

RSNA/ACR Joint Statement on Lung Cancer Screening **Reviewed: 4/15/2018**

Lung cancer is the leading cause of cancer deaths in both men and women, killing more people than cancers of the breast, prostate and colon combined. Annually in the United States, approximately 225,000 new cases of lung cancer are diagnosed and 160,000 deaths from lung cancer occur. The great majority of lung cancers—over 85 percent—are caused by cigarette smoke. The Radiological Society of North America (RSNA) and the American College of Radiology (ACR) advise cigarette smokers to quit and recommend that people who are at high risk for lung cancer, specifically older heavy smokers, consult their physicians to determine if lung cancer screening with computed tomography (CT) is appropriate for them.

The goal of lung cancer screening is to find cancer before it has spread outside the lungs. Currently, only 15 percent of lung cancers are detected when localized to the lungs, with most lung cancers detected only after they have spread outside the lung and cause symptoms. The landmark National Lung Screening Trial (NLST) of 53,454 current and former heavy smokers has shown that early detection with CT reduces deaths from lung cancer by 20 percent.

The ACR and the RSNA support the United States Preventive Services Task Force (USPSTF) [recommendation](#) for CT lung cancer screening of high-risk individuals, 55 to 80 years of age, who have a 30-pack-year or more history of smoking and are either current smokers or former smokers who have quit within the last 15 years. Since the publication of the initial NLST results, lung cancer advocacy groups, particularly the Lung Cancer Alliance, have actively campaigned for recognition of the efficacy of lung cancer screening with CT. These efforts have contributed to the recognition of this life-saving tool by the USPSTF.

Currently, there is not enough evidence to support lung cancer screening for people who are at low or moderate risk for lung cancer, including younger individuals, those with less smoking history or other risk factors such as a significant exposure to secondhand smoke or other cancer causing substances. These individuals should consult with their physician to evaluate their individual risk and determine if there may be a role for CT screening.

Before undergoing CT screening, individuals should engage in shared decision-making with their physician and be made aware of the relative benefits and risks of lung cancer screening with CT, including the likelihood of an abnormal screening examination and how abnormalities detected are likely to be managed. The relative benefit of lung cancer screening with CT outweighs the potential increase in lifetime risk of cancer related to the radiation exposure from annual screening CT in older high-risk smokers for whom screening is recommended. However, appropriate precautions should always be taken to minimize radiation exposure through the use of the “As Low As Reasonably Achievable (ALARA)” principle.

High-quality, cost-effective screening on a national basis requires standardized processes based on the data and outcomes from the NLST and other clinical trials. This includes appropriate identification of individuals for screening, the CT screening technique itself, reporting of the CT results and the management of positive results, including incidental significant findings, and the inclusion of smoking cessation as part of any lung cancer screening program. Screening programs should also promote awareness of the benefits of lung cancer screening for the recommended population.

The RSNA and the ACR look forward to the transition from the efficacy of lung cancer screening shown in clinical trials to effectiveness in clinical practice by taking the necessary steps to create a

quality, sustainable, effective CT lung cancer screening process with attention to patient safety. The ACR works to provide guidance to providers practicing lung cancer CT screening and monitors the practice of CT screening through the CMS-approved ACR Lung Cancer Screening Registry (ACR LCSR), which is now available for online entry. Both organizations will continue to develop educational materials on the elements for a high-quality screening program that can be implemented in all practice settings.

For patients, more information is available at Radiologyinfo.org.

For health care professionals, more information is available at the [ACR Lung Cancer Screening Resources webpage](#).

RSNA is an association of more than 54,000 radiologists, radiation oncologists, medical physicists and related scientists, promoting excellence in patient care and health care delivery through education, research and technologic innovation. The Society is based in Oak Brook, Ill. (RSNA.org)

The American College of Radiology, founded in 1924, is a professional medical society dedicated to serving patients and society by empowering radiology professionals to advance the practice, science, and professions of radiological care.