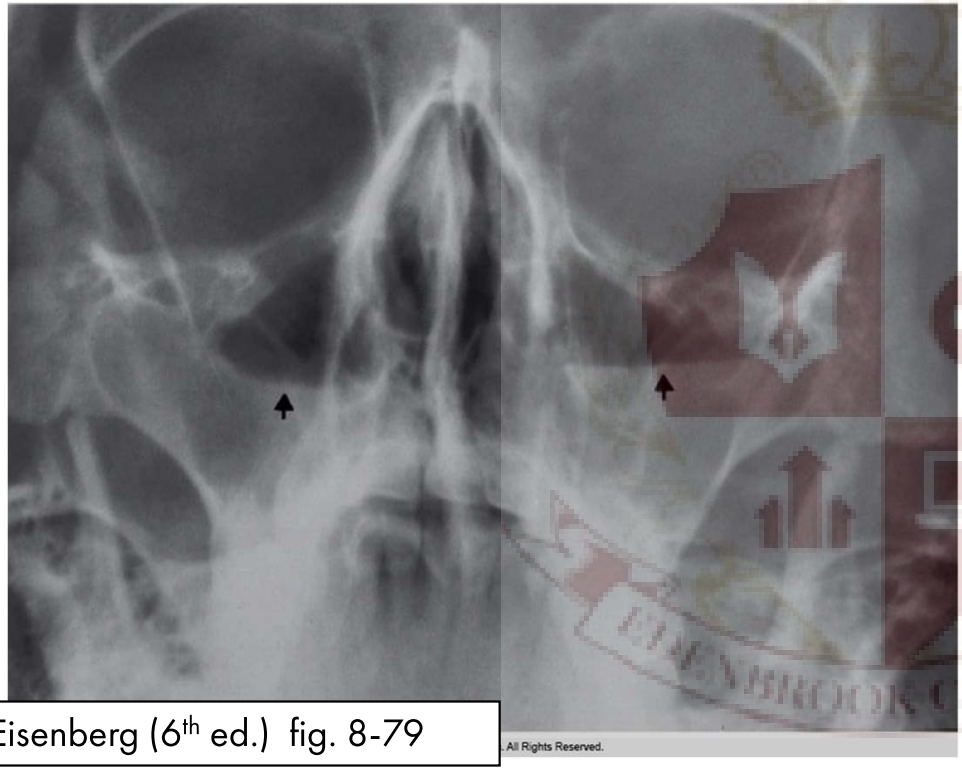
ANPH 252: Anatomy and Pathology 2

Pathology of the Respiratory System continued

MRT Program

Sinusitis



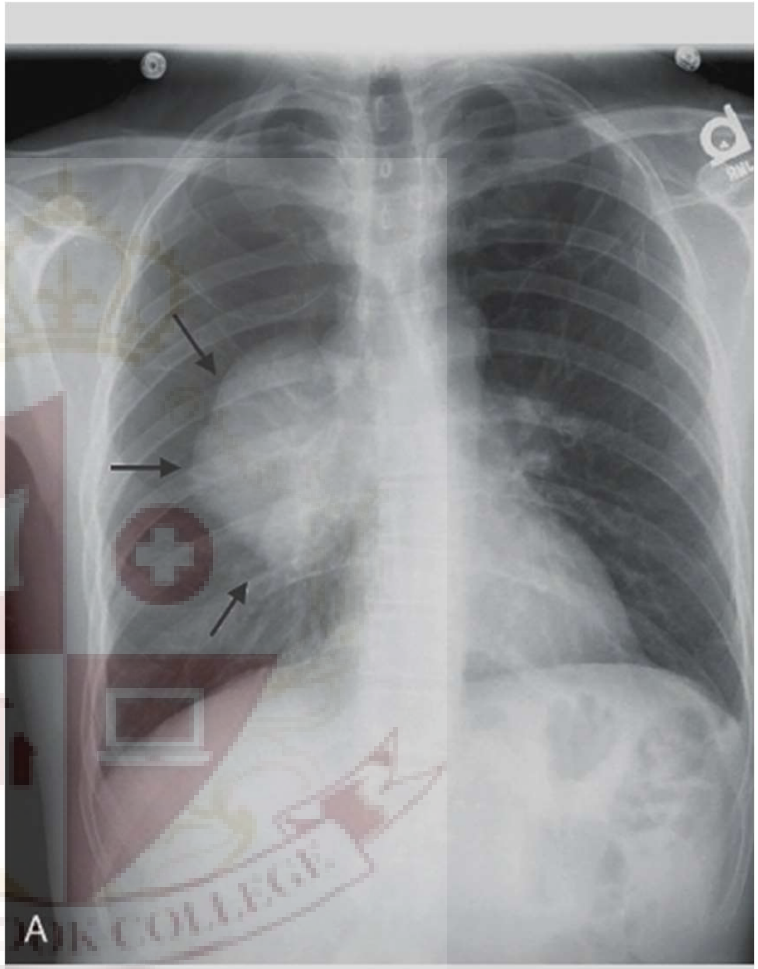
Eisenberg (6th ed.) fig. 8-79

- Viral condition causing inflammation and obstruction of normal sinus drainage.
- Destruction of any bony sinus wall is an indication of secondary osteomyelitis (bone infection)

