small cell Lung Cancer

PRINCIPLES OF SYSTEMIC THERAPY*

Systemic therapy as primary or adjuvant 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 systemic therapy + RT, cisplatin/etoposide is recommended (category 1).
 - ▶ The use of myeloid growth factors is not recommended during concurrent systemic therapy plus radiotherapy (category 1 for not using GM-CSF).⁴
- Extensive stage (maximum of 4–6 cycles):¹
 - ▶ Carboplatin AUC 5–6 day 1 and etoposide 100 mg/m² days 1, 2, 3⁵
 - ▶ Cisplatin 75 mg/m² day 1 and etoposide 100 mg/m² days 1, 2, 3⁶
 - ▶ Cisplatin 80 mg/m² day 1 and etoposide 80 mg/m² days 1, 2, 3⁷
 - ▶ Cisplatin 25 mg/m² days 1, 2, 3 and etoposide 100 mg/m² days 1, 2, 3⁸
 - ▶ Carboplatin AUC 5 day 1 and irinotecan 50 mg/m² days 1, 8, 15⁹
 - ▶ Cisplatin 60 mg/m² day 1 and irinotecan 60 mg/m² days 1, 8, 15¹⁰
 - ▶ Cisplatin 30 mg/m² days 1, 8 and irinotecan 65 mg/m² days 1, 8¹¹

Subsequent systemic therapy:[†]

- Clinical trial preferred.
 - Relapse ≤6 mo, PS 0-2:
 - ▶ Topotecan PO or IV^{12,14}
 - ▶ Irinotecan¹⁵
 - ▶ Paclitaxel^{16,17}
 - ▶ Docetaxel¹⁸
 - ▶ Temozolomide^{19,20}
 - ▶ Nivolumab ± ipilimumab^{21,22}
 - ▶ Vinorelbine^{23,24}
 - ▶ Oral etoposide^{25,26}
 - ▶ Gemcitabine^{27,28}
 - ▶ Cyclophosphamide/doxorubicin/vincristine (CAV)¹²
 - ▶ Bendamustine (category 2B)²⁹
 - Relapse >6 mo: original regimen^{30,31}
- Consider dose reduction or growth factor support for patients with PS 2

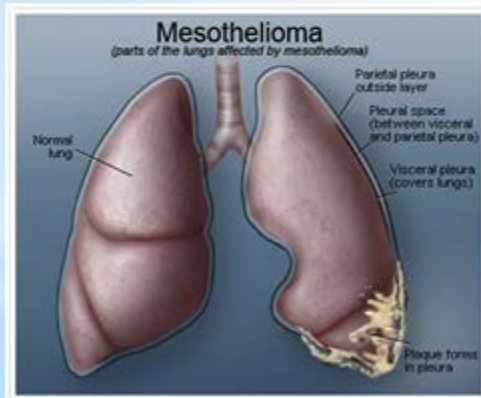
Response Assessment SCL-E 2 of 3

References on SCL-E 3 of 3

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* Mesothelioma

Aggressive cancer affecting the membrane lining of the lungs and abdomen



- Rare type of lung cancer: ~2,000 new cases/year in the U.S.
- 80 percent of cases are the result of asbestos exposure
- Currently no known cure
- treatments such as surgery and chemotherapy can help to improve prognosis
- Prognosis 1-2 years with treatment

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True or False??



Radiation in Stage IV Metastatic Lung cancer can be a curative treatment




FALSE
Metastatic lung cancer, stage IV is never curable. It is only used as a **palliative therapy**.

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Nursing Care for Lung Cancer Patients

To optimize their quality of life, patients need to be aware of ways to control their symptoms and side effects of their treatments through...

- ❖ **Proper nutrition** – Educate patients the need of good diet and adequate hydration. Small frequent meals. High calorie foods to prevent weight loss. Monitor for weight loss and look for early interventions. Educate the patient early in the needs and ways to prevent alterations in taste and weight loss.
- ❖ **Adequate rest** – monitor for sleeplessness due to medication interactions, depression, anxiety..etc. When patients come in to clinic, assess sleep patterns. To prevent fatigue, some studies show low impact exercise prevents fatigue. Instruct patients to not take more than 1 nap a day and no more than 30 minutes at a time.
- ❖ **Managing pain and side effects** – When starting on pain medications, make sure patients understand side effects and monitor control of pain with medications. Keep pain log to see if changes are needed.



