Lung Cancer Prevention & Screening for Your Patients

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Objectives

- Background and development of lung cancer screening on a national scale
- Participants will understand the development and background of lung cancer screening as best practice
- Participants will understand the requirements in order for patients to proceed with the initial lung cancer screening
- Participants will understand continued follow up and management of patients for annual lung cancer screening

Lung Cancer Statistics

- Lung cancer is the second leading cause of cancer in both men and women (not including all types of skin cancer)
- Recent data from the American Cancer Society for 2019
  - 228,150 **new** cases of lung cancer
  - 142,670 **deaths** from lung cancer
- Lung cancer is the leading cause of cancer deaths in both men and women
  - More people die of lung cancer than colon, breast, and prostate cancers combined
  - However, some people diagnosed at earlier stages can be cured
- 2008-2014, 5-year survival rate for lung cancer = 18%

American Cancer Society, 2019

Lung Cancer Risk Factors

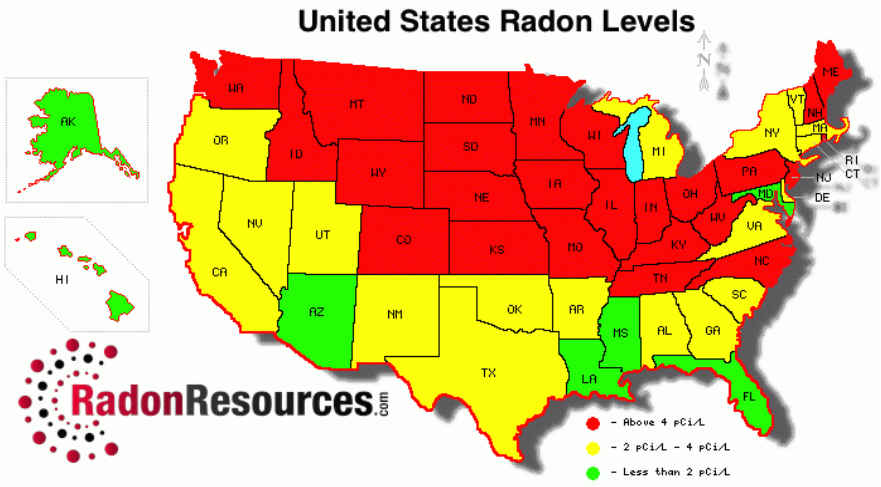
- Tobacco smoke
  - Leading risk factor attributing to ~80% of lung cancer deaths
  - Cigarette smoking, cigar smoking, pipe smoking – similar risks
    - Low-tar or “light” cigarettes increases risks just as much as regular cigarettes
  - Second-hand smoke exposure
    - Thought to cause more than 7,000 lung cancer **deaths** each year

- Electronic cigarettes
  - Do not contain any tobacco, but they do contain nicotine at various levels
  - Can possibly contain cancer-causing substance, formaldehyde, if the liquid overheats or not enough liquid reaches the heating element
  - Still new to truly understand the long-term health effects

American Cancer Society, 2019

Lung Cancer Risk Factors

- Radon exposure
  - According to the U.S. Environmental Protection Agency (EPA) is the 2nd leading cause overall, and the leading cause in non-smokers
  - Homes and other buildings throughout the U.S. have high levels



- Asbestos exposure
  - Exposure to other carcinogens as well
- Arsenic in water

American Cancer Society, 2019

Lung Cancer Risk Factors

- Dietary supplements
  - Interesting fact – 2 large studies showed patients who smoked and took beta carotene supplements had an increased risk of lung cancer
- Previous radiation therapy to lungs for other cancer treatments
- Air pollution
- Personal history – increases risks for another lung cancer
- Family history – slightly higher risk

