



Fairfield
Medical Center

Lung Cancer Screening

12 Nov 2025
Avneet Singh, MD

Agenda:

- Background
- The Data
- Current recommendations
- Shared decision making
- Insurance coverage
- A brief aside on nodules



Background

- Lung cancer is one of the leading causes of death in the U.S.
- Overall 5 year survival rate is 19%
- Earlier stage diagnoses are associated with improved survival
 - The clinical outcome for NSCLC is related to stage
- Prior screening modalities: chest X ray (CXR) and Sputum Cytology
 - Studies in the 1980s evaluated screening with CXR; no significant mortality benefit identified for the population screened
 - More stage I lung cancers were identified



The Data!

- NSLT: randomized trial, funded by the National Cancer Institute. Data collected from 2002 to 2009, focused on a defined population of known high risk individuals (smokers, ages 55-74)
 - The first of its kind to use LDCT in high risk populations, > 53,000 people enrolled
 - Randomized between LDCT and standard CXR
 - The relative reduction in mortality from lung cancer with LDCT screening was 20.0% (95% CI: 6.8–26.7; $p = 0.004$) as compared with CR
 - 3 annual LDCTs resulted in 20% lower mortality in patients with lung cancer
 - At 5.5 year follow up, confirmed mortality as much as 19% lower in the population that underwent screening
- NELSON trial: Dutch/Belgian; in high-risk individuals, lung cancer mortality was significantly reduced among those who underwent screening with CT
 - In part attributed to the diagnosis of earlier stage cancers



Current recommendations: USPSTF

Recommendation Summary

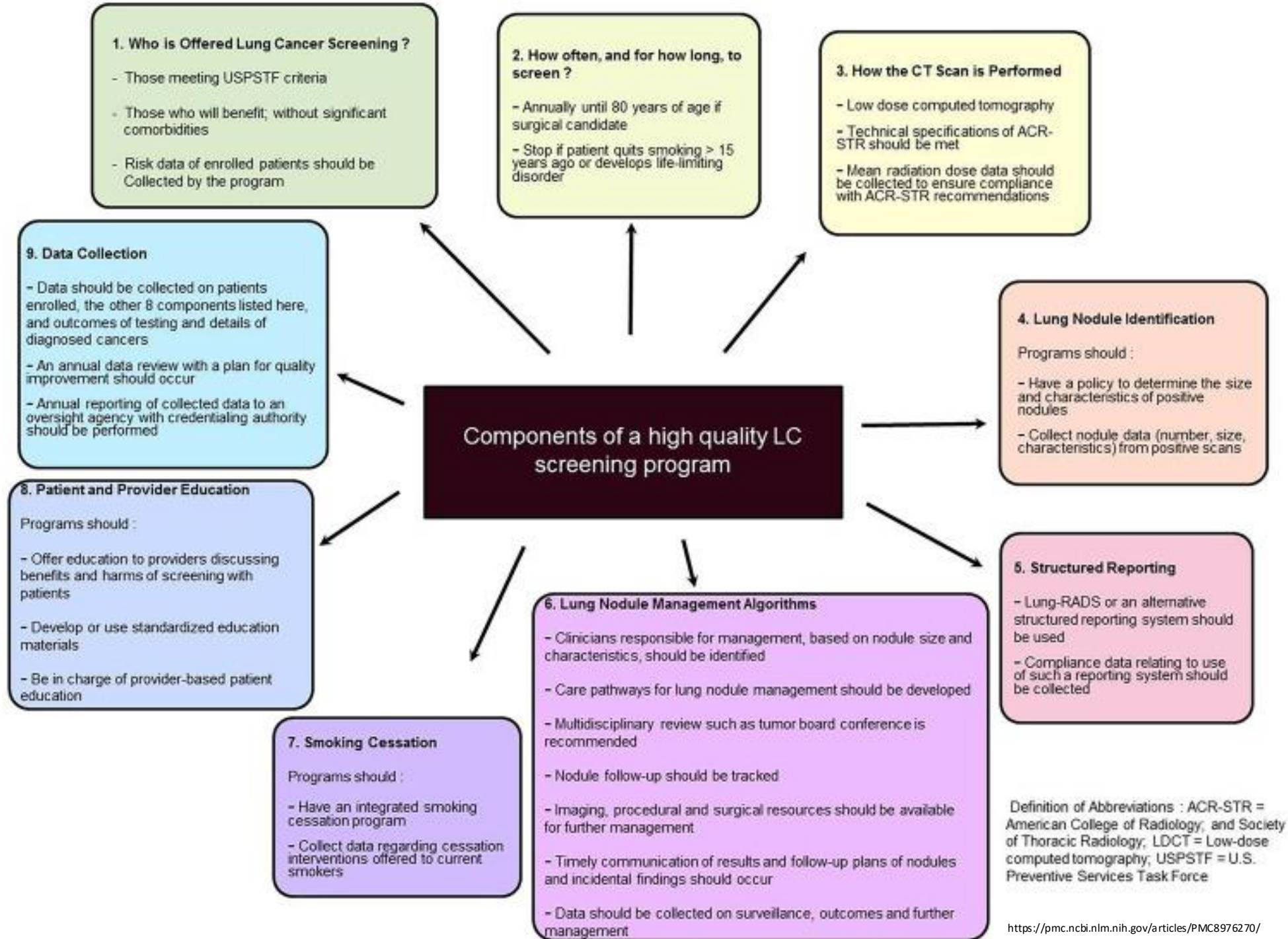
Population	Recommendation	Grade
Adults aged 50 to 80 years who have a 20 pack-year smoking history and currently smoke or have quit within the past 15 years	The USPSTF recommends annual screening for lung cancer with low-dose computed tomography (LDCT) in adults aged 50 to 80 years who have a 20 pack-year 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



