



Dartmouth-Hitchcock
**NORRIS COTTON
CANCER CENTER**

LEBANON

Lung Cancer Screening Program

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cancer.dartmouth.edu/lungscreening

MANCHESTER

Lung Cancer Screening Program

Dartmouth-Hitchcock Manchester

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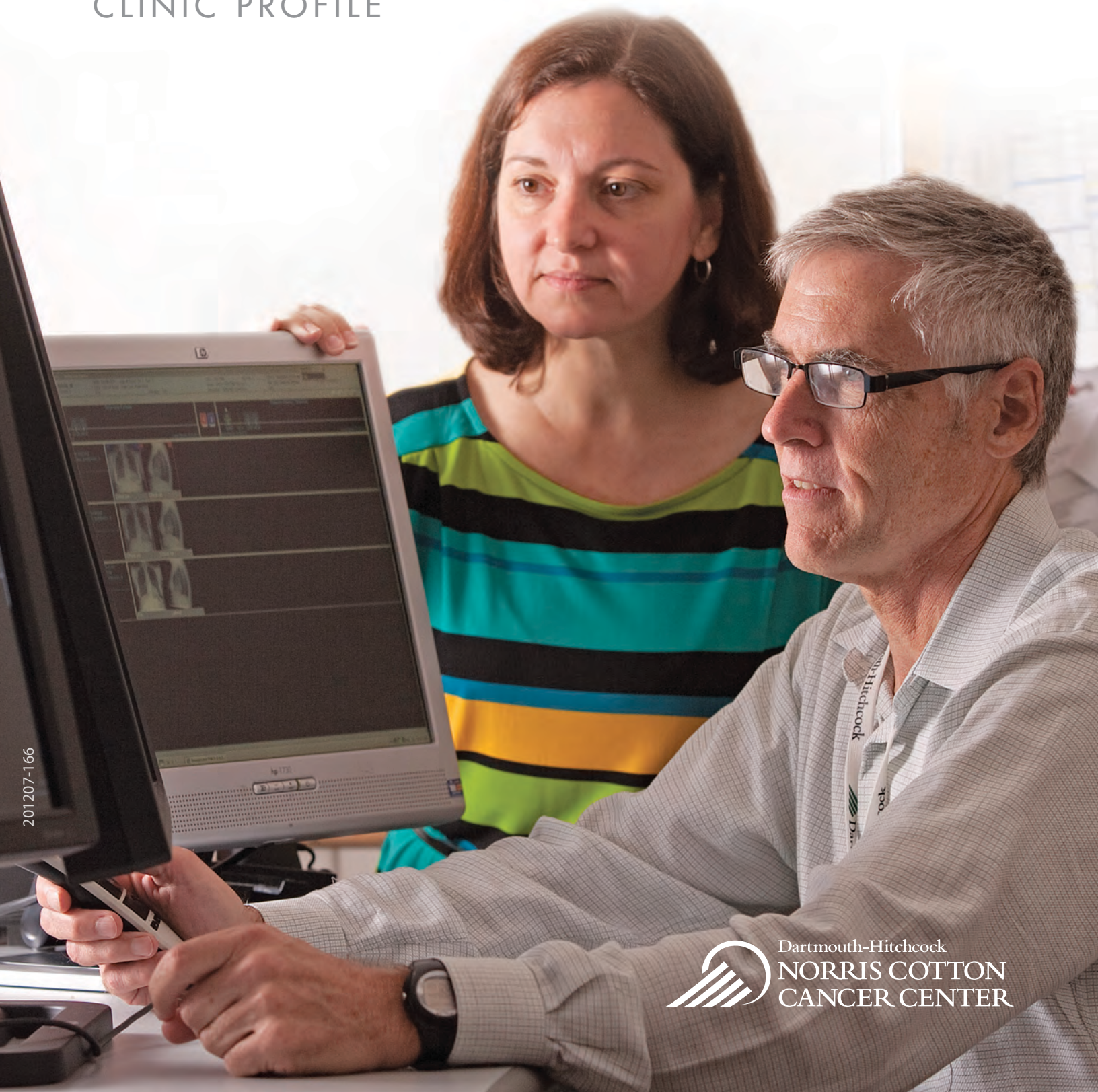
Manchester, NH 03104

(603) 695-2850

LUNG CANCER SCREENING PROGRAM

Dartmouth-Hitchcock Norris Cotton Cancer Center

CLINIC PROFILE



201207-166

The mission of the Dartmouth-Hitchcock Norris Cotton Cancer Center Lung Cancer Screening Program is to partner with regional health care providers to advance prevention, detection, and treatment of lung cancer.

