Empyema Care Guideline

**Inclusion Criteria – Previously healthy children**
- Infants > 3 months of age
- Suggestion of clinically significant effusion on chest x-ray

**Exclusion Criteria**
- Infants < 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), O2 Satuations, vital signs, immunization status

**Interventions:** Continuous pulse oximetry, oxygen to keep sats ≥ 93%, IV hydration, CBC w/ manual differential, ESR, CRP, and blood culture, ID consult

- Hx of MRSA, presence of pneumatoceles
- Administer Ceftriaxone 50 mg/kg IV q 12 hrs (Max: 2 gm q 12 hrs)
- Administer Clindamycin 10 mg/kg IV q 6 hrs (Max: 600 mg/dose)

**Go to Community Acquired Pneumonia Care Guideline**

**Surgery Consult**

**No**
- **No**
- **Yes**
- **Yes**
- **No**

**VATS (videoscopic-assisted thoracoscopy surgery) within 24 hrs of diagnosis**

**Discharge Criteria**
- Stable for 24 hrs after chest tube removal
- Diet tolerated and adequately hydrated
- No supplemental O2 needed for at least 24 hrs; meets room air criteria
- Follow-up care coordinated; home IV antibiotic therapy arranged if ordered

**Patient/Family Education**
- Handout: Complicated Pneumonia-Pleural Effusion and Empyema (located on PAWS Patient and Family Education)

**Recommendations/Considerations**
- Empyema is the presence of pus in the pleural space
- The most common pathogens seen in empyema are *S. pneumoniae*, *Staphylococcus aureus*, and *S. pyogenes*, although some cases may be culture negative.
- Early VATS has been shown to decrease hospital length of stay
- Pleural fluid diagnostics should include: Gram stain & culture, LDH, total protein, pH, cell count, differential

**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

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.

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