

Pertussis (whooping cough) - advice for clinicians

Pertussis (whooping cough)

Pertussis is highly infectious. Spread by respiratory droplets, 70–100% of household contacts and 50–80% of susceptible school-aged contacts are usually infected. Infants under 12 months of age are at highest risk of complications and death. The incubation period is 6 to 20 days but usually less than 14 days. A patient is infectious just prior to and, if untreated, for up to 21 days after cough onset. The cough may persist for months.

Diagnosis

Pertussis can be diagnosed on a clinical basis if the patient has an acute cough illness lasting 14 days or longer without other apparent cause and any one of: paroxysms; whoop; or post tussive vomiting. Apnoea may be the only manifestation in infants. Laboratory confirmation can be problematic but should be sought. Nasopharyngeal swabs or aspirate are the best specimens to obtain within 21 days of cough onset but are likely to be falsely negative after that or if antibiotics have been commenced. Serology using *B. pertussis* specific IgA may be falsely negative but a positive result is highly reliable in the presence of appropriate symptoms. Vaccinated persons may still develop pertussis however illness is usually milder and they are less likely to present with the typical whoop.

Immunisation

If the patient has already been infected then vaccination will not prevent illness. However, complete vaccination remains the most important preventive measure for pertussis control. Please check the immunisation status of all children aged seven years or over and catch up any missed doses (the recommended schedule for pertussis vaccination is at two, four, and six months, and four years of age).

An adult pertussis booster vaccine (Adacel[®] or Boostrix[®]) is currently recommended on a single occasion only for the following groups who have previously completed a course of diphtheria, tetanus, pertussis (DTP) vaccine:

- adolescents in Year 10 or age equivalent
- adults planning pregnancy or as soon as possible after birth for both parents
- adults working with or caring for young children, especially health care workers and child care workers in contact with infants
- any adult wishing to receive a dose of an adult pertussis booster vaccine provided they have completed a course of DTP vaccination.

Treatment of cases

Antibiotics will usually have little effect on the clinical course of disease but can reduce the risk of transmission if commenced within 21 days of cough onset. The current recommended treatment is a course of azithromycin, clarithromycin, or erythromycin (only azithromycin should be used in a child under one month of age).

Roxithromycin is currently not recommended. A person who has been coughing for more than 21 days is no longer infectious; therefore antibiotic treatment and school exclusion are not needed.

Prophylaxis of contacts

Antibiotics should not be given if it is more than 14 days after the last contact with the infectious case (doses and duration as for cases – see below). In special circumstances, such as a high-risk exposure for an infant contact, antibiotics may be given within 21 days of first contact with an infectious case.

Antibiotics rarely prevent secondary transmission and should be limited to close contacts (people living in either the same household or institutional setting) in the following categories:

- All household members when the household includes any child 12 months of age or under who has received fewer than three effective doses of pertussis vaccine.
- Any women in the last month of pregnancy, regardless of vaccination status.
- All other children and adults in the same care group if the case attended child care for more than one hour while infectious and that care group includes one or more children under 12 months of age who have received fewer than three effective doses of pertussis vaccine. If the group contains children under 12 months but they are fully vaccinated, then only those children in the group who have received less than three effective doses of vaccine (regardless of age), and staff who have not received a pertussis vaccine in the previous 10 years, should receive antibiotics.
- Health care staff, regardless of vaccination status, working in a maternity or newborn nursery.
- All babies cared for by an infectious staff member where a case worked in a maternity ward or newborn nursery for more than an hour while infectious.

Recommended antibiotics for prophylaxis are the same as for treatment. These are:

- clarithromycin 500 mg (child >1 month: 7.5 mg/kg up to 500 mg) orally, 12-hourly for 7 days
- azithromycin 500 mg (child ≥6 months: 10 mg/kg up to 500 mg) orally on day 1, then 250 mg (child ≥6 months: 5 mg/kg up to 250 mg) orally, daily for a further 4 days (child <6 months: 10 mg/kg orally, daily for 5 days); or
- erythromycin 250 mg (child >1 month: 10 mg/kg up to 250 mg) orally, 6-hourly for 7 days.
- If an alternative is needed, use trimethoprim + sulfamethoxazole 160+800 mg (child: 4+20 mg/kg up to 160+800 mg) orally, 12-hourly for 7 days.

In babies under one month old, erythromycin is not recommended because of concerns it may cause pyloric stenosis, and clarithromycin is not recommended because safety data are not available.

Exclusion of cases and contacts

Under the Public Health and Wellbeing Regulations 2009 pertussis cases must be excluded from primary schools and children's services centres for 21 days after the onset of cough or until they have completed five days of antibiotic treatment. **Contacts aged less than seven years in the same room as the case** who have not received three effective doses of pertussis vaccine should be excluded for 14 days after the last exposure to the infectious case, or until they have taken five days of a course of effective antibiotic treatment.

Notification

Please notify all cases (either suspected or laboratory confirmed) to the Department's Communicable Disease Prevention and Control Unit on telephone 1300 65 11 60 or fax 1300 65 11 70.

Further information

For further information please contact the Department of Health's Communicable Disease Prevention and Control Unit on 1300 65 11 60 or visit the www.health.vic.gov.au/ideas.

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