Algorithm for ER Treatment of Primary Spontaneous Pneumothorax

Primary Spontaneous Pneumothorax

Small size (< 3 cm) and asymptomatic

- Observation, repeat CXR in 4 – 6 hours
  - No change
  - Increase in size
  - Discharge
    - Follow up CXR in 24 hours
  - Remains expanded
    - Discharge after removing tube
    - Follow up CXR in 24 hours
  - Recurrent collapse
    - Open valve, repeat CXR
      - If re-expanded
        - Discharge with Heimlich valve open
          - Follow up daily CXR until no recurrence of an air leak

Large size (> 3 cm) or symptomatic

- Pleural catheter and attach to Heimlich valve x 1 hour or aspiration, repeat CXR
  - Re-expanded
  - Minimal improvement
    - Attach to underwater seal & suction x 1 hour, repeat CXR (Remove Heimlich)
    - Admission
      - Continue with underwater seal and suction
    - Minimal improvement

Significant underlying lung disease
- Pleural effusion/blood
- Positive pressure ventilation