



## Can CT Lung Screening Improve Smoking Cessation Rates?

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By Dave Levitan

Computed tomography (CT) screening for lung cancer can lead to increased rates of smoking cessation in a high-risk population, according to a study of participants in the United Kingdom Lung Cancer Screening (UKLS) pilot trial. This “teachable moment” was particularly strong among those with a positive scan result, though it extended to those with negative results as well.



“The findings of this study dispute the belief that a negative screening result offers a ‘license to smoke,’” said John Field, PhD, of the University of Liverpool and the chief investigator of the UKLS, in a press release.

This analysis included 4,055 individuals randomized to either CT screening or usual care (no screening); of those, 1,546 were baseline smokers, divided evenly between screening (759 individuals) and no screening (787 individuals). Smokers were asked about cessation via a questionnaire at a short-term follow-up at two weeks, and a long-term follow-up up to two years following recruitment. Results were published online ahead of print in *Thorax*.

The completion rate for the questionnaire was 70% at short-term follow-up for the screening arm, and 61% for the control group. At the longer follow-up, these rates were 65% and 49%, respectively.

Among eligible responders, 5% of control patients had quit smoking at short-term follow-up, and 10% of those who underwent CT screening had quit. This was significantly higher in the screened patients, with an odds ratio (OR) of 2.29 (95% CI, 1.52–3.45;  $P < .001$ ). Adjustments for various factors did not change the outcome, with an adjusted OR of 2.38 (95% CI, 1.56–3.64;  $P = .001$ ).

At the longer follow-up point, the control group had a 10% cessation rate, while the screening group had a 15% cessation rate. Again, even after adjustments, this was significant, with an OR of 1.60 (95% CI, 1.17–2.18;  $P = .003$ ). The authors noted, though, that a complete case analysis at this time point was not significant, and the finding should thus be interpreted with caution.

Individuals whose CT scan results required further clinical investigation were more likely to quit smoking in the longer term than the control patients, with an adjusted OR of 2.29 (95% CI, 1.62–3.22;  $P = .007$ ). They were also more likely than those who received a negative result, with an OR of 2.43 (95% CI, 1.54–3.84;  $P < .001$ ).

Those with negative scan results were also more likely to quit smoking, though this did not reach the predefined 1% significance level. At the near-term follow-up, those with a negative scan had a multivariate OR for cessation of 1.78 (95% CI, 1.04–3.05;  $P = .03$ ). At the longer term follow-up the effect appeared to be lessened further in those with negative CT scan results.

“Our trial shows that CT lung cancer screening offers a teachable moment for smoking cessation among high-risk groups,” said Kate Brain, PhD, of Cardiff University, United Kingdom, who was the lead author on this analysis. “We now need evidence about the best ways of integrating lung cancer screening with stop-smoking support, so that services are designed to deliver the maximum health benefits for current and future generations.”

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