Pneumococcal Meningitis Investigation Overview

The following guidelines provide a brief overview of the steps of a pneumococcal meningitis investigation. *Streptococcus pneumoniae* (pneumococcus) is a gram-positive bacterium that can cause a variety of infections including invasive diseases like bacteremia, meningitis, and septic arthritis, and non-invasive infections like pneumonia, sinusitis, and acute otitis media. **Pneumococcal meningitis is the only form of disease that is reportable in North Carolina**. There are over 90 pneumococcal serotypes, and vaccines are available to protect against those that are most likely to cause invasive disease.

S. pneumoniae bacteria commonly inhabit the respiratory tract without causing disease. Transmission of bacteria can occur through direct contact with respiratory droplets from an infected person. Certain groups are at higher risk of invasive pneumococcal disease, including children less than 5 years of age, adults over 65, and people with certain chronic medical conditions. Contacts to persons infected with pneumococcus are not generally at increased risk of disease and antibiotic prophylaxis is rarely indicated.

Basic Steps of a Pneumococcal Meningitis Investigation

1. Collect clinical information and vaccination history	• Use information collected from the medical record to determine which clinical syndromes are present and document in NC EDSS. It is usually not necessary to interview the patient. • Review vaccination history and ensure vaccination status is documented in the NC EDSS vaccine question package.
2. Review the lab report	• Verify that the isolate verifies meningitis (CSF). • If the patient is age 15 years or less, assure the isolate is sent to the State Laboratory of Public Health for further serotyping by the CDC Reference Lab.

3. Contact Investigation	• A contact investigation and control measures such as antibiotic prophylaxis are not usually indicated.
	• Persons eligible for vaccine should be vaccinated to protect against future disease exposure.
	  ◦ All children younger than 5 years old should receive a 4-dose PCV series (PCV15 or PCV20) with 1 dose at each of the following ages 2 months, 4 months, 6 months, and 12-15 months.
	  ◦ Adults 50 years and older should receive PCV15, PCV20, or PCV21 if they have never received any pneumococcal conjugate vaccine or if their previous vaccination history is unknown.
	  ◦ Children 5 through 18 years of age and adults 19 through 49 years of age with certain risk conditions may be recommended to receive pneumococcal vaccines. The type of vaccine and number of doses recommended vary by age and vaccination history.
	  ◦ Use CDC's PneumoRecs VaxAdvisor App to quickly and easily determine which pneumococcal vaccines a patient needs and when.

Resources

CDC Manual for the Surveillance of Vaccine-Preventable Diseases, Chapter 11: Pneumococcal
CDC Pneumococcal Vaccination and Adult Pneumococcal Vaccine Timing for Adults