Lung Cancer Screening: Why the Debate?

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Lung Cancer Facts

• Lung cancer remains the #1 cancer killer in the U.S. in both men and women
• Lung cancer is responsible for more cancer deaths than colon, breast and prostate cancers combined
• Until recently, there has been no effective screening method for lung cancer
Lung Cancer Facts

### Estimated Deaths

<table>
<thead>
<tr>
<th></th>
<th>Males</th>
<th>Females</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lung &amp; bronchus</td>
<td>86,930</td>
<td>72,330</td>
</tr>
<tr>
<td>Prostate</td>
<td>29,480</td>
<td>40,000</td>
</tr>
<tr>
<td>Colorectum</td>
<td>26,270</td>
<td>24,040</td>
</tr>
<tr>
<td>Pancreas</td>
<td>20,170</td>
<td>19,420</td>
</tr>
<tr>
<td>Liver &amp; intrahepatic bile duct</td>
<td>15,870</td>
<td>14,270</td>
</tr>
<tr>
<td>Leukemia</td>
<td>14,040</td>
<td>10,050</td>
</tr>
<tr>
<td>Esophagus</td>
<td>12,450</td>
<td>8,590</td>
</tr>
<tr>
<td>Urinary bladder</td>
<td>11,170</td>
<td>8,520</td>
</tr>
<tr>
<td>Non-Hodgkin lymphoma</td>
<td>10,470</td>
<td>7,130</td>
</tr>
<tr>
<td>Kidney &amp; renal pelvis</td>
<td>8,900</td>
<td>6,230</td>
</tr>
<tr>
<td><strong>All Sites</strong></td>
<td><strong>310,010</strong></td>
<td><strong>275,710</strong></td>
</tr>
</tbody>
</table>

28% of deaths are from Lung & bronchus in Males, 26% in Females.
Lung Cancer Facts

- Few patients diagnosed with early, curable disease
Lung Cancer Screening

• What is screening?
  • A test done to detect a cancer before symptoms develop
  • Symptoms of lung cancer typically do not appear until the disease is advanced

• Why isn’t lung cancer screening done routinely?
  • Until recently, there hasn’t been a screening test that was effective
National Lung Screening Trial

- Large clinical trial 2002-2007
- Over 50,000 patients at risk for lung cancer
  - 55-74 years old
  - Current or former smokers
  - At least a 30 pack year smoking history
    - # packs per day X years smoked
    - 1 pack per day for 30 years or 2 packs per day for 15 years
- Compared low radiation dose CT scan to CXR
National Lung Screening Trial

- People who got low-dose CT scans had a 20% decreased risk of dying from lung cancer
- More cancers detected at an early stage
- Trial results announced November 2010
- This is the first time that screening for lung cancer has been shown to decrease lung cancer deaths!

Lung Cancer Screening
Who Should Get Screened?

• NCCN guidelines (National Comprehensive Cancer Network)

• Category 1
  • Age 55-74
  • \geq 30 pack year smoking history (packs per day X years smoked)
  • Current or former smokers who quit within the last 15 years
Lung Cancer Screening
Who Should Get Screened?

- Category 2
  - ≥ 50 years old
  - ≥ 20 pack year smoking history
  - One additional risk factor
    - Occupational exposure such as asbestos
    - Radon exposure
    - Previous smoking-related cancers (throat cancer)
    - Family history: first degree relative
    - Lung disease: COPD
Lung Cancer Screening
Who Should Get Screened?

- No symptoms of lung cancer
  - New or changing cough
  - Coughing up blood
  - New or increasing shortness of breath
- Healthy enough to undergo treatment for lung cancer
Lung Cancer Screening
What to Expect

• Referral to screening program
• You will likely speak to the Program Coordinator
  • Determine if you qualify for screening
  • Discuss the risks and benefits
  • Discuss the process of screening
  • Discuss the cost of screening
  • Ask questions!
• Scheduled for low-dose CT scan
Lung Cancer Screening
What to Expect
Lung Cancer Screening
What to Expect

• Low-dose CT completed
  • No IV or dye used
  • Scan completed in under a minute

• Results
  • You are notified of the results of the screening CT
  • Your physician is also notified of the results
  • The program will give recommendations based on the results of the screening CT and arrange any further testing
Lung Cancer Screening
What do the Results Mean?

- **Negative screen**
  - No nodules (spots) seen and no other abnormalities
  - Annual low-dose CT scan

- **Positive screen suspicious for lung cancer**
  - Further testing or biopsy may be recommended

- **Positive screen indeterminate for lung cancer**
  - A nodule (spot) was seen
  - About 50% of patients will have at least one nodule
  - Most of these spots are NOT cancer
Lung Cancer Screening
What do the Results Mean?
Lung Cancer Screening
What do the Results Mean?

