

Winnipeg Regional Health Authority Personal Care Home/Long Term Care Facility Infection Prevention & Control Manual

PERTUSSIS

Cause/Epidemiology

Bordetella pertussis is a small, aerobic gram-negative coccobacillus.

Bordetella parapertussis, a closely related organism causes a pertussis-like syndrome in humans. Parapertussis is similar, but usually a milder form of the disease. Parapertussis occurs in school-aged children and is relatively infrequent.

Bordetella pertussis is found worldwide, with an estimated 40,000,000 cases & 360,000 deaths in 1994.

Adult pertussis is under-reported, with many adult cases going unrecognized and frequently diagnosed as upper respiratory tract infections (URI's), bronchitis, and allergies. Most reported cases are in children under age 5, with half of those occurring in infants under 1 year old. Approximately 5,000 cases are reported each year. There has been a modest upward trend in the pertussis attack rate. A major contributor to this increase in the rise is case finding in adults.

Immunity from childhood vaccination wanes 5 to 10 years after the last dose (usually given at 4 to 6 years of age), with efficacy of the vaccine falling from 100% in the first year following vaccination to 46% in the seventh year.

Clinical Presentation

Bacteria have been isolated from respiratory secretions or (less often) by large aerosol droplets from the respiratory tract of infected persons (at a range of 5 feet or less).

Onset is insidious with symptoms of an upper respiratory infection such as a runny nose lasting for about a week (catarrhal stage).

Fever is usually minimal, lasting 1-2 weeks.

A cough begins during the catarrhal stage and progresses steadily, becoming paroxysmal (numerous, rapid coughing).

Residents may appear well between bouts of coughing, and if no paroxysm of coughing occurs during the physical examination, the diagnosis may be missed (paroxysmal stage).



Symptoms of pertussis are milder in previously vaccinated persons, and the diagnosis may be missed in adolescents and adults, who often have less characteristic symptoms.

Infants less than six months of age present more commonly with coughing, vomiting, apnea, cyanosis, and bradycardia, rather than with a 'whooping' cough.

Complications may include seizures, pneumonia, encephalopathy, and/or death

Incubation

The incubation period is 5-21 days after exposure, usually 7-10 days.

Non-immune contacts are considered infectious from the day 12 to day 25 after exposure.

The period of communicability is generally from early catarrhal stage until 3 weeks.

Transmission

Pertussis is spread by Droplet transmission.

The period of communicability starts with the onset of the catarrhal stage and extends into the paroxysmal stage.

Pertussis is highly contagious; secondary attack rates may exceed 80% among susceptible household contacts.

In adults, 20-47% of those exposed to the disease develop infection.

Lack of awareness of adult pertussis in people with prolonged cough and the high incidence of sub-clinical disease (40%) results in intra-familial and healthcare- associated disease.

Acquired immunity after the illness is permanent.



Infection Prevention and Control Practices

Implement Droplet Precautions immediately for a resident with Pertussis.

Refer to the Communicable Disease Management for Personal Care Homes/Long Term Car e Facilities Table for specific disease/microorganism information.

Refer to Droplet Precautions in the Additional Precautions section 5 for specific information.

Occupational Health

Definition of Occupational Exposure

A healthcare worker who has direct or indirect contact of their oral or nasal mucous membranes with respiratory secretions of an infectious person during the period of communicability, or 5 days after initiation of effective antibiotic therapy.

A Healthcare Worker Exposed to Pertussis

- Consider all healthcare workers to be susceptible because immunity wanes
- Exposed healthcare workers shall contact Occupational Health/designate for clinical management
- No modification to work practices or work restrictions required for exposed healthcare workers who are taking prophylactic antibiotics
- Exposed healthcare workers who refuse or are unable to take prophylaxis shall be excluded from work for a period of 6 to 20 days after their last exposure

A Healthcare Worker Symptomatic or Infected with Pertussis

- Physician-confirmed diagnosis
- Inform Infection Prevention and Control Practitioner/designate immediately if there is a confirmed or suspected case of Pertussis.
- Healthcare workers shall be referred to Occupational Health/designate for clinical management
- Healthcare workers shall be excluded from work until after 5 days of effective therapy or if untreated, from the beginning of onset of symptoms through the third week after onset of coughing