Carcinoma of the Lungs

- Bronchogenic carcinoma is an umbrella term used to refer to primary lung cancers that are associated with inhaled carcinogens
- Commonly presents as a solitary pulmonary nodule in the lung parenchyma

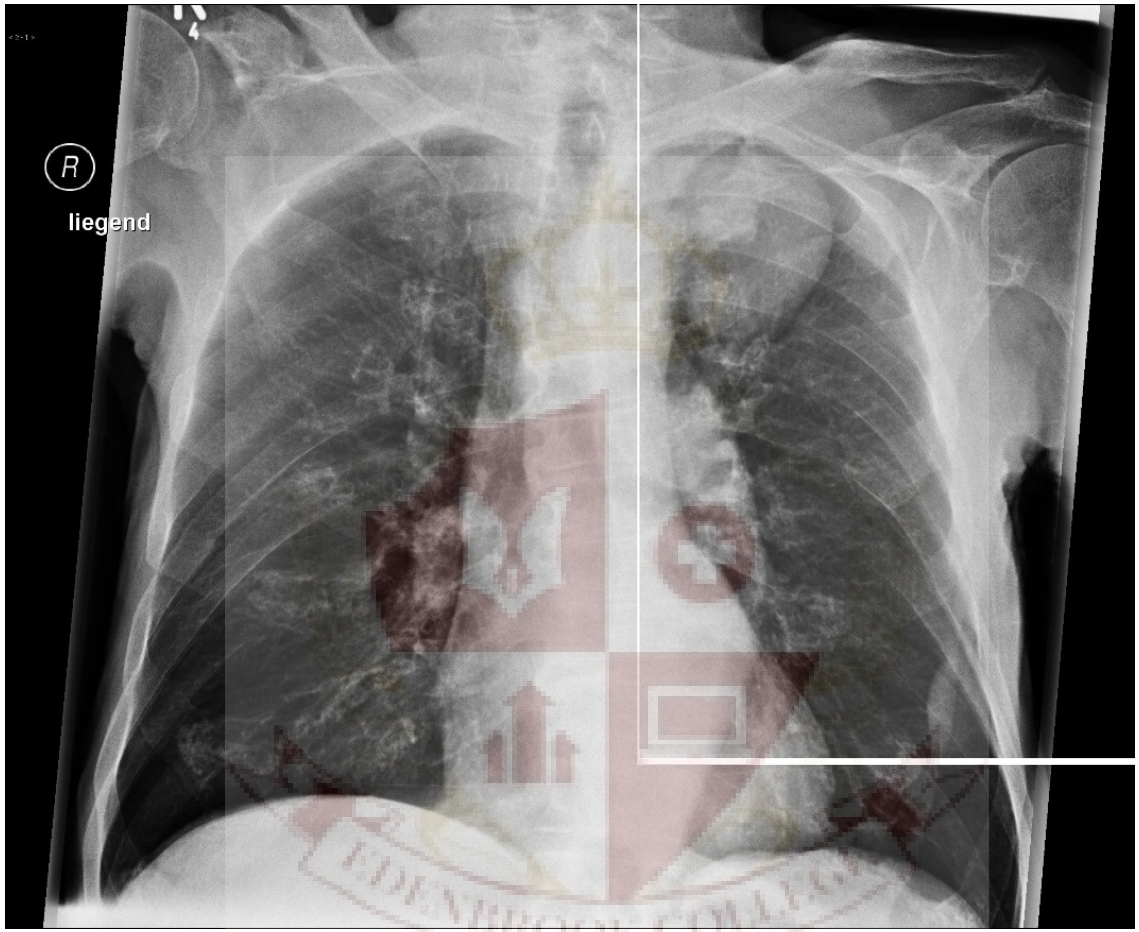
- Kowalczyk, N. (2014). Radiographic Pathology for Technologists (6th ed.). Maryland Heights, MO: Elsevier Mosby. (pg. 92) fig 3-51



