

Pertussis

(Whooping Cough)

Reporting Obligations

Pertussis 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:

Pertussis is caused by, a Gram-negative, bacillus, *Bordetella pertussis*, (*B. pertussis*).

Clinical Presentation:

Pertussis is an acute bacterial infection that attacks the tracheobronchial tree of the respiratory tract. It has three stages:

1. Catarrhal Stage - mild upper respiratory tract symptoms with a mild occasional cough that lasts about 1-2 weeks
2. Paroxysmal Stage - increase in the severity and frequency of the cough; paroxysms are characterized by repeated violent coughs possibly with a high-pitched inspiratory whoop commonly followed by vomiting and can last 1 to 2 months; fever is absent or minimal
3. Convalescent Stage- gradual recovery period which can take weeks to months

The clinical course varies with age. In young infants, who are at the highest risk, clinical symptoms are frequently atypical, and it is this group who has the most serious complications. Pertussis presentation may also be atypical in adults or among persons previously immunized.

Modes of transmission:

Direct contact with discharges from respiratory secretions of infected persons via droplets.

Incubation Period:

Usually 9-10 days, can range from 6-20 days.

Period of Communicability:

Highly communicable in the early catarrhal stage and beginning of the paroxysmal stage (first 2 weeks) and then decreases and becomes negligible in about 3 weeks.

No longer communicable after 5 days of effective treatment.

Risk Factors/Susceptibility

Non-immunized or partially immunized individuals are susceptible to pertussis. Previously immunized adolescents and adults (due to waning immunity) may also be susceptible. Infection does not induce long term immunity. Secondary

attack rates can occur, of up to 90% in non-immune household contacts. Protection against pertussis is not lifelong and wanes after 7-20 years of natural infection and approximately 4-12 years after immunization with either whole cell or acellular pertussis vaccine (varies with age). Pertussis tends to be under-diagnosed, particularly among adolescents and adults.

Diagnosis & Laboratory Testing

Consider Pertussis in an individual with a paroxysmal cough or a cough lasting 2 weeks or more. A nasopharyngeal (NP) swab specific for *Bordetella pertussis*, must be used to collect a specimen. A Bordetella Collection Kit can be ordered from Public Health Ontario (click Testing Information button).

TESTING INFORMATION & REQUISITION

Treatment & Case Management

Advise cases to avoid contact with young children, infants, and women in their 3rd trimester of pregnancy until the completion of 5 days of treatment or 21 days post cough onset. Advise symptomatic individuals to remain at home until they are well.

Discuss pertussis immunization. Ontario has added an additional one lifetime dose of the Pertussis vaccine (Tdap) for adults under the age of 64 years.

Contacts: Antibiotic chemoprophylaxis is only recommended for the following contacts of a confirmed pertussis case:

- Household contacts (including attendees at family day care centers) where there is an infant < 1 year of age (vaccinated or not) or a pregnant woman in the third trimester.
- For out of household exposures, infants less than one year of age regardless of immunization status and pregnant women in their third trimester who have had face-to-face exposure and/or have shared confined air for > 1 hour.

Chemoprophylaxis should be implemented as soon as possible after exposure as efficacy is related to early implementation. It is not likely to be beneficial after 21 days since the first contact.

[See chemoprophylaxis regimens for specific contacts p. 7, MOHLTC.](#)
Public Health staff will be involved in case and contact follow up.

Patient Information

PATIENT FACT SHEET

References

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

Additional Resources

1. [Public Health Ontario, Public Health Management Considerations for Pertussis", December 2022.](#)
2. [MOHLTC, "Publicly Funded Immunization Schedules for Ontario" June 2022.](#)
3. [PHAC, Canadian Immunization Guide, 7th ed., Pertussis Vaccine."](#)
4. [Simcoe Muskoka HealthSTATS: Pertussis](#)
5. [Public Health Ontario, "Pertussis", December 2022.](#)