

Lung Cancer 2018: New Hopes and New Challenges

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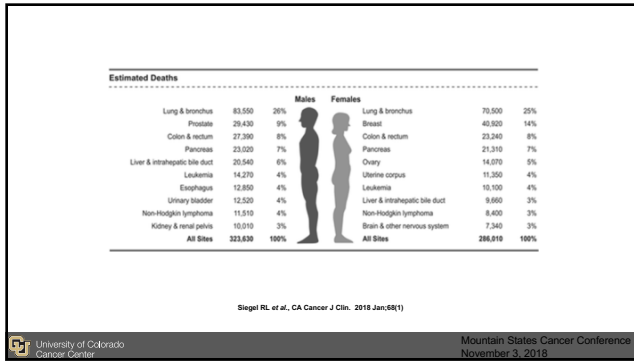
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Disclosures

Employee – Editorial Contributor, Elsevier, PracticeUpdate.com
Honoraria – Takeda

Objectives



- Review guidelines for lung cancer screening
- Discuss therapeutic approaches to lung cancer
- Discuss potential clinical scenarios of patients on therapy you may encounter the ED, urgent care, or routine clinic visits



Lung Cancer Screening

What is the recommended test for lung cancer screening?

- Sputum sample x 3
- Low dose CT scan
- Chest x-ray
- None


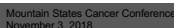



Lung Cancer Screening Evidence

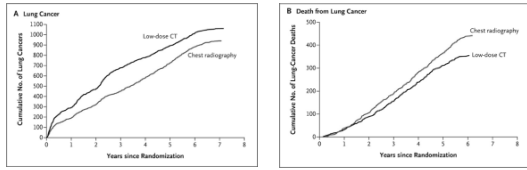
<p>NLST</p> <ul style="list-style-type: none"> US Based 53,454 patients randomized to annual LDCT or CXR x 3 years 	<p>NELSON</p> <ul style="list-style-type: none"> Europe based 15,792 patients randomized to annual LDCT or no screening
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NLST Research Team, N Engl J Med 2011; 365

De Koning HJ et al., World Conference on Lung Cancer, Plenary Presentation, 2015

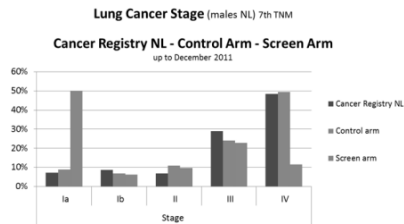



Lung Cancer Screening Evidence

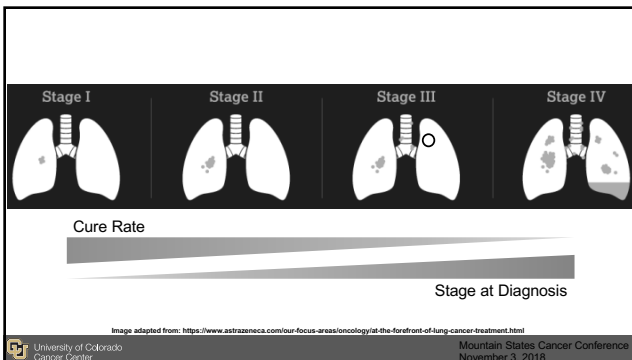


NLST Research Team, N Engl J Med 2011; 365

Lung Cancer Screening Evidence

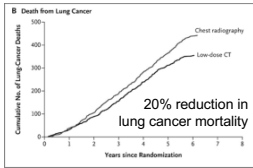


De Koning HJ et al., World Conference on Lung Cancer, Plenary Presentation, 2018



Lung Cancer Screening Evidence

NLST



NLST Research Team, N Engl J Med 2011; 365

NELSON

- Men: 26% reduction in lung cancer mortality
- Women: 39-61% reduction in lung cancer mortality

De Koning HJ et al., World Conference on Lung Cancer, Plenary Presentation, 2018

Lung Cancer Screening Patient Eligibility for Medicare

- Age 55 – 77
- Current smoker or quit within the last 15 years
- Smoking history \geq 30 pack years
- Discuss risks and benefits with PCP (1st screen only)
- Annual LDCT until patient no longer meets criteria