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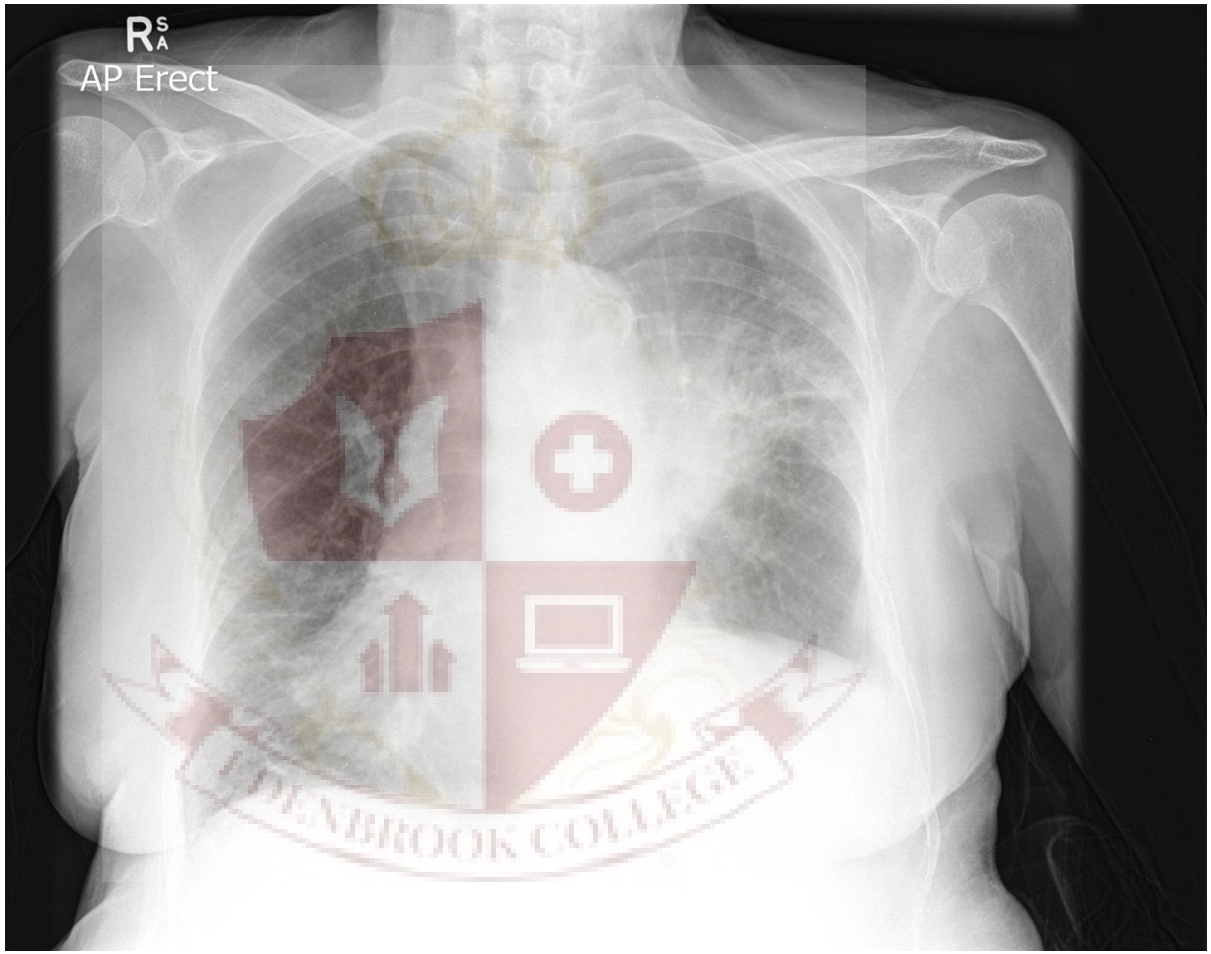
- Non-small cell lung cancer (NSCLC) makes up 80% of all lung cancers
  - Adenocarcinoma 35%
    - Most common over all
    - Most common in women
    - Most common cell type in non-smokers
  - Squamous cell carcinoma 30%
    - Strong association to smoking
    - Poor prognosis
  - Large-cell carcinoma 15%
    - Peripherally located
    - Usually larger than 4cm

- Small cell carcinomas make up the other 20%
  - Almost always smokers
  - Early metastatic spread
  - Worst prognosis

