

PATIENT EDUCATION HANDOUT

Lung Cancer Screening

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DO YOU SMOKE, OR HAVE YOU SMOKED IN THE PAST?

Lung cancer is the number one cause of cancer-related deaths. Tobacco smoking is the cause of 90% of lung cancers. The amount of cigarettes and number of years smoking contribute to the risk of cancer development. Even smoking on occasion increases the risk of lung cancer. Tobacco smoking is carcinogenic because of the inflammation and DNA damage caused by the chemicals like polycyclic aromatic hydrocarbons and N-nitrosamines. Other risk factors include secondhand smoke ingestion, radon exposure, prior chest radiation and exposure to environmental chemicals, like arsenic. Most of the time, lung cancer is asymptomatic, but other symptoms can go unnoticed for years, such as chronic cough, bloody phlegm, recurrent respiratory infections, fatigue or weight changes.

Early detection of lung cancer is crucial because early treatment leads to improved survival.

Lung cancer screening has been vastly effective and has led to a 20% reduction in lung cancer deaths. Screening for lung cancer involves a yearly low dose computed tomography (CT) scan of the chest. The images are evaluated by a radiologist to check for any lung nodules in individuals who are at risk. This is anyone who has had at least a 20 pack-year smoking history. Pack years are calculated by the number of packs of cigarettes smoked per day, multiplied by the years one smoked.

U.S. Preventive Services Task Force 2021 guidelines call for annual low-dose CT scans for adults aged 50–80 years old with a 20-pack year smoking history who either currently smoke or have quit within the last 15 years.

WHEN CAN YOU STOP SCREENING?

Once it has been 15 years since someone has smoked, or once the person has been diagnosed with a health problem that limits life expectancy or precludes their ability to have treatment.

WHAT CAN YOU EXPECT?

You lie on a table while a machine takes several images in order to reconstruct an accurate 3D image of your chest and lungs. A low-dose CT scan uses 5 times less radiation than a standard CT scan. These tests are covered by most insurance plans and Medicare.

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HARMS OF SCREENING AND TREATMENT

The biggest harm includes false-positive results. This means that the CT could find something suspicious but is not actually cancer. This can lead to unnecessary tests and invasive procedures. Additionally, CT scans do have a theoretical risk of radiation-induced cancer, and CT imaging and cancer screening can also cause distress or anxiety.

MEDICAL CARE AND TREATMENT OPTIONS

Do not hesitate to speak to your physician if you have questions about lung cancer screening, whether it is the right choice for you or if you have any questions or concerns about lung cancer.

If you are smoking today, consider talking to your physician about options for smoking cessation. Options may also be indicated.

SOURCES:

1. U.S. Preventive Services Task Force, Krist AH, Davidson KW, et al. Screening for lung cancer: U.S. Preventive Services Task Force recommendation statement. *JAMA*. 2021;325 (10):962–970. doi:10.1001/jama.2021.1117
2. Thomson CC, Mckee AB. American Thoracic Society/American Lung Association lung cancer screening implementation guide. *Am J Respir Crit Care Med*. 2018;198(9):1120–1121. doi:10.1164/rccm.201809-1699ED
3. Office of the Surgeon General (US); Office on Smoking and Health (US). The health consequences of smoking: A report of the surgeon general. Atlanta (GA): Centers for Disease Control and Prevention (US); 2004. PMID: 20669512.