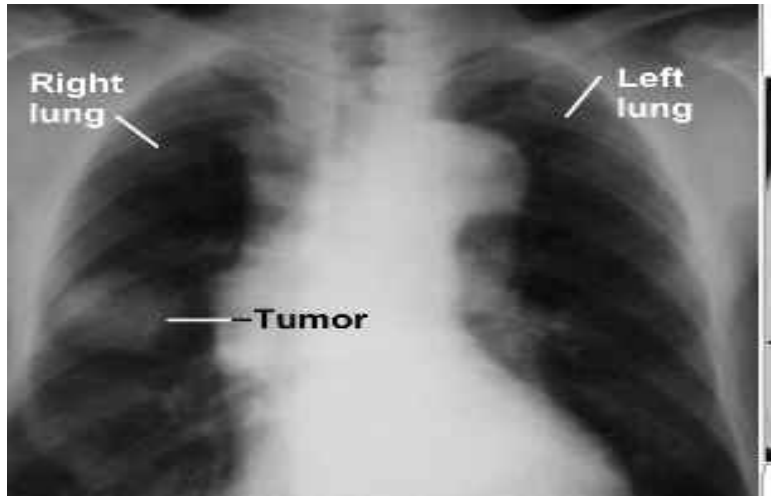
American Cancer Society, 2019

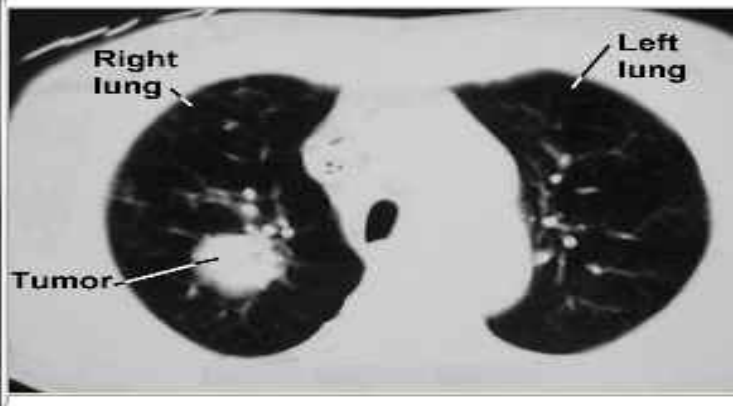
Lung Cancer

- Typically patients with lung cancer remain asymptomatic until the disease is more advanced
  - More than 50% of patients are diagnosed at stage III or stage IV disease, which is incurable and a 5-year survival rate of less than 5%
- Early diagnosis is the strongest predictor of survival
- 15% of lung cancer cases diagnosed at stage I
  - Stage I diagnosis – estimated 5-year survival rate is 77%
  - Metastatic lung cancer (stage IV) – estimated 5-year survival is 4%

National Lung Screening Trial

- Initiated in 2002 – large randomized controlled trial
- 53,454 participants with a smoking history
- Compared screening with a low-dose CT scan vs chest x-ray
- Evaluation
  - Low-dose CT scan decreases lung cancer related mortality by 20% compared to the use of a chest x-ray





Lung Cancer Screening Development

- 2013 U.S. Preventative Services Task Force (USPSTF) issued a recommendation for annual screening for long-term smokers
- 2014 Affordable Care Act began to cover lung cancer screening
- 2015 Centers for Medicare and Medicaid Services (CMS) approved coverage for low-dose CT scans for those at high risk

Lung Cancer Screening Development

- Concerns about screening
  - False-negative results
    - 0-20% risk
  - False-positive results
    - 95% of all positive findings do not lead to a cancer diagnosis
    - Usually leads to higher quality imaging, but some may require invasive procedures
  - Incidental findings

Lung Cancer Screening Development

- Concerns about screening
  - Risks related to radiation exposure
    - Cumulative and varies per patient
  - Over-diagnosis
    - USPSTF estimated 10-12% of detected lung cancers from screening are over-diagnosed – patient would not have been detected in a patient's lifetime without screening
- Based on these concerns, eligibility criteria for lung cancer screening was developed

Lung Cancer Screening Eligibility

- Age
  - American Cancer Society – 55-74 years
  - CMS – 55-77 years
  - USPSTF – 55-80 years
- 30-pack year smoking history
- Current smokers, or quit within the last 15 years
  - Risk decreases by 30-50% after 10 years
- No signs of lung cancer
- No history of lung cancer
- No CT scan of chest within the last year

