National Imaging Associates, Inc.*	
Clinical guidelines **LOW DOSE CT FOR LUNG CANCER SCREENING**	**Original Date: January 2015**
CPT Codes: 71271	**Last Revised Date: ~~November~~ April 202~~1~~0**
Guideline Number: NIA_CG_020-1	**Implementation Date: January 2022~~1~~**

INDICATIONS FOR LOW-~~-~~DOSE CT (LDCT) FOR LUNG CANCER SCREENING ~~(LDCT):~~

For Annual Lung Cancer Screening:
The use of low-dose, non-contrast spiral (helical) multi-detector CT imaging as a screening technique for lung cancer is considered **medically necessary ONLY** when used to screen for lung cancer for certain high-risk, **asymptomatic** individuals, i.e., no acute ~~lung~~ lung-related symptoms, when **ALL** of the following criteria are met (~~Mazzone, 2018; NCCN, 2019~~**USPSTF, 2021**):

~~Group 1:~~**Group 1:**

- Individual is between 5~~5~~0-80 years of age*; AND
- There is at least a ~~2~~30 pack-year history of cigarette smoking; AND
- If the individual is a former smoker, that individual had quit smoking within the previous 15 years.

***May approve for individuals over the age limit if the individual is a candidate for and willing to undergo curative treatment**

Group 2:
Yearly Low-~~-~~Dose CT surveillance after completion of definitive treatment of non-small cell lung cancer as per these parameters (NCCN version 4.2021):

- **Stage I-II (treated with surgery +/- chemotherapy)**
  - **starts at year 2-3 of surveillance)**
- **Stage I-II (treated primarily with radiation) or stage III-IV with all sites treated with definitive intent**
  - **starts at year 5 of surveillance**

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~~Group 2:~~

- ~~Age ≥ 50 years old; AND~~
- ~~≥ 20 pack-year history of smoking; AND~~
- ~~Additional risk factors (other than second-hand smoke)*~~

~~*Additional risk factors include: Survivors of lung cancer, lymphoma, cancers of the head and neck and bladder (smoking related cancers), first degree family members with a history of lung cancer, history of COPD or pulmonary fibrosis, radon exposure, retinoblastoma, Li Fraumeni syndrome, occupational exposure to arsenic, chromium, asbestos, nickel, cadmium, beryllium, silica, diesel fumes, coal smoke and soot.~~

Nodule on initial LDCT (Follow-up low dose CT is approvable):
(Wood, 2018)

- Table 1 shows the follow-up interval at which LDCT can be approved to reduce radiation dose (ACR, 2019)
- If multiple nodules, the largest and type is used for decision

Table 1: Lung-RADS® Assessment Categories (ACR, 2019)

Category Descriptor	Lung-RADS Score	Findings	Management
Incomplete	**0**	Prior chest CT examination(s) being located for comparison Part or all of lungs cannot be evaluated	Additional lung cancer screening CT images and/or comparison to prior chest CT examinations is needed
Negative No nodules and definitely benign nodules	**1**	No lung nodules Nodule(s) with specific calcifications: complete, central, popcorn, concentric rings and fat containing nodules	Continue annual screening with LDCT in 12 months
Benign Appearance or Behavior Nodules with a very low likelihood of becoming a clinically active cancer due to size or lack of growth	**2**	**Perifissural nodule(s)** *(See Footnote 11)* < 10 mm (524 mm^3) **Solid nodule(s):** < 6 mm (< 113 mm^3) new < 4 mm (< 34 mm^3) **Part solid nodule(s):** < 6 mm total diameter (< 113 mm^3) on baseline screening **Non solid nodule(s) (GGN):** <30 mm (<14137 mm^3) **OR** ≥ 30 mm (≥ 14137 mm^3) and unchanged or slowly growing **Category 3 or 4 nodules unchanged for ≥ 3 months**	
Probably Benign Probably benign finding(s) - short term follow up suggested; includes nodules with a low likelihood of becoming a clinically active cancer	**3**	**Solid nodule(s):** ≥ 6 to < 8 mm (≥ 113 to < 268 mm^3) at baseline **OR** new 4 mm to < 6 mm (34 to < 113 mm^3) **Part solid nodule(s)** ≥ 6 mm total diameter (≥ 113 mm^3) with solid component < 6 mm (< 113 mm^3) **OR** new < 6 mm total diameter (< 113 mm^3) **Non solid nodule(s)** (GGN) ≥ 30 mm (≥ 14137 mm^3) on baseline CT or new	6 month LDCT
Suspicious Findings for which additional diagnostic testing is recommended	**4A**	**Solid nodule(s):** ≥ 8 to < 15 mm (≥ 268 to < 1767 mm^3) at baseline **OR** growing < 8 mm (< 268 mm^3) **OR** new 6 to < 8 mm (113 to < 268 mm^3) **Part solid nodule(s):** ≥ 6 mm (≥ 113 mm^3) with solid component ≥ 6 mm to < 8 mm (≥ 113 to < 268 mm^3) **OR** with a new or growing < 4 mm (< 34 mm^3) solid component **Endobronchial nodule**	3 month LDCT; PET/CT may be used when there is a ≥ 8 mm (≥ 268 mm^3) solid component
Very Suspicious Findings for which additional diagnostic testing and/or tissue sampling is recommended	**4B**	**Solid nodule(s)** ≥ 15 mm (≥ 1767 mm^3) **OR** new or growing, and ≥ 8 mm (≥ 268 mm^3) **Part solid nodule(s) with:** a solid component ≥ 8 mm (≥ 268 mm^3) **OR** a new or growing ≥ 4 mm (≥ 34 mm^3) solid component	Chest CT with or without contrast, PET/CT and/or tissue sampling depending on the *probability of malignancy and comorbidities. PET/CT may be used when there is a ≥ 8 mm (≥ 268 mm^3) solid component. *For new large nodules that develop on an annual repeat screening CT, a 1 month LDCT may be recommended to address potentially infectious or inflammatory conditions*
	4X	Category 3 or 4 nodules with additional features or imaging findings that increases the suspicion of malignancy	
Other Clinically Significant or Potentially Clinically Significant Findings (non lung cancer)	**S**	**Modifier - may add on to category 0-4 coding**	As appropriate to the specific finding

