

# Guideline



## CCHMC Trauma Service Guidelines

### Title: Blunt Traumatic Pneumothorax Guideline

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Page: 1 of 3

## 1.0 SCOPE

- 1.1. Care of the Trauma Services Patient at CCHMC.
- 1.2. This is the recommended guideline for any patient with suspected or confirmed pneumothorax following blunt trauma.

## 2.0 DEFINITIONS

- 2.1. Pneumothorax: Presence of air/gas in the cavity between the lungs and the chest wall. Any evidence of pneumothorax on chest x-ray (CXR).
- 2.2. Respiratory Distress: Symptoms include difficulty breathing, tachypnea, oxygen desaturation, shortness of breath, retractions, unable to speak in full sentences, nasal flaring, and/or altered mental status.
- 2.3. RA: Room air without supplemental oxygen.
- 2.4. AP View: Anterior to posterior x-ray method.

## 3.0 GUIDELINE

- 3.1. CXR completed upon trauma work up
- 3.2. Small pneumothorax without signs/symptoms of respiratory distress
  - 3.2.1. Repeat CXR in 6 hours
  - 3.2.2. Stable or improved CXR. Stable on RA without signs/symptoms of respiratory distress
  - 3.2.3. PO challenge and able to ambulate
  - 3.2.4. Discharge home
- 3.3. Moderate/large pneumothorax
  - 3.3.1. Chest tube placement based on clinical symptoms
    - 3.3.1.1. Chest tube not indicated
      - 3.3.1.1.1. Admit for observation and repeat CXR in 6 hours
      - 3.3.1.1.2. If stable or improved CXR, go to 3.2.2.
      - 3.3.1.1.3. If increased size of pneumothorax got to 3.3.1.
    - 3.3.1.2. Chest tube indicated based on clinical symptoms
      - 3.3.1.2.1. Supplement oxygen/ventilatory support as needed
      - 3.3.1.2.2. Chest tube placement to -20 cm H<sub>2</sub>O
      - 3.3.1.2.3. Repeat AP view CXR to confirm evacuation of pneumothorax and tube placement
      - 3.3.1.2.4. If pneumothorax not significantly improved or there is an air leak, consider bronchial or airway injury and exit guideline.
      - 3.3.1.2.5. If pneumothorax is significantly improved, repeat AP view CXR in 24 and when there is no air leak.
        - 3.3.1.2.5.1. If pneumothorax is resolved, place chest tube to water seal and repeat CXR in 4-6 hours.
        - 3.3.1.2.5.2. If CXR is stable and patient is stable without signs/symptoms of respiratory distress, remove chest tube.
        - 3.3.1.2.5.3. No routine post pull CXR is needed. Observe patient for 4-6 hours.
        - 3.3.1.2.5.4. If stable on RA without signs/symptoms of respiratory distress patient may be discharged.
        - 3.3.1.2.5.5. If patient develops signs/symptoms of respiratory distress after chest tube is removed, obtain a repeat CXR and got to 3.3.1.
    - 3.3.1.2.6. If pneumothorax in not resolved, continue chest tube to -20 cm sxn and repeat CXR in 24 hours and when no visible air leak
      - 3.3.1.2.6.1. When pneumothorax is resolved, go to 3.3.1.2.5.1.
- 3.4. Discharge Instructions
  - 3.4.1. Follow-up in Trauma Clinic 1-2 weeks
  - 3.4.2. Follow-up chest x-ray in 1 week if patient required a chest tube or if a residual pneumothorax is noted on imaging at discharge
  - 3.4.3. No flying/scuba diving for 2 weeks after normal chest x-ray
  - 3.4.4. No contact/competitive sports for 2 weeks