Lung Cancer Screening

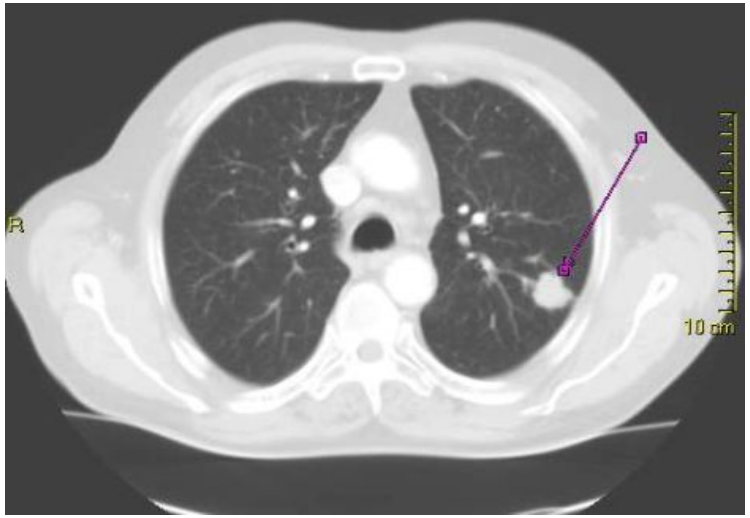
- Once patient meets eligibility criteria they are to be referred to an organized screening program
- Patient goes through a Shared Decision Making visit, required by CMS:
  - Determine eligibility
  - Describe benefits and harm of screening
  - Describe follow up testing, false positive results, and radiation exposure
  - Discuss importance of screening and the patient's willingness to undergo screening
  - Smoking cessation program available, if still smoking
- Shared Decision Making visit has a specific "G" code – **G0296** code with all the above information documented in the medical record

Lung Cancer Screening

- Very specific diagnosis codes are required for the shared decision making visit, or it will not be covered:
  - F17.210 – current smokers
  - F17.211 – quit smoking >6 months
  - Z87.891 – personal history of nicotine dependence
- Lung Cancer Screening CT order with associated diagnosis code
  - Patient's date of birth
  - Actual pack-year smoking history
  - Current smoking status, including number years since quitting
  - Statement that the patient is asymptomatic
  - NPI number of ordering provider

Lung Cancer Screening

- Lung cancer screening CT scan completed is a low-dose CT
- Must use a standardized lung nodule classification system
  - Lung RADS system defined by the American College of Radiology (ACR)
- All data from the organized program to be submitted through a CMS-approved registry

