

Lung cancer screening*

KEY POINTS

- Tests are used to screen for different types of cancer.
- Three screening tests have been studied to see if they decrease the risk of dying from lung cancer.
- Screening with low-dose spiral computed tomography (CT) scans has been shown to decrease the risk of dying from lung cancer in heavy smokers.
- Screening with chest x-rays and/or sputum cytology does not decrease the risk of dying from lung cancer.

Tests are used to screen for different types of cancer.

Some screening tests are used because they have been shown to be helpful both in finding cancers early and in decreasing the chance of dying from these cancers. Other tests are used because they have been shown to find cancer in certain people; however, it has not been proven in clinical trials that use of these tests will decrease the risk of dying from cancer.

Scientists study screening tests to find those with the fewest risks and most benefits. Cancer screening trials also are meant to show whether early detection (finding cancer before it causes symptoms) decreases a person's chance of dying from the disease. For some types of cancer, finding and treating the disease at an early stage may result in a better chance of recovery. Clinical trials that study cancer screening methods are taking place in many parts of the country. Information about **ongoing clinical trials**^A is available from the National Cancer Institute website.

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- Low-dose spiral CT scan (LDCT scan): A procedure that uses low-dose radiation to make a series of very detailed pictures of areas inside the body. It uses an x-ray machine that scans the body in a

spiral path. The pictures are made by a computer linked to the x-ray machine. This procedure is also called a low-dose helical CT scan.

- Chest x-ray: An x-ray of the organs and bones inside the chest. An x-ray is a type of energy beam that can go through the body and onto film, making a picture of areas inside the body.
- Sputum cytology: Sputum cytology is a procedure in which a sample of sputum (mucus that is coughed up from the lungs) is viewed under a microscope to check for cancer cells.

Screening with low-dose spiral CT scans has been shown to decrease the risk of dying from lung cancer in heavy smokers.

The National Lung Screening Trial studied people aged 55 years to 74 years who had smoked at least 1 pack of cigarettes per day for 30 years or more. Heavy smokers who had quit smoking within the past 15 years were also studied. The trial used chest x-rays or LDCT scans to check for signs of lung cancer.

The scientists found that LDCT scans were better than chest x-rays at finding early-stage lung cancer. Screening with LDCT also decreased the risk of dying from lung cancer in current and former heavy smokers. A **Guide**^B is available for patients and healthcare providers to learn more about the benefits and harms of LDCT screening for lung cancer.

Screening with chest x-rays and/or sputum cytology does not decrease the risk of dying from lung cancer.

Chest x-ray and sputum cytology are two screening tests that have been used to check for signs of lung cancer. Screening with chest x-ray, sputum cytology, or both of these tests does not decrease the risk of dying from lung cancer. ●

***National Cancer Institute**^C. Updated April 27, 2015.

Readers are invited to photocopy Patient education pages in the journal and distribute them to their patients.

Web resources

- A. cancer.gov/about-cancer/treatment/clinical-trials
- B. cancer.gov/types/lung/research/NLSTstudyGuidePatientsPhysicians.pdf
- C. cancer.gov/types/lung/patient/lung-screening-pdq#section/_13