

# Lung Cancer Screening

## Clinician Guide

FEBRUARY 2018

**Introduction** This Clinician Guide was developed to assist primary care physicians and other clinicians in screening for lung cancer in asymptomatic high-risk individuals. It is not intended or designed as a substitute for the reasonable exercise of independent clinical judgment by practitioners.

**Definitions**

- ▶ High-risk individuals: Those with a  $\geq 30$  pack-year history of smoking who currently smoke or stopped smoking within the past 15 years.
- ▶ Low-dose helical computed tomography (LDCT): 1.5 mSv using multidetector helical CT scanners of four or more channels (National Lung Cancer Screening Trial [NLST] specifications).

**Key Points**

- ▶ The decision to undergo LDCT screening should be made on an individual basis in the context of shared decision making.
- ▶ Advise patients to stop smoking and refer to a smoking cessation program.
- ▶ The benefits and harms of LDCT screening in adults at lower risk for lung cancer are unknown.

## Recommendations

### Lung Cancer Screening

- ▶ In asymptomatic persons ages 55 to 80 years who are at high risk\* for lung cancer, consider annual screening with low-dose computed tomography (LDCT).
- ▶ Discontinue screening once a person has not smoked for 15 years, or develops a health problem that substantially limits life expectancy or the ability or willingness to have curative lung surgery or radiation therapy.

*\*High risk is defined as persons with a 30 pack-year or more history of smoking, and who currently smoke or have quit within the past 15 years.*

**Clinical Considerations:**

*Patient counseling should include a complete description of potential benefits and harms so individuals can decide whether or not to undergo LDCT screening.*

- ▶ Evidence for screening individuals at lower risk of lung cancer (e.g.,  $<30$  pack-year smoking history with or without a family history of lung cancer or history of chronic lung disease) is insufficient. The relative benefits and harms of screening individuals with these risk factors are unknown.
- ▶ Advising smokers to stop smoking and referring them to a smoking cessation program is imperative because screening does not prevent lung cancer. Smoking cessation is the only intervention that can avoid increasing the risk of lung cancer.
- ▶ Annual LDCT screening may be inappropriate for patients with life-limiting comorbid

conditions or poor functional status who would not be candidates for surgical treatment or radiation therapy.

- ▶ Among adults aged 75-80 years, there is a lack of direct evidence to inform relative benefits and harms.
- ▶ Lung cancer screening has been shown to prevent some deaths from lung cancer, but many deaths are not prevented.
  - In the largest study of lung cancer screening, only 50% of detected cancers were Stage I, for which treatment is most likely to be successful.
- ▶ Screening with annual LDCT may detect other incidental findings that can lead to additional tests and follow-up. Incidental findings occurred in 7.6% of NLST participants.
- ▶ The chances are 1 in 4 that initial LDCT will yield a positive result requiring follow-up testing; very few of these positive results will lead to a diagnosis of lung cancer.
  - Health insurance coverage for the cost of these follow-up tests may differ from the cost of the initial screening.
- ▶ The chances are 1 in 33 that an initial positive result will lead to an invasive biopsy.
  - The chance of complications from an invasive biopsy is low (0.5%).

TERMINOLOGY		
Recommendation Language	Strength*	Action
Start, initiate, prescribe, treat, etc.	Strong affirmative	Provide the intervention. Most individuals should receive the intervention; only a small proportion will not want the intervention.
Consider starting, etc.	Conditional affirmative	Assist each patient in making a management decision consistent with personal values and preferences. The majority of individuals in this situation will want the intervention, but many will not. Different choices will be appropriate for different patients.
Consider stopping, etc.	Conditional negative	Assist each patient in making a management decision consistent with personal values and preferences. The majority of individuals in this situation will not want the intervention, but many will. Different choices will be appropriate for different patients.
Stop, do not start, etc.	Strong negative	Do not provide the intervention. Most individuals should not receive the intervention; only a small proportion will want the intervention.
*Refers to the extent to which one can be confident that the desirable effects of an intervention outweigh its undesirable effects.		

### DISCLAIMER

This guideline is informational only. It is not intended or designed as a substitute for the reasonable exercise of independent clinical judgment by practitioners, considering each patient's needs on an individual basis. Guideline recommendations apply to populations of patients. Clinical judgment is necessary to design treatment plans for individual patients.