New Lung Cancer Screening Recommendation Expands Eligibility

The update ensures that more minorities and women with lighter smoking histories now qualify for screening.

April 1, 2021 By Sukanya Charuchandra

The U.S. Preventive Services Task Force (USPSTF) has finalized updated guidelines that recommend annual lung cancer screening beginning at age 50 for people with a smoking history of 20 pack-years. Smoking and older age are both strong risk factors for the disease.

The final recommendation was published in JAMA and is available online. A draft of these guidelines was released last July.

With around 235,700 new diagnoses and 131,800 deaths expected in 2021, lung cancer is the second most common type of cancer and the leading cause of cancer death in the United States. Lung cancer has a five-year overall survival rate of about 21%, but this increases to about 50% if caught at an early stage. However, only a small proportion of cases are diagnosed early.

The USPSTF commissioned a systematic review to inform the update to its 2013 recommendation. As part of the review, researchers looked at the pros and cons of lung cancer screening using low-dose computed tomography (CT), including the best age to begin screening and ideal screening intervals.

On the basis of the evidence assessment, the USPSTF found that annual CT screening for lung cancer has a “moderate net benefit” in people at high risk based on their age, total exposure to tobacco smoke and years since quitting smoking.

The new guidelines recommend screening for adults between ages 50 and 80 years who have a 20 pack-year smoking history, currently smoke or have quit smoking within the last five years. A pack-year is equivalent to smoking one pack, containing 20 cigarettes, every day for a year. Screening should be discontinued if a person has not smoked for 15 years or has a health condition that lowers life expectancy or is an obstacle to curative surgery.

The 2013 recommendation suggested annual CT screening for adults between ages 55 and 80 years who have a 30 pack-year smoking history and those who continue to smoke or have quit within the last 15 years.

Based on findings from the National Lung Screening Trial (NLST), the NELSON trial and studies from the Cancer Intervention and Surveillance Modeling Network (CISNET), the USPSTF authors concluded that annual screening is more beneficial than biennial screening.

Per the NELSON trial, which included participants between ages 50 and 74 with a lighter smoking history, the authors determined that beginning screening at a younger age for people with fewer pack-years would increase screening benefits. Modeling studies from CISNET also support lowering the eligibility bar in terms of both age and smoking history.

The potential harms of screening include radiation-induced cancer, false positives, unnecessary biopsies or surgery and patient anguish.

“The revised USPSTF recommendation reflects a move toward encouraging greater and more equitable access to this proven screening strategy,” Anne Melzer, MD, and Timothy Wilt, MD, MPH, both of the Minneapolis VA Health Care System, wrote in an accompanying editorial.

Previous research has found that Black individuals are at higher risk for lung cancer even with lighter smoking histories than their white counterparts. The expanded USPSTF recommendation would raise the relative proportion of individuals eligible for screening by 87% in comparison with the older 2013 criteria, with relative proportions for Black, Latino and white people increasing by 107%, 112% and 78%, respectively. When looking at sex, the relative proportion would rise by 96% for women and by 80% for men.

Based on CISNET modeling, the USPSTF estimated that lung cancer mortality would drop by 13%, avoiding 503 deaths, and lead to 6,918 life-years gained per 100,000 people. This is greater than the 10% drop in lung cancer mortality, the 381 lung cancer deaths avoided and the 4,882 life-years gained per 100,000 people when the 2013 criteria were applied. So the updated recommendations would lead to 122 more lives saved and 2,036 more life-years gained.

Click here to read the USPSTF’s full recommendation for lung cancer screening.

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