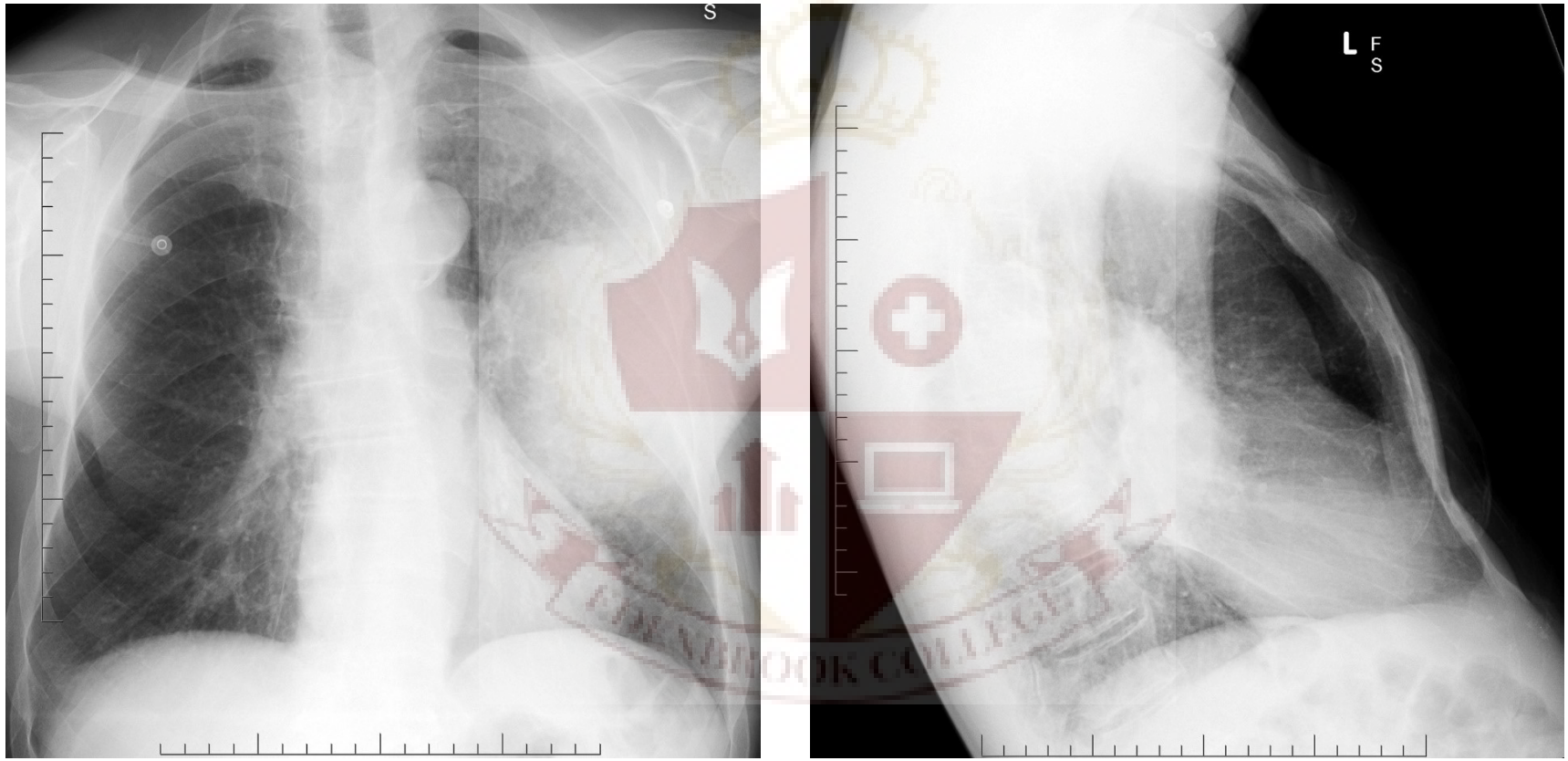


- Case courtesy of Dr Sajoscha Sorrentino, Radiopaedia.org, rID: 16538

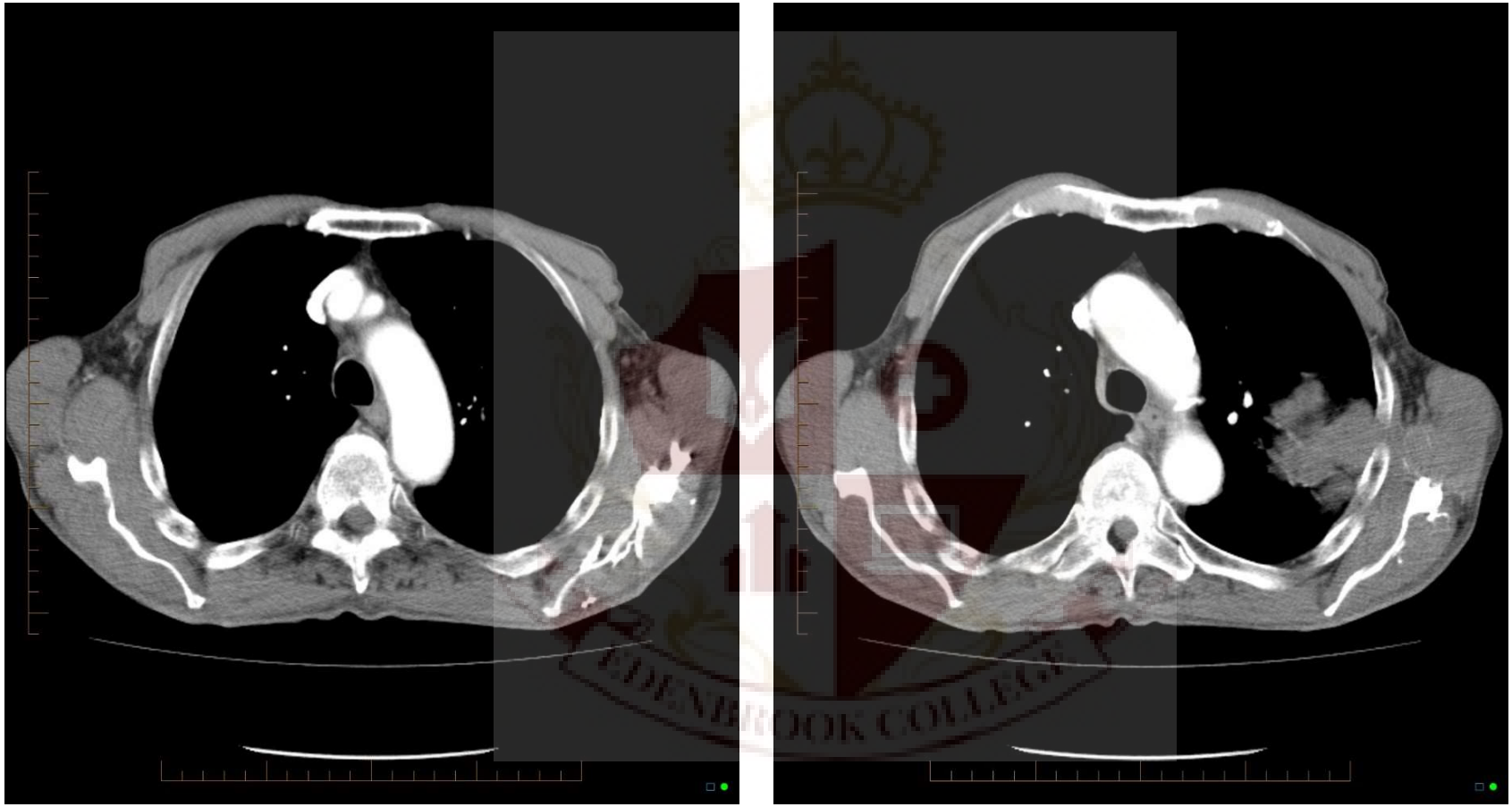
Chest x-ray (slightly rotated to the right) demonstrates a large opacity obliterating the left hilum. It is associated with some volume loss in the left hemithorax and what appears to be a pleural effusion.