The deadliest of cancers

Lung cancer is the leading cause of cancer-related deaths in the United States and kills more people than cancers of the colon, breast, pancreas, and prostate combined. Cigarette smoking is by far the major cause of lung cancer and there are more than 94 million current and former smokers in the United States.

Finding the best screening test: National Lung Screening Trial (NLST)

The National Lung Screening Trial (NLST), sponsored by the National Cancer Institute (NCI), was a multi-institutional, prospective, randomized study.¹ It consisted of three annual screenings and compared screening with low-dose computed tomography (CT) to screening with single view chest X-ray. (Chest X-ray has been shown ineffective in lung cancer screening.) More than 53,000 current or former heavy smokers ages 55 to 74 joined the NLST at study centers across the United States. After three annual screens and an average follow up of 6.5 years from randomization, the NLST researchers found 20 percent fewer lung cancer deaths among trial participants screened with CT relative to chest X-ray.

Dartmouth-Hitchcock Medical Center (DHMC) was among the first institutions to participate as a trial site in the NLST. William C. Black, MD, Professor of Radiology, The Geisel School of Medicine at Dartmouth, played a leading role in the design and execution of the trial and the analysis and reporting of its results. Experts in risk communication at Dartmouth also contributed to the development of a NLST factsheet to help eligible individuals decide whether to undergo screening.² A unified, multidisciplinary team including faculty from The Geisel School of Medicine, The Dartmouth Institute, Dartmouth-Hitchcock Medical Center, and Norris Cotton Cancer Center continues to research lung cancer screening.



New guidelines introduced for lung cancer screening

Since the primary results of the NLST were reported, the US Preventive Services Task Force (USPSTF), American College of Chest Physicians (ACCP), and the American Society of Clinical Oncology (ASCO) have published guidelines about who is eligible for lung cancer screening and how and where it should be offered.³



Who is eligible?

Patients who meet the following criteria can be screened according to USPSTF recommendations:

- No signs/symptoms of lung cancer or respiratory infection in past 12 weeks
- Minimum of 30 pack-years of smoking
- If former smoker, quit within past 15 years
- Age 55-80 years
- No history of lung cancer ever or other cancer with metastatic potential in last 5 years
- Willing and able to undergo lung cancer treatment

What if your patient falls outside these criteria for lung cancer screening?

We will consider patients who fall outside the USPSTF criteria, who, based on a clinician's evaluation, may be at high risk for lung cancer. We offer consultation and when appropriate CT screening. However, insurance may not cover the cost of services. In some cases, those falling outside the USPSTF criteria may be eligible for participation in a clinical trial.

How is the screening test conducted?

The USPSTF recommends that annual screening with a low-dose chest CT be offered to those who are eligible. For each exam, the screenee is in the CT room for about 5 minutes; the actual CT scan is completed in about seven seconds during a single breath hold. No injections or needles are used.

Addressing tobacco dependence

We hope that patients' interest in lung cancer screening will give providers an opportunity to introduce smoking cessation counseling to active users. Because tobacco is the leading preventable cause of lung cancer and cardiovascular disease, Dartmouth-Hitchcock (D-H) offers tobacco dependence treatment to active users, regardless of whether patients are eligible for lung cancer screening.

Shared Decision Making: counseling patients on the potential benefits and harms of lung cancer screening

The major benefit of screening is a reduction in risk of dying from lung cancer. The most common harm is a false positive result, which cumulatively occurred in 37 percent of participants in the CT arm after three rounds of screening in the NLST. Another potential harm is over diagnosis—the diagnosis of a lung cancer that would otherwise not have become symptomatic. With regard to the estimated harm from radiation delivered by low-dose CT screening, it is much smaller than the estimated benefit in those who meet the criteria for screening.

