The Post Operative Chest
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OBJECTIVES:
• To understand the various lung surgeries
• To recognize post operative CT findings of the various surgeries
• To know the complications and their imaging characteristics
• Knowledge of the various surgical procedures promotes an understanding of the imaging findings and detection of potential complications

Wedge resection
• DEFINITION
Reection of a non-anatomical wedge of lung
• INDICATION
Excisional biopsy of indeterminate lesions
Metastectomy
Salvage procedure for lung cancer
CT APPEARANCE
Suture line with or without soft tissue thickening
• COMPLICATIONS
Early (POD 1-30): Hemorrhage, pneumonia, empyema, BPF, lung herniation
Late (>POD 30): BPF, empyema, pneumonia, recurrent tumor

Segmentectomy
• DEFINITION
Anatomic resection of segment and LNs
• INDICATION
Resection of bronchiectasis and benign tumors and malignant tumors when lobectomy is not feasible due to poor lung function
• TYPES
Reection of single segment
Basal segmentectomy e.g. all basal segments
Lingulectomy
Upper division left upper lobectomy e.g. lingular sparing
CT APPEARANCE
Main lobar bronchus is patent, segmental bronchus resected

Segmentectomy
• COMPLICATIONS
Early (POD 1-30): Hemorrhage, pneumonia, edema, empyema, dehiscence, BPF, lung herniation
Late (>POD 30): Recurrent tumor, BPF, empyema, pneumonia

Lobectomy
• DEFINITION
Resection of a lobe with regional LNs
• INDICATION
Definitive resection for most lung ca
• TYPES
Individual lobes
Bilobectomy (RUL&RML)
• CT APPEARANCE
To identify resected lobe look for bronchial stump and displacement of fissures

Lobectomy
• COMPLICATIONS
Early (POD 1-30): Hemorrhage, pneumonia, edema, empyema, dehiscence, BPF, lung herniation, lobar torsion, atelectasis
Late (>POD 30): BPF, empyema, pneumonia, recurrent tumor, Anastomatic stenosis
Pneumonectomy

- **DEFINITION**
  Complete resection of either lung along with lymph nodes
- **INDICATION**
  Necessary when proximal arterial, venous or bronchial involvement is present
- **CT APPEARANCE**
  Initially air/fluid in pneumonectomy space, after 30 days only fluid with concave medial margin and smooth rind

Complications of pneumonectomy

- Higher mortality rate of 6.7% compared to 1-2% for lesser resections
- Early (POD 1-30): Hemorrhage, pneumonia, edema, empyema, stump dehiscence, SFP
- Late (POD >30): SFP, empyema, pneumonia, recurrent tumor, post pneumonectomy syndrome

Intrapericardial pneumonectomy

- **DEFINITION**
  Resection of lung with ligation of intrapericardial portion of PA and/or pulmonary vein(s); excision of involved pericardium and closure of defect with mesh
- **INDICATION**
  Encroachment of tumor into hilum necessitating incision of pericardium to remove proximal extent of tumor
- **COMPLICATIONS**
  Cardiac herniation with torsion is early complication; R+L intrapericardial pneumonectomy

Tracheal and carinal resection

- **DEFINITION**
  Resection and reconstruction of portion of trachea and/or carina
- **INDICATION**
  For localized tumor or stricture
- **CT APPEARANCE**
  Shortened trachea; alteration in carinal branching pattern
- **COMPLICATIONS**
  Early (POD 1-30): Airway obstruction, dehiscence, bleeding, infection
  Late (POD >30): Stenosis/stricture, tumor recurrence, SFP

Resected tracheal amyloid