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Lower Respiratory Culture with Gram Stain Information Sheet

Overview

MDL Test Name

Lower Respiratory Culture with Gram Stain

MDL Test Code

LR_CULT

Ask at Order Questions

N/A

Specimen Source

Lower Respiratory Sources:

- Sputum
- Tracheal Aspirate
- Bronchial Wash
- Bronchial Alveolar Lavage (BAL)
- Biopsy

  NOTE: indicate site with bronchial specimens i.e.: RUL, etc.

Specimen Requirements

Container/Tube

- Sterile Container – Washing/Lavage/Sputum/Aspirate
- Sterile Saline Tube – Brushing/Biopsy

Specimen Volume (minimum)

0.5 mL or ~ 5 mm diameter (if solid/semisolid)

Sample Stability Time

48 hours

Transport/Storage Conditions

Refrigerated (2 – 8°C)

Patient Preparation / Collection Instructions

- Bronchial (BAL, washings, brushings): Collect via bronchoscopy and place in sterile container. Cover brushes with 1.0mL of sterile saline.
- Sputum: Early morning specimens preferred. Instruct patient to produce lung material, not saliva. Collect in sterile container. Specimens can be collected by respiratory therapy (induced).
- Tracheal Aspirate: Collect through mouth or nose using sterile tubing. Collect in sterile container.

Performance

Days Performed

Daily; Monday – Sunday

Report Available (TAT) – (Once received at MDL)

3 – 4 days

Specimen Retention Time

7 days

Method Description

- Conventional aerobic bacterial culture technique with selective and non-selective media.
- Identification methods (when appropriate) may include any of the following: conventional biochemical testing, matrix-assisted laser desorption/ionization time-of-flight (MALDI-TOF) mass spectrometry, and commercial identification panels.
- Susceptibility testing (when appropriate) may include minimal inhibitory concentration (MIC) (broth microdilution or gradient strip diffusion) or disk diffusion.

Reference Values

- No pathogens isolated.
- Normal Respiratory Flora isolated.

- Normal respiratory flora includes:
  - Viridans Streptococci
  - Non-pathogenic Neisseria
  - Diphtheroids
  - Coagulase-negative Staphylococcus
  - Rothia
  - Group F Streptococcus
  - Anaerobes
  - Haemophilus species (not influenzae)
  - Eikenella
  - Actinobacillus
  - Capnocytophaga
  - Moraxella
  - Enterococci
  - Yeasts (not cryptococcus)
  - Insignificant numbers of *S. aureus*, gram-negative rods, and *N. meningitidis*

Cautions

- Lower respiratory samples are not routinely tested for anaerobic isolates.
- Poor quality of sputum specimens is documented in gram stain by the presence of >10 squamous epithelial cells per low power field.
- A negative bacterial culture does not rule out lower respiratory infection. The primary pathogen is frequently not recovered from patients with pneumoniae due to antimicrobial therapy or because the infection is caused by another type of organism (i.e.: virus, parasite, fungus, mycoplasma, or mycobacterium) that will not be recovered by routine bacterial culture.