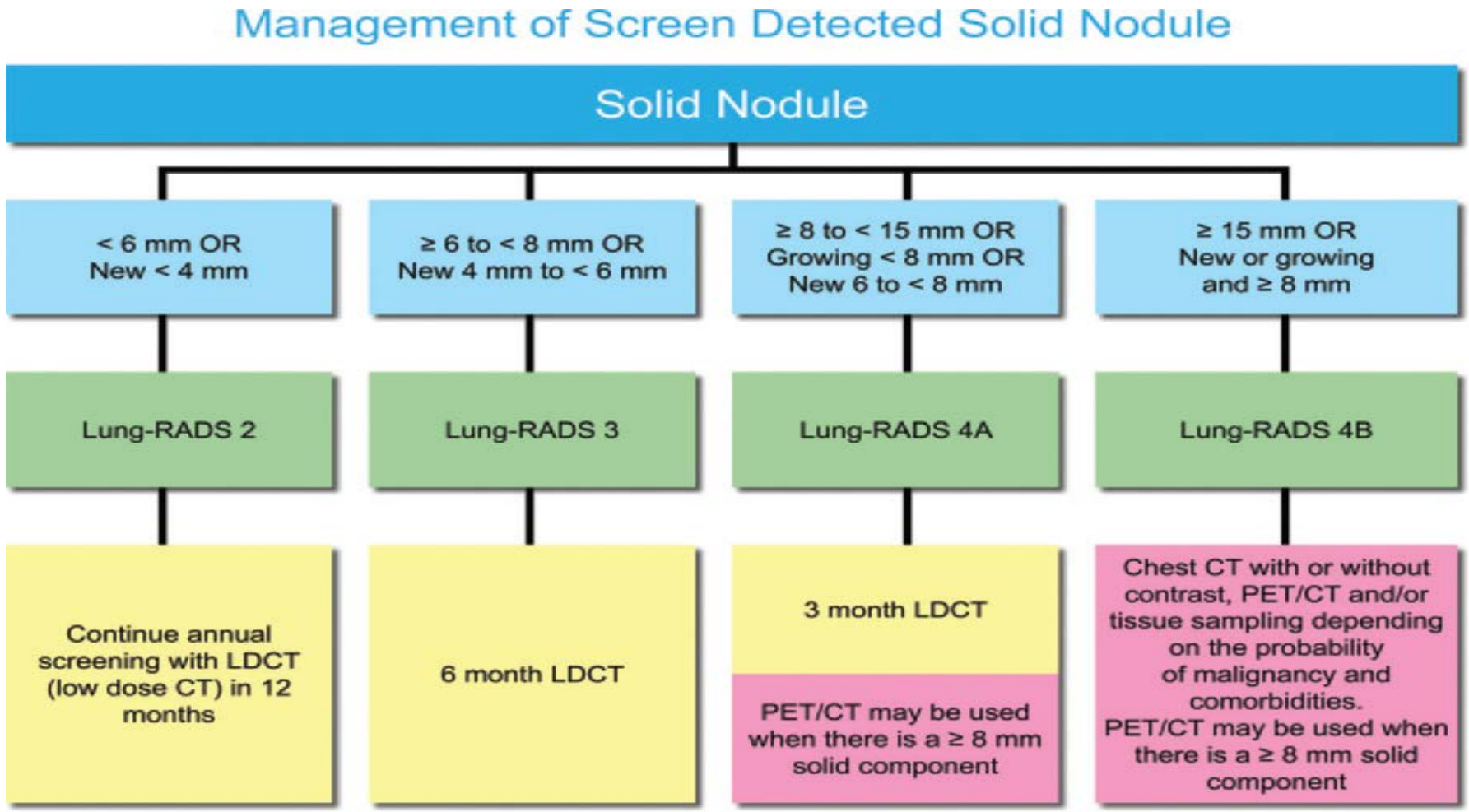


Lung-RADS – Reporting System

Structured reporting system defining positive screening, defined by ACR

- **Lung RADS 0** – incomplete information
- **Lung RADS 1** – no nodules or definitely benign nodules noted
  - Probability nodule is malignant is less than 1%
  - Trigger annual screening
- **Lung RADS 2** – nodules are benign in appearance or behavior
  - Probability nodule is malignant is less than 1%
  - Trigger annual screening
- **Lung RADS 3** – nodule is probably benign
  - Probability nodule is malignant is 1-2%
  - Trigger follow up low-dose CT in 6 months
- **Lung RADS 4**
  - 4A – probability nodule is malignant is 5-15%
  - 4B – probability nodule is malignant is >15%
- Modifiers
  - X – additional concerning features
  - C – patient has had lung cancer in the past
  - S – Potentially other important findings other than lung cancer

