

# Pneumococcal disease, invasive

## Reporting Obligations

Invasive Pneumococcal disease is designated as a disease of public health significance and is reportable under the Ontario Health Protection and Promotion Act. Report all suspect and confirmed cases within **one business day** to the health unit.

### REPORTING FORM

## Epidemiology

### Aetiologic Agent:

*Streptococcus pneumoniae*, also known as pneumococcus, is a Gram-positive encapsulated coccus of which there are 90 known capsular serotypes. Pneumococci are ubiquitous; reservoir is humans.

Endemic throughout the world; it occurs in all climates and seasons, but the incidence is highest in winter and spring. Invasive pneumococcal disease is relatively common in Ontario.

### Clinical Presentation:

Invasive pneumococcal disease (IPD) most often presents as bacteremic pneumonia, bacteremia, and meningitis. Persons with pneumococcal meningitis generally present with high fever, headache, lethargy or coma, vomiting, irritability, nuchal rigidity, seizures and signs of meningeal irritation.

### Modes of transmission:

Transmission is person-to-person by contact with the respiratory droplets of an infected person or asymptomatic carrier. Illness among casual contacts is infrequent. Pneumococcus often asymptotically colonizes the human nasopharynx; duration of carriage varies, although generally longer in children than adults.

### Incubation Period:

Incubation period may be as short as 1-3 days.

### Period of Communicability:

Presumably until discharges from mouth and nose no longer contain virulent pneumococci in significant numbers. Usually no longer communicable after 24 hours of initiating effective antibiotic therapy.

## Risk Factors/Susceptibility

The risk of disease is highest in persons 65 years of age and older, children less than 2 years of age, and those persons with certain medical conditions that put them at increased risk for IPD. Although serotype-specific immunity may last for several years following infection, persons previously infected with pneumococcal disease should still receive immunization due to the number of known pneumococcal serotypes.

## Diagnosis & Laboratory Testing

A confirmed case includes clinical evidence of invasive disease (pneumonia with bacteremia, bacteremia without a known site of infection, and meningitis) with laboratory confirmation of infection; positive *Streptococcus pneumoniae* culture or positive NAAT for *S. pneumoniae* from a normally sterile site (e.g., blood, CSF) excluding the middle ear.

### TESTING INFORMATION & REQUISITION

## Treatment & Case Management

Treatment is under the direction of the attending Health Care Provider.

Immunization as per the [Canadian Immunization Guide, 7th ed.](#) recommendations and the [Publicly Funded Immunization Schedules for Ontario](#), is key to the prevention of IPD.

Public Health will follow as needed.

## Patient Information

### PATIENT FACT SHEET

## References

1. [Ministry of Health, Infectious Diseases Protocol - Ontario Public Health Standards, 2022.](#)

## Additional Resources

1. [MOHLTC. "Publicly Funded Immunization Schedules for Ontario" June 2022](#)
2. [PHAC. "Canadian Immunization Guide, 7th ed., Pneumococcal Vaccine."](#)
3. [MOHLTC. "Pneumococcal conjugate 13-valent vaccine \(Prevnar® 13\): information for adults with high-risk medical conditions."](#)
4. [Simcoe Muskoka HealthSTATS: Invasive Pneumococcal disease](#)
5. [PHO. "Invasive Pneumococcal Disease". Dec 2022.](#)