Cohere Medicare Advantage Policy - Low-Dose Computed Tomography (LDCT), Chest, for Lung Cancer Screening

Clinical Policy for Medical Necessity Review

Version: 2
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Important Notices

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Other Notices:

Guideline Information:

Specialty Area: Diagnostic Imaging
Guideline Name: Cohere Medicare Advantage Policy - Low-Dose Computed Tomography (LDCT), Chest, for Lung Cancer Screening
Type: [**X**] Adult (18+ yo) | [_] Pediatric (0-17 yo)

Table of Contents

Important Notices **2**

Medical Necessity Criteria **4**

Service: Low-Dose Computed Tomography (LDCT), Chest, for Lung Cancer Screening **4**

Related CMS Documents 4

Description 4

Medical Necessity Criteria 5

Indications 5

Definitions 5

Non-Indications 5

Level of Care Criteria 5

Procedure Codes (CPT/HCPCS) 5

Evaluation of Clinical Harms and Benefits 6

Medical Evidence **8**

References **9**

Policy Revision History/Information **11**

Medical Necessity Criteria

Service: Low-Dose Computed Tomography (LDCT), Chest, for Lung Cancer Screening

Related CMS Documents

Please refer to the CMS Medicare Coverage Database for the most current applicable CMS National Coverage.[1]

- National Coverage Determination (NCD). Lung cancer screening with low dose computed tomography (LDCT) (210.14)

Description

Low-dose CT of the chest (LDCT) is offered to certain patients considered to be at high-risk of acquiring lung cancer, who, at the same time, would be inclined to pursue oncologic treatment if a lung cancer diagnosis were rendered after a full diagnostic evaluation. A well-developed lung cancer screening program is essential to realizing the population-level promise of the same, the components of which are not limited to the following:

- Shared decision-making between the requesting provider and the patient
- Tobacco cessation counseling, support, and pharmacologic therapy as needed
- LDCT.

LDCT screening for lung cancer increases the odds of detecting lung cancer at an early stage, when there is a better chance of effectively treating/curing the newly diagnosed cancer.[2] It is properly performed in serial fashion on an annual basis for patients who are participating in a guideline-directed screening program.

Multiple chest images are taken while the patient lies flat on the X-ray table. The images are combined to reconstruct detailed internal organ images, with a particular focus on the lungs. This advanced imaging technology allows the detection of very small lung nodules that can signal early-stage lung cancer.[3] According to medical literature, LDCT can lower the mortality rate from lung cancer by as much as 20%.

Medical Necessity Criteria

Indications

Low-dose computed tomography, chest, for lung cancer screening is considered appropriate when **ALL** of the following are **TRUE**[1-10]:

- Adults aged 50 to 77 years; **AND**
- Asymptomatic (no signs of lung cancer); **AND**
- Tobacco smoking history of at least 20 pack-years*; **AND**
- Screening may occur no more often than annually; **AND**
- **ANY** of the following:
  - The patient is a current smoker; **OR**
  - The patient has quit smoking within the past 15 years.

Definitions

- One pack-year equals smoking one pack of cigarettes per day for one year (20 cigarettes in one pack).[4]

Non-Indications

Low-dose computed tomography, chest, for lung cancer screening is not considered appropriate if **ANY** of the following is **TRUE**[4]:

- Screening for a patient who has quit smoking more than 15 years ago.

Level of Care Criteria

Outpatient

Procedure Codes (CPT/HCPCS)

CPT/HCPCS Code	Code Description
71271	Computed tomography, thorax, low dose for lung cancer screening, without contrast material(s)

Evaluation of Clinical Harms and Benefits

Clinical determinations for Medicare Advantage beneficiaries are made in accordance with 42 CFR 422.101 guidance outlining CMS's required approach to decision hierarchy in the setting of NCDs/LCDs identified as being "not fully established". When clinical coverage criteria are "not fully established" Medicare Advantage organizations are instructed to create publicly accessible clinical coverage criteria based on widely-accepted clinical guidelines and/or scientific studies backed by a robust clinical evidence base. Clinical coverage criteria provided by Cohere Health in this manner include coverage rationale and risk/benefit analysis.

