

Risks of LDCT LC screenings need to be assessed in 20- to 29-pack-year smokers

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The potential risks and harms of low-dose CT (LDCT) lung cancer screening in current 20- to 29-pack-year smokers needs to be assessed before recommending LDCT to this group, according to a study published October 19 in the *JNCI: Journal of the National Cancer Institute*.

Recently, recommendations made by the United States Preventive Services Task Force (USPSTF) stated that eligibility to have low-dose CT (LDCT) [lung cancer](#) screening required a cigarette smoking history of 30+ pack-years and, if a former smoker, having quit smoking within the last 15 years in patients aged 55-80. While these recommendations matched the eligibility criteria of the National Lung Screening Trial (NLST), except that the upper age limit for entering the NLST was 74, guidelines made by the National Comprehensive Cancer Network (NCCN) recommend that those with the NLST smoking history criteria or a 20+ pack-year smoking history and one additional lung cancer risk factor, such as occupational exposure or pulmonary disease history could also be eligible for screening. While many studies have shown a much lower lung cancer risk in persons who have quit smoking, the risk for those who have smoked 20 to 29 pack-years remains unknown.

In order to determine the risk of lung cancer in those who smoked 20-29 pack-years, Paul F. Pinsky, Ph.D., National Cancer Institute and Barnett S. Kramer, Ph.D., National Cancer Institute, looked at data from the Prostate, Lung, Colorectal, and Ovarian Cancer Screening Trial (PLCO), a randomly assigned screening trial of subjects age 55 to 74 years with

chest radiographs (CXR) used for lung cancer. Subjects completed a baseline questionnaire that asked questions regarding smoking history. The researchers also used data from the National Health Interview Survey (NHIS), which looked at the smoking history and race/ethnicity of subjects and the demographic profiles of various high-risk smoking history categories. Models were adjusted to account for age and sex of the subjects.

The researchers found that the risk of lung cancer among 20- to 29-pack-year current smokers was similar to that of 30+ pack-year former smokers who meet the current guidelines for LDCT set by the USPSTF. Further, based on the NHIS data, current 20-29 pack-year smokers were more likely to be female and to be racial/ethnic minorities than were those meeting the current USPSTF guidelines. Despite this, the researchers feel that the guidelines should be approached cautiously in terms of recommending screening to 20- to 29-pack-year current smokers. "This group was not included in the NLST, so there is the untested assumption that the trial's mortality benefit can be extrapolated to them," the researchers write. "Until LDCT screening performance in population settings is better understood, expansion of screening to additional populations may incur unanticipated harms."

In an accompanying editorial, Francine L. Jacobson, M.D., M.P.H., Brigham and Women's Hospital, writes that the findings in the accompanying study "demonstrate sufficient risk of lung cancer in a population with 20 to 29 pack-years to consider [screening](#)...As we eliminate arbitrary divisions instituted for managing clinical trials, we can approach important questions about differences in risk."

More information: *Journal of the National Cancer Institute*, [DOI: 10.1093/jnci/djv226](https://doi.org/10.1093/jnci/djv226)

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