

# Epidemiology Report

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## Pertussis

### Diagnostic and Treatment Criteria

Pertussis should be considered when evaluating any patient with an acute cough illness characterized by one or more of the following symptoms: prolonged cough, cough with paroxysms, whoop, or post-tussive gagging/vomiting. Infants may present with apnea and/or cyanosis. Adults, teens, and vaccinated children often have mild symptoms that mimic bronchitis or asthma.

Pertussis immunity is not absolute (100%) and may not prevent infection. Older children and adults with mild illness can transmit infection and are often the source of illness in infants. Therefore, early recognition and treatment of pertussis in contacts of young infants and prophylaxis of their household members is especially important.

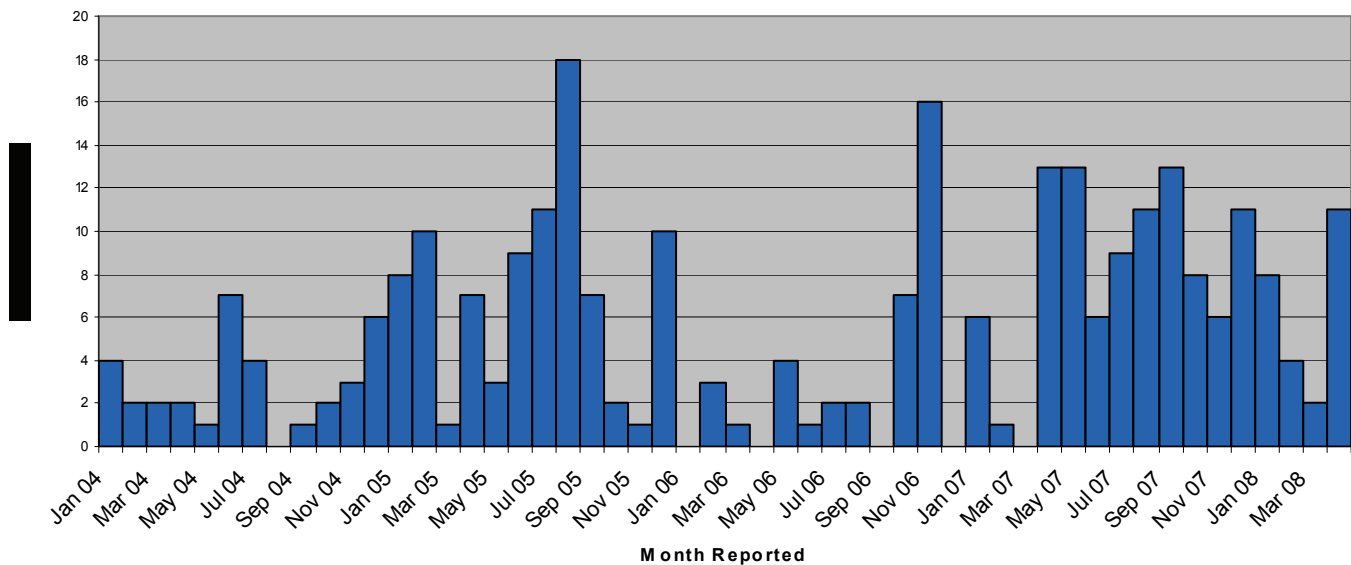
**Laboratory tests should be used in conjunction with clinical symptoms for diagnosis and can be used to confirm but not rule out pertussis.** The organism is more likely to be found early in the coughing phase. After 3–4 weeks of cough illness the organism may have cleared the nasopharyngeal area, although unvaccinated infants may remain culture-positive for more than six weeks.

