Lung Cancer Screening: Current Status

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Jeremy J. Erasmus
Screening for Lung Cancer

This topic page summarizes the U.S. Preventive Services Task Force (USPSTF) recommendations on screening for lung cancer.

Current Recommendation

Release Date: December 2013

- The USPSTF recommends annual screening for lung cancer with low-dose computed tomography in adults ages 55 to 80 years who have a 30 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued once a person has not smoked for 15 years or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery.

Grade: B recommendation.
<table>
<thead>
<tr>
<th>Organization</th>
<th>Guideline and Eligibility Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Comprehensive Cancer Network (2015)</td>
<td>Screening is recommended (category 1) for high-risk individuals: <strong>age 55-74 years</strong>; <strong>≥ 30 pack-year</strong> history of smoking tobacco; and if former smoker, <strong>have quit within 15 years</strong> or age <strong>≥ 50 years</strong> and <strong>≥ 20 pack-year</strong> history of smoking tobacco and <strong>one additional risk factor</strong>.</td>
</tr>
<tr>
<td>American Cancer Society (2013)</td>
<td>Screening recommended for patients aged <strong>55-74 years</strong> who have <strong>≥ a 30–pack-year</strong> smoking history, currently smoke, or <strong>have quit within the past 15 years</strong>, and are in relatively good health.</td>
</tr>
<tr>
<td>American Academy of Family Physicians (2013) (Grade: I recommendation)</td>
<td>The AAFP concludes that the evidence is insufficient to recommend for or against screening for lung cancer LDCT in persons at high risk for lung cancer based on age and smoking history.</td>
</tr>
</tbody>
</table>
# Centers for Medicare and Medicaid Services (CMS) Timeline

<table>
<thead>
<tr>
<th>Data</th>
<th>Minimum Required Data Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 10, 2014</td>
<td>CMS initiates a national coverage analysis. A 30-day public comment period began.</td>
</tr>
<tr>
<td>March 12, 2014</td>
<td>The 30-day public comment period closed.</td>
</tr>
<tr>
<td>April 30, 2014</td>
<td>CMS convened a meeting of the Medicare Evidence Development &amp; Coverage Advisory Committee (MEDCAC) concerning the use of LDCT screening for lung cancer.</td>
</tr>
<tr>
<td>November 10, 2014</td>
<td>CMS posted a proposed national coverage determination for screening for lung cancer with LDCT. A 30-day public comment period on the proposed decision began.</td>
</tr>
<tr>
<td>December 10, 2014</td>
<td>The 30-day public comment period on the proposed decision closed.</td>
</tr>
<tr>
<td>February 5, 2015</td>
<td>CMS posted the final national coverage determination.</td>
</tr>
</tbody>
</table>
Lung Cancer Screening

The Centers for Medicare and Medicaid Services (CMS)

- Defines eligibility criteria for lung cancer screening
- Defines how CT screening is performed and reported
- Mandates and shared decision making
- Mandates smoking cessation counselling
CMS - Criteria Lung Cancer Screening: Eligibility

• Age follows NLST (age range 55-77)
• Absence of symptoms
• Cigarette smoking: 30 pack-years (one pack-year = smoking one pack per day for one year; 1 pack = 20 cigs)
• Current smoker or quit within 15 years
• Receives a written order for LDCT screening

CMS - Criteria Lung Cancer Screening: Shared Decision Making

• Benefits - screening substantially reduces the risk of dying from lung cancer

• Harms - not all cancers detected or detected early, not all patients with lung cancer detected by LDCT will avoid death, false + rate, over-diagnosis, radiation exposure

• Counseling on importance of adherence to annual LDCT, maintaining cigarette abstinence, offering of Medicare-covered tobacco cessation services

Call 713-792-QUIT
Toll free 1-866-245-0862
e-mail: quitnow@mdanderson.org

1-800-QUIT-NOW: Telephone QuitLine available in all States
Cessation Materials for State Tobacco Control Programs

Anyone interested in comprehensive state tobacco control cessation activities will find links to a collection of guides and documents that focus on cessation topics, such as interventions, clinical treatments for tobacco dependence, insurance coverage, and more.
CMS - Lung Cancer Screening: Radiologist Eligibility Criteria

- Certified by American Board of Radiology
- Documented training in diagnostic radiology/radiation safety
- Supervision/interpretation of 300+ chest CTs in past 3 years
- Participation in CME in accordance with ACR standards

