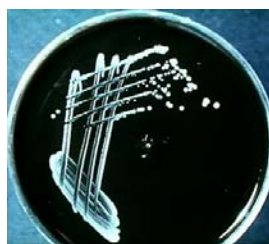
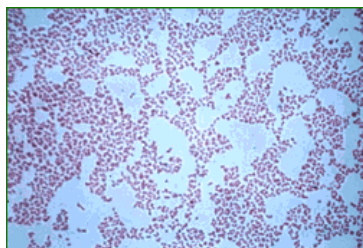


Pertussis (Whooping Cough) Information sheet for Health Care Workers

Infection Control Department 2006

Pertussis is caused by a bacteria called *Bordetella pertussis* which is a small Gram negative coccobacillus. *B. pertussis* is found only in humans.



Incubation period 6 to 20 days, usually about 14 days.

Spread

Pertussis is an acute, highly contagious respiratory disease, spread person-to-person by airborne **droplets** (coughing, sneezing) and direct contact with infected droplets (kissing). The organism is inhaled and attaches to the surface of ciliated epithelial cells of the respiratory tract where it multiplies rapidly. This damages the respiratory epithelium producing obstruction and paroxysmal coughing.

- Australia has a significant background rate of pertussis.
- 2005 - 11,013 cases notified in Australia
- Epidemics occur every 3 to 4 years.
- It is infectious in the initial catarrhal phase and for the first 3 weeks of coughing.
- Most people (70 - 100%) who live in the same house as a person with whooping cough are likely to become infected.

Ages

Pertussis **affects all ages** and ranges from a mild disease to very severe.

- It is particularly dangerous in young babies and unimmunised children.
- Babies under 12 months of age often require admission to hospital and complications may include convulsions, pneumonia, haemorrhage, coma, brain damage and long-term lung damage.
- It remains a potentially fatal illness in infants under 6-months of age
- Around 1 in every 200 children under 6 months die.

Symptoms

The clinical course after incubation period may be divided in to 3 stages:

1. Catarrhal 0-2 weeks

Initial symptoms may be non-specific and similar to a cold or viral infection. Irritating cough, runny nose, low-grade fever.

2. Paroxysmal 1-6 weeks

This stage is characterised by sudden attacks of severe, repetitive coughing (paroxysms) with or without an inspiratory "whoop". Coughing is often followed by "bring up" of mucus and/or vomiting. Coughing is provoked by feeding in infants and exertion and may be more frequent at night. Some infants and most adults do not have a typical whoop or cough paroxysm.

3. Convalescent (several weeks)

The convalescent stage may last weeks or even months and is characterised by reduced frequency and duration of coughing. Pertussis has been called the "**100 day cough**" due to prolonged coughing bouts, which may persist for 2 to 3 months.

Other effects of pertussis include lethargy, insomnia, sleep disturbance of others in the household and exhaustion. The condition can often be misdiagnosed as another respiratory condition such as asthma or a chest infection.



Treatment

Antibiotics have no benefit after 3 weeks of cough, unless used for treatment of a secondary infection. They have little effect on the duration of the symptoms unless given very early in the illness. The primary reason for antibiotic therapy is to help reduce the infectious period and spread to others. Household members may be offered antibiotics in an attempt to prevent onset of the disease.

Control

Exclusion/isolation from susceptible individuals, schools, pre-schools and day care settings for 21 days following onset of cough or until 5 days of appropriate antibiotic therapy has been given, is essential. It is important to cover mouth at all times when coughing and dispose of tissues carefully and wash hands.

Testing

Indicate on the pathology slip that pertussis is suspected.

- A **nasopharyngeal aspirate** or **swab** for culture is the best specimen to obtain. Molecular diagnosis by PCR is replacing traditional culture.
- Direct immunofluorescence may provide a rapid result.
- Serology using *B. pertussis* specific IgA may be falsely negative but a positive result is reliable in the presence of appropriate symptoms.

Immunisation

Full immunisation is the most effective way to control pertussis. Vaccine efficacy is 70 to 80% but immunity wanes after 5 to 10 years. Young adults are therefore an important reservoir of disease.

Immunised children usually have a less severe illness. Parents with children under 8 years should check their child's immunizations and catch up any missed doses if necessary.

The Department of Health and Aging¹ recommends vaccination of health care workers who have contact with infants (maternity and nursery staff) be vaccinated with a single dose of "Boostrix®". This is a combined vaccine for diphtheria, tetanus and pertussis.

Vaccination is available through the Infection Control Department. RWH - ext 2020. RCH - ext 5740.

Victorian Statutory requirement

Pertussis is a Group B infection and must be notified to the Department of Human Services within 5 days of diagnosis.

1. The Australian Immunisation Hand book. 8th Edition 2003. NHMRC