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
      - Discharge
        - Follow up CXR in 24 hours
    - Increase in size
      - Pleural catheter and attach to Heimlich valve x 1 hour or aspiration, repeat CXR
        - Re-Expanded
          - Close valve x 4-6 hours, repeat CXR
          - Remains expanded
            - Discharge after removing tube
              - Discharge
                - Follow up CXR in 24 hours
            - Recurrent collapse
              - Open valve, repeat CXR
                - If Re-expanded
                  - Admission
                    - Continue with underwater seal and suction
                    - Discharge with Heimlich valve open
                      - Discharge
                        - Follow up daily CXR until no recurrence of an air leak
          - Minimal improvement
            - Re-Expanded
              - Attach to underwater seal & suction x 1 hour, repeat CXR (Remove Heimlich)
              - Admission
                - Insert standard size chest tube and underwater chest seal device

- Large size (> 3 cm) or symptomatic
  - Minimal underlying lung disease
  - Pleural effusion/blood
  - Positive pressure ventilation

Adopted from Credit Valley Hospital