Pertussis
Attachment – Pertussis Treatment and Chemoprophylaxis Guidelines

A. In the Community Setting

"Vulnerable persons" are:
1. **children less than one year of age**, because they have higher rates of mortality from pertussis infection.
2. **pregnant women in the third trimester**, because if infected at the time of birth they may pass the infection to their newborn.

The public health nurses will do the contact tracing and will advise contacts to see their physician for assessment, treatment or prophylaxis as indicated below. In homes where there is a case, they will also vaccinate any children who have not completed their routine vaccination schedule or start babies on their vaccinations early.

Who to Treat
1. **All cases** – laboratory confirmed **OR** clinically diagnosed during an outbreak or epidemiologically linked to another case.
2. **All symptomatic immediate household contacts**.
   Persons in a family day care setting are considered immediate household contacts. The assumption is that these symptomatic people will also have pertussis. *Sometimes symptomatic immediate household or family daycare contacts may be reluctant to take antibiotics without a confirmed diagnosis. If there are no vulnerable persons in their household or family daycare, it is acceptable to wait for results of testing.*
3. Non immediate-household and non family-daycare contacts:
   - who are symptomatic should **not** be assumed to have pertussis unless clinical symptoms are very predictive, but should be assessed, tested and treated appropriately;
   - **symptomatic vulnerable persons** in this category who have had 'close contact' with a case should be started on 'pertussis' antibiotics until their diagnosis is established.

"Close contact" means they have shared respiratory secretions (e.g., kissing) or shared the same confined air space for more than an hour, or have had face to face exposure for more than 5 minutes).

Who to Prophylax

1. **Asymptomatic** immediate household contacts, including family day care attenders, **where there is a vulnerable person** (infants <1 year of age, or a pregnant woman in the 3rd trimester) in the household.
2. Outside of the immediate household or family day care, offer prophylaxis **only to vulnerable persons** who have had "close contact" with a **case**.
3. Chemoprophylaxis efficacy is related to early implementation and is **unlikely to be of benefit after 21 days** has elapsed since the first contact with a case.
4. **Prophylaxis for all people in larger daycares, classrooms, schools, teams, workplaces, etc. is generally not recommended** but they will be informed, usually by letter from public health, and advised to see their physician if they develop symptoms. These persons if they become symptomatic should not be assumed to have pertussis but should be assessed, tested and treated appropriately.

Who to Exclude

Exclusion as a policy for pertussis has never had good data to support it. By the time a person is diagnosed with pertussis, they have likely exposed most of their contacts. **Exclusion is no longer recommended in most situations**, however the consensus was to continue to have exclusion if there are vulnerable individuals involved.

1. **Cases** should be excluded from school or daycare **where there are vulnerable persons**, **for *5* days** after they start the medication, or 21 days from onset of cough if untreated. In other words, if there are no vulnerable persons in the school or day care, the case can return to school or day care as soon as he feels well enough to do so.
2. **Adult cases** who have **close contact with vulnerable persons at work** should be excluded from work **for *5* days** after they start the medication, or 21 days from onset of cough if untreated. In other words, if there are no vulnerable persons in the workplace, the case can return to work as soon as he feels well enough to do so.
3. **Symptomatic family daycare contacts** should be excluded from **daycare where there are vulnerable persons**, until they have completed 5 days of appropriate antibiotic or until test results come back negative for pertussis. In other words, if there are no vulnerable persons in the family day care, the symptomatic day care contact can return to day care as soon as he feels well enough to do so.
4. Other **symptomatic contacts** (non household, non family daycare) whom you have assessed and tested but decided not to treat until the test results are back, do not need to be excluded but should be asked to **avoid close contact with vulnerable persons** until their diagnosis is established.

B. In the Health Care Setting (Ontario Hospital Association, 2011)

Health care workers (HCWs) who do not provide direct patient care, such as housekeeping staff, may be managed as in the community setting.

An **occupational exposure (contact) to pertussis is defined** as:
- contact of HCW's oral or nasal mucosa with infected secretions from the pertussis case **OR**
- sharing the same confined air space (within 2 meters) for more than an hour with the pertussis case without implementing droplet precautions **OR**
- having had face to face exposure for more than 5 minutes with a pertussis case without implementing droplet precautions.

1. HCWs who are **suspected or confirmed cases** of pertussis:
   - Should be referred for clinical management, which should include laboratory investigation (nasopharyngeal swab) to confirm diagnosis and appropriate antibiotic treatment.
   - Should be excluded from work until after 5 days of treatment or for 21 days from onset of cough if untreated.
2. HCWs who are considered **vulnerable contacts** include pregnant women in their third trimester or parents of infants under 12 months of age. These individuals should receive chemoprophylaxis.
3. HCWs who are **symptomatic contacts** to pertussis case:
   - Should be referred for clinical management, which should include laboratory investigation (nasopharyngeal swab) and appropriate antibiotic treatment.
   - Should be excluded from work until after 5 days of treatment or for 21 days from onset of cough if untreated, or until swab comes back negative for pertussis. A surgical mask is not sufficient for protection of patients and other staff.
4. HCWs who are **asymptomatic contacts** to pertussis case:
   - Should be advised of early symptoms of pertussis and be put under surveillance.
   - Those with no history of Tdap vaccination should be given chemoprophylaxis with an appropriate antibiotic.
   - Those with a history of Tdap vaccination may not require chemoprophylaxis, but must report development of symptoms to Occupational Health and Safety Department.

Drug	Dosage	Comments
Azithromycin	**Children:** 10 mg/kg/day orally on the first day followed by 5mg/kg/day once a day for the next 4 days (5 days total). **Adults:** 500 mg orally on the first day followed by 250 mg daily for the next 4 days (5 days total)	Preferred antibiotic for infants under 1 month of age. Data on the safety of Azithromycin in pregnancy is limited however, it appears to be safe.
Clarithromycin	**Children:** 15 mg/kg/day provided in a divided dose bid for 7 days **(not to exceed maximum of adult dose**). **Adults:** 250-500 mg po bid x 7 days	Data on the safety of Clarithromycin in pregnancy is limited however, it appears to be safe.
Erythromycin	**Children: Erythromycin estolate:** 40 mg/kg/day provided in a divided dose tid for 7 days. The estolate is a liquid preparation, only used for children or people with difficulty swallowing. **Adults: Erythromycin 250 mg qid** x7 days to maximum of 1 g per day. Some experts recommend 2 g daily in divided doses, for example: a) The Anti-infective Guidelines for Community Acquired Infections: 2001, recommends 1-2 g po daily in divided doses. b) The Sanford Guide to Antimicrobial Therapy, 2002, recommends 500 mg qid po.	When prescribing erythromycin prophylactically for neonates one should consider that there have been reports of infantile hypertrophic pyloric stenosis (IHPS) associated with its use in the newborns prophylaxed to prevent pertussis. The risk of IHPS after treatment with azithromycin and clarithromycin is unknown. **Erythromycin estolate is contraindicated in individuals with existing liver disease or dysfunction, and pregnancy (CPS, 2010).**

- Exclusion of asymptomatic contacts is not indicated.

Infants <2 months of age on macrolide antibiotics should be monitored for symptoms and signs of pyloric stenosis.

For those who are allergic to macrolides, the following may be used although its efficacy is not proven:

1. Children: trimethoprim 8mg/kg/day-sulfamethoxazole 40mg/kg/day for 10 days.
2. Adults: 2 tabs bid or 1 double strength (DS) tab bid.