The potential clinical harms of using these criteria for low-dose computed tomography (LDCT) for lung cancer screening may include:

- Adverse effects from delayed or denied imaging include progression of disease and no longer meeting criteria for some treatment options.
- Inherent risk of procedure: There are inherent risks of imaging, including cumulative radiation exposure, contrast, allergy, nephrotoxicity, and contrast extravasation into surrounding tissues.[11]
- Potential danger to pregnancy: CT imaging completed during pregnancy confers a dose of ionizing radiation to the fetus and is generally only utilized when the potential benefits of this specific imaging modality outweigh the risks to the pregnancy.[12] Fetal risk includes fetal demise, intrauterine growth restriction, microcephaly, delayed intellectual development, risk of childhood cancer, and fetal thyroid injury.[12]
- Increased healthcare costs and complications from the inappropriate use of additional interventions.[13]

The clinical benefits of using these criteria for LDCT for lung cancer screening include:

- Improved patient outcomes through timely and appropriate access to the procedure. Due to the high incidence, particularly of non-small cell lung cancer, morbidity, and mortality of lung cancer, early diagnosis may improve patient outcomes.

- Reduction in complications and adverse effects from unnecessary procedures. Use of low-dose computed tomography (LDCT) is preferred as it is a less invasive procedure.[10]
- Enhanced diagnostic accuracy for complex medical conditions. Studies using LDCT have shown a relative reduction of 16% in lung cancer mortality among high-risk patients. LDCT exhibits precision in the identification of smaller nodules.[14]
- Enhanced overall patient satisfaction and healthcare experience.
- Appropriate allocation of healthcare resources at the individual beneficiary and population levels.

Medical Evidence

The National Comprehensive Cancer Network (NCCN) (2025) lung cancer screening guideline discussed risks and benefits. Risks included false-positive or false-negative results, radiation exposure, cost, and finding of incidental lesions. Benefits included decreased mortality from lung cancer, improvement in anxiety and healthy lifestyles, and the potential for the discovery of other undiagnosed health risks, including thyroid nodules and breast cancer. The screening recommendation by NCCN is in agreement with other societies (high-risk greater than or equal to 50 years of age with a greater than or equal to 20 pack-year cigarette smoking history).[6]

Jonas et al. (2021) analyzed the recommendations by the United States Preventive Services Task Force (USPSTF) for low-dose computed tomography (LDCT) for lung cancer. Seven randomized controlled trials (RCTs) were reviewed, including the National Lung Screening Trial (NLST) with 53,454 participants and the Nederlands-Leuvens Longkanker Screenings Onderzoek (NELSON) trial with 15,792 participants. Overall, the authors found that while screening can reduce lung cancer mortality, LDCT can cause false positives.[7]

Aberle et al. (2011) reported on the National Lung Screening Trial (NLST) (NCT00047385), which had 53,454 individuals with a high-risk of lung cancer. Participants were randomly assigned to either the low-dose CT group (26,722) or the single-view posteroanterior chest radiography group (26,732). Positive results were found in 24.2% of the participants, and were higher among the LDCT group by a factor of more than three. Adherence rates were high overall. The authors noted that a main limitation of the study was the advances in technology that have occurred since the study was conducted, which have further reduced the rate of lung cancer deaths. Lower death rates were also attributed to other ongoing LCDT screening not originally in the NLST data, and thus, death rates may be higher.[15]

The National Cancer Institute (2024) stated that LDCT was shown to be more sensitive than chest radiography; based on the Early Lung Cancer Action Project, LDCT detected nearly six times more Stage I lung cancers compared to chest radiography, with most of the tumors less than 1 cm in size.[3]

References

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Policy Revision History/Information

Original Date: November 21, 2024		
Review History		
Version 2	11/13/2025	Clarified description, indications, and non-indications to align with guideline-directed cigarette smoking history requirement. Updated age range from “50 to 80” to “50 to 77” based on CMS NCD 210.14. Expanded the Medical Evidence section; added one citation.