

# S13 – Medical Imaging and Treatment for Non-Small Cell Lung Cancer

## Objectives

- Identify non-small cell lung cancer
- How is non-small cell lung cancer diagnosed and treated

## What is non-small cell lung cancer

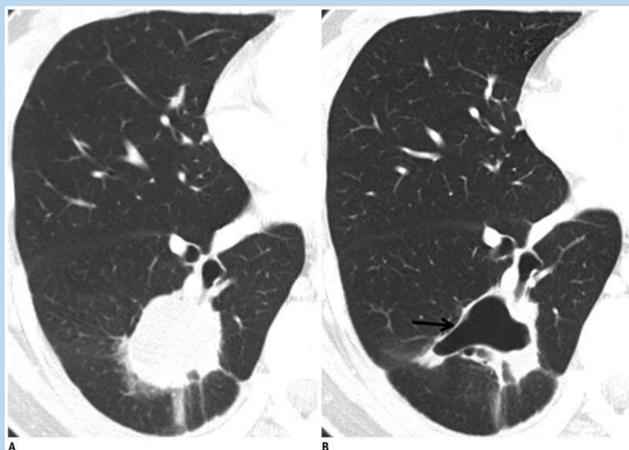
- Non-small cell lung cancer also called NSCLC is the most common type of lung cancer making up for 80-85% of all lung cancers (Cleveland Clinic, 2025)
- NSCLC forms more slowly compared to other cancers but in turn doesn't usually show symptoms until it has metastasized
- Survival rates can range from 67% if caught early to 12% if cancer has spread (American Cancer society, 2024)

## Types of non-small cell lung cancer

- Cleveland clinic (2024) mentions there are 3 main types of NSCLC
  - Adenocarcinoma
    - Found on the outer portions of the lungs
  - Large Cell carcinoma
    - Can be found in any part of the lungs
  - Squamous cell carcinoma
    - Typically starts in the center parts of the lungs

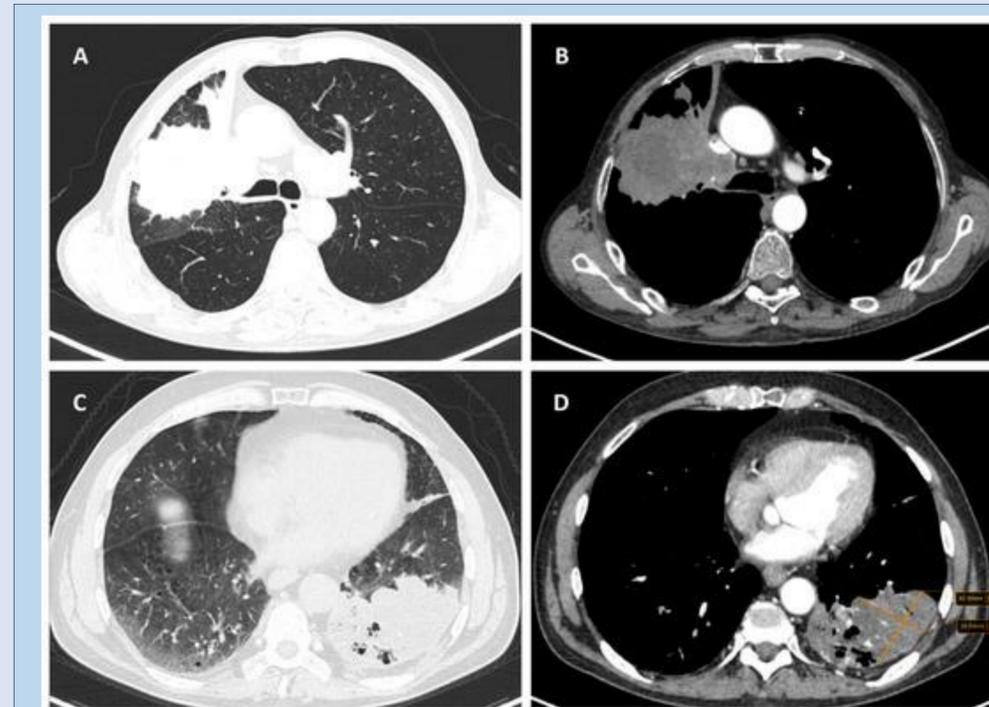
## Screening

- If at high risk for lung cancer screening is recommended
- Low dose lung CT's done yearly is recommended (Centers for Disease Control and Prevention, 2024)



This figure shows CT axial images of NSCLC. Left is before while right is after chemotherapy.

Kang et al. (2012). Fig. 4 [Patient with non-small cell lung cancer.](#)



This figure shows 2 cases of adenocarcinoma. A & B showcase a right peripheral mass. C & D show a left peripheral mass in the lower lobe.

Ciofiac et al. (2024). Fig. 2 <https://www.mdpi.com/2075-1729/14/4/462>

## Diagnosis

- Physical examination first to determine if further steps are needed
- If symptoms appear a doctor will take a history and examine the patient to find out their risk of lung cancer
- Farnsworth (2025) includes a list of possible Imaging tests
  - Chest X-rays
  - PET scans
  - CT scans
- If cancer is suspected a lung biopsy can be performed to confirm cancer is present (National Cancer Institute, 2023)

## Treatment

- There are many different types of treatments which include surgery, radiation therapy, and chemotherapy (Farnsworth, 2025)
- Surgery can be used to remove the cancer and depending on the size of the cancer could mean either a small amount of lung is removed all the way up to a pneumonectomy (National Cancer Institute, 2023)

## Conclusion

- NSCLC is a type of lung cancer that is the most common, NSCLC also has different types each affecting different parts of the lung
- Radiography is involved in NSCLC diagnosis and treatment from low dose yearly CT's for screening all the way to chemotherapy for treatment.