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Nursing Care for Lung Cancer Patients

- ❖ **Controlling anemia** – monitor labs closely and question patient on visit to see if having signs/symptoms – i.e., Shortness of breath, fatigue, weakness, etc..
- ❖ Obtaining **physical therapy** if needed – question patient on visits about his daily activity and any changes in ambulating and transfers, or falls.
- ❖ **Emotional/social support** and meeting spiritual needs– monitor for symptoms for depression, family interactions, family attending with patient on visits, offer information on support groups and other community activities with patients of similar needs. Identify depression or depressive symptoms and address as needed.
- ❖ **Educate patients and family about treatment related side effects.** Making them aware of the side effects that may occur or ways to prevent/treat them, makes them more accountable for their own health and needs. This can hopefully prevent unnecessary ER visits or hospital admissions.



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Oncology Emergencies in Lung Cancer

SUPERIOR VENA CAVA SYNDROME- SVCS

- ❖ develops in approximately 3% to 15% of patients with lung cancer.
- ❖ four times more likely to occur in patients with right- versus left-sided lesions
- ❖ Presents with: facial edema or erythema, dyspnea, cough, orthopnea, or arm and neck edema. Also may include hoarseness, dysphagia, headaches, dizziness, syncope, lethargy, and chest pain.
- ❖ symptoms may be worsened by positional changes, particularly bending forward, stooping, or lying down.
- ❖ **Common findings** : edema of the face, neck, or arms; dilatation of the veins of the upper body; and plethora or cyanosis of the face. Periorbital edema may be prominent. Also may have laryngeal or glossal edema, mental status changes, and pleural effusion (more commonly on the right side).
- ❖ Treatment includes: radiotherapy, chemotherapy, thrombolytic therapy and anticoagulation, expandable wire stents, balloon angioplasty, and surgical bypass.
- ❖ Most patients derive relief from obstructive symptoms which may be radiation or chemotherapy and also when treated with diuretics and steroids



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Oncology Emergencies in Lung Cancer

Paraneoplastic Syndrome

- ❖ Anorexia, weight loss (cachexia):
 - most common presenting symptoms of ANY cancer. Loss of greater than 10% of baseline weight. No appetite or desire to eat. (Hormonal supplement, steroids or herbal treatments).
- ❖ Hormonal
 - SIADH (low sodium - nausea, vomiting, headache, weakness, muscle cramping, decreased appetite, confusion, N/V, diarrhea, decreased output and increase thirst). Common in small cell lung cancer. Require supplements, fluid restriction, chemotherapy and other medications (Demeclocycline- tetracycline derivative.)
- ❖ Hypercalcemia
 - high calcium – confusion, abdominal pain, renal stones, bradycardia, anorexia, N/V, dehydration, pruritus. present in advanced disease with bone mets
 - Tx: Hydration, bisphosphonates
- ❖ Deep venous thrombosis or Pulmonary embolism
- ❖ Anemia - common in advanced disease or related to treatment.
- ❖ WBC elevation -can be elevated as a direct response to the cancer (like an inflammatory response) in some patients. May see the WBC level drop as patient responds to treatments.



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Oncology Emergencies in Lung Cancer

Pericardia Effusion/ Pericardial Tamponade

- ❖ Abnormally large accumulation of fluid within the pericardial sac.
- ❖ Amounts range from 200 cc – 1800 cc (normal fluid amount is 15-50cc)
- ❖ Can be caused by disease, radiation effects on heart or chemotherapy.
- ❖ Tamponade results when the heart is compromised from increase amount of fluid and heart can no longer function properly.
- ❖ Signs/symptoms depend on rate of the accumulation: fatigue, mild dyspnea, orthopnea, and cough. Asymptomatic if accumulates slow, or may decompensate and critically ill if onset is rapid. Vague retrosternal chest pain that may be severe in supine position with palpitations.
- ❖ More fluid = more pronounced symptoms. May include worsening dyspnea, cough, peripheral edema, and possibly low grade fever.
- ❖ Severe tamponade =increase in anxiety, restless and confusion.
- ❖ Treatment –drain the fluid and restore cardiac function; prevention of reaccumulation of fluid; treat the cancer that is the underlying cause. Pericardial catheter may be placed and monitor the re-accumulation of the fluid. Pericardiocentesis may be the definitive treatment. Surgical intervention includes pericardial window or pericardiectomy.



