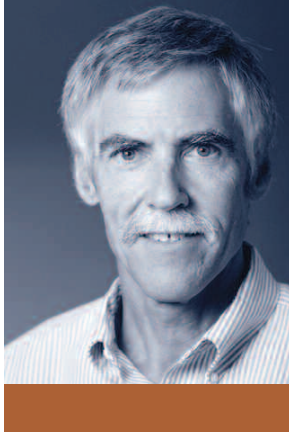


## National Lung Screening Trial (NLST) News



*William C. Black, MD*

Dr. William Black is Senior member of the Society of Thoracic Radiology and a practicing radiologist with clinical expertise in chest radiology and research interest in screening and cost-effectiveness analysis. He has demonstrated how advances in diagnostic imaging distort the clinician's perception of the prevalence of disease, its natural history, and its response to medical intervention. He has also written extensively about the problem of overdiagnosis in cancer screening and the design of randomized control trials for cancer screening with imaging tests. Currently, Dr. Black is a co-investigator of the National Lung Screening Trial (NLST), an NCI funded multi-center randomized controlled trial of screening for lung cancer with chest CT versus chest radiography. Dr. Black has been particularly influential in the selection of study endpoints, development of the endpoint verification process, and planning for the cost-effectiveness analysis, which he is now actively leading. In addition to being the site PI at Dartmouth Hitchcock Medical Center (the third of 33 sites to open), he continues to play a number of important leadership roles in NLST and is a designated spokesperson for media inquiries. Dr. Black is also the Chair of the Outcomes and Economics Committee of the American College of Radiology Imaging Network (ACRIN).

Dear Colleagues

**ON NOVEMBER 4, 2010**, the National Cancer Institute (NCI) released initial results of the NLST, a large-scale clinical trial comparing lung cancer screening with low-dose helical computed tomography (LDCT) versus standard chest radiography (CXR). The NLST demonstrated a 20.3% reduction in lung cancer mortality and 6.9% reduction in all cause mortality in the CT arm relative to the CXR arm (<http://www.cancer.gov/images/DSMB-NLST.pdf>). At the recommendation of the NLST Data and Safety Monitoring Board, the NCI stopped the trial so that the participants in the NLST could be notified of this significant result.

At the 2010 RSNA, the two Principal Investigators of the NLST, Drs. Denise Aberle MD, past STR president, and Christine Berg, MD, chaired a special session devoted to these initial results. The session included four presentations followed by a question and answer period: Initial Results and Trial Design, Imaging Technique and X-ray Dose Considerations,

The following physicians (among them many STR members) occupied leadership roles in NLST, either as lead radiologists or committee members. However, it should be noted that the NLST also benefited from the hard work and dedication of many other radiologists not listed here who contributed in other capacities.

Gerald Abbott, MD  
Peter Balkin, MD  
Denise R. Aberle, MD  
Judith K. Amorosa, MD  
Richard G. Barr, MD, PhD  
William C. Black, MD  
Phillip M. Boiselle, MD  
Caroline Chiles, MD  
Robert Clark, MD  
Lynn Coppage, MD  
Robert Falk, MD  
Elliot K. Fishman, MD  
Matthew T. Freedman, MD  
Kavita Garg, MD  
David S. Gierada, MD  
Jonathan G. Goldin, MD  
Eric Goodman, MD  
Eric M. Hart, MD  
Todd Hazelton, MD  
Subbarao Inampudi, MD  
Elizabeth Johnson, MD  
Ella Kazerooni, MD  
Jeffrey S. Klein, MD  
David Lynch, MD  
Barbara McComb, MD  
Theresa C. McLoud, MD  
Howard Mann, MB, BCh  
William Manor, DO  
Reginald F. Munden, MD  
David P. Naidich, MD  
Hrudaya Nath, MBBS  
DMR, MD  
Edward Patz, MD  
James Ravenel, MD  
David L. Spizarny, MD  
Diane C. Stollo, MD  
Michael Sullivan, MD  
Stephen J. Swensen, MD  
Drew A. Torigian, MD, MA  
Kay H. Vydareny, MD  
John Waltz, MD  
John A. Worrell, MD  
Carl J. Zylak, MD

False Positive Rate and the Evaluation of a Positive Scan, and Future Analyses (web link pending). Two manuscripts have recently been published, one describing the study design: <http://radiology.rsna.org/content/early/2010/10/28/radiol.10091808.full> and another the baseline characteristics of the NLST participants: <http://jnci.oxfordjournals.org/content/102/23/1771.abstract?keytype=ref&>

Manuscripts currently under development include those focused on the baseline screening results, the second and third round screening results, the final results (mortality reduction), quality of life, smoking cessation, and cost-effectiveness. Numerous other manuscripts are under consideration.

To date, no medical organization has issued guidelines for lung cancer screening with LDCT, however, the International Association for the Study of Lung Cancer (IASLC) Lung Cancer Screening Task Force has recently been assembled with this goal in mind. In addition to performing its own cost-effectiveness analysis of what actually transpired in the NLST, several NLST investigators have begun to collaborate with the Cancer Intervention and Surveillance Modeling Network (CISNET), a consortium of NCI-sponsored investigators that will use statistical modeling to assess the potential impact of lung cancer screening with LDCT on population health. The NLST results and collaborative analyses with CISNET will likely have a strong influence on the US Preventive Services Task Force (USPSTF) development of screening recommendations.

STR membership has played a major role in the design and execution of the NLST and will continue to play a major role in implementation of the NLST results in screening for lung cancer and in the closely related practice of managing small nodules incidentally detected on CT. ■