



IASLC Statement on Spiral CT Screening for Lung Cancer

Lung cancer is the most lethal cancer worldwide, partly because it is usually diagnosed too late for effective treatment. If diagnosed early enough, lung cancer often can be cured by surgery or radiotherapy.

On June 29, 2011, the *New England Journal of Medicine* published results from the National Lung Screening Trial (NLST), sponsored by the National Cancer Institute in the United States, which showed that lung cancer deaths fell by 20% and all-cause mortality fell by 7% when smokers – defined as current or former smokers with 30 or greater pack years of smoking – were screened regularly using low-dose spiral computed tomography (CT) compared with standard chest x-ray. The study followed more than 53,000 current and former smokers ages 55 to 74. It was halted a year early because the reduction in cancer deaths provided an answer to the study's main question.

Thus, low-dose spiral CT is the first test of any type to demonstrate a significant reduction in lung cancer mortality through early detection. This innovation provides a great opportunity for lung cancer clinicians and researchers across the world to work responsibly to provide, study and refine this new approach within future clinical trials and national screening programs.

Although the NLST is the first randomized clinical trial to show a significant decline in lung cancer deaths, there are a number of opportunities to improve further this approach. There is a need to introduce quality control measures to ensure the quality of the screening management. For example, the follow-up of patients with indeterminate nodules is critically important and should be done by a team experienced in evaluation of such nodules to ensure safe, economical screening care. There are a number of trials currently under way that could provide relevant data. One of the largest is the Dutch-Belgian NELSON, a population-based trial of more than 20,000 smokers, which uses refined CT imaging techniques. The results of the NELSON trial will provide critical additional information not only on mortality advantage and cost effectiveness but also on the clinical management outcomes of lung cancer screening. It is appropriate for heavy smokers ages 55 to 74 to discuss relevant lung cancer screening

information with their physicians to assist them in deciding whether to undergo spiral CT screening.

- Screening can be improved through ongoing research, which is essential as the resolution of spiral CT imaging continues to improve, and this can drive further progress with safer and more effective surgical management approach. Additional research also will define risk profiles of individuals who would benefit most from screening.
- A crucial factor required in the implementation of future national screening programs will be the participation of multidisciplinary groups of trained specialists in the relevant aspects of early lung cancer. In each country, an assessment of lung cancer screening benefit, implementation costs and potential harms must be defined in a cultural context, so that national policies about screening implementation and issues such as quality control and professional credentialing standards can be decided. Different nations will need to undertake individual health technology assessments to inform on national screening programs.
- IASLC encourages people to be enrolled into screening trials so that further information can be acquired as soon as possible. In light of currently available information, some people may seek to undergo CT screening now, outside of a research trial. They should discuss this with their doctor so they have access to the best available information regarding the potential benefits and risks of this approach for their situation. The IASLC website will provide objective lung cancer screening data to assist such discussions. IASLC is committed to ensuring broad communication about the potential health benefit from CT screening, as well as providing objective evidence on potential harm.
- IASLC will continue to advocate for effective tobacco control programs in all healthcare provider venues, so that together with lung cancer screening we can most effectively reduce deaths from lung cancer. Approximately 90% of lung cancer occurs in people who have a history of smoking. If we can persuade youth not to start and adults to quit, there will be markedly less tobacco-related death. However, since an elevated risk of lung cancer persists in former smokers, it will be important to better integrate the public health messages for both tobacco control and lung cancer early detection.

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About the IASLC:

The International Association for the Study of Lung Cancer (IASLC) is the largest international professional society whose sole mission is to reduce lung cancer mortality through prevention, research, education and improved therapy. IASLC is committed to facilitating wide collaboration among its members and other professional organizations in sharing and re-analysis of lung cancer screening information to accelerate progress in improving this new approach.