

1. Purpose

The purpose of this guideline is to provide physicians with clear and concise directions on testing and interpreting laboratory reports of pathogens from the lower respiratory tract for community-based patients.

2. Background

Routine sputum cultures for the etiologic diagnosis of outpatients with community acquired pneumonia have limited value. Specimens should only be collected if individual antibiotic management will change based on the sputum culture results.

The following etiological agents of pneumonia are not detected in routine cultures: *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, Legionella, anaerobes, respiratory viruses, and *Mycobacterium tuberculosis*. If viral testing is required to confirm suspicion of a viral infection, the specimen should be forwarded in a proper viral collection kit directly to the Public Health Laboratory.

The quantity of the organisms present, source of culture, presence of a tracheostomy, immune status, and age of the patient may determine the significance of a pathogen.

Streptococcus pneumoniae, *Haemophilus influenzae* and *Moraxella catarrhalis* may be part of the normal respiratory flora and the presence of these organisms alone in a respiratory culture does not necessarily indicate infection.

3. Specimen Collection Instructions

Appropriate specimens to identify pathogens causing pneumonia include expectorated and induced sputum.

Sputum specimens should not be submitted unless a good quality specimen can be obtained, therefore collections from non-hospitalized pediatric patients are discouraged.¹ Sputum specimens will be rejected unless they meet the laboratory's quality score system screening requirement (ratio of squamous cells to neutrophils).^{2,3} Sputum samples should ideally be transported to the laboratory in less than 2 hours if at room temperature, otherwise the specimen must be refrigerated.

If an active infection with *M. tuberculosis* is suspected at least three sputum samples, preferably collected at one hour intervals, should be submitted for testing.⁴ Suspicion of *M. tuberculosis* should be specified on the requisition.

Blood culture should be considered in patients with asplenia, severe chronic liver disease, active alcohol abuse, or severe community acquired pneumonia (such as patients with cavitary disease or pleural effusions).⁵

Cited References

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Laboratory Guidelines in Support of Clinical Practice

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Warning & Disclaimer

This Guideline was prepared to assist clinicians who order tests from community laboratories. Users must ensure that their own practices comply with all specific government policies and specific legislative and accreditation requirements that apply to their organizations. The Guideline is not meant to be construed as legal advice or be all inclusive on this topic. Given the complexity of legal requirements, users are reminded that whenever there is uncertainty regarding whether some aspect of a Guideline is appropriate for their practice or organization, further direction should be obtained from the Laboratory Director, their own professional association, college and/or legal counsel or appropriate government ministry.