

National Centre for Streptococcus Centre National Pour Le Streptocoque

Provincial Laboratory for Public Health
Rm. 1B3.26 Walter Mackenzie Centre
University of Alberta Hospital
8440-112 St, Edmonton, Alberta T6G 2J2



For information:
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GUIDE TO SERVICES

The National Centre for Streptococcus (NCS) was established at the Provincial Laboratory of Public Health for Northern Alberta, Edmonton, in April, 1991. This Centre is part of a network of national laboratories operating under the auspices of the National Microbiology Laboratory, Winnipeg, Manitoba.

The NCS offers serotyping services for group A (*S. pyogenes*) and group B (*S. agalactiae*) streptococci and *Streptococcus pneumoniae* strains that are isolated from patients with invasive disease. Identification of *Streptococcus* and other catalase-negative gram-positive cocci is also provided for **isolates recovered from normally sterile body sites**.

Non-invasive isolates from serious disease which are accompanied by sufficient clinical information, and strains related to outbreak investigation or research may also be processed if prior arrangements have been made with the NCS.

All isolates submitted for further investigation must be accompanied by relevant clinical information and, if related to research, pertinent details about the nature of the study and principal investigator(s) should be included. All research projects must be approved by the NCS Director and/or Section Head before samples are shipped.

The age of the patient and the date of isolation is critical for accurate retrospective data analysis, and submitting laboratories are requested to provide this information for each isolate that is sent to this laboratory.

It is particularly important to identify strains that may have been isolated from outside Canada and those which are from non-human sources to ensure that inappropriate data is not included in Canadian statistics.

Minimum inhibitory concentration (MIC) as determined by broth microdilution is performed for surveillance purposes on all invasive pneumococci; these data are not routinely reported to submitting agencies. The following antibiotics are tested: penicillin, cefotaxime, ceftriaxone, chloramphenicol, clindamycin, erythromycin, levofloxacin, trimethoprim-sulfamethoxazole and vancomycin. Antibiotic susceptibility testing for other *Streptococcus* species may be provided upon consultation with the laboratory.

Please submit pure isolates in charcoal transport media or on blood or chocolate agar slants. Group A and group B streptococci survive well in both media, but blood agar is NOT suitable for *Streptococcus pneumoniae* due to the tendency of this organism to autolyse. Blood agar plates or liquid media are not recommended for transport since they pose a safety risk due to potential leakage of the specimen. Please use the following shipping address:

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INVESTIGATIVE SERVICES / METHODOLOGY

1. *Streptococcus* grouping using Lancefield hot acid extracts
2. Group A *Streptococcus* serotyping (T & AOF) / using antisera prepared in-house
3. Group A *Streptococcus emm* gene sequencing (codes for M protein)
4. Group B *Streptococcus* serotyping / using antisera prepared in-house
5. *Streptococcus pneumoniae* serotyping (Danish nomenclature) / Quellung reaction with commercial antisera (Statens Seruminstitut, Copenhagen, Denmark)
6. *Streptococcus pneumoniae* MIC by broth microdilution (CLSI reference method)
7. Other relevant antibiotic susceptibility testing for streptococci as required on consultation with the NCS
8. Detection of the genetic sequences for vancomycin resistance in enterococci (VRE) - *vanA*, *vanB*, *vanC(gall)*, *vanC(cass)*, *vanD* / performed by PCR
8. Speciation of invasive *Streptococcus* and other aerobic catalase-negative gram-positive cocci.

*Speciation and susceptibility testing of anaerobic strains has been and will continue to be referred to the Special Bacteriology section of the National Microbiology Laboratory, Winnipeg, Manitoba.