

Position Statement for Health Care Providers

Lung Cancer Screening: Low-Dose Spiral CT Scan

The Michigan Cancer Consortium has concluded that the current scientific evidence supports the use of annual low-dose spiral computed axial tomography (CT scans) for lung cancer screening in asymptomatic smokers or former smokers (quit smoking for ≤ 15 years), who have at least a 30 pack-year history of tobacco use and are 55-80 years of age.

This position statement is based on data from the National Lung Screening Trial (NLST) sponsored by the National Cancer Institute:
<http://www.nejm.org/doi/full/10.1056/NEJMoa1102873>

Key questions that the Michigan Cancer Consortium's Lung Cancer Early Detection Workgroup considered in developing this position statement were:

1. Is spiral CT effective in detecting asymptomatic cancerous lesions?
2. Does spiral CT screening result in an increase in the number of early-stage lung cancers and a decrease in the number of late-stage lung cancers?
3. Does identification of lung cancer through spiral CT screening reduce the risk of death from lung cancer?

Based on the results of the NLST, the answer to each of these key questions is "yes".

Other Considerations:

- Lung abnormalities found on screening CT scans or incidentally as a result of imaging studies conducted for other diagnostic purposes may not warrant immediate diagnostic or therapeutic intervention. The NLST concluded that the false-positive rate for suspicious lung nodules was 96.4% (i.e. for every 100 non-calcified lung lesions measuring 4 mm or greater that were identified by CT screening, only 4 were found to be cancerous). For assistance in the management of these individuals, providers are referred to:
 - The American College of Radiology Lung Imaging Reporting and Data System (Lung-RADS). Lung-RADS is a quality assurance tool designed to standardize lung cancer screening CT reporting and management recommendations, reduce confusion in lung cancer screening CT interpretations, and facilitate outcome monitoring. For more information:

- Lung cancer screening should only be undertaken as part of a multidisciplinary care approach that offers individuals:
 - pre-screening counseling regarding the potential benefits and risks of screening, including explanation of the high false-positive rate;
 - post-screening interpretation of CT findings;
 - comprehensive management and/or follow-up of relevant CT findings.
- Individuals with a history of tobacco smoking are at increased risk of developing lung cancer. Smokers and former smokers with either moderate-to-severe chronic obstructive airway disease or a history of lung cancer in a first-degree relative (biological parent, sibling or child) are at higher risk for developing lung cancer. Individuals who have questions regarding their risk of lung cancer should discuss their specific risk with their physician.
- All health care providers are encouraged to obtain information on tobacco use during routine health maintenance evaluations by including tobacco use as a “vital sign” in order to ensure that every patient who uses tobacco is identified, advised to quit and offered scientifically sound smoking cessation interventions. Providers are referred to the U.S. Department of Health and Human Services, Public Health Service “Treating Tobacco Use and Dependence: Clinical Practice Guideline” (2008 update) at: http://www.surgeongeneral.gov/tobacco/treating_tobacco_use08.pdf.

All health care providers are encouraged to promote:

- Primary prevention of lung cancer with all patients, focusing on the avoidance of tobacco use, second-hand tobacco smoke, and environmental or occupational exposure to other known lung carcinogens.*

Enrollment in clinical research studies that could advance knowledge on the benefits and risks of lung cancer screening.* Screening *involves the application of a relatively simple and inexpensive test to asymptomatic individuals in order to determine if they are likely to have cancer. Individuals with positive or suspicious findings can then undergo further diagnostic procedures and necessary treatment.*

**Lung carcinogens include: asbestos, radon, beryllium, nickel, chromium, and uranium.*