Diagnostic Approach to Pleural Effusion – Thoracentesis, Inpatient Hospitalist-performed
Clinical Standardization - Updated: February 8, 2023
Clinical Algorithm: Diagnostic Approach to Pleural Effusion – Thoracentesis

Indications for thoracentesis
- New onset effusion of unknown cause
- Clinical deterioration (dyspnea) or symptomatic
- Effusion with signs of infection, see Pleural Infection Management
- Heart failure with large unilateral effusion or not responding to diuretic management

New pleural effusion with indications for thoracentesis

Consult pulmonology (state reason, should triage to interventional) for thoracentesis, chest tube placement, or continued help with management

Any of the following present:
- History of recurrent exudative effusion of unknown cause?
- Need for definitive pleural procedure e.g. tunneled pleural catheter (PleurX) or chemical pleurodesis
- Known malignant effusion

Consult Hospitalist Procedure Team for thoracentesis

Obtain:
- Cell count and differential with culture
- Pleural fluid LDH and Protein
- Serum LDH and Protein
- Glucose

If considering causes aside from general volume overload due to heart failure, renal failure, or cirrhosis, obtain the following depending on clinical suspicion:
- Cytology (malignancy)
- Amylase (pancreatic effusion)
- Triglycerides (lymphatic obstruction or trauma)
- AFB smear/Fungal culture (TB or fungus)
- pH (empyema)
- Albumin (if on diuresis and concern for possible false-positive Light's Criteria)

Exudate

Consistent with volume overload states, treat underlying cause

TIP: This is calculated for you in EPIC under the Summary subtab called "Body Fluid Calc / Light's Criteria"
Clinical Pathway Summary

**CLINICAL PATHWAY NAME:** Diagnostic Approach to Pleural Effusion – Thoracentesis, Inpatient Hospitalist-performed

**PATIENT POPULATION AND DIAGNOSIS:**
- Inpatient Adults
- Diagnosis of pleural effusion with indication for thoracentesis:
  - New onset effusion of unknown cause
  - Clinical deterioration (dyspnea) or symptomatic
  - Effusion with signs of infection [Pleural Infection Management](#)
  - Heart failure with large unilateral effusion or not responding to diuretic management

**APPLICABLE TO:** Butterworth Hospital

**BRIEF DESCRIPTION:**
- Algorithms and guidelines for Hospitalist-performed procedures, to standardize clinical pathways and communicate best practices.
- Anticoagulation guidelines related to Paracentesis and Thoracentesis procedures

**OPTIMIZED EPIC ELEMENTS (if applicable):** Orders: Paracentesis Performed by Hospitalist, Thoracentesis Performed by Hospitalist

**IMPLEMENTATION DATE:** 12/28/2022

**LAST REVISED:** 2/8/2023

### Clinical Pathways Clinical Approach

**TREATMENT AND MANAGEMENT:**
- New pleural effusion with indications for thoracentesis should be referred for thoracentesis.
- Evaluation of an effusion of uncertain cause should include a cell count and differential, culture, LDH, protein, and glucose in addition to other studies as clinically necessary.
- If there is a high suspicion for infection or recurrent malignancy, pulmonary medicine should be consulted for assistance with management and possible chest tube placement.

### Pathway Information

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**CONTRIBUTOR(S):** Pleural Effusion and Anticoagulation Guidelines – John Egan and Fergus Peacock

**EXPERT IMPROVEMENT TEAM (EIT):** Hospitalist Quality EIT

**CLINICAL PRACTICE COUNCIL (CPC):** Acute Health CPC

**CPC APPROVAL DATE:** 2/7/2023
OTHER TEAM(S) IMPACTED: ED, Specialty Health

References:
