



...for Parents and Caregivers



**Immunisation
Advisory
Centre**
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Whooping Cough (Pertussis)

Fact Sheet for Parents & Caregivers

What is Pertussis?

Whooping cough is a highly infectious bacterial infection spread by droplets. It causes severe coughing spells, sometimes vomiting, and a whooping sound. Whooping cough can last up to 3 months and is sometimes referred to as the 100 day cough.

What are the symptoms of Pertussis?

Whooping cough disease can be divided into three stages:

The Catarrhal stage is the most infectious. It lasts 1-2 weeks and includes a runny nose, sneezing, slight fever, and a mild irritating cough

The Paroxysmal stage usually lasts 1-6 weeks, but it can persist for up to 10 weeks. A paroxysm is a spasm of coughing followed by a big breath in or high pitched whoop. Infants and young children often appear very ill, and may turn blue and vomit with coughing bouts. Infants and adults generally do not have the characteristic "whoop" sound.

The Convalescent stage may last for months. Although the cough eventually disappears after several weeks, paroxysms may recur whenever the patient suffers any subsequent respiratory infection.

How serious is Pertussis?

Around 7 out of 10 babies who catch pertussis before the age of 6 months require hospitalisation and one in 30 of those who are hospitalised die from pertussis infection.

Severe coughing can temporarily stop the oxygen supply to the brain (hypoxia). In 1 to 3 per thousand children, whooping cough leads to permanent brain damage, paralysis, deafness or blindness. Secondary infections such as pneumonia and ear infections can occur.

The disease is usually milder in adolescents and adults, consisting of a persistent cough similar to that found in other upper respiratory infections.

From 1999 to 2004 there has been one death each year in New Zealand from pertussis disease.

How do you catch Pertussis?

Pertussis is highly contagious and is spread by coughing and sneezing. It infects most non-immune household contacts and 50 to 80% of susceptible school contacts. Many babies catch it from their older siblings or parents - often before they are old enough to be vaccinated.

How common is Pertussis?

New Zealand has epidemics every 3-4 years with several thousand cases (mostly young children) reported in each epidemic. Adult pertussis often goes unrecognised. Up to a third of adolescents and young adults with a persistent cough have evidence of recent pertussis infection and these are a significant reservoir of infection.

Who is most at risk from Pertussis?

Those most at risk are infants under one year of age. Delaying whooping cough immunisation by 30 days at any point for children under 2 increases five-fold the chances of being hospitalised.. 90% of whooping cough deaths occur in infants infected in the first month of life.

How do you prevent Pertussis?

On-time immunisation for infants is the best prevention. There appears to be very little maternal protection passed to the newborn against whooping cough through the placenta or breast milk. Antibiotics (erythromycin) do not treat pertussis but are given to reduce the spread of infection to others. Identification and treatment of pertussis infection in women in the third trimester of pregnancy minimises the spread to infants in the first month of life. All cases of pertussis should be excluded from early childhood services, school, or community gatherings until they are well enough to attend and have either received five days of antibiotics, or three weeks have elapsed since the onset of coughing spasms.

Vaccines and vaccination against Pertussis

Whole cell pertussis vaccines were initially developed in the 1940s. The acellular pertussis vaccines that have been used in New Zealand since 2000 are made from particles of pertussis toxoids that are attached to an aluminium salt.

Pertussis vaccine is given as an injection in combination with other vaccines: diphtheria, tetanus, polio, hepatitis B and Hib.

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How effective are the vaccines?

Three doses of vaccine will protect about 80% of recipients from infection through to about 6 years of age. Whooping cough immunity wanes over time following both disease and vaccination (immunity lasts 5 – 10 years). Studies on additional booster doses given during adolescence and adulthood show they significantly reduce the rates of disease in these groups. Re-infection may present as a persistent cough, rather than typical pertussis.

Who should get the vaccine?

The vaccine is funded for all infants aged 6 weeks, 3 months and 5 months, with booster doses given to children at 4 and 11 years. Immunisation is recommended (but not funded) for health professionals working closely with infants and staff of early child hood services, and other adults who wish to receive a booster vaccine should be encouraged to do so.

Who shouldn't get the vaccine?

Anyone who has had an immediate severe anaphylactic reaction to the vaccine or any component of the vaccine should not be vaccinated, nor should anyone with unexplained encephalopathy (inflammation of the brain) within 7 days of a pertussis vaccination.

Who should seek more advice before having the vaccine?

Immunisation in individuals with an evolving neurological condition should be postponed until the condition is stabilised or given a diagnosis.

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Do you need all the doses?

As young infants are most severely at risk it is important to start the immunisation at 6 weeks of age and complete the first 3 doses on time to build the maximum protection. Immunity from both the disease and the vaccine wanes over time so booster doses are needed for longer term protection and to minimise the spread to vulnerable babies.

Is the vaccine safe?

Mild or local reactions such as redness or swelling at the injection site or fever are quite common. Large swelling at the injection site can often occur with booster doses, however it is not associated with pain and resolves fully after a few days. (This is most likely caused by the diphtheria toxoid component.) Occasionally more rare reactions occur which are concerning at the time but have no long term effect (see below).

Pertussis

A highly contagious bacterial infection causing whooping cough and vomiting

Effects of Disease

- 90% risk of contracting pertussis for non-immune infants.
- 20% of all adults and adolescents may be infected at one time.
- 0.1-0.3% risk of permanent neurological damage for patients with paroxysmal cough.
- Case fatality of 3.5% in hospitalised infants aged under 6 months.

Side Effects of Vaccine

- Pain or redness at the injection site and sometimes fever are fairly common.
 - Large swelling and redness at injection site but without pain can also occur (0.8-8.0/100).
- Very rare adverse events:
- Seizures (<7/100,000)
 - Persistent screaming (<5/10,000).
 - Hypotonic Hyporesponsive Episode (<3/100,000)
 - Anaphylaxis (<1/1,000,000) very rare

Vaccines are prescription medicines. Talk to your nurse, doctor or midwife about any risks and the benefits of immunisation.