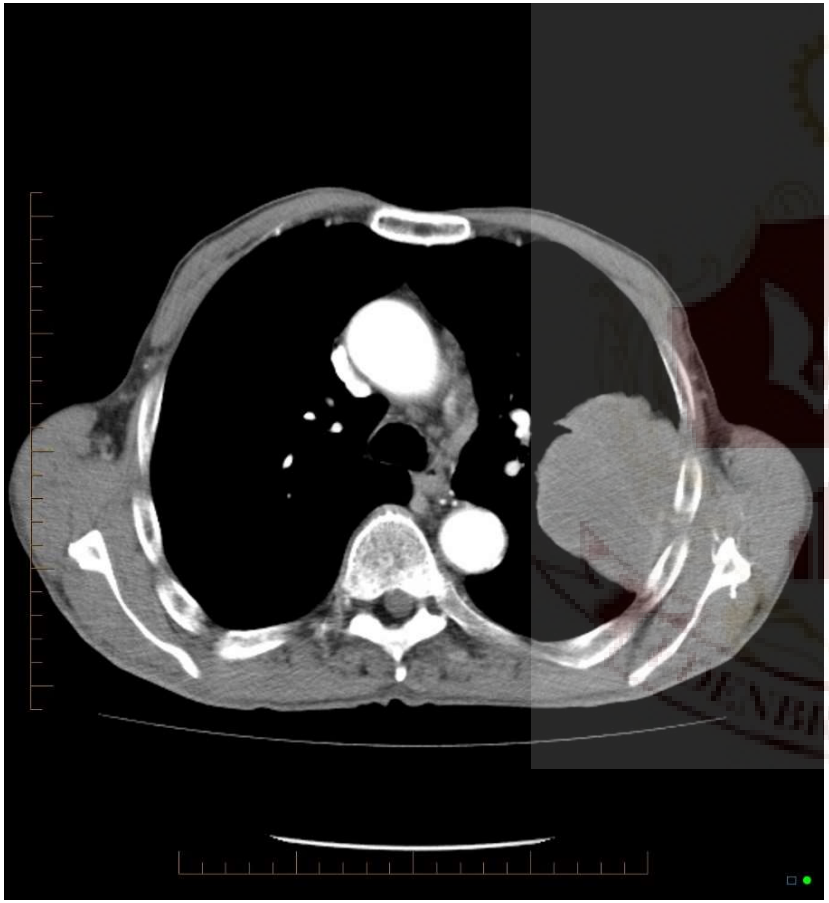
- Case courtesy of Assoc Prof Frank Gaillard, Radiopaedia.org, rID: 15099

