# **Empyema Care Guideline**

## Inclusion Criteria - Previously healthy children

- > 3 months of age
- · Suggestion of clinically significant effusion on chest x-ray

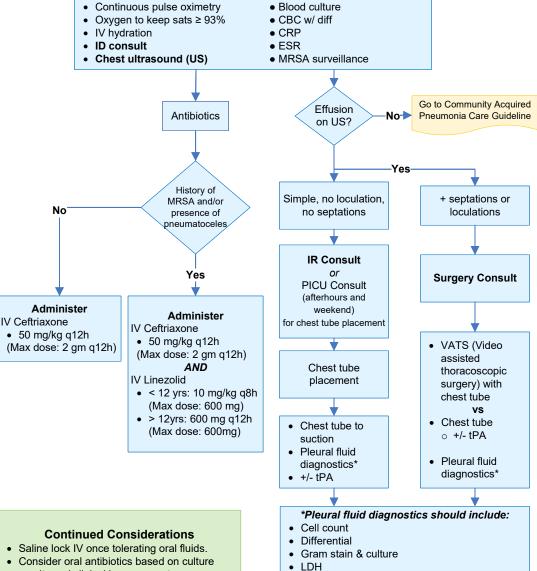
## **Exclusion Criteria**

- < 3 months of age
- Sepsis/shock/multiple organ dysfunction syndrome (MODS)
- Pneumonia without effusion (use Community Acquired Pneumonia Care Guideline)
- Toxic appearance, impending respiratory failure

#### **Assessment**

Respiratory status (increased rate for age, signs of increased work of breathing such as retractions or use of accessory muscles), SPO2, vital signs, immunization status

## Interventions



### Recommendations/Considerations

- Empyema is pus in the pleural space.
- The most common pathogens seen in empyema are S. pneumoniae. Staphylococcus aureus, and S. pyogenes, although some cases may have a negative culture.
- · Chest CT isn't typically used to diagnose effusion/empyema in children. However, it can be helpful to diagnose lung abscesses and/or identify other structural anomalies.
- · Most guidelines recommend treating pediatric empyema with a chest tube and fibrinolytics (tPA), reserving VATS for cases where this fails.
- · Initial VATS may be chosen instead if fibrinolytics are contraindicated (e.g., necrotizing pneumonia, bronchopleural fistula) or in pyopneumothorax.
- · Although outcomes are similar, debate persists - some clinicians favor upfront VATS for faster lung re-expansion and direct infection clearance.

## **Chest Tube Considerations**

- Chest tube to water seal per IR/ Surgery recommendations usually when output decreases to < 20 mL/kg/
- tPA per IR or surgery x 3 days if indicated administered by medical staff per policy
- Chest Tube Placement Policy: SP106v5
- Chest Tube-Assistance with Insertion. Care of, and Assistance with Removal: F794v3

#### Patient/Family Education

- · Complicated Pneumonia-Pleural Effusion and Empyema
- Surgical Site Infection (located in Patient and Family Education)

### **Discharge Criteria**

Total protein

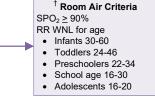
• Stable for a period of observation (min 4-6 hrs) after chest tube removal (repeat chest x-ray only if clinically indicated e.g., fever, increased respiratory rate, or other concerning symptoms).

pH

- Diet tolerated and adequately hydrated.
- No supplemental O2 needed for at least 24 hrs; meets room air criteria<sup>†</sup>
- Follow-up care coordinated; home IV antibiotic therapy arranged if ordered.

Reassess the appropriateness of Care Guidelines as condition changes and 24 hrs after admission. This guideline is a tool to aid clinical decision making. It is not a

standard of care. The physician should deviate from the guideline when clinical judgment so indicates.





results and clinical improvement.

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## Empyema Care Guideline References

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### **American Thoracic Society Classifications of Empyema**

- Stage 1: Exudative
- Accumulation of thin pleural fluid w/ few cells
- Pleura & lung are mobile
- Stage 2: Fibropurulent
- Infected pleural fluid consolidation & accumulation of fibrous material
- Formation of loculations
- · Loss of lung mobility
- Stage 3: Organizing
- Thick fibrinous peel formation
- Lung entrapment