BACKGROUND~~:~~

Smoking-related lung cancer is the leading cause of cancer deaths in both men and women in the United States. Treatment for most lung cancer is focused on surgery which is usually curative only when the tumors are very small. Screening for early lung cancer with sputum cytology and chest x-rays has not been successful in reducing deaths from lung cancer. However, in 2011, a large, prospective, multicenter trial was published that showed CT Chest screening identified early cancers better than other approaches and reduced the death rate from lung cancer. In 2014, the United States Preventive Service Task Force (USPSTF) recommended annual ~~low~~ low-dose CT Chest screening (CPT® code 71271) for people with current or recent past smoking histories.

All screening and follow-up chest CT scans to be performed at low dose (100-120 kVp and 40-60 mAs), unless evaluating mediastinal findings or lymph nodes, where standard dose CT with IV contrast may be more appropriate (NCCN, ~~2019~~2021).

OVERVIEW~~:~~

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.

POLICY HISTORY~~:~~

Date	Summary
April 2021	• Added data about expanding screening to older patients that are willing to have and that are candidates for definitive treatment for lung cancer, based on NCCN recommendations • Added long term surveillance in patients who received definitive treatment for non small cell lung cancer
March 10, 2021	• Eliminated groupings (group 1 and group 2) for lung cancer screening and changed age of 55-80 years to 50-80 years; ~~removed 30~~changed to 20 pack year history of cigarette smoking and requirement of additional risk factors (USPSTF 2021)
November 9, 2020	• Replaced CPT code G0297 with 71271
May 2020	• Lung Cancer Screening: ○ Changed upper age limit from 77 to 80 yrs old ○ Added: • *Age ≥ 50 years old; AND*

	• ***≥ 20 pack-year history of smoking; AND*** • ***Additional risk factors (other than second-hand smoke)**** ***Additional risk factors include: Survivors of lung cancer, lymphoma, cancers of the head and neck and bladder (smoking related cancers), first degree family members with a history of lung cancer, history of COPD or pulmonary fibrosis, radon exposure, retinoblastoma, Li Fraumeni syndrome, occupational exposure to arsenic, chromium, asbestos, nickel, cadmium, beryllium, silica, diesel fumes, coal smoke and soot*** • **Updated the follow-up interval for LDCT information, using the ACR 2019 Lung RADS chart** • **Updated background information**
May 2019	• **Criteria for repeating at less than one year were added.** • **Upper age range changed from 80 to 77 years of age** • **Chart added for the f/u interval at which LDCT can be approved to reduce radiation dose**

~~**Review Date:** May 2019~~
~~**Review Summary:**~~
- ~~Criteria for repeating at less than one year were added.~~
- ~~Upper age range changed from 80 to 77 years of age~~
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- ~~Lung Cancer Screening:~~
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  - ~~Added:~~
    - ~~*Age ≥ 50 years old; AND*~~
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    - ~~*Additional risk factors (other than second-hand smoke)**~~

~~**Additional risk factors include: Survivors of lung cancer, lymphoma, cancers of the head and neck and bladder (smoking related cancers), first degree family members with a history of lung cancer, history of COPD or pulmonary fibrosis, radon exposure, retinoblastoma, Li Fraumeni syndrome, occupational exposure to arsenic, chromium, asbestos, nickel, cadmium, beryllium, silica, diesel fumes, coal smoke and soot~~
- ~~Updated the follow-up interval for LDCT information, using the ACR 2019 Lung RADS chart~~
- ~~Updated background information~~

~~**Review Date:** November 9, 2020~~
~~**Review Summary:** Replaced CPT code G0297 with 71271~~

REFERENCES~~:~~

American College of Radiology (ACR). Lung - RADS Assessment Categories v1.1. 2019. https://www.acr.org/Clinical-Resources/Reporting-and-Data-Systems/Lung-Rads.

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National Comprehensive Cancer Network (NCCN). *NCCN Guidelines Version ~~4~~1.202~~0~~1 – ~~Lung Cancer Screening~~Non-Small Cell Lung Cancer*. ~~May 14, 2019~~March 3, 2021. https://www.nccn.org/professionals/physician_gls/pdf/nscl.pdf.

U.S. Preventive Services Task Force (USPSTF). Lung Cancer: Screening. Final recommendation statement, March 9, 2021. https://uspreventiveservicestaskforce.org/uspstf/recommendation/lung-cancer-screening.

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GENERAL INFORMATION

It is an expectation that all patients receive care/services from a licensed clinician. All appropriate supporting documentation, including recent pertinent office visit notes, laboratory data, and results of any special testing must be provided. If applicable: All prior relevant imaging results and the reason that alternative imaging cannot be performed must be included in the documentation submitted.

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