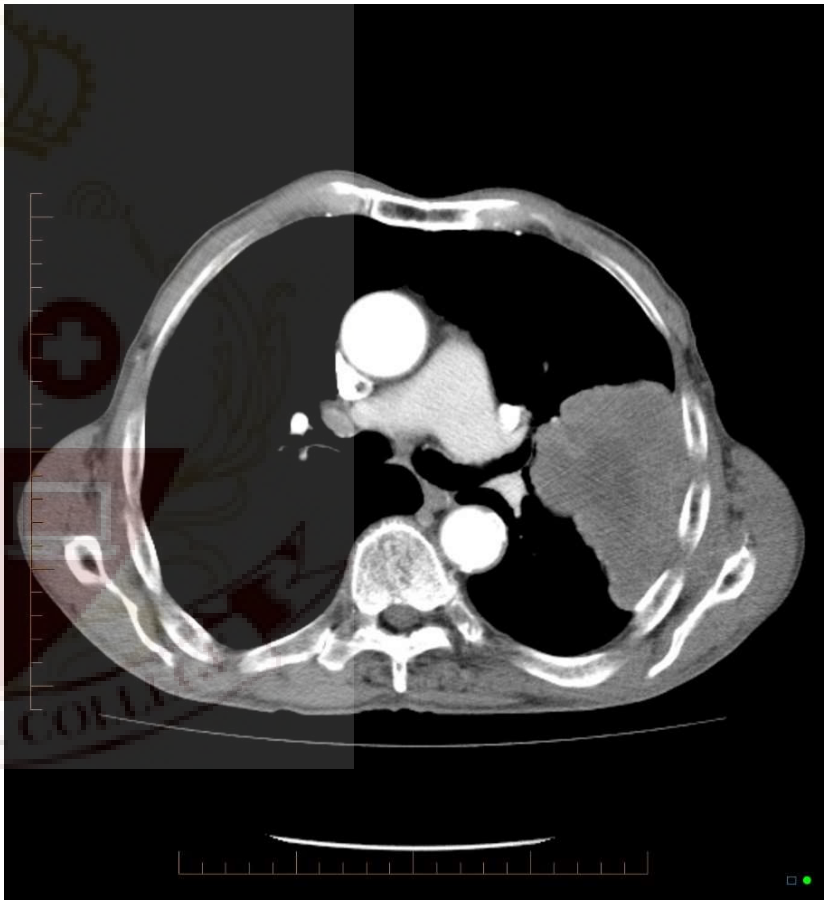


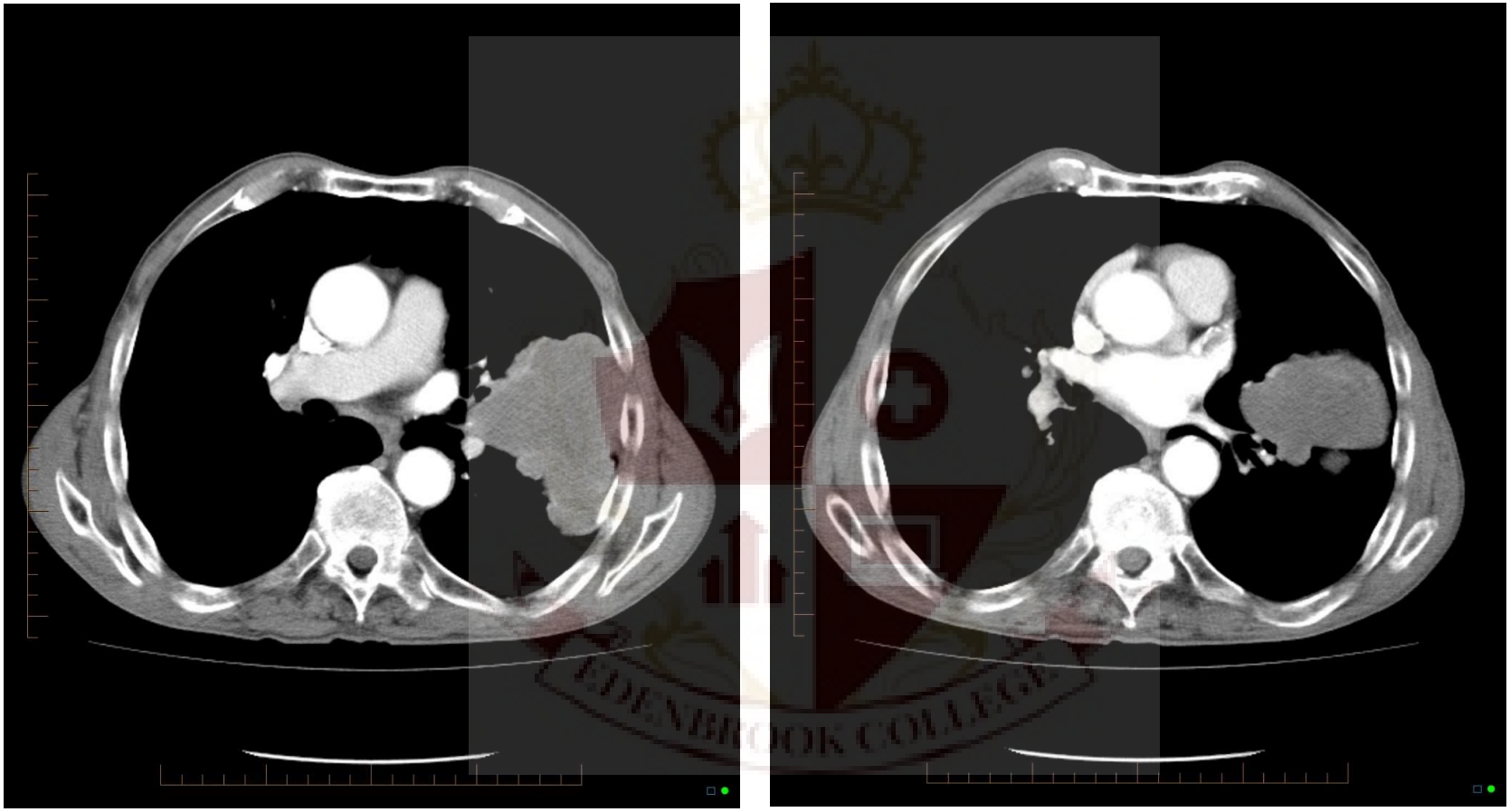
Case courtesy of Assoc Prof Frank Gaillard, Radiopaedia.org, rID: 8101