Lung-RADS – Reporting System



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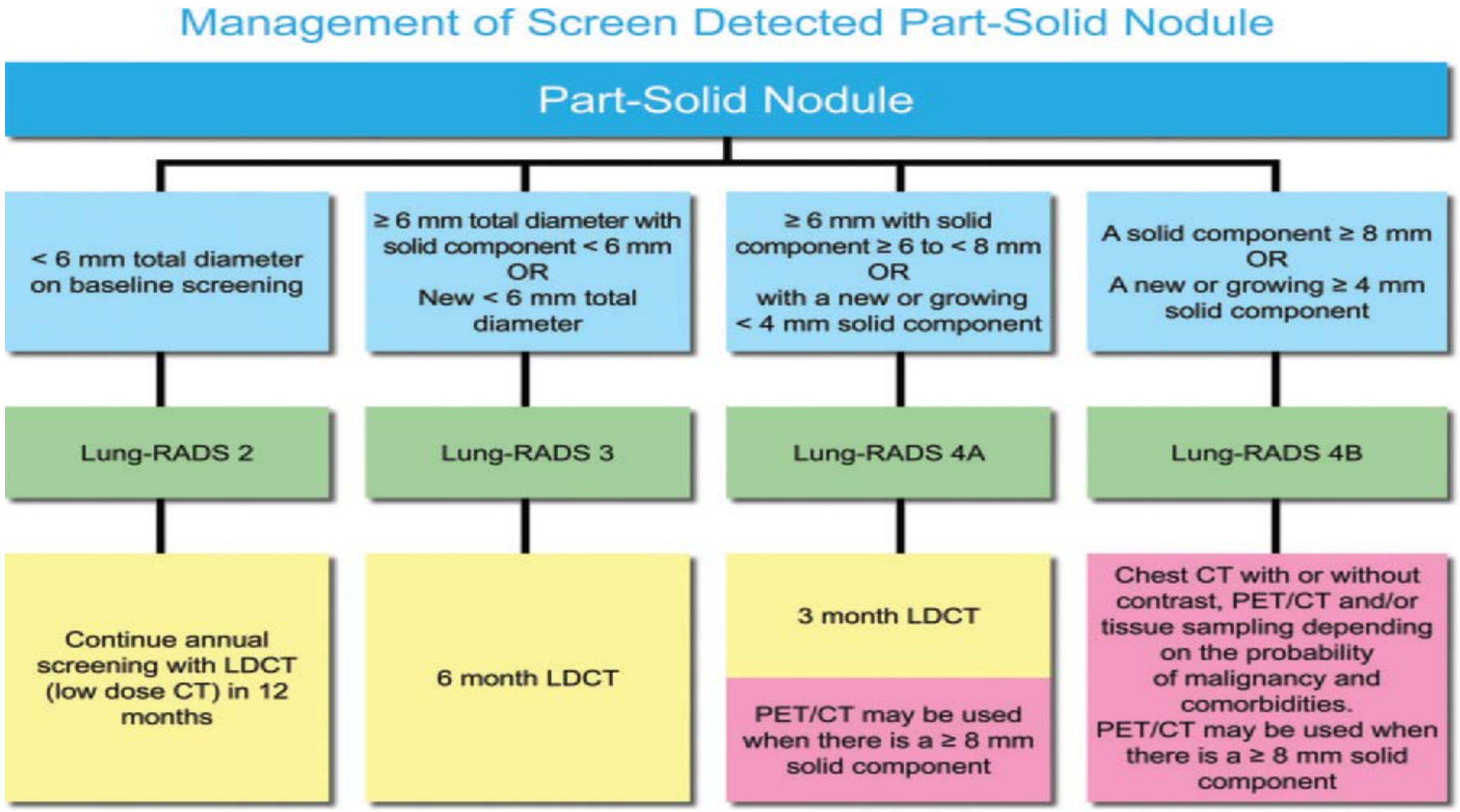
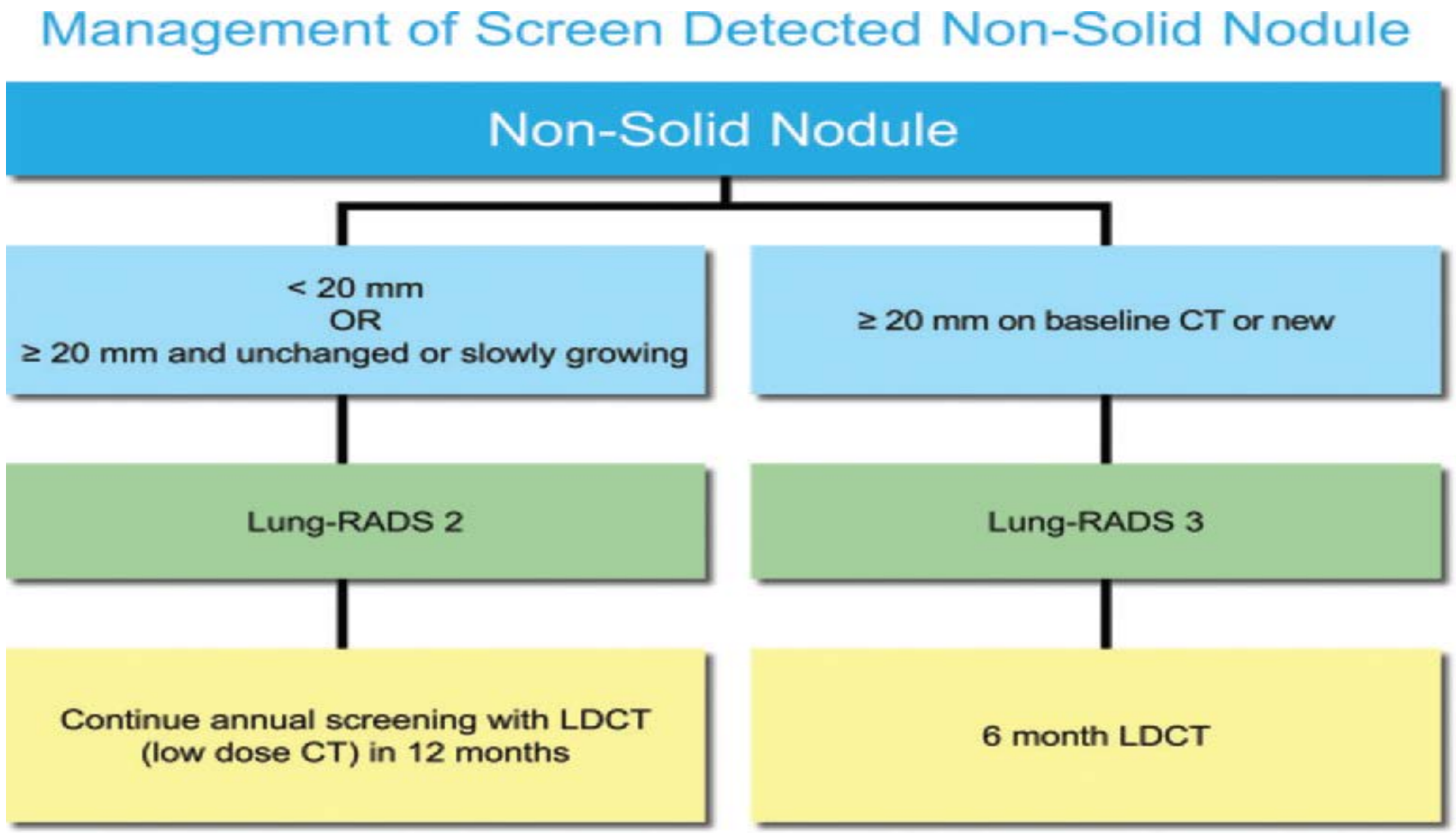


