PROVIDENCE
Sacred Heart
Medical Center &
Children's Hospital

Department of Microbiology
Quantitative Lower Respiratory Culture Procedure

I. Introduction

Quantitation of organisms from protected bronchial brush specimens may provide more relevant diagnostic information than sputum cultures which are often contaminated with oral flora.

II. Principle

Bronchial brush specimens are collected by a telescoping cannula. The distal end has an occlusive cover, reducing oral contamination. When the cannula is inserted into its proper position within the lung, the brush is pushed directly to the suspected site of inflammation.

III. Specimen

Bronchial brush placed into a screw-cap tube containing 1.0 ml of Ringer's lactate. The brush is cut, the cap tightened and the tube sent to Microbiology immediately. A supply of sterile lactate tubes will be sent from the lab to the Outpatient Department each month.

IV. Procedure

A. Specimen Processing – Order as respiratory culture (CRESP)
   1. Vortex the vial containing the brush and 1.0 ml Ringer's lactate.
   2. Prepare a gram stain from the suspension using 0.01-ml loop. Report Gram stain according to Lower Respiratory Gram stain procedure.
   3. Inoculate aerobic BAP, choc and MAC with 0.01 ml loop, and streak for isolation. Inoculate an anaerobic BAP for detection of *Streptococcus pneumoniae* only, and add P disks. Do not charge for an anaerobic set up.

B. Culture Workup and Reporting
   1. Quantitate by reporting $\geq 10^3$ CFU per potential pathogen ($\geq$10 colonies). Do susceptibility testing.
   2. Quantitate and identify mixed oral-like flora present in quantities $\geq 10^3$ CFU (each organism must have $\geq 10^3$ CFU).
   3. If total growth is $< 10^3$ CFU per organism (less than 10 colonies from a .01 loop for each organism) report "Less than 10^3 CFU/ mL. Quantitative culture growth is below threshold level."

References

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