CMS - Lung Cancer Screening: Facility Criteria

- Experience with LDCT lung cancer screening - participation in prior screening trial or ACR accreditation

- Adherence to effective radiation dose

- LDCT with volumetric dose index (CTDIdvol) ≤ 3.0 mGy

CMS - Lung Cancer Screening: Facility Criteria

- Utilize a standardized lung nodule identification, classification and reporting system
- Make available smoking cessation interventions
- Collect and submit data to Centers for Medicare and Medicaid Services (CMS)-approved national registry

ACR Designated Lung Cancer Screening Center

The ACR Lung Cancer Screening Center designation is unit-specific. All sites applying for this designation must meet the requirements outlined below, including having active ACR CT accreditation in the chest module on the designated unit(s).

**How to Apply**

Sites applying to be an ACR Designated Lung Cancer Screening Center must submit the following:

1. Application with facility demographics, supervising physicians and CT unit information
2. Signed attestation form
3. The facility’s lung cancer screening protocol in a clinical data form
4. Fee (see details below)

We will review the materials to ensure your facility’s screening protocol meets the minimum requirements for ACR designation. See technical specifications.

http://www.acr.org/Quality-Safety/Resources/Lung-Imaging-Resources
ACR Lung Cancer Screening Center Designation

• Must have active ACR CT Accreditation in the chest module and apply for each unit performing lung cancer screening exams

• Follow USPSTF guidelines for appropriateness of screening

• Screening facilities that elect to accept self-referral individuals must have procedures for referring them to a qualified health care provider if abnormal findings are present
ACR Lung Cancer Screening Center Designation

- Must include smoking cessation
- Lung cancer screening interpreting physicians must read 300 chest CT cases in prior 36 months
- Use structured reporting system that includes management recommendations (LungRADS™)
ACR Lung Cancer Screening Center
Designation: Protocol

• Multidetector helical(spiral) detector rows ≥ 4
• Single breath hold full inspiration
• Reconstructed image width (nominal width of the reconstructed image along z-axis) ≤ 2.5 mm
• CTDIvol ≤ 3 mGy for standard size patient (5’7”, 154 lbs)
• Must have manual or automated method for patient size adjustment
ACR National Radiology Data Registry

• Primary purpose is to aid facilities with quality improvement programs and efforts to improve patient care by comparing facility data to others regionally and nationally

• NRDR registries include: Dose Index Registry (DIR), CT Colonography Registry (CTC), National Mammography Database (NMD), National Oncologic PET Registry (NOPR), General Radiology Improvement Database (GRID) etc

• CMS approved ACR NRDR as a Qualified Clinical Data Registry for the CMS Physician Quality Reporting System
<table>
<thead>
<tr>
<th>Data Type</th>
<th>Minimum Required Data Elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facility</td>
<td>Identifier</td>
</tr>
<tr>
<td>Radiologist</td>
<td>National Provider Identifier</td>
</tr>
<tr>
<td>Patient</td>
<td>Identifier</td>
</tr>
<tr>
<td>Ordering practitioner</td>
<td>National Provider Identifier</td>
</tr>
<tr>
<td>CT Scanner</td>
<td>Manufacturer, Model</td>
</tr>
<tr>
<td>Indication</td>
<td>Lung cancer LDCT screening-absence of signs/symptoms of lung cancer</td>
</tr>
<tr>
<td>System</td>
<td>Lung nodule identification, classification and reporting system</td>
</tr>
<tr>
<td>Smoking history</td>
<td>Current status (current, former)</td>
</tr>
<tr>
<td></td>
<td>Years since quitting in former smokers</td>
</tr>
<tr>
<td></td>
<td>Pack-years as reported by the ordering practitioner</td>
</tr>
<tr>
<td></td>
<td>For current smokers, smoking cessation interventions available</td>
</tr>
<tr>
<td>Effective radiation dose</td>
<td>CT Dose Index (CTDIfvol)</td>
</tr>
<tr>
<td>Screening</td>
<td>Screen date</td>
</tr>
<tr>
<td></td>
<td>Initial screen or subsequent screen</td>
</tr>
</tbody>
</table>
Lung Cancer Screening

- Guidelines: ACR STR Practice Parameter
- Reporting: ACR LungRADS®
- Accreditation: ACR Lung Cancer Screening Center Designation
- Oversight: ACR National Radiology Data Registry