



Lung-RADS® Version 1.1

Assessment Categories Release date: 2019

Category Descriptor	Lung-RADS Score	Findings	Management	Risk of Malignancy	Est. Population Prevalence
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	n/a	1%
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	< 1%	90%
Benign Appearance or Behavior Nodules with a very low likelihood of becoming a clinically active cancer due to size or lack of growth	2	Solid nodule(s): < 6 mm (< 113.1 mm ³) new < 4 mm (< 33.5 mm ³)			
		Part solid nodule(s): < 6 mm total diameter (< 113.1 mm ³) on baseline screening Non solid nodule(s) (GGN): <30 mm (<14137.2 mm ³) OR ≥ 30 mm (≥ 14137.2 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 (≥ 113.1 to < 268.1 mm ³) at baseline OR new 4 mm to < 6 mm (33.5 to < 113.1mm ³) Part solid nodule(s) ≥ 6 mm total diameter (≥ 113.1 mm ³) with solid component < 6 mm (< 113.1 mm ³) OR new < 6 mm total diameter (< 113.1 mm ³) Non solid nodule(s) (GGN) ≥ 30 mm (≥ 14137.2 mm ³) on baseline CT or new	6 month LDCT	1-2%	5%
Suspicious Findings for which additional diagnostic testing is recommended	4A	Solid nodule(s): ≥ 8 to < 15 mm (≥ 268.1 to < 1767.1 mm ³) at baseline OR growing < 8 mm (< 268.1 mm ³) OR new 6 to < 8 mm (113.1 to < 268.1 mm ³) Part solid nodule(s): ≥ 6 mm (≥ 113.1 mm ³) with solid component ≥ 6 mm to < 8 mm (≥ 113.1 to < 268.1 mm ³) OR with a new or growing < 4 mm (< 33.5 mm ³) solid component Endobronchial nodule	3 month LDCT; PET/CT may be used when there is a ≥ 8 mm (≥ 268.1 mm ³) solid component	5-15%	2%
Very Suspicious Findings for which additional diagnostic testing and/or tissue sampling is recommended	4B	Solid nodule(s) ≥ 15 mm (≥ 1767.1 mm ³) OR new or growing, and ≥ 8 mm (≥ 268.1 mm ³) Part solid nodule(s) with: a solid component ≥ 8 mm (≥ 268.1 mm ³) OR a new or growing ≥ 4 mm (≥ 33.5 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 (≥ 268.1 mm ³) solid component. <i>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</i>	> 15%	2%
	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	n/a	10%

IMPORTANT NOTES FOR USE:

- Negative screen: does not mean that an individual does not have lung cancer
- Size: To calculate nodule mean diameter, measure both the long and short axis to one decimal point, and report mean nodule diameter to one decimal point
- Size Thresholds: apply to nodules at first detection, and that grow and reach a higher size category
- Growth: an increase in size of > 1.5 mm (> 1.8 mm³)
- Exam Category: each exam should be coded 0-4 based on the nodule(s) with the highest degree of suspicion
- Exam Modifiers: S modifier may be added to the 0-4 category
- Lung Cancer Diagnosis: Once a patient is diagnosed with lung cancer, further management (including additional imaging such as PET/CT) may be performed for purposes of lung cancer staging; this is no longer screening
- Practice audit definitions: a negative screen is defined as categories 1 and 2; a positive screen is defined as categories 3 and 4
- Category 4B Management: this is predicated on the probability of malignancy based on patient evaluation, patient preference and risk of malignancy; radiologists are encouraged to use the McWilliams et al assessment tool when making recommendations
- Category 4X: nodules with additional imaging findings that increase the suspicion of lung cancer, such as spiculation, GGN that doubles in size in 1 year, enlarged lymph nodes etc
- Solid nodules with smooth margins, an oval, lentiform or triangular shape, and maximum diameter less than 10 mm or 523.6 mm³ (perifissural nodules) should be classified as category 2
- Category 3 and 4A nodules that are unchanged on interval CT should be coded as category 2, and individuals returned to screening in 12 months
- LDCT: low dose chest CT

*Additional resources available at - <https://www.acr.org/Clinical-Resources/Reporting-and-Data-Systems/Lung-Rads>

*Link to Lung-RADS calculator - <https://brocku.ca/lung-cancer-screening-and-risk-prediction/risk-calculators/>