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Oncology Emergencies in Lung Cancer

Pleural Effusion

- ❖ Excess accumulation of pleural fluid within the pleural space and a common complication of cancer
- ❖ Malignant pleural effusion is common – fluid may appear to be exudate
- ❖ Symptoms depend on the amount of fluid present and rate of reaccumulation: shortness of breath, dry cough, pleuritic chest pain, orthopnea, ipsilateral shoulder pain or discomfort
- ❖ Can become emergent when large amounts of fluid are present and a mediastinal shift may exist that can lead to hemodynamic compromise. If mediastinal shift occurs, trachea may deviate to the opposite side. Decreased, absent breath sounds, or rub may be heard.
- ❖ Diagnosed with CXR or CT scan
- ❖ Treatment – thoracentesis to drain off fluid, placement of pleurex catheter, or pleurodesis (sclerosing of the pleura with talc) or pleurectomy



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Oncology Emergencies in Lung Cancer

Malignant Spinal Cord Compression

- ❖ True neurologic emergency. Without prompt intervention and treatment, may result in paralysis or loss of bowel/bladder control
- ❖ Symptoms depend on site of met and amount of tumor invasion. Back pain is usually presenting symptom. Pain is localized (at or near site of tumor), or radicular (from irritation of nerve root from compression); shooting pain or burning pain worse with cough or movement. Thoracic vertebrae will cause bilateral pain where cervical or lumbar may be unilateral.
- ❖ Compression pain is worse with lying flat - arthritic pain is relieved with lying flat.
- ❖ Palpation of the spine reveal tenderness at the level of tumor involvement.
- ❖ Diagnosed with plain x-ray of spine, bone scan, CT or MRI (best images are obtained via MRI)
- ❖ Treatment – Surgery is for lesions with spinal instability, compression from bone fragments and radioresistant areas, or significant pain. Medical management includes – corticosteroids, pain control, radiation therapy and possibly kyphoplasty.



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Survivorship in Lung Cancer

- ❖ The 1 and 5 year relative survival rates for lung cancer are 44% and 17%, respectively.
- ❖ Only 15% of lung cancers are diagnosed at an early stage or locally, for which the 5 year survival rate is 54%.
- ❖ More than half (57%) are diagnosed at a distant stage (metastatic), for which the 1 and 5 year survival is 26% and 4%, respectively.
- ❖ The 5 year survival for small cell lung cancer is 6%, significantly lower than that of NSCLC (21%).
- ❖ BUT rates are changing with improved therapies and immunotherapies



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QUESTIONS?



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Resources



<p>UNC Lineberger Cancer Center www.cancer.med.unc.edu</p>	<p>NC Lung Cancer Initiative www.lungcancerinitiativenc.org</p>
<p>Cancer Grace CANCERGRACE.org</p>	<p>Never Smokers with Lung Cancer www.neversmokers.com</p>
<p>American Cancer Society www.cancer.org</p>	<p>Lung Cancer Alliance www.lungcanceralliance.org</p>
<p>National Cancer Institute www.cancer.gov</p>	<p>I CAN COPE American Cancer Society 1-800-ACS-2345</p>
<p>Cancer Care www.cancercares.org</p>	<p>Chemocare.com</p>
<p>NC Radiation Protection http://www.ncradiation.net/</p>	

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What Cancer Cannot Do

Cancer is so limited...
 It cannot cripple love.
 It cannot shatter hope.
 It cannot corrode faith.
 It cannot eat away peace.
 It cannot destroy confidence.
 It cannot kill friendship.
 It cannot shut out memories.
 It cannot silence courage.
 It cannot reduce eternal life.
 It cannot quench the spirit.

Author unknown

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UNC CANCER NETWORK

UNC Cancer Network Telehealth Team

Tim Poe, Director
Mary King, Operational Coordinator
Veneranda Obure, A/V Support Engineer
Jon Powell, PhD, Continuing Education Specialist


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UPCOMING LIVE LECTURES



**NORTH CAROLINA
COMMUNITY COLLEGE**

ONCOLOGY LECTURES



**Live
Lecture**

March 18

12:00 PM


Oncology Nutrition

Jennifer Spring, RD, CSO, LDN

For a complete listing and details on coming events visit:
www.unccn.org/events


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SELF-PACED, ONLINE COURSES



**NORTH CAROLINA
COMMUNITY COLLEGE**

ONCOLOGY LECTURES



**Self-Paced,
Online Course**

**Caring for the Patient
with Breast Cancer**

Amy DePue, BSN RN OCN CBCN

Betsy Blanton, BSN RN OCN

Lea McDonnell, BSN RN

Emily Riddle, BSN RN

Betsy Wehe, Betsy Wehe, BSN RN OCN

**Caring for the Patient
with a GI Cancer**

Julienne S. Harris, RN, MSN, FNP-C

Today's lecture will be available in March 2020
as a **FREE**, Self-Paced, Online Course

For a complete listing and details on coming events visit:
www.unccn.org/events

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Cancer Conversations lectures are a FREE offering for your patients and their families.
No continuing education credit is available for Cancer Conversations lectures.

CANCER CONVERSATIONS



Understanding
Ovarian Cancer

Victoria Bae-Jump, MD, PhD

February 28

12:00 PM

For a complete listing and details on upcoming events, visit:

www.unccn.org/community-events

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THANK YOU FOR PARTICIPATING!

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