D-H offers decision support tools to help providers and patients make informed and personalized decisions about lung cancer screening, including:

- Factsheet outlining the major benefits and harms of CT lung cancer screening.
- Patient brochure addressing FAQs on lung cancer screening.

Consultation is available through our Shared Decision Making Center.

Where and when should the screening CT test be done?

USPSTF recommends screening tests be conducted at centers with access to multi-disciplinary programs for lung cancer diagnosis and treatment. This includes a comprehensive process for screening, image interpretation, management of findings, and evaluation and treatment of potential cancers. D-H offers low-cost CT scans in Lebanon and at its multidisciplinary group practices in the community.



Our Lung Cancer Screening Program

Our Lung Cancer Screening Program offers imaging, interpretation, and consultation based on a provider's needs. As a result of our role in NLST, DHMC has been conducting low-dose CT lung cancer screening tests since 2002. Our radiologists have training and experience to assure high quality and uniform performance in interpreting scans.

Arranging for a screening CT scan

We recommend that the provider ordering the screening CT scan be the same provider counseling the patient on lung cancer screening and subsequent follow ups.

How are the results reported?

D-H Radiology will send a written report to referring providers via US mail within one day of completion of the CT scan or the interpretation of an outside CT scan. Primary care providers (if different from the requesting provider) and patients will also receive a written copy of the report. Results are available within hours of completion of the CT scan for providers with access to eD-H, Dartmouth-Hitchcock's electronic medical record. Patients will have access to their reports online within three days of the finalization of the report through myD-H, a secure, online patient portal.

The results will include recommendations on additional studies or consultations for follow up based on the D-H protocol for lung cancer screening and pulmonary nodules. Recommendations may include:

1. Suggested time for follow-up CT scan.
2. Additional diagnostic evaluation.
3. Consultation with our pulmonary nodule clinic.
4. Consultation with our multidisciplinary lung cancer clinic.

Pulmonary nodule and lung cancer treatment programs

For positive results from a lung cancer screening test, we offer the following services:

Pulmonary nodule clinic: Our team of providers including pulmonologists and thoracic surgeons will see new patient consultations at the soonest available appointment. We are happy to see high-risk patients prior to their screening CT or in follow up (See cancer.dartmouth.edu/lungscreening).

Interdisciplinary Lung Cancer Clinic: We use a team approach to provide both state-of-the-art and personalized care for patients diagnosed with lung cancer. Our team includes pulmonologists and thoracic surgeons, medical oncologists, radiation oncologists, chest radiologists, thoracic pathologists and cytopathologists, nurse practitioners, molecular biologists, nutritionists, palliative care providers, certified tobacco treatment specialists, and social workers. The team comes together at weekly tumor board meetings to consider the unique perspective of each discipline in developing a comprehensive treatment plan for each patient.

To schedule follow-up care in one of these clinics, call (603) 650-4400.



Insurance coverage

Lung cancer CT screening exams for eligible individuals are covered by some insurance programs (e.g., Anthem Blue Cross/Blue Shield). Work-ups for positive screens and treatment for lung cancer are generally covered by insurance carriers, including Medicare/Medicaid, although insurance programs vary in the deductibles and co-pays. Our goal is to make this screening test accessible to individuals regardless of ability to pay. We will address specific questions regarding insurance coverage and out-of-pocket expenses individually.