Cases and contacts, including all household contacts, should be treated according to the attached recommendations by the CDC, “Pertussis Treatment and Chemoprophylaxis.” Except in certain high risk settings, initiating treatment more than three weeks after cough onset has limited benefit to the patient or their contacts. **Symptomatic children and adults may return to school or work only after completing the first 5 days of medication.**

If pertussis is clinically suspected:

- Report immediately to your local health authority at 972-548-4707 or by faxing the attached reporting form to 972-548-4443.
- Begin chemoprophylaxis of patient and all household and close contacts *regardless of age or vaccination status*.
- Submit specimens for laboratory confirmation.
- Review immunization records. For children less than 7 years of age who have not completed the DTaP four dose primary series should complete the series with minimal intervals. Those who have completed the primary series should be given a booster dose if their last dose of DTaP was given more than 3 years ago. For children greater than 10 years of age and for adults, consider substituting their next Td with a Tdap.

## Pertussis, Collin County January 2004-May 2008



## Pertussis Tests

### Test Interpretation

The tests of choice for confirmation of pertussis are isolation from culture or detection of unique DNA patterns by PCR. **DFA lacks both sensitivity and specificity and therefore is not considered confirmatory.** Antibody tests for IgG and IgA antibodies to fimbria, pertussis toxin, and filamentous haemagglutinin may provide supportive evidence of infection after several weeks of illness.

*B. pertussis* is more likely to be found during the early stage of infection. By the time a clinical diagnosis is made the organism may have cleared the nasopharyngeal area especially if any antibiotic therapy has been initiated. Negative test results should not be used to rule out pertussis. In practice, the diagnosis and treatment should be based on symptoms and the course of illness.

### Test Availability

Pertussis tests are available commercially, and at most hospital labs.

### Specimen Collection

Either a nasopharyngeal (NP) swab or an NP aspirate is the specimen of choice for culture, polymerase chain reaction (PCR), or direct fluorescent antibody (DFA) tests. Throat swabs and anterior nasal swabs are not acceptable for the evaluation of pertussis. Because *B. pertussis* is fastidious and its isolation in culture is easily obscured by growth of other nasopharyngeal organisms, optimal sampling and handling of the specimen will improve the rate of recovery.

### Nasopharyngeal Swab

- Immobilize the patient's head.
- Gently insert either a thin-wire calcium alginate or Dacron swab into a nostril until the posterior nares is reached.
- Leave the swab in place for up to 10 seconds. This procedure may induce coughing and tearing.
- If resistance is encountered during insertion of the swab, remove it and attempt insertion on the opposite nostril.
- Remove the swab slowly.

# Pertussis

## Treatment and Chemoprophylaxis

Antibiotic	Age	Dose
Azithromycin	Infants < 6 months	10-12 mg/kg/day(max 500) for five days
Azithromycin	Infants and children $\geq$ 6 months	10/mg/kg on day 1 (max 500 mg) on day one Followed by 5 mg/kg/day (max 250 mg) for day 2-5
Azithromycin	Adults	500 mg on day 1 Followed by 250 mg /day on days 2-5.
Erythromycin	Infants < 1 month	Not preferred because of risk of IHPS. Azithromycin is the recommended antimicrobial agent. If azithromycin is unavailable the dose is 40-50mg/kg/day in 4 divided doses for 14 days. These infants should be monitored for IHPS.
Erythromycin	Infants $\geq$ 1 month and older children	40-50 mg /kg/day (max. 2 gm/day) in 4 divided doses for 14 days.
Erythromycin	Adults	2 g /day in 4 divided doses for 14 days
Clarithromycin	Infants < 1 month	Not recommended
Clarithromycin	Infants and children $\geq$ 1 month	15 mg/kg/day (max. 1g/day) in 2 divided doses for 7 days
Clarithromycin	Adults	1 g/day in 2 divided doses for 7 days
TMP-SMZ	Infants < 2 months	Contraindicated
TMP-SMZ	Infants $\geq$ 2 months and children	TMP 8 mg/kg/day SMZ 40 mg/day in 2 divided doses for 14 days
TMP-SMZ	Adults	TMP 320 mg/day and SMZ 1,600 mg / day in 2 divided doses for 14 days.

