



# County of Erie

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COUNTY EXECUTIVE

## DEPARTMENT OF HEALTH

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### HEALTH ADVISORY #225 INCREASE IN CASES OF PERTUSSIS

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Please distribute to the Departments of Infection Control, Emergency Medicine, Obstetrics, Infectious Disease, Laboratory Services, and all patient care areas

#### Summary

The Erie County Department of Health (ECDOH) has received reports of increased pertussis activity and has been following multiple pertussis clusters in the past six months. Pertussis cases have been reported among children and adults. Sites of potential exposure include households, physicians' offices and clinics, emergency departments, child care settings and schools. ECDOH is advising health care providers to be suspicious of pertussis infection in persons with a persistent cough. If a patient is diagnosed with pertussis, health care providers should treat patients and offer chemoprophylaxis to close contacts, including health care providers, as recommended by the Centers for Disease Control and Prevention (CDC).

#### *Epidemiology*

- Cases reported in Erie County in 2008
  - 33% among persons <1 year of age
  - 50% among persons 1-19 year of age
  - 17% among persons  $\geq$ 20 year of age
- Incubation period 5-21 days; usually 7-10 days.
- Highly contagious; 80% secondary attack rates among susceptible persons.
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#### *Clinical Findings*

- Catarrhal period (1-2 weeks): illness onset insidious (coryza, mild fever, and nonproductive cough); infants can have apnea and respiratory distress.
- Paroxysmal period (2-6 weeks): paroxysmal cough, inspiratory "whoop," posttussive vomiting.
- Convalescent period (>2 weeks): paroxysms gradually decrease in frequency and intensity.

## Laboratory testing

- **Laboratory testing for suspected cases is essential to identify true disease and implement control measures to prevent spread of infection.**
- Recommended laboratory tests:
  - Culture of nasopharyngeal aspirate of Dacron swab for *Bordetella pertussis* on Regan Lowe or Bordet-Gengou culture medium. *OR*
  - Detection of *B. pertussis* DNA by polymerase chain reaction (PCR) as qualified in comments.
- Not helpful to test contacts without respiratory symptoms.

## Recommended treatment

- In December 2005, CDC published “Recommended Antimicrobial Agents for the Treatment and Post-Exposure Prophylaxis of Pertussis” (MMWR 2005;54(RR14):1-16) available at: [www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5414a1.htm). These guidelines detail the epidemiology, diagnosis, treatment and prevention for pertussis. They include revised macrolide regimens, such as azithromycin and clarithromycin, and their dosing schedule by age group. See below.

**TABLE 4. Recommended antimicrobial treatment and postexposure prophylaxis for pertussis, by age group**

Age group	Primary agents			Alternate agent*
	Azithromycin	Erythromycin	Clarithromycin	TMP-SMZ
<1 month	Recommended agent. 10 mg/kg per day in a single dose for 5 days (only limited safety data available.)	Not preferred. Erythromycin is associated with infantile hypertrophic pyloric stenosis. Use if azithromycin is unavailable; 40–50 mg/kg per day in 4 divided doses for 14 days	Not recommended (safety data unavailable)	Contraindicated for infants aged <2 months (risk for kernicterus)
1–5 months	10 mg/kg per day in a single dose for 5 days	40–50 mg/kg per day in 4 divided doses for 14 days	15 mg/kg per day in 2 divided doses for 7 days	Contraindicated at age <2 months. For infants aged ≥2 months, TMP 8 mg/kg per day, SMZ 40 mg/kg per day in 2 divided doses for 14 days
Infants (aged ≥6 months) and children	10 mg/kg in a single dose on day 1 then 5 mg/kg per day (maximum: 500 mg) on days 2–5	40–50 mg/kg per day (maximum: 2 g per day) in 4 divided doses for 14 days	15 mg/kg per day in 2 divided doses (maximum: 1 g per day) for 7 days	TMP 8 mg/kg per day, SMZ 40 mg/kg per day in 2 divided doses for 14 days
Adults	500 mg in a single dose on day 1 then 250 mg per day on days 2–5	2 g per day in 4 divided doses for 14 days	1 g per day in 2 divided doses for 7 days	TMP 320 mg per day, SMZ 1,600 mg per day in 2 divided doses for 14 days

\* Trimethoprim sulfamethoxazole (TMP–SMZ) can be used as an alternative agent to macrolides in patients aged ≥2 months who are allergic to macrolides, who cannot tolerate macrolides, or who are infected with a rare macrolide-resistant strain of *Bordetella pertussis*.

### *Postexposure prophylaxis*

- CDC guidelines for the Control of Pertussis Outbreaks offer recommendations for chemoprophylaxis and exclusion from work and school.
  - Available at: <http://www.cdc.gov/vaccines/pubs/pertussis-guide/guide.htm>.
- CDC recommends prophylaxis of all household members and other close contacts with antibiotics to prevent or minimize transmission.
  - A close contact is defined as direct face-to-face exposure within 3 feet of a symptomatic patient, regardless of the number of hours spent together.
    - Direct contact that occurs with respiratory, oral, or pharyngeal secretions, such as by kissing, sharing lip-gloss or cigarettes, or by sharing drugs, food or utensils, is also considered close contact.
    - **In health care setting, all workers who examined pertussis patients are considered at high risk of infection.**

### *Prevention and Surveillance*

- Vaccinate children aged 6 weeks - 6 years with diphtheria, tetanus toxoid and acellular pertussis vaccine (DTaP).
- Vaccinate all adolescents 11-18 years with tetanus toxoid, diphtheria, and acellular pertussis vaccine (Tdap) as per CDC guidelines available at: [http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5503a1.htm?s\\_cid=rr5503a1\\_e](http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5503a1.htm?s_cid=rr5503a1_e).
- All health care workers should receive Tdap vaccine as per CDC guidelines. Available at: <http://www.cdc.gov/mmwr/preview/mmwrhtml/rr5517a1.htm>.

### *Reporting*

- All suspect or confirmed pertussis cases need to be reported to the local health department in the county in which the individual resides.
- For residents of Erie County, please contact the ECDOH at (716) 858-7697 Monday – Friday, 8:30 a.m. – 4:30 p.m.

### **Health Category Definitions:**

**Health Alert FLASH:** conveys the highest level of importance due to a large-scale, catastrophic public health emergency; warrants immediate action or attention

**Health Alert Priority:** conveys the highest level of importance; warrants immediate action or attention to a health problem or situation

**Health Advisory:** provides important information for a specific incident or situation; may not require immediate action

**Health Update:** provides updated information regarding an incident or situation; no immediate action necessary