- What if I have a nodule (spot)?
- We may recommend:
  - Follow up scan in 3-6 months
  - Further testing such as a PET scan
  - Referral to a lung specialist for possible biopsy
Lung Cancer Screening

- Lung cancer screening is a process not just a single test
- Lung cancer screening does not replace smoking cessation
- Lung cancer screening should be done at centers that have experience with lung cancer screening and have a multi-disciplinary team of lung cancer physicians
Lung Cancer Screening
What are the Risks?

- False positives
  - Finding a nodule (spot) that is not cancer
  - Most nodules (95%) seen on CT are not cancer
  - May require additional testing
- False negatives
  - A negative screening CT does not mean you don’t have lung cancer or can’t get lung cancer
Lung Cancer Screening
What are the Risks?

- Radiation exposure
  - Low-dose CT ~ 20-25% of standard CT
  - Similar to 12 CXRs
  - Similar to 6 months of natural background radiation
Lung Cancer Screening

What are the Risks?

• Costs
  • Not all insurance companies have been covering lung cancer screening
    • Standard CT billed at $2000 to insurance
    • If they do, you may have copays and deductibles
  • Screening programs typically offer screening CT for a decreased “self pay” rate
    • $100-300
  • Cost of additional CT scans and testing for positive results
Lung Cancer Screening
What are the Risks?

• U.S. Preventive Services Task Force
  • Panel of experts authorized by Congress
  • Make recommendations about preventative services such as screening
• December 2013 USPSTF gave a B recommendation for annual lung cancer screening with low-dose CT scan
  • Age 55-80
  • ≥30 pack year smoking history
  • Current smoker or quit within 15 years
Lung Cancer Screening

Grade | Definition                                                                                                                                                                                                 | Suggestions for Practice                                                                 |
-------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
A      | The USPSTF recommends the service. There is high certainty that the net benefit is substantial.                                                                                                           | Offer or provide this service.                                                            |
B      | The USPSTF recommends the service. There is high certainty that the net benefit is moderate or there is moderate certainty that the net benefit is moderate to substantial. | Offer or provide this service.                                                            |
C      | The USPSTF recommends selectively offering or providing this service to individual patients based on professional judgment and patient preferences. There is at least moderate certainty that the net benefit is small. | Offer or provide this service for selected patients depending on individual circumstances. |
D      | The USPSTF recommends against the service. There is moderate or high certainty that the service has no net benefit or that the harms outweigh the benefits.                                           | Discourage the use of this service.                                                       |
I      | The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of the service. Evidence is lacking, of poor quality, or conflicting, and the balance of benefits and harms cannot be determined. | Read the clinical considerations section of USPSTF Recommendation Statement. If the service is offered, patients should understand the uncertainty about the balance of benefits and harms. |
Lung Cancer Screening

- A or B recommendations must be covered by private insurance companies under the Affordable Care Act without co-pays or deductibles
- Medicare is not currently covering screening
Lung Cancer Screening
What is the Benefit?

• Detection of lung cancer early when it is curable
• Decreased chance of dying from lung cancer
UC Health’s
Lung Cancer Screening Program

• First program in the region
  • Started November 2012
• Recognized as a Screening Center of Excellence by the Lung Cancer Alliance
• Dedicated Program Coordinator
  • Michelle Ottersbach, RN
• Screening locations
  • UCMC
  • UC Physicians Office North West Chester
  • Daniel Drake Center
• Personalized care
UC Health’s Lung Cancer Screening Program

- Eligibility
  - Age 55-79 and
  - 30 pack year smoking history
  - OR
  - Age 50-79 and
  - 20 pack year smoking history and
  - One additional risk factor
    - Family history
    - COPD or pulmonary fibrosis
    - Occupational exposure
    - History of other smoking related cancers
UC Health’s Lung Cancer Screening Program

- Screening offered for $99
- (513) 584 – LUNG (5864)
- UCCANCER.COM/LUNGCANCER
UC Health’s Lung Cancer Screening Program

- Specialized Lung Cancer Team with expertise in lung cancer and lung cancer screening
  - Thoracic surgeons
  - Medical oncologists
  - Radiation oncologists
  - Chest radiologists
  - Interventional pulmonologists
  - Pulmonary pathologists
  - Oncology nurses and nurse practitioners
- Lung cancer team meets weekly to discuss abnormal results
UC Health’s Lung Cancer Screening Program

- We have screened over 300 patients for lung cancer
- Detected 10 lung cancers at an early stage
Summary

• Lung cancer screening with low-dose CT decreases deaths from lung cancer
• Screening is not for everyone
  • It is only appropriate for patients at higher risk of lung cancer
• You should understand the risks and benefits of screening before deciding if it is right for you
• Screening is not a substitute for quitting smoking
Hope Fight Breathe!