Information for Patients Regarding CT Lung Cancer Screening

What should I expect BEFORE my CT lung cancer screening?
- Medications: Keep to your regular medication schedule. Please take all the medications that have been prescribed to you by your doctor.
- Food and drink: There are no restrictions on food and drink.
- When to arrive: Please arrive 15 minutes before your scheduled appointment time.
- What to wear: You should dress in comfortable clothing. It might be necessary for you to change into a hospital gown if there is metal in your clothing, such as a bra or zipper, within the area of interest of your study. If you are wearing jewelry or anything else that might interfere with your scan, we will ask you to remove it. The CT scan is conducted in a very secure environment. It is best, however, if you leave valuable items at home.

What will I experience DURING my CT lung cancer screening?
- Scanning: Your CT technologist will bring you into the CT scan room where you will lie down on the patient table. The technologist positions your body so that the area you are having scanned is in the middle of the large doughnut-shaped scanner ring which holds the x-ray tube and an electronic detector. The technologist leaves the room, but is in full view and communication with you through the observation window in the adjoining room.

The scanner does not touch you, nor do you feel the x-rays. It does make some noise and the table you are lying on may move slightly. It is important for you to lie very still and to briefly hold your breath as the picture is taken. During the scan, a thin beam of x-ray is focused on the chest. The x-ray tube moves very rapidly around this area, enabling multiple images to be made to create a cross-sectional picture. The x-ray beam information goes to the electronic detector and then into a computer, which constructs images for the radiologist to interpret.

- Length of scan: Most examinations last approximately 15 minutes in total; the actual scanning only takes about a minute.

What should I expect AFTER my CT lung cancer screening?
- Instructions: You have no restrictions after having a CT scan and can go about your normal activities.
- Exam results: All CT scans are interpreted by a URMC radiologist specialty trained in CT imaging and dedicated to cardiothoracic imaging. Rapid results are essential not only for your peace-of-mind, but also for your physician to begin planning your treatment, if necessary. After the scan has been interpreted the results are sent to your physician, who will discuss them with you.

Scheduling

Physician referral is required and appointments for low-dose CT for lung cancer screening can be scheduled by calling (585) 785-5000 or physician referral through eRecord. The screenings are performed at University Imaging at Science Park. The patient will be charged $195, due at the time of the screening examination. These are not covered by insurance. It is important that a responsible health care provider manage follow-up care for patients with nodules or other findings. Follow-up imaging examinations, which may be covered by insurance, can be performed at any University Imaging Center.

CT Lung Cancer Screening is available at University Imaging at Science Park
100 Science Parkway
Rochester, NY 14620
585-785-5000

110 Science Parkway Rochester, NY 14620
- From I-390, take Exit 16 (Route 15A)
- Turn north and follow Route 15A
- Veer to the right onto South Ave
- Turn right onto Science Parkway
RTS Bus #5X stops at Science Parkway and South Ave

Additional Resources
- Thoracic and Foregut Surgery (585-275-1509)
- Pulmonology (585-275-4161)
- Pulmonary Nodule Clinic (585-275-4161)

Further Information
For more information about imaging CT screening for lung cancer, please contact:

Susan K. Hobbs, M.D., Ph.D.,
Section Head, Cardiothoracic Imaging, URMC at 585-273-1974

Further Information
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Lung Cancer Screening

- The National Lung Cancer Screening Trial (NLST) recently reported that low-dose computed tomography (CT) screening for lung cancer reduces mortality in high-risk patients.
- However, screening results in a high rate of false-positive findings that require follow-up.
- There are currently no national society guidelines regarding who should be screened, although many societies now support screening.
- University of Rochester Medical Center (URMC) offers CT screening for lung cancer, recommended in patients who meet the criteria used in the NLST.
- CT screening for lung cancer is not currently covered by insurance.

Background

The National Lung Cancer Screening trial, published in June 2011, demonstrated that lung cancer mortality in a high-risk population can be diminished with the use of low-dose chest CT screening. This was a large, prospective, randomized clinical trial of patients from the ages of 55-74 years, with a history of cigarette smoking of a minimum of 30 pack-years or, if former smokers, had quit within the last 15 years.

The trial randomized the participants into 2 groups: one receiving low-dose CT screening and the other group receiving conventional chest x-rays. Three exams were given: baseline, one year and two years after the baseline exam. The relative reduction in mortality from lung cancer with low-dose CT screening was 20%. The death rate from any cause in the CT screening group was reduced by 6.7%.

