



Trinity Health

Thoracic Aneurysms in Lung Cancer Screening Population

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US Preventive Services Task Force Screening Guidelines

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

Existing Literature

- **Study 1: High Prevalence of AAAs in Patients with Lung Cancer (JVS 2021)**
- **Study 2: Incidence and Management of Cardiothoracic Relevant Extrapulmonary Findings Found on Low Dose CT (Annals of Thor Surgery 2024)**
- **Study 3: Prevalence and clinical outcomes of thoracic aortic disease detected within a UK lung screening programme (Lung Cancer 2024)**

Aidoc, Annalise.ai, Lunit, Viz.ai, Qure.ai, Cleerly, Subtle Medical, Zebra Medical Vision, PathAI, Paige, Proscia, Ibex Medical, Akoya Biosciences, Aiforia, Visiopharm, Indica Labs
(Intuition Labs, Top Imaging & Pathology AI Companies: 2025 Market Analysis)

AI Imaging Findings: 1.3 Billion Dollar Market

Study

- **Hypothesis: 1.5-3.5% of LCT patients will have a thoracic aortic aneurysm**
- **Methods: Reviewed Lung Cancer Screening CTs from 2024-2026**
 - **N=3699 CT scans**
 - **Analyze CT scans for patients with diameter > 4 cm**
 - **Determine percent patients 1) on optimal medical therapy (BP control, LDL < 100)**
 - **Determine percent patients requiring operative intervention**
- **Big Question: Who should be seeing these patients?**

36
99

- Lung cancer screening CT scans

72

- Ascending aorta > 4 cm
- Mean 4.28 cm, 68% Men

4

- Will potentially need surgical repair within 5 years

Optimal Medical Therapy

47/72 had LDL<100 (65%)

44/72 had BP<130/80 (61%)

27/72 had OMT and Imaging (37%)

Surgical Candidacy

81%
qualify

4 may need surgery in 5
years

Time: 4 min/pt to chart check → 6 hours
20 min/pt for phone call → 24 hours
BUT 45/72 pts need BETTER MEDICAL TX

Take Away

- **In a community health system, only 1/3 of patients with aortic aneurysms had OMT and appropriate work up**
- **After screening for aneurysms > 4 cm → only ~5% will need surgery within 5 years**
- **Time management: establish care with the patients who may need surgery in the next 5 years**
- **Have NP call remaining patients vs Referral to cardiology**