

# Case Study Mary: Stage IA NSCLC Detected in Patient With Low-Risk PET Result and Risk Calculator Score

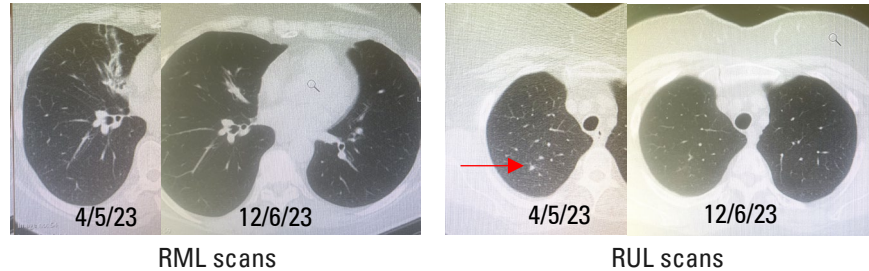
## Patient Information and Initial Workup

- **Age:** 67 years old
- **Sex:** Female
- **Smoking status:** >50 pack-year history; currently smokes ½ PPD
- **Medical history:** Stage 3 COPD with frequent exacerbations; FEV1 = 45%
- **Family history:** Unremarkable
- **Status:** High risk because of smoking history and COPD
- **Presentation:** Symptoms of RML syndrome
- **LDCT scans:** 4/5/23 and 12/6/23
- **Surveillance:** 6-month follow-up recommended, but patient only agreed to 12-month LDCT

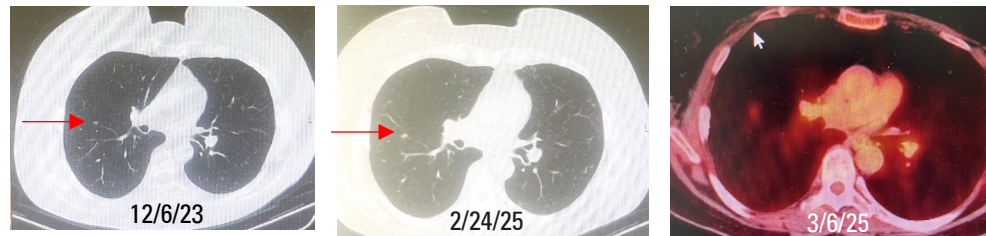
**NOTE:** Actual patient case, but name has been changed to ensure privacy.

## Imaging Results

**RML and RUL scans:** RML changes on 4/5/23 LDCT improved on 12/6/23 LDCT, consistent with RML syndrome. 4/5/23 RUL LDCT revealed 5-mm nodule with 1.9% Brock model risk that resolved on 12/6/23 LDCT.



**Minor fissure scans:** 12/6/23 LDCT scan revealed 3-mm nodule with 0.2% Brock model risk. 2/24/25 LDCT scan revealed 8-mm nodule with 4.6% Brock model risk. 3/6/25 PET scan with SUV of 1.1.



Changing non-calcified nodule in the minor fissure in the context of waxing and waning images in other parts of the lungs.

## Additional Findings/Next Steps

- **Brock model risk:** 4.6%
- Bronchoscopy high risk and poor yield without robotic augmentation in a low-risk situation
- Risk calculator and PET suggested inflammation and not cancer, consistent with waxing and waning images

## Outcome with CyPath® Lung

- **CyPath® Lung:** 3/4/25 test result: 0.83, likely lung cancer (NOTE: CyPath® Lung was not available at the time of the 2023 scans.)
- **Robotic wedge resection:** R0 resection on 6/5/25, but with close margin
- **Diagnosis:** Stage IA NSCLC; adenocarcinoma histology
- **Radiation oncology referral:** Opinion on close margin and possible need for radiation treatment
- **CyPath® Lung:** Detected lung cancer in high-risk patient with complex nodules when PET and risk models indicated low risk of malignancy

COPD=chronic obstructive pulmonary disease; LDCT=low-dose computed tomography; NSCLC=non-small cell lung cancer; PET=positron emission tomography; PPD=pack per day; RML=right middle lobe; RUL=right upper lobe.