Recommendations for screening

- Age: 50-80 years
- Smoking history: current smoker OR former smoker who quit within the past 15 years
- Pack year history: 20+ pack year
 - Pack year calculation: Pack per day X Years smoking
 - Example: 1 PPD x 20 years = 20 pack years





Shared decision making

- Radiation exposure:
 - Less radiation than a traditional CT (1.5 vs 7 mSv)
 - No contrast administration needed
 - 10 minutes, single breath hold
- Invasive diagnostics and the risk of a false positive
 - Emotional burden
 - Radiation exposure associated with additional testing, follow up scans
 - Risk of complications from biopsy, surgical resection
 - The risk of invasive diagnostics for a slowly growing BAC that would not impact mortality



Insurance coverage

Medicare has decided that there is sufficient evidence to cover annual low-dose CT lung cancer screening coverage among Medicare beneficiaries who fit the following criteria:

Age 50-77 years

No current signs or symptoms of lung cancer

Tobacco smoking history of at least 20 pack-years (pack-years are calculated by multiplying the number of packs smoked per day by number of years smoked)

Currently smoke or have quit within the last 15 years



Insurance coverage

Physicians must provide an order for screening to Medicare after having a lung cancer screening counseling and a shared-decision making discussion with the patient. This visit includes:

- Confirmation that patients meet the high-risk definition
- A discussion with the Medicare patient regarding the benefits and harms of screening; information regarding follow-up to the screening; the risks of over-diagnosis and radiation exposure; and a warning that a false positive diagnosis could occur
- Counseling on the importance of being screened each year and the impact of other possible causes of death with lung cancer
- Counseling on the importance of quitting smoking, or staying quit, including information on Medicare-covered cessation services





Lung Cancer Screening Billing Guide

Medicare will deny lung cancer screening claims that do not include these ICD-10 diagnosis codes:

- Z87.891 those who have formerly smoked (personal history of nicotine dependence)
- F17.21 those who currently smoke (nicotine dependence)
 - F17.210 Nicotine dependence, cigarettes, uncomplicated (most commonly used and accepted)
 - F17.211 Nicotine dependence, cigarettes, in remission
 - F17.213 Nicotine dependence, cigarettes, with withdrawal
 - F17.218 Nicotine dependence, cigarettes, with other nicotine-induced disorders
 - F17.219 Nicotine dependence, cigarettes, with unspecified nicotine-induced disorders



Fairfield Medical Center

Nodules

- Solitary pulmonary nodule malignancy risk score (next slide)
- High risk characteristics:
 - Upper lobe
 - Spiculated
 - Size and growth rate
 - PET positive
- Differential for benign nodules: granulomatous disease, rheumatoid nodules, infectious etiologies (fungal, abscess)
- Following nodules:
 - Fleischner criteria
- When to refer: whenever
 - We have a protocol for assessing how quickly a patient needs to be seen



Solitary Pulmonary Nodule (SPN)

Malignancy Risk Score (Mayo Clinic Model)

Predicts malignancy risk in solitary lung nodules on chest x-ray.

INSTRUCTIONS

Do not use in patients with prior lung cancer diagnosis or with history of extrathoracic cancer diagnosed within 5 years of nodule presentation.

When to Use ▾

Age		years
Nodule diameter		mm
Current or former smoker	No	Yes
Extrathoracic cancer diagnosis ≥5 years prior	No	Yes
Upper lobe location of tumor	No	Yes
Nodule spiculation	No	Yes
FDG-PET Optional, if performed	PET not performed No uptake	

SPN Malignancy Risk Score

Age	66	years
Nodule diameter	12	mm
Very low double-check.		
Current or former smoker	No	Yes
Extrathoracic cancer diagnosis ≥5 years prior	No	Yes
Upper lobe location of tumor	No	Yes
Nodule spiculation	No	Yes
FDG-PET Optional, if performed	PET not performed No uptake Faint uptake Moderate uptake Intense uptake	

47.5 %

Probability of malignancy

One study suggests watchful waiting only at very low post-test probabilities (<2%), biopsy at "lower" post-test probabilities (2% to 20%), and surgery at higher post-test probabilities (>70%). See Next Steps.



Questions?

Works cited

<https://jamanetwork.com/journals/jamainternalmedicine/fullarticle/2819820>

<https://pubmed.ncbi.nlm.nih.gov/39469231/>

<https://pmc.ncbi.nlm.nih.gov/articles/PMC8976270/>

<https://www.nejm.org/doi/full/10.1056/NEJMoa1911793>

<https://www.lung.org/lung-health-diseases/lung-disease-lookup/lung-cancer/screening-resources/medicare-coverage-faq>

<https://pmc.ncbi.nlm.nih.gov/articles/PMC4102106/>

[The CMS Requirement for Shared Decision Making for Lung Cancer Screening - PMC](#)

