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NEWS

RSNA Press Release

Lung Cancer Screening Regimen Provides Opportunity for Cure

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At A Glance

- Annual lung cancer screening with CT identifies a high number of early-stage cancers, increasing a patient's likelihood of being cured.
- In a study of 6,295 asymptomatic people, nearly all instances of lung cancer were detected through screening.
- Lung cancer kills more people than breast, prostate and colon cancers combined.

OAK BROOK, Ill.—Annual computed tomography (CT) screening identifies a high proportion of patients with early-stage lung cancer, according to the latest findings of the New York Early Lung Cancer Action Project (NY-ELCAP) published in the April issue of the journal *Radiology*.

"The regimen of screening determines how early the cancer is diagnosed. This is critical, as it provides the opportunity for earlier treatment which can be curative," said NY-ELCAP principal investigator Claudia I. Henschke, Ph.D., M.D., professor of radiology at Weill Cornell Medical College and chief of the divisions of chest imaging and health care policy and technology assessment at New York-Presbyterian Hospital/Weill Cornell Medical Center in New York City. "Following the appropriate regimen also markedly decreases unnecessary work-up and biopsies," she added.

Lung cancer remains the leading cause of cancer death in both men and women, killing more people than breast, prostate and colon cancers combined, according to the American Cancer Society (ACS). According to the study, the estimated cure rate for lung cancer in the absence of screening is approximately 5 percent, but increases significantly when the cancer is diagnosed and treated at its earliest stage.

NY-ELCAP investigators at 12 medical institutions in New York State provided baseline (first-time) CT screenings to 6,295 people with no symptoms of cancer. The participants were age 60 or older with a history of smoking but no prior cancer and no chest CT in the past three years. A total of 6,014 annual repeat screenings were provided.

CT results prompted recommendations for further work-up on 14 percent of the 6,295 baseline screening participants and 6 percent of the 6,014 repeat screening participants.

A total of 124 people were diagnosed with lung cancer, all but three directly based on screening results, rather than interim symptom-prompted diagnoses. A high proportion of the 124 patients (89 percent in the baseline and 85 percent in the repeat rounds of screening)

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had no evidence of metastases when recommended for biopsy, indicating that a regimen of annual repeat screenings allows for detection of lung cancer at its earliest, most treatable, stage. Long-term follow-up, as shown in an International ELCAP study recently published in the *New England Journal of Medicine*, demonstrated a 10-year survival rate of 92 percent among patients with Stage 1 lung cancer when diagnosed early and promptly treated.

"It is critical that physicians and the people being screened understand the importance of following an optimal screening regimen," Dr. Henschke said. "Delay in the recommended diagnostic work-up detracted from the full benefit of CT screening, as it resulted in progression of the cancer in size, and sometimes resulted in a higher stage of the disease."

While a recent *JAMA* study has suggested that screening CT does not reduce mortality rates for lung cancer, Dr. Henschke disagrees. "The *JAMA* article was the first application of a newly developed computer model which predicted expected deaths from lung cancer, and there are numerous concerns about its validity," she said. "The main problem with that study is that it focused on too short a time period to assess the decrease in lung cancer deaths, which starts to be evident after the first five years of screening."

Dr. Henschke recommends that smokers and former smokers considering CT screening should talk to their physicians and, if they decide to be screened, go to an imaging facility with a multidisciplinary team of physicians knowledgeable and experienced in CT lung screening.

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"Computed Tomography Screening for Lung Cancer: Diagnoses Resulting from NY-ELCAP." NY-ELCAP Investigators: Claudia I. Henschke (principal investigator), David F. Yankelevitz, and Dorothy I. McCauley (Weill Cornell Medical College); Matthew Rifkin and Edward S. Fiore (State University of New York at Stony Brook, NY); John H. M. Austin, Gregory D. N. Pearson, and Maria C. Shiau (Columbia University Medical Center, New York, NY); Samuel Kopel (Maimonides Medical Center, Brooklyn, NY); Donald Klippenstein, Alan Litwin, and Peter A. Loud (Roswell Park Cancer Institute, Buffalo, NY); Leslie J. Kohman and Ernest M. Scalzetti (State University of New York, Upstate Medical University, Syracuse, NY); Arfa Khan and Rakesh Shah (North Shore-Long Island Jewish Health System, New Hyde Park, NY); David S. Mendelson (Mount Sinai School of Medicine, New York, NY); Robert T. Heelan and Michelle S. Ginsberg (Memorial Sloan-Kettering Cancer Center, New York, NY); Terence A. S. Matalon (New York Medical College, Valhalla, NY); and Peter H. Wiernik (Our Lady of Mercy Medical Center, Bronx, NY).

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