Lab Dept:	**Microbiology**
Test Name:	**BRONCHOSCOPY CULTURE AND GRAM STAIN**

General Information

Lab Order Codes:	BRC
Synonyms:	Culture, Bronchoscopy; Culture, BAL; Culture, Bronchial Brushings; Culture, Bronchial Wash; Bronchial Alveolar Lavage Culture
CPT Codes:	87071 – Culture, bacterial; quantitative, aerobic with isolation and presumptive identification of isolates, any source except urine, blood or stool 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) 87147 – Culture, typing; immunologic method, other than immunofluorescence (e.g., agglutination grouping), per antiserum. (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) 87206 – Smear, primary source with interpretation, fluorescent and/or acid fast stain for bacteria, fungi or cell types (if appropriate)
Test Includes:	Quantitative culture of aerobic flora and Gram stain. If a *Mycobacterium* species (AFB, TB) or fungus is suspected. Refer to Fungal Culture or AFB Culture.

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 report available at 1 day, final report within 2 - 5 days.
Special Instructions:	**Specific site** and **date/time of collection** are required for specimen processing.

Specimen

Specimen Type:	Aspirate, brushing, lavage, wash
Container:	Luki tube or sterile container
Volume:	2 mL (Minimum: 0.5 mL)
Collection:	**Bronchoscopy** **1.** Specimen obtained by physician through the biopsy channel of the bronchoscope. **2.** Transfer specimen into a sterile screw-topped container. **Bronchial Brush** **1.** Place brush into a sterile container with 1 mL of saline.
Transport/Storage:	**Onsite collections:** Transport to the laboratory immediately. **Do not** send through the pneumatic tube system. **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 transit times (see Transport/Storage for requirements); specimen not submitted in appropriate transport container; insufficient volume; external contamination. If an unacceptable specimen is received, the physician or nursing station will be notified and another specimen will be requested before the specimen is discarded.

Interpretive

Reference Range:	● **Bronchial Brush (in 1 mL saline):** $<10^3$ CFU/mL is within the expected level of contamination ● **Bronchoalveolar lavages:** **1.** Bacteria: $<10^4$ CFU/mL aerobic bacteria **2.** Normal total cell count: 10 - 15 x 10^3/100mL; differential, 80 - 90% alveolar macrophages; 10% lymphocytes; 1% polymorphonuclear cells, 0.2% eosinophils

● **Bronchial washes:** cannot be established; often contaminated heavily with oral 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.

● Any culture positive for potential agents of Bioterrorism – *Bacillus anthracis, Brucella, Burkholderia mallei/pseudomallei, Francisella tularensis,* or *Yersinia pestis* will be called to Infection Prevention.

Methodology:

Quantitative 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, 7th edition, American Society for Microbiology, Washington DC, pp 33-104

Updates:

3/22/2010: CPT Updates
3/7/2011: CPT Updates
6/19/2012: Addition of Alert Value.
6/20/2012: Alert Value amended
11/11/2014: Added offsite collection information