



CAT Scan Lung Cancer Screening Diagnostic Imaging (DI) Ordering Guide

Standardization Guide

Version 1, Last Update: August 2023

Lung Cancer Screening

New Screening Recommendations

Based on the NLST results and other studies, [the National Comprehensive Cancer Network](#), [American Lung Association](#), [American Association for Thoracic Surgery](#), [American College of Chest Physicians](#), [American Thoracic Society](#) and the [American Cancer Society](#) all recommend that individuals at high risk for developing lung cancer consider annual screening with LDCT.

The U.S. Preventive Services Task Force (USPSTF) recommends annual screening for lung cancer with LDCT in adults aged 50 to 80 who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years. For more information, please visit the [USPSTF website](#).

How to Compute “Pack-Years”

To translate your smoking history into “pack years,” simply multiply the number of cigarette packs you have smoked per day by the number of years you have smoked. For example: 1 pack a day smoked over a 20-year period = 20 pack years.

Recommendation Summary

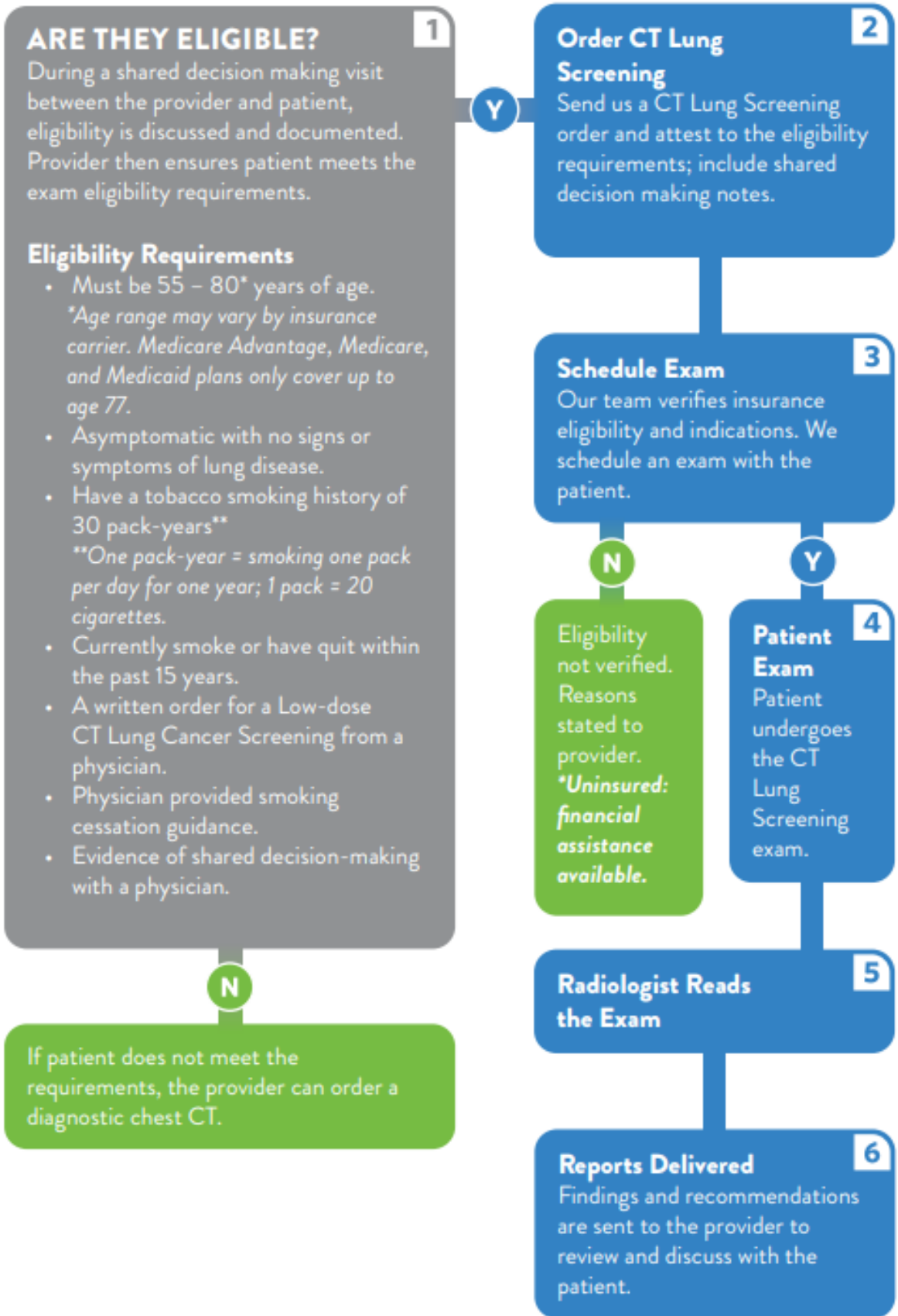
Population	Recommendation	Grade
Adults aged 50 to 80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years	The USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in adults aged 50 to 80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years. Screening should be discontinued 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.	B



