

## Invasive Pneumococcal Disease

### Definition:

Invasive pneumococcal disease is caused by the bacteria *Streptococcus pneumoniae*.

### Signs and symptoms:

*Streptococcus pneumoniae* can cause infections in multiple sites in the body, including the lungs, blood, spinal cord, and middle ear. Symptoms may include a high fever, chills, cough, shortness of breath, earaches, malaise, stiff neck, headache, and mental confusion. Symptoms may be severe enough to require hospitalization. Young children, infants, the elderly, and those with weakened immune systems are at higher risk of becoming ill.

### Transmission:

*Streptococcus pneumoniae* spreads from person to person by sneezing, coughing, or contact with respiratory droplets. Even those without symptoms can be carriers of the bacteria.

### Diagnosis:

Invasive pneumococcal disease is diagnosed by clinical symptoms and laboratory tests. Isolation of the bacteria from a sterile site is needed for confirmation of the infection.

### Role of the School Nurse:

#### Prevention

- Vaccination is the best way to prevent pneumococcal disease. Pneumococcal conjugate vaccine (PCV13) is recommended for infants and children under the age of 5 years. Pneumococcal polysaccharide vaccine (PPSV23) is approved for those over 2 years of age and adults.
- Encourage frequent handwashing and good cough etiquette.

#### Treatment Recommendations

- If symptoms are noted, the child should see a provider for testing and treatment.
- Antibiotic treatment is available. However, children with severe illness may need to be hospitalized for treatment.

#### Exclusions

- Children who are sick should remain at home and see a provider if the disease is suspected.
- Educational modifications may be warranted in children with a positive diagnosis.

#### Reporting Requirements

- Invasive *Streptococcus pneumoniae* is reportable within 48 hours of recognition or strong suspicion of illness.

### Resources:

- Maine CDC *Streptococcus pneumoniae* website (including fact sheet): <http://www.maine.gov/dhhs/mecdc/infectious-disease/epi/airborne/strep-pneumoniae.shtml>
- Federal CDC *Streptococcus pneumoniae* website: <https://www.cdc.gov/pneumococcal/index.html>
- Maine Immunization Program: <http://www.maine.gov/dhhs/mecdc/infectious-disease/immunization/index.shtml>