Lung-RADS – Reporting System



Annual Screening Recommendations

- Continue with annual screening as long as patient continues to meet eligibility requirements
  - Follow up visit required to ensure no symptoms of lung cancer
- No need for a repeat Shared Decision Making Visit
- Will need Lung Cancer Screening CT order with same info present on order as initial
  - Can be completed by PCP

Financial Implications to Screening

- According to the National Lung Screening Trial, if ¾ of all high-risk individuals were screened annually, the cost on the healthcare system would be between $1.3-$2 billion
  - $240,000 to prevent 1 lung cancer-associated death
- In 2010, costs associated with the treatment of lung cancer within the United States exceeded $12 billion, and thought to increase to $20 billion by 2020
- Initial cost on average of lung cancer screening is $247, and less with each subsequent annual screenings
- Screening initially may increase healthcare expenditures, but can lower costs as it relates to treatment of lung cancer and decreases the overall mortality from lung cancer

Sorrie et al., 2016

Smoking Cessation Resources

Improvement in mortality when combined with screening and smoking cessation

- Nevada Tobacco Quitline
  - 800-QUIT-NOW
  - www.nevada.quitlogix.org/
- American Cancer Society
  - 800-227-2345
  - www.cancer.org
- American Lung Association – Freedom from Smoking
  - 775-829-5864
  - www.freedomfromsmoking.org
- Renown Tobacco Cessation Program
  - 775-982-5073
- www.livingtobaccofree.com
- www.becomeanex.org

QUESTIONS

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