<p>What does the USPSTF recommend?</p>	<p>Adults aged 50 to 80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years:</p> <ul style="list-style-type: none"> • Screen for lung cancer with low-dose computed tomography (CT) every year. • Stop screening once a person has not smoked for 15 years or has a health problem that limits life expectancy or the ability to have lung surgery. <p>Grade: B</p>
<p>To whom does this recommendation apply?</p>	<p>Adults aged 50 to 80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years. (See below for definition of pack-year.)</p>
<p>What's new?</p>	<p>The USPSTF has revised the recommended ages and pack-years for lung cancer screening. It expanded the age range to 50 to 80 years (previously 55 to 80 years), and reduced the pack-year history to 20 pack-years of smoking (previously 30 pack-years).</p>
<p>How to implement this recommendation?</p>	<ol style="list-style-type: none"> 1. Assess risk based on age and pack-year smoking history: Is the person aged 50 to 80 years and have they accumulated 20 pack-years or more of smoking? <ol style="list-style-type: none"> a. A pack-year is a way of calculating how much a person has smoked in their lifetime. One pack-year is the equivalent of smoking an average of 20 cigarettes—1 pack—per day for a year. 2. Screen: If the person is aged 50 to 80 years and has a 20 pack-year or more smoking history, engage in shared decision-making about screening. <ol style="list-style-type: none"> a. The decision to undertake screening should involve a discussion of its potential benefits, limitations, and harms. b. If a person decides to be screened, refer them for lung cancer screening with low-dose CT, ideally to a center with experience and expertise in lung cancer screening. c. If the person currently smokes, they should receive smoking cessation interventions.
<p>How often?</p>	<ul style="list-style-type: none"> • Screen every year with low-dose CT. • Stop screening once a person has not smoked for 15 years or has a health problem that limits life expectancy or the ability to have lung surgery.
<p>What are other relevant USPSTF recommendations?</p>	<p>The USPSTF has made recommendations on interventions to prevent the initiation of tobacco use in children and adolescents, and on behavioral and pharmacotherapy interventions for tobacco smoking cessation in adults, including pregnant women. These recommendations are available at www.uspreventiveservicestaskforce.org.</p>
<p>Where to read the full recommendation statement?</p>	<p>Visit the USPSTF Web site to read the full recommendation statement. This includes more details on the rationale of the recommendation, including benefits and harms; supporting evidence; and recommendations of others.</p>

The USPSTF recognizes that clinical decisions involve more considerations than evidence alone. Clinicians should understand the evidence but individualize decision making to the specific patient or situation.