Case courtesy of Assoc Prof Frank Gaillard, Radiopaedia.org, rID: 8101

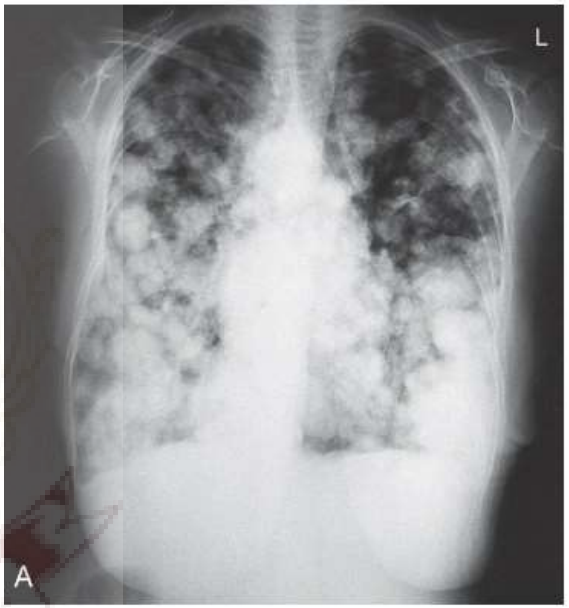






Pulmonary Metastases

- A secondary cancer that has spread to lungs from somewhere else in the body such as colon, breast, or prostate.
- 1/3 of patients with cancer will develop pulmonary metastases
- Much more common than primary lung cancer
- Lesions are throughout the lungs

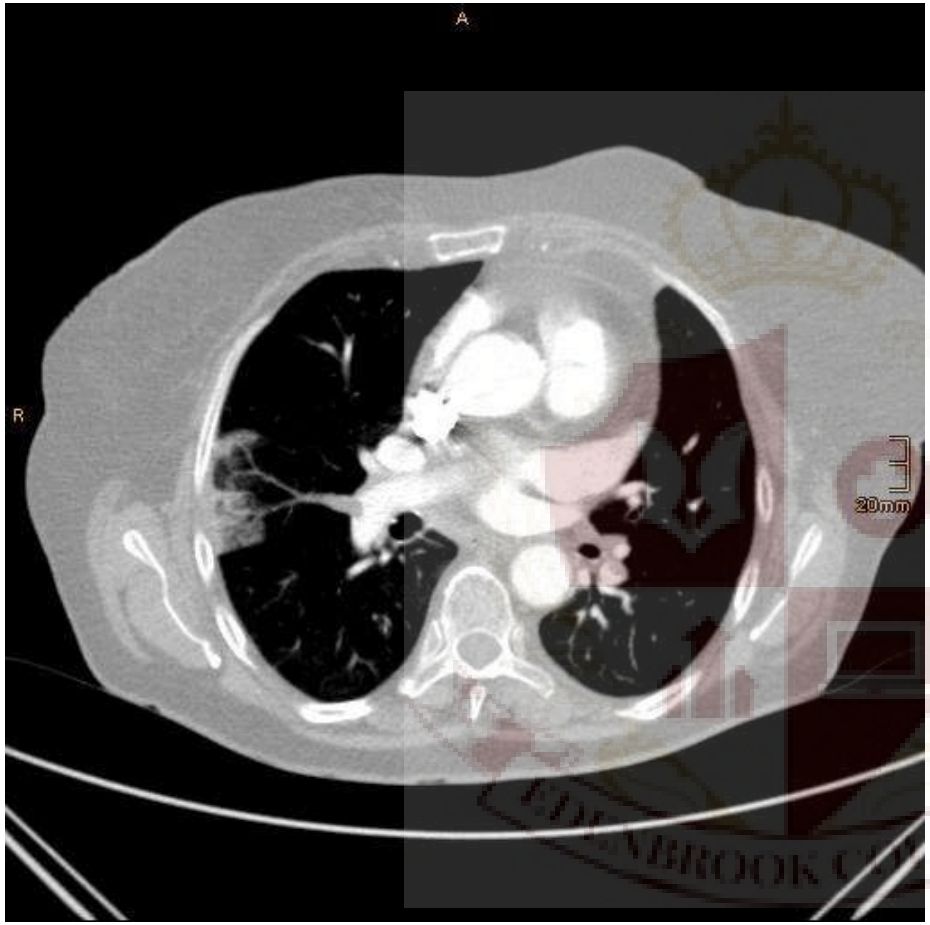


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Kowalczyk, N. (2014). Radiographic Pathology for Technologists (6th ed.). Maryland Heights, MO: Elsevier Mosby. (pg. 94) fig 3-55

Pulmonary Embolism

- Also called PE
- Caused by a blockage of a pulmonary artery or its branches, with the embolus originating in another location in the body
- Most often caused by a blood clot from the leg
- Can cause shortness of breath, chest pain, cough, cyanosis and sudden death



Filling defects in the pulmonary arteries bilaterally with a triangular shaped peripheral opacity of lung parenchyma in the right middle lobe as a result of lung infarction secondary to pulmonary embolism