Lung Cancer Screening Pros and Cons

	Mammography	Low-dose CT Lung Cancer Screening
False positive rate	10-12%	20-25%
Number of individuals need to be screened in order to save one life	~800-900	320

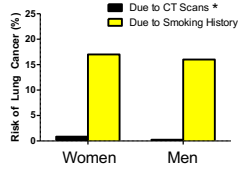
- False Positive Patients
 - 90% required additional imaging only
 - 10% had a procedure or biopsy
- *Image analysis and algorithm has improved

NLST Research Team, N Engl J Med 2011; 365

Lung Cancer Screening

Patient Questions

Radiation exposure from 15 years of screening?

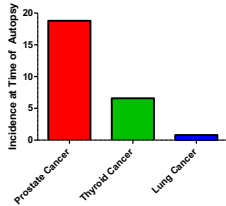


NLST Research Team. *N Engl J Med* 2011; 365
Gutierrez A et al. *Semin Intervent Radiol*. 2013 Jun; 36(2)

Lung Cancer Screening

Patient Questions

Over diagnosis of clinically silent lung cancer?



Stamatou K et al. *Prostate*. 2005 Sep 1;66(12)
Sliu H et al. *Cancer*. 1999 Nov 1;84(9)
McFarlane et al. *Chest*. 1996 Oct 96(4)

Empty box for patient questions.

Lung Cancer Staging

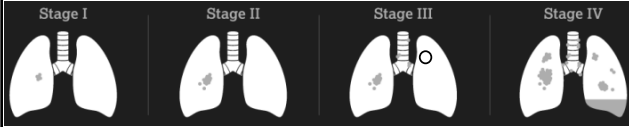
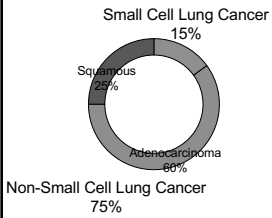


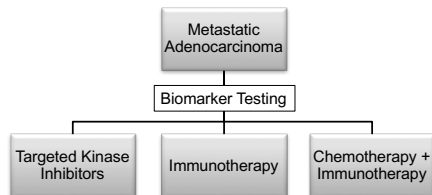
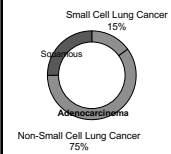
Image adapted from: <https://www.astrazeneca.com/our-focus-areas/oncology/at-the-forefront-of-lung-cancer-treatment.html>

Determining Treatment

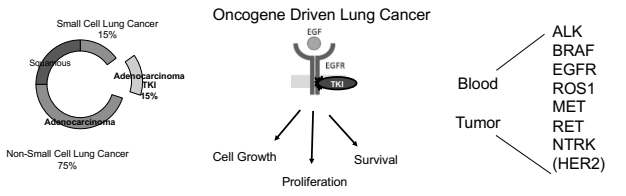


- Stage
- Patient fitness
- Biomarkers

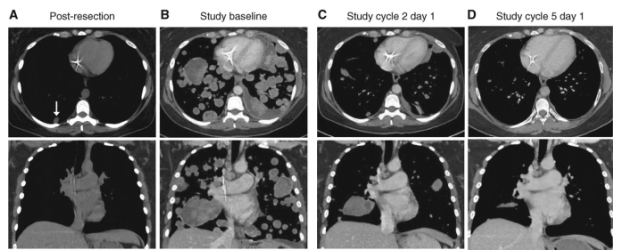
NSCLC Adenocarcinoma Treatment



Targeted Kinase Inhibitors for NSCLC



Targeted Kinase Inhibitors for NSCLC



Dobele RC et al. Cancer Discovery 2015;5:1049-1057

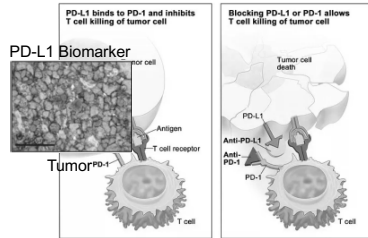
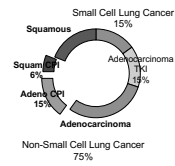
Immunotherapy for NSCLC



The Nobel Prize in Physiology or Medicine 2018 was awarded jointly to James P. Allison and Tasuku Honjo "for their discovery of cancer therapy by inhibition of negative immune regulation."