LUNG CANCER SCREENING DECISION TREE





Lung-RADS	Category Descriptor	Findings	Management
0	Incomplete Estimated Population Prevalence: ~ 1%	Prior chest CT examination being located for comparison (see note 9)	Comparison to prior chest CT;
		Part or all of lungs cannot be evaluated	Additional lung cancer screening CT imaging needed;
		Findings suggestive of an inflammatory or infectious process (see note 10)	1-3 month LDCT
1	Negative Estimated Population Prevalence: 39%	No lung nodules OR Nodule with benign features: • Complete, central, popcorn, or concentric ring calcifications OR • Fat-containing	12-month screening LDCT
2	Benign - Based on imaging features or indolent behavior Estimated Population Prevalence: 45%	Juxtapleural nodule: • < 10 mm (524 mm ³) mean diameter at baseline or new AND • Solid; smooth margins; and oval, lentiform, or triangular shape	
		Solid nodule: • < 6 mm (< 113 mm ³) at baseline OR • New < 4 mm (< 34 mm ³)	
		Part solid nodule: • < 6 mm total mean diameter (< 113 mm ³) at baseline	
		Non solid nodule (GGN): • < 30 mm (< 14,137 mm ³) at baseline, new, or growing OR • ≥ 30 mm (≥ 14,137 mm ³) stable or slowly growing (see note 7)	
		Airway nodule, subsegmental - at baseline, new, or stable (see note 11)	
		Category 3 lesion that is stable or decreased in size at 6-month follow-up CT OR Category 4B lesion proven to be benign in etiology following appropriate diagnostic workup	
3	Probably Benign - Based on imaging features or behavior Estimated Population Prevalence: 9%	Solid nodule: • ≥ 6 to < 8 mm (≥ 113 to < 268 mm ³) at baseline OR • New 4 mm to < 6 mm (34 to < 113 mm ³)	6-month LDCT
		Part solid nodule: • ≥ 6 mm total mean diameter (≥ 113 mm ³) with solid component < 6 mm (< 113 mm ³) at baseline OR • New < 6 mm total mean diameter (< 113 mm ³)	
		Non solid nodule (GGN): • ≥ 30 mm (≥ 14,137 mm ³) at baseline or new	
		Atypical pulmonary cyst: (see note 12) • Growing cystic component (mean diameter) of a thick-walled cyst	
		Category 4A lesion that is stable or decreased in size at 3-month follow-up CT (excluding airway nodules)	
4A	Suspicious Estimated Population Prevalence: 4%	Solid nodule: • ≥ 8 to < 15 mm (≥ 268 to < 1,767 mm ³) at baseline OR • Growing < 8 mm (< 268 mm ³) OR • New 6 to < 8 mm (113 to < 268 mm ³)	3-month LDCT; PET/CT may be considered if there is a ≥ 8 mm (≥ 268 mm ³) solid nodule or solid component
		Part solid nodule: • ≥ 6 mm total mean diameter (≥ 113 mm ³) with solid component ≥ 6 mm to < 8 mm (≥ 113 to < 268 mm ³) at baseline OR • New or growing < 4 mm (< 34 mm ³) solid component	
		Airway nodule, segmental or more proximal - at baseline (see note 11)	
		Atypical pulmonary cyst: (see note 12) • Thick-walled cyst OR • Multilocular cyst at baseline OR • Thin- or thick-walled cyst that becomes multilocular	
4B	Very Suspicious Estimated Population Prevalence: 2%	Airway nodule, segmental or more proximal - stable or growing (see note 11)	Referral for further clinical evaluation
		Solid nodule: • ≥ 15 mm (≥ 1767 mm ³) at baseline OR • New or growing ≥ 8 mm (≥ 268 mm ³)	Diagnostic chest CT with or without contrast;
		Part solid nodule: • Solid component ≥ 8 mm (≥ 268 mm ³) at baseline OR • New or growing ≥ 4 mm (≥ 34 mm ³) solid component	PET/CT may be considered if there is a ≥ 8 mm (≥ 268 mm ³) solid nodule or solid component;
		Atypical pulmonary cyst: (see note 12) • Thick-walled cyst with growing wall thickness/nodularity OR • Growing multilocular cyst (mean diameter) OR • Multilocular cyst with increased loculation or new/increased opacity (nodular, ground glass, or consolidation)	tissue sampling; and/or referral for further clinical evaluation
		Slow growing solid or part solid nodule that demonstrates growth over multiple screening exams (see note 8)	Management depends on clinical evaluation, patient preference, and the probability of malignancy (see note 13)
4X	Estimated Population Prevalence: < 1%	Category 3 or 4 nodules with additional features or imaging findings that increase suspicion for lung cancer (see note 14)	
S	Significant or Potentially Significant Estimated Population Prevalence: 10%	Modifier: May add to category 0-4 for clinically significant or potentially clinically significant findings unrelated to lung cancer (see note 15)	As appropriate to the specific finding