Approximately 40% of the participants in the NLST had an indeterminate small pulmonary nodule considered suspicious for lung cancer in one of the three screening exams. These required diagnostic imaging evaluation or, in some cases, invasive procedures. Of the findings in the low-dose CT group, 96.4% were not cancer. The rate of complication during follow up in the false positive group was 0.06%, that is those that were diagnosed with lung cancer was higher at 11.2%. The majority of cancers detected were early stage adenocarcinomas.

Indications for Lung Cancer Screening at University of Rochester

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<tr>
<th>Indications</th>
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<td>Current and former smokers with a history of 30 pack-years of smoking. Former smokers must have quit within the past 15 years.</td>
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| 55–74 years of age | No history of cancer within the past 5 years.

1. A pack-year = number of packs smoked per day x number of years the patient smoked.
2. Patients with a history of cancer may qualify for a routine diagnostic chest CT evaluation.

Although the results of the NLST were positive, translation into clinical practice is not established.

URMC now offers low-dose lung cancer CT screening; we recommend using the same inclusion criteria as used by the NLST.

Exclusion Criteria

- Participation in another cancer screening trial
- Chest CT examination in the 18 months prior to eligibility assessment
- Unexplained weight loss of more than 15 pounds in the 12 months prior to eligibility assessment
- Recent hemoptysis
- Pneumonia or acute respiratory infection treated with antibiotics in the 12 weeks prior to eligibility assessment
- Please consult with your primary care physician (PCP)

The Examination

The screening evaluation consists of a CT examination of the chest without intravenous or oral contrast with a reduction in radiation exposure to about 1.5 mSv. This is lower than a routine chest CT evaluation. The typical annual background radiation in the United States from natural sources is estimated at 3.0 mSv. The radiologists and technologists at URMC have reduced the radiation dose of our routine diagnostic chest CT examinations by approximately 50% in the last two years and are investigating ways to continue to provide quality diagnostic exams using a radiation dose as low as reasonably achievable.

The Results and Follow-up

The URMC Cardiothoracic Imaging Section physicians will interpret the exams. This group works closely with our practice partners in Interventional Radiology, Pulmonology, Thoracic and Foregut Surgery, Medical Oncology, and Radiation Oncology.

The cases with no pulmonary findings will be scheduled for another screening chest CT in one year.

The cases with lung nodules will be discussed amongst the above team of physicians skilled in managing patients with incidental pulmonary nodules. For example, the finding of a small non-calcified pulmonary nodule may be suspicious and may require follow-up evaluation. The selection of follow-up diagnostic imaging or procedure(s) and their timing is dependent on the size of the lesion. A potential algorithm incorporating Fleischner Society guidelines is proposed.

If necessary the follow-up will consist of additional imaging with CT or PET/CT (which results in additional cost and radiation exposure). Larger nodules may require percutaneous, bronchoscopic or surgical biopsy to establish the diagnosis. These procedures are associated with potential complications. While currently there is no insurance coverage for screening low-dose chest CT evaluation; insurance will likely cover the follow-up care in patients with positive findings.

Screening examinations may detect incidental findings within and outside the lung. Although the majority of these findings are benign, they may result in additional examinations (clinical and imaging) and in anxiety during their follow-up. Where possible, the interpreting physicians will provide as much direction as possible to reduce and facilitate follow-up care.

The systematic approach by the team to assess risk and provide follow-up care helps the patients and their physicians. Furthermore, by taking advantage of URMC’s extensive resources, the group can facilitate rapid referral to other experts when needed. However, it is important that there be a responsible health care provider to manage possible follow-up care.

Screening for lung cancer is not an alternative for smoking cessation, and active smokers who undergo CT screening should enter a smoking cessation program.

For patients whose lung cancer is diagnosed and treated early, the average five year survival rate is 49%. Unfortunately, only 15% of lung cancers are found at an early stage. However, with a CT screening test, most lung cancers can be detected early.

Smoking Cessation Resources

- University of Rochester/Greater Rochester Area Tobacco Cessation Center: 585-758-7815
- New York State Smokers’ Quitline: 1-866-NY-QUITS (1-866-697-8487)
- www.nysmokefree.com
- Physician referral via “Refer-to-quit” at the above contacts

References


Curable lung cancer detected by chest CT scan.