# Oregon Public Health Division
# Model Standing Orders for
# Chemoprophylaxis to Prevent Pertussis
# in Case Contacts (April 2017)

**Order:**

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|---|---|
| 1. | Determine whether contact has had a significant exposure to an infectious case (see below); |
| 2. | Screen for contraindications to antibiotics and possible drug interactions; |
| 3. | Provide patient with pertussis fact sheet (see reference page 5); |
| 4. | Dispense prophylactic antibiotics as outlined in Table (Page 3). |

Signature Health Officer Date

## How contagious is pertussis?

The clinical course of pertussis is divided into three stages: catarrhal, paroxysmal, and convalescent. The catarrhal stage is characterized by cold-like symptoms. Over 1-2 weeks, symptoms gradually progress to the classic whooping cough, which characterizes the paroxysmal stage. Paroxysmal coughing usually lasts 1-6 weeks, and gradually subsides during the convalescent stage. Cases are most *contagious* during the catarrhal stage and for two weeks after onset of the classic paroxysmal cough (i.e., 21 days after illness onset). Pertussis is not airborne; rather, it is spread by respiratory droplets that tend to fall to the ground a few feet from a case who is coughing, laughing, talking, shouting or singing.

Pertussis is quite contagious among "close contacts," usually:

- everyone who lives with the case;
- persons who were face-to-face and within "spitting distance" of a case for more than one hour while the case was contagious (*above*); and

- persons who had direct contact with respiratory, oral, or nasal secretions while the case was contagious (*above*).

## Who should get prophylaxis?

Since serious complications and death due to pertussis are limited to infants <1 year, the effort to provide antibiotic prophylaxis for pertussis must focus on this group. Most pertussis in adults and adolescents is neither diagnosed nor reported, and antibiotic prophylaxis does not control the transmission of pertussis when it is widespread in the community.

Oregon Public Health officials recommend prompt antibiotic prophylaxis for the following close contacts (of confirmed, presumptive, and suspect cases):

- infants (<1 year of age);
- pregnant women in the 3rd trimester (since they will soon have contact with an infant);
- ALL household contacts of a case **IF** there is an infant or a pregnant woman in the 3rd trimester in the same household, even if the infant in the household is the case;
- ALL those attending or working in a childcare setting in the same room as a case **IF** there is an infant or a pregnant woman (3rd trimester) in the setting; or
- other contacts at the discretion of the Local Health Authority (e.g., pediatric healthcare workers, unimmunized contacts, other pregnant women).

## Which drugs should be used for prophylaxis?

The antibiotics and dosages used for treatment and post-exposure or prophylaxis are the same. For pregnant women, azithromycin and erythromycin are both pregnancy category B (minimal risk); clarithromycin and trimethoprim-sulfamethoxazole are category C and should be used in consultation with the prenatal care provider.

## Table. Dosages of antibiotics used for pertussis treatment and prophylaxis

| *Drug* | *Children* | *Adults* |
|---|---|---|
| **Azithromycin** | **Minimum age:** all ages*<br>Age 0-5 months: 10 mg/kg p.o. x 5 days<br>Age ≥6 mo: 10 mg/kg (maximum 500 mg) on day 1; then 5 mg/kg on days 2-5 (maximum 250 mg/dose) | 500 mg p.o. in a single dose on day 1; then 250 mg p.o. as single daily dose on days 2 through 5 |
| **Clarithromycin** | **Minimum age:** 1 month*<br>20 mg/kg/day (maximum 1 g/day) p.o. in 2 divided doses for 7 days (maximum 1g/day) | 500 mg p.o. twice daily for 7 days |
| **Erythromycin**** | **Minimum age:** not recommended for neonates (<1 month old)<br>40 to 50 mg/kg/ p.o. in 3 divided doses for 7 days (maximum 1 g/day) | 1 g per day in 3 divided doses for 7 days |
| **Trimethoprim-Sulfamethoxazole (TMP-SMX)** | **Minimum age:** 2 months<br>4 mg/kg (TMP component) p.o. twice daily x 14 days (maximum 320 mg/day TMP component) | One double-strength tablet (160 mg TMP component) p.o. twice daily x14 days |

*Use for kids<6 months old is not FDA approved.

**When prescribing erthyromycin to infants <3 months of age, providers should inform parents about possible risks for infantile hypertrophyic pyloric stenosis (IHPS) and counsel them about signs of developing IHPS.

1. Azithromycin (Zithromax®)
   Azithromycin (Zithromax®; total dose 30 mg/kg for kids or 1.5 g for adults) is equally effective and more convenient and tolerable than a 10-day course of erythromycin. The most frequently reported side effects are gastrointestinal; drug interactions are uncommon, but always inquire about other concurrent medications. N.B.: Use in children <6 months has not been studied.

2. Clarithromycin (Biaxin®)
   A 7-day course of clarithromycin is as effective as a 10-day course of erythromycin; again, greater convenience and tolerability come at a higher price. Although uncommon, the most frequently reported side effects are gastrointestinal; drug interactions occur, so inquire about concurrent medications. N.B.: Use in children <6 months has not been studied.

3. Eythromycin (many brands and generic)
   Erythromycin, especially the estolate preparation, has long been the recommended drug for pertussis treatment and prophylaxis. However, patient compliance with the cumbersome 4-times-daily, 14-day course is poor and gastrointestinal side effects are common. A lower-dose, shorter-duration regimen that is more tolerable and equally effective is now recommended (see table). Use of erythromycin in infants can be complicated by infantile hypertrophic pyloric stenosis (IHPS); when prescribing erythromycin to infants <3 months of age, providers should inform parents about the possible risk for IHPS and counsel them about the signs and symptoms. HPS. Overall, serious side-effects are rare with erythromycin UNLESS the patient is taking other medications; be sure to consult with a pharmacist if there is any concern about interactions.

4. Trimethoprim-Sulfamethoxazole, TMP-SMX (Bactrim®, Septra®, generic) TMP-SMX also appears to be effective in eradicating *B. pertussis* from the nasopharynx; it is recommended as an alternative antibiotic for patients who cannot tolerate any of the macrolides. This drug can cause nausea, vomiting, and rash.

## References:


- For copies of Oregon's Pertussis Investigative Guideline and fact sheets for clinicians and patients see:
  http://public.health.oregon.gov/DiseasesConditions/DiseasesAZ/Pages/disease.aspx?did=48

- For CDC recommendations regarding pertussis treatment and prophylaxis see:
  Centers for Disease Control and Prevention. Recommended Antimicrobial Agents for the Treatment and Postexposure Prophylaxis of Pertussis. MMWR 2005; 54 (RR-14): 1-16. Available at:
  www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm#tab5.
  This publication contains a table of adverse reactions of antibiotics.

- For general information from CDC about prevention and control of pertussis see:
  www.cdc.gov/pertussis/index.html

- While not explicitly endorsed by us, there are a number of web sites where you can assess for specific drug interactions including:
  www.drugs.com/drug_interactions.html