The Nobel Prize in Physiology or Medicine 2018. NobelPrize.org. Nobel Media AB 2018. Thu, 4 Oct 2018.

Immunotherapy for NSCLC



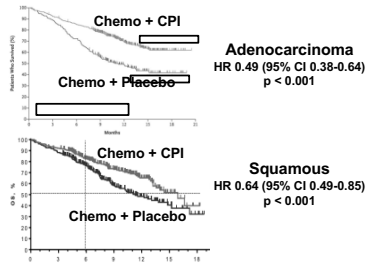
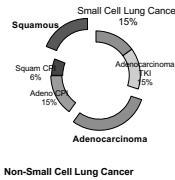
National Cancer Institute, Teresa Woodcock, Calles A et al. J Thor Onc Dec 2015;10:12
 Mountain States Cancer Conference
 November 3, 2018

Immunotherapy for NSCLC



Mountain States Cancer Conference
 November 3, 2018

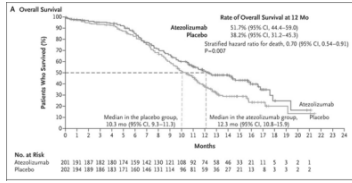
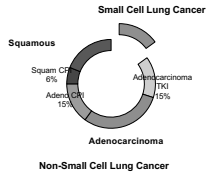
Chemotherapy + Immunotherapy for NSCLC



Gandhi L et al. N Engl J Med 2018;378(22)
 Paz-Ares L et al. ASCO 2018 presentation

Mountain States Cancer Conference
 November 3, 2018

SCLC Treatment



Horn L. et al. N Engl J Med 2018. DOI: 10.1056

University of Colorado Cancer Center

Mountain States Cancer Conference
November 3, 2018

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Mountain States Cancer Conference
November 3, 2018

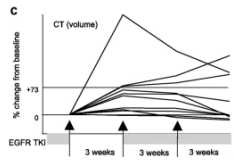
Clinical Scenario #1

- 57M admitted to your service for CAP with recent fever, productive cough, and new LLL consolidation. He has metastatic NSCLC and takes Tagrisso (oral TKI). His wife has his pills. Should you continue him while hospitalized?
 - Yes, so long as he's not neutropenic
 - No, it's a chemotherapy and he has an infection
 - I don't know, call the Anschutz Oncologist on call

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TKI discontinuation disease flare



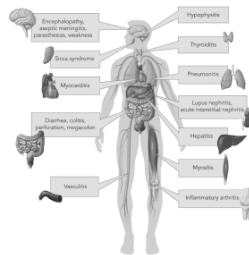
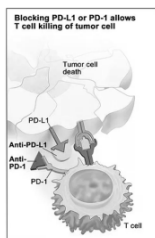
- Can occur in ~23% of patients on an EGFR TKI
- ***Not the case for ALL oral cancer therapy***
- Please call us! (720) 848 0000

Chatt JE et al. Clin Can Res; 13(17): 2007
Chatt JE et al. Clin Can Res; 17(19): 2011

Clinical Scenario #2

- 68F comes in to follow up her DM2. She reports adherence to metformin but recently her blood sugars are in the 300s. Previous A1c was 7.2. She is newly diagnosed with metastatic NSCLC and reports getting the “immune booster.” Why is her diabetes poorly controlled?
 - Metformin interacts with her treatment
 - Steroids are part of treatment regimen
 - She has autoimmune diabetes due to her treatment
 - I don't know, call the Anschutz Oncologist on call

Immunotherapy Toxicity



Summary

- Lung cancer screening is effective and life saving
- Multiple treatment options exist for patients with advanced lung cancer – oral therapy, immune therapy, and combined therapies
- Management of therapy and its side effects depends on agent and scenario. Please call!

Questions & Discussion

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