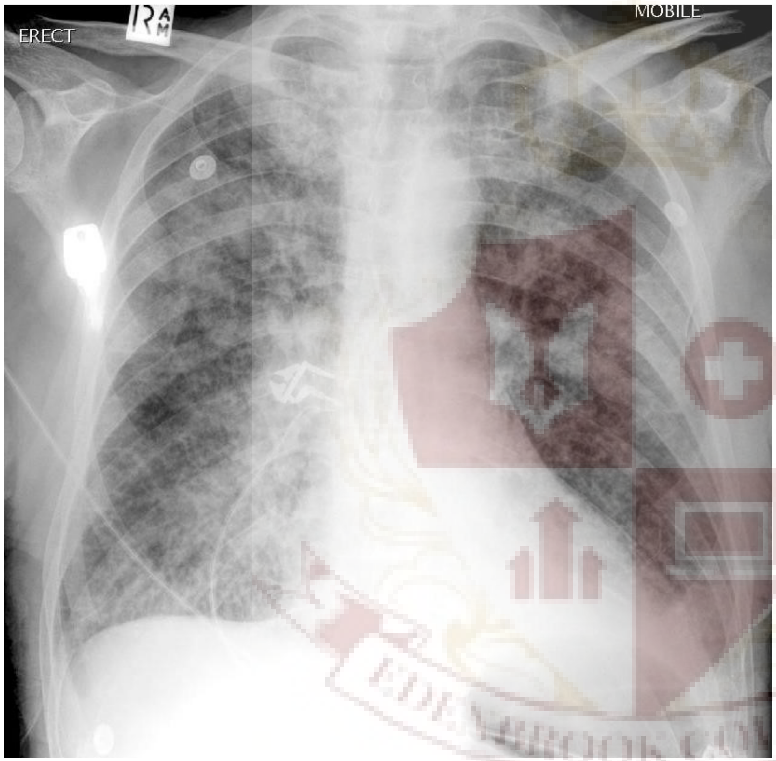
- Case courtesy of Dr Jens Christian Fischer, Radiopaedia.org, rID: 12844

Acute Respiratory Distress Syndrome

- ARDS, a form of acute lung injury, occurring as a result of a severe pulmonary injury that causes alveolar damage throughout the lung
- This damage causes fluid the leak into alveoli, causes pulmonary edema and decreased oxygenation
- Causes include viral pneumonia, near-drowning, aspiration of stomach contents, aspiration of barium among others
- Other systemic causes are pancreatitis, burns, septicemia, hypovolemic shock among others

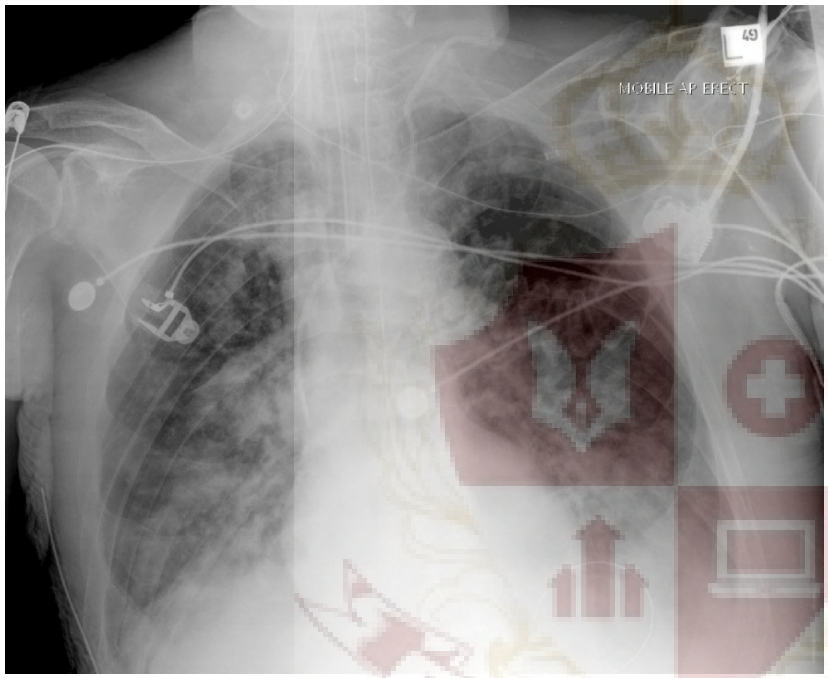
Acute Respiratory Distress Syndrome

- Has a high mortality rate, about 50%
- Causes chronic lung disease in those who recover



Acute alveolar and interstitial edema

- Case courtesy of Assoc Prof Frank Gaillard, Radiopaedia.org, rID: 3011



Admitted to ICU with necrotizing fasciitis, septic shock and acute renal failure. Progressive respiratory failure requiring ventilation.

This is the characteristic radiographic appearance of ARDS

- Case courtesy of Assoc Prof Frank Gaillard, Radiopaedia.org, rID: 35985

SARS- Severe Acute Respiratory Syndrome

- SARS coronavirus (SARS-CoV) was identified in 2003

- This epidemic affected 26 countries with more than 8000 cases, outside of Asia, Canada was the most affected country