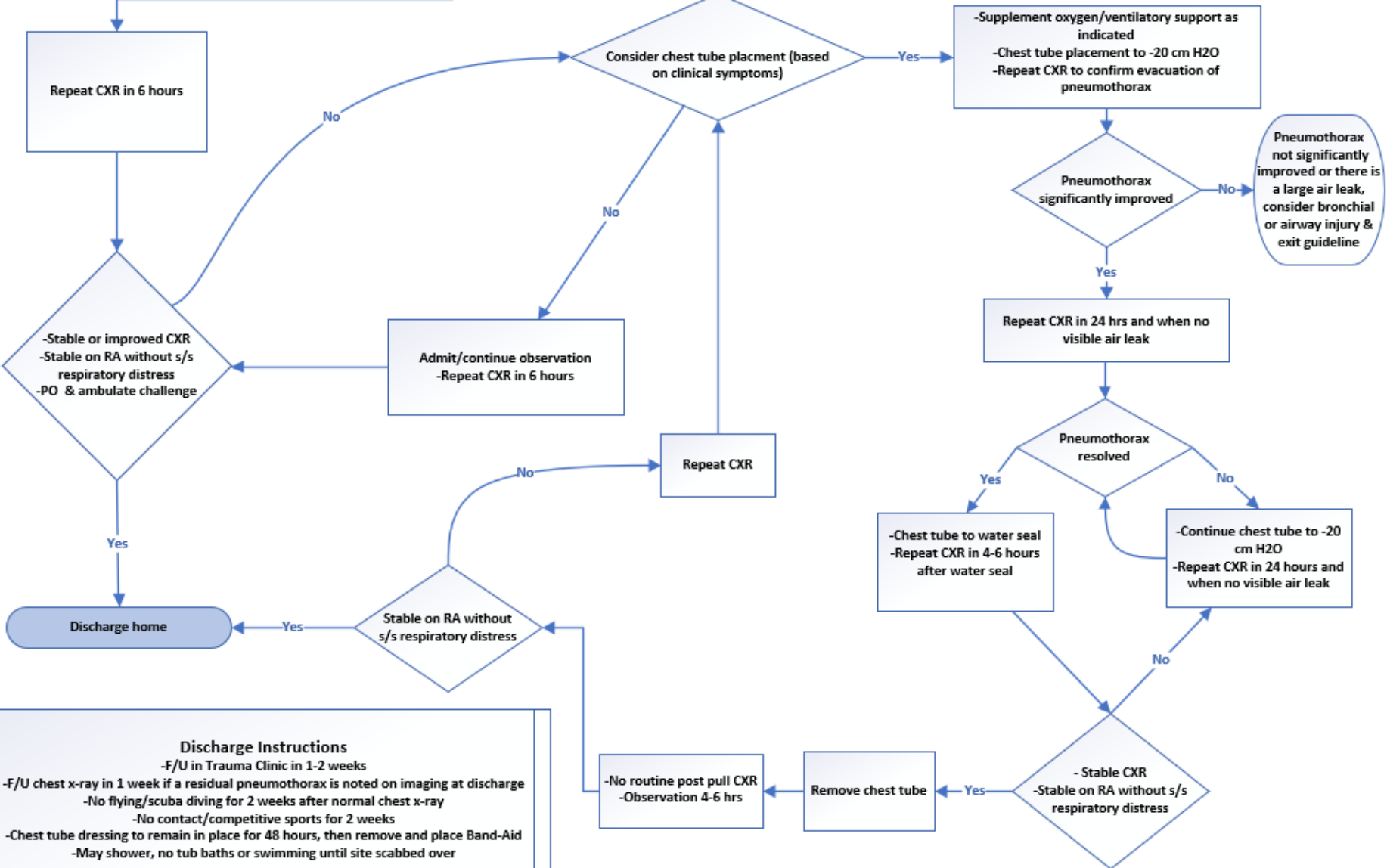
**Blunt Traumatic  
Pneumothorax  
Guideline**

**Chest X-ray\*\***

Small pneumothorax without  
s/s respiratory distress

Moderate/large pneumothorax

\*\*If pneumothorax only seen on CT  
without s/s respiratory distress  
-No repeat imaging needed  
-If patient requiring OR intervention  
repeat imaging as clinically indicated



**Discharge Instructions**

- F/U in Trauma Clinic in 1-2 weeks
- F/U chest x-ray in 1 week if a residual pneumothorax is noted on imaging at discharge
- No flying/scuba diving for 2 weeks after normal chest x-ray
- No contact/competitive sports for 2 weeks
- Chest tube dressing to remain in place for 48 hours, then remove and place Band-Aid
- May shower, no tub baths or swimming until site scabbed over

## 4.0 REFERENCES

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## 5.0 APPROVALS

All revisions of this guideline are approved by the Trauma Services Department. This guideline is reviewed every three years or sooner if deemed necessary. Authority for this document resides with the Trauma Service Department. This guideline is approved by the Trauma Service Manager and Director of Trauma Services.

<b>HISTORY</b>	
<b>Original Date</b>	
	2/2021
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<b>Review Date</b>	