

RIVERSIDE COUNTY DEPARTMENT OF PUBLIC HEALTH  
DISEASE CONTROL

# PERTUSSIS FACT SHEET

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## BACKGROUND INFORMATION

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- **Agent:** *Bordetella pertussis*, a gram negative pleomorphic bacillus.
- **Transmission:** Via contact with respiratory tract secretions or droplets of infected persons.
- **Incubation Period:** Commonly 7-10 days (range 4-21 days).
- **Communicability:** Greater in the catarrhal stage before paroxysms. Tapers off until 21 days after onset of paroxysms, if untreated. If treated, 5 days after start of appropriate antibiotics. Secondary attack rate of 70 – 100% among susceptible household contacts.

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## IMMUNITY FROM VACCINATION

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- **5 doses of DTaP are recommended for children <7 years of age**
  - 3 (primary) doses at ages 2, 4, and 6 months
  - Boosters at 15-18 months AND 4-6 years of age
- **Vaccine protection is known to decrease over time**, with little or no protection 5-10 years following receipt of the last vaccine dose.

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## CLINICAL FEATURES OF PERTUSSIS

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- **1<sup>st</sup> Stage (Catarrhal stage):** Insidious onset of coryza (runny nose) and a mild, occasional cough, similar to the common cold.
- **2<sup>nd</sup> Stage (Paroxysmal stage):** Cough becomes more severe. Repeated violent coughing episodes without inhalation (paroxysms), ended by characteristic high-pitched inspiratory whoop. Post-tussive vomiting or gagging can occur without whoop. Can last 1-2 months.
- **3<sup>rd</sup> stage (Convalescent stage):** Gradual recovery. Cough becomes less paroxysmal.
- **Infants (under 6 months of age):** May have cough, choking, apnea, cyanosis, without “whoop” or paroxysms. Leukocytosis and lymphocytosis are common findings during the early paroxysmal stage. Complications include hospitalization, pneumonia, seizures, encephalopathy, and death.
- **Adults/adolescents/immunized children:** Have milder illness, hacking cough, usually with mucus production and occasional paroxysms. Post-tussive vomiting or gagging can occur without “whoop”. Mimics bronchitis.

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## DIAGNOSIS

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- All suspected cases of pertussis should have a nasopharyngeal aspirate or swab obtained for culture from the posterior nasopharynx before starting antibiotics and within 3 weeks of the cough onset. A Polymerase Chain Reaction (PCR) test, if available, can greatly aid in the diagnosis of pertussis. The Public Health Laboratory should be consulted for questions on specimen submission at (951) 358-5070.

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## TREATMENT AND CHEMOPROPHYLAXIS

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All cases, their household members, and other close contacts, regardless of age and immunization status, should receive treatment or chemoprophylaxis. The goal is to reduce spread of infection within the household and the community at large. The dosing for treatment or chemoprophylaxis is the same.

### RECOMMENDED TREATMENT AND CHEMOPROPHYLAXIS\*

Drug	Infants and Children	Adults
Erythromycin	40-50 mg/kg/day in 4 divided doses x 14 days (max 2 g/day)	1 to 2 g/day in 4 divided doses x 14 days
<b>If person cannot tolerate erythromycin or compliance is questionable:</b>		
Trimethoprim - Sulfamethoxazole (TMP-SMX)	TMP-8 mg/kg/day and SMX-40 mg/kg/day in 2 divided doses x 14 days	2 regular strength tablets (TMP-80 mg and SMX-400 mg) BID or one double strength tablet (TMP-160 mg and SMX-800 mg) BID x 14 days
Clarithromycin	15-20 mg/kg/day (max 1g/day) in 2 divided doses x 7days	15-20 mg/kg/day (max 1g/day) in 2 divided doses x 7days
Azithromycin	10-12 mg/kg/day as one daily dose (max 500 mg/day) x 5 days	500 mg in one dose on day 1 and 250 mg once a day on days 2-5

\*Initiating treatment  $\geq$  3 weeks after cough onset has limited benefit to patient or contacts and initiating chemoprophylaxis  $\geq$  3 weeks after exposure has limited benefit for the contact.

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## REPORTING TO PUBLIC HEALTH

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Under the California Code of Regulations, Title 17, Section 2500, all cases or suspected cases of pertussis are to be reported to the health department within one working day of identification of the case or suspected case. It is important not wait for culture confirmation before reporting a suspected case of pertussis. Cases should be reported to Disease Control by telephone at (951) 358-5107 or fax (951) 358-5102. The CMR forms can be obtained by calling (213) 240-7821 or downloaded from the website: <http://www.rivco-diseasecontrol.org/>