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**Lab Dept:** Microbiology/Virology

**Test Name:** TRACHEAL ASPIRATE CULTURE AND GRAM STAIN

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***General Information***

**Lab Order Codes:** TRAC

**Synonyms:** Culture, Tracheal Aspirate

**CPT Codes:** 87070 - Culture, bacterial; any other source except urine, blood or stool, with isolation and presumptive identification of isolates  
87205 – Smear, primary source with interpretation; Gram or Giemsa stain for bacteria, fungi or cell types

The following testing may be added if appropriate based on findings for organism identification (multiple additions are possible if more than one organism is identified) and to aid in patient treatment management.

87077 – Aerobic isolate, additional methods required for definitive identification, each isolate (if appropriate)  
87106 – Culture, fungi, definitive identification, each organism, yeast (if appropriate)  
87107 – Culture, mold, definitive identification, each organism, mold (if appropriate)  
87206 – Smear, primary source with interpretation, fluorescent and/or acid fast stain for bacteria, fungi or cell types (if appropriate)  
87184 – Susceptibility studies, disk method, per plate (if appropriate)  
87185 – Enzyme detection (eg, beta lactamase), per enzyme (if appropriate)  
87186 – Susceptibility studies, microdilution or agar dilution, each multi-antimicrobial, per plate (if appropriate)

**Test Includes:** Culture for aerobic flora and Gram stain.

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***Logistics***

**Lab Testing Sections:** Microbiology

**Phone Numbers:** MIN Lab: 612-813-5866

STP Lab: 651-220-6555

**Test Availability:** Daily, 24 hours

**Turnaround Time:** Preliminary reports are available at 24 hours. Cultures from which pathogens are isolated require at least 2 days for completion.

**Special Instructions:**

- **Specimen site** and **date/time of collection** are required for specimen processing.
- Specify organism suspected if appropriate since special isolation procedures may be required.

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### ***Specimen***

**Specimen Type:** Tracheal aspirate

**Container:** Sterile container

**Volume:** 0.5 mL aspirate

**Collection:**

1. Collect the specimen through a tracheostomy.
2. Attach a sterile catheter to a Lukens trap and carefully pass the catheter through the site into the trachea.
3. Apply suction to aspirate the sample into the Lukens trap.
4. Place in sterile container.

**Transport/Storage:** **Onsite collections:** Transport to the laboratory immediately.

**Offsite collections:** Refrigerate specimen. Specimens must be promptly transported to the laboratory, with the next available courier, not to exceed 24 hours from the time of collection. However, delayed transport causes a delay of test results.

**Sample Rejection:** Improperly labeled specimen; specimens with prolonged transport time (see [Transport/Storage](#) for requirements); clotted specimen; specimen not submitted in appropriate transport container; insufficient volume; external contamination. If an unacceptable specimen is received, the physician or patient's nurse will be notified and another specimen will be requested before the specimen is discarded.

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### ***Interpretive***

**Reference Range:** Usual respiratory flora

**Alert Value:**

- Gram negative rods identified as ESBL or Carbapenemase producers will be called to the physician or patient's nurse. Infection Prevention will be notified.
- If MRSA is isolated for the first time, and the patient location is not Emergency department, the result will be called to the physician or patient's nurse.

**Limitations:** Patients with tracheostomies rapidly become colonized with Gram negative bacilli and other nosocomial pathogens. Such colonization may not have clinical relevance, but these organisms may be aspirated into the lungs and cause pneumonia. Thus, it may be difficult to determine the etiological agent of pneumonia in these patients. It is also difficult to determine if the presence of large numbers of an organism is associated with an inflammatory response.

**Methodology:**

Culture

**References:**

Cook, JH, and M Pezzlo (1992). Specimen receipt and accessioning. Section 1. Aerobic bacteriology, 1.2.1-4. In HD Isenberg (ed) Clinical Microbiology Procedures Handbook. American Society for Microbiology, Washington DC

Miller, J Michael (1999) A Guide To Specimen Management in Clinical Microbiology, American Society for Microbiology, Washington DC

Miller, J Michael, and HT Holmes (1999) Specimen Collection, Transport, and Storage In PR Murray et al, (ed), Manual of Clinical Microbiology, 7<sup>th</sup> edition, American Society for Microbiology, Washington DC, pp 33-104

**Updates:**

3/22/10: CPT update

3/7/11: CPT update

5/2/12: Addition of Alert Value

6/20/12: Amended Alert Value

8/7/13: Amended specimen transport exceeding 2 hours.

11/20/2014: Offsite information added.