

Antibiotic Susceptibilities: Lower Respiratory Tract Isolates

The Ontario Association of Medical Laboratories (OAML) Guidelines on Antibiotic Susceptibilities represents the consensus thinking of a panel of experts in the field of Microbiology and are in keeping with the National Committee for Clinical Laboratory Standards (NCCLS)*. **They have been developed to provide ordering physicians with a clear and concise reference respecting the testing and reporting of antibiotic susceptibilities of bacteria isolated from patients in the community. These guidelines are appropriate at the time of writing and are applicable in most clinical situations. However, if in doubt, referral to a specialist should be considered.**

Limitations

Several important causes of community acquired pneumonia are not detected in routine cultures: *Mycoplasma pneumoniae*, *Chlamydia pneumoniae*, *Legionella*, respiratory viruses, and anaerobes.

Recommendations

Pathogens	Antibiotics Reported	Comments
<i>Streptococcus pneumoniae</i>	Penicillin, erythromycin, trimethoprim/sulfamethoxazole and tetracycline	Lower respiratory infections due to penicillin resistant strains will likely respond to high dosages of penicillin and/or amoxicillin.
<i>Haemophilus influenzae</i>	Amoxicillin/Ampicillin	Amoxicillin/Ampicillin susceptibility is generally predicted by the results of β -lactamase testing. Infections due to amoxicillin resistant strains may be treated with amoxicillin/clavulanate, trimethoprim/ sulfamethoxazole, cefaclor, cefuroxime, tetracycline, clarithromycin, azithromycin, fluoroquinolones .
<i>Moraxella catarrhalis</i>	Amoxicillin/Ampicillin	As for <i>Haemophilus influenzae</i> plus erythromycin.
<i>Staphylococcus aureus</i>	a) Cloxacillin** b) Erythromycin, trimethoprim/ sulfamethoxazole, clindamycin c) Vancomycin	a) If cloxacillin resistant the isolate is considered to be resistant to all penicillins and cephalosporins. b) All erythromycin resistant strains should also be considered resistant to clindamycin therapy despite results of in vitro laboratory testing. c) Only reported if Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA).
Other gram negative aerobes <i>e.g. Pseudomonas aeruginosa</i> , and Enterobacteriaceae, including <i>Klebsiella pneumoniae, etc.</i>	According to the NCCLS	Gram negative aerobes may be isolated from sputum specimens but rarely cause pneumonia in the community.

* Performance Standards for Antimicrobial Susceptibility Testing, NCCLS Document M100-S10.

Performance Standards for Antimicrobial Disk Susceptibility Tests, NCCLS Document M2-A7.

Methods for Dilution Antimicrobial Susceptibility Tests for Bacteria That Grow Aerobically, NCCLS Document M7-A5.

** Cloxacillin, Oxacillin and Methicillin clinical susceptibilities are equivalent.

The Ontario Association of Medical Laboratories

The Ontario Association of Medical Laboratories (OAML) represents the community-based laboratory sector in Ontario.

Its mission is to promote excellence in the provision of laboratory services and, as an essential component of the health care system, to contribute to shaping the future of health care in Ontario.

The OAML encourages the highest level of professional and ethical integrity and technical excellence among laboratory owners, operators and staff in the provision of laboratory services for the benefit of the people of Ontario.

Guidelines for Clinical Laboratory Practice

The OAML, through its Quality Assurance and Clinical Laboratory Practice Committee, co-ordinates the development and dissemination, implementation and evaluation of Guidelines for Clinical Laboratory Practice.

A proposed Guideline is developed by a working group of the Committee with outside experts. The proposed guideline is then submitted to the Committee as a whole and to a Professional Advisory Group who provide an overall review of the document. The comments of the Committee and the Professional Advisory Group are incorporated into a revision of the guideline and this draft is submitted to laboratory Medical Directors, professional associations and other representatives of end users for additional comment. The document is revised in light of these comments and submitted to the OAML Board of Directors for approval.

Approved guidelines are distributed to Community-based Laboratories and by them to their client

physicians. There may be additional educational materials produced, if it is thought that they might be useful, and these are distributed with the guideline.

The comments of end users are essential to the development of guidelines which will encourage adherence. You are strongly encouraged to submit your comments on this or on any other OAML Guideline to:

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