Our continued research on Lung Cancer Screening

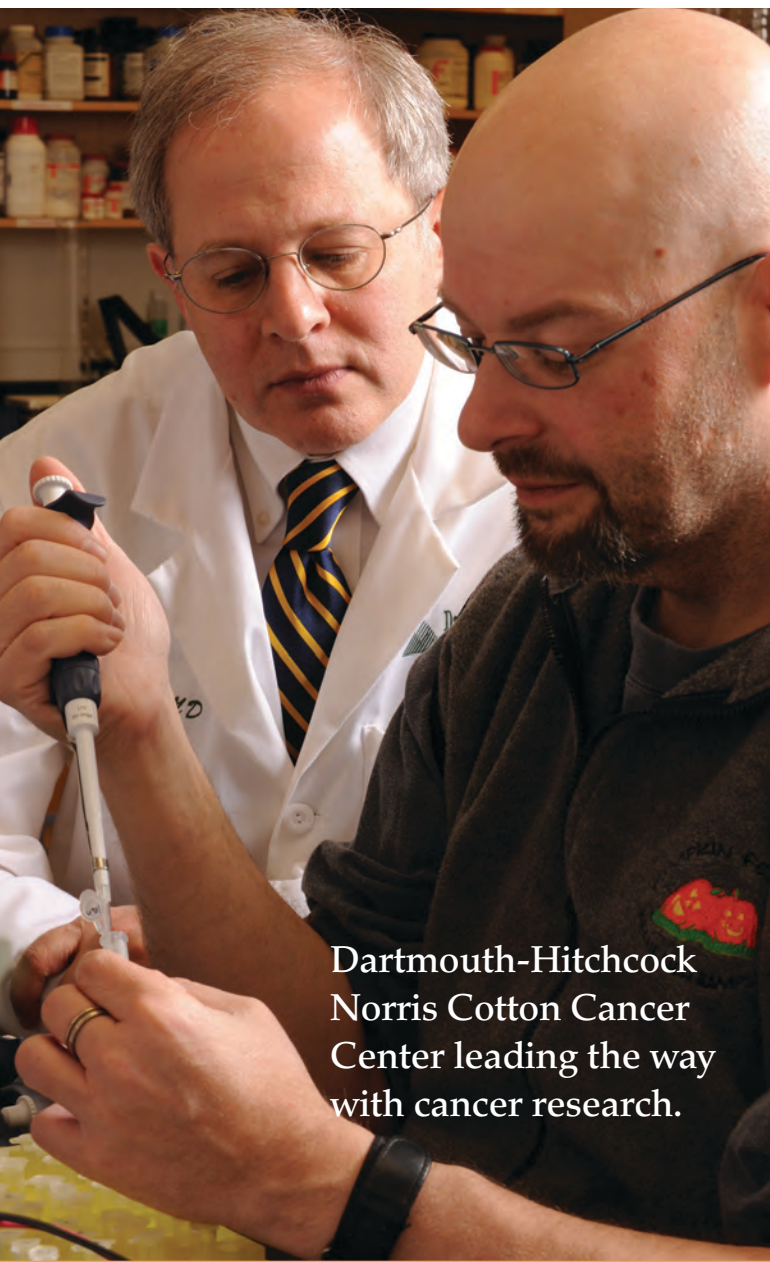
Lung cancer CT screening is a relatively new health care strategy for detection and treatment of lung cancer. Further research is important in making the best use of this new resource. Eligible patients considering and/or choosing to undergo screening will be asked to participate in studies intended to add to our understanding of important research questions including:

1. What are the risk factors contributing to lung cancer that could be used to improve screening, including novel biomarkers?
2. What is the natural history of abnormalities discovered during screening?
3. How is the quality of life affected by participation in a lung cancer screening program?
4. What are optimal work-up and treatment strategies?
5. What preventive interventions are most effective for lung cancer participants, including smoking cessation programs?

To schedule a lung cancer screening call:

Lebanon
1 (866) 966-1601

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Dartmouth-Hitchcock
Norris Cotton Cancer
Center leading the way
with cancer research.

About Dartmouth-Hitchcock Norris Cotton Cancer Center

Norris Cotton Cancer Center combines advanced cancer research at The Geisel School of Medicine at Dartmouth with patient-centered cancer care at Dartmouth-Hitchcock Medical Center.

We are one of 41 Comprehensive Cancer Centers designated by the National Cancer Institute. Through research, new treatments, clinical trials, prevention, and community outreach, Norris Cotton Cancer Center provides the highest level of compassionate care for patients and contributes to the advancement of cancer medicine in our region and around the world.



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Notes:

- (1) Aberle DR, Adams AM, Berg CD, et al. Reduced lung-cancer mortality with low-dose computed tomographic screening. *N Engl J Med* 2011;365:395-409. <http://www.nejm.org/doi/full/10.1056/NEJMoa1102873>
- (2) <http://www.cancer.gov/newscenter/qa/2002/nlstqaQA>
- (3) <http://jama.jamanetwork.com/article.aspx?articleid=1163892>