Taken from: Centers for Disease Control and Prevention, Recommended antimicrobial agents for the treatment and postexposure prophylaxis of pertussis: 2005 CDC guidelines. MMWR 2005; 54 (No. RR-14) accessed online at <http://www.cdc.gov/mmwr/pdf/rr/rr5414.pdf>



**Pertussis Report Form**  
**Collin County Health Care Services**  
 Tel (972) 548 - 5534  
 Fax (972) 548 - 4436  
 Fax (972) 548 - 4443

**REPORTER INFORMATION**

Date of Report: \_\_\_\_/\_\_\_\_/\_\_\_\_ Reporting Person \_\_\_\_\_ Name of Physician \_\_\_\_\_  
 Reporting Facility \_\_\_\_\_  
 (Office Name/Address) (City) (Phone Number)

**PATIENT INFORMATION**

Name: \_\_\_\_\_ (Last) (First)  
 DOB: \_\_\_\_\_ Age: \_\_\_\_\_ Sex:  Male  Female Race:  White  Black  Asian  American Indian  Other  
 Ethnicity:  Hispanic  Non-Hispanic  Unknown  
 Address: \_\_\_\_\_ (Street) (City) (County) (Zip)  
 Home Phone: ( ) \_\_\_\_\_ Work Phone: ( ) \_\_\_\_\_ Occupation: \_\_\_\_\_  
 If patient was a child:  
 Mother's Name: \_\_\_\_\_ Maternal Occupation: \_\_\_\_\_ Phone: \_\_\_\_\_  
 Father's Name: \_\_\_\_\_ Paternal Occupation: \_\_\_\_\_ Phone: \_\_\_\_\_

**DIAGNOSIS INFORMATION**

\*\*\*\*PLEASE ATTACH ANY RELEVANT LABORATORY RESULTS\*\*\*\*

Symptom Onset Date: ____/____/____	Cough Onset Date: ____/____/____	Vaccination History	
<b>Symptoms</b>	<b>Treatment/Antibiotic</b>	<b>Date Started</b>	<b>Dose #1</b> ____/____/____
<input type="checkbox"/> Paroxysmal Cough	<input type="checkbox"/> Azithromycin	____/____/____	<b>Dose #2</b> ____/____/____
<input type="checkbox"/> Inspiratory Whoop	<input type="checkbox"/> Erythromycin	____/____/____	<b>Dose #3</b> ____/____/____
<input type="checkbox"/> Vomiting after Paroxysms	<input type="checkbox"/> Clarithromycin	____/____/____	<b>Dose #4</b> ____/____/____
<input type="checkbox"/> Apnea	<input type="checkbox"/> TMP-SMZ	____/____/____	<b>Dose #5</b> ____/____/____
<input type="checkbox"/> Cyanosis after Paroxysm	<input type="checkbox"/> Other _____	____/____/____	<input type="checkbox"/> <b>NOT VACCINATED</b>

**PUBLIC HEALTH RESPONSE**

Total number of family contacts in household? \_\_\_\_\_  
 Name of family contacts given prophylaxis by your office? \_\_\_\_\_  
 If you are not the Primary Care Physician for this patient, please provide their name and phone number  
 Name: \_\_\_\_\_ Phone: ( ) \_\_\_\_\_ - \_\_\_\_\_

**Comments:**



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 Suite 130  
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Collin County Health Care Services

*Thank you for participating in our disease reporting system*

## Collin County Reportable Conditions\* October 1, 2008 - December 31, 2008

Condition	Cases
Acquired Immune Deficiency Syndrome (AIDS)	9
Amebiasis	<5
Campylobacteriosis	<5
Chlamydia	325
Cryptosporidiosis	61
Cyclosporiasis	<5
Dengue Fever	<5
<i>E. coli</i> Shiga toxin producing	<5
Gonorrhea	74
Human Immunodeficiency Virus (HIV) Infection	22
Legionellosis	<5
Lyme Disease	<5
Meningitis (Aseptic)	13
Meningitis (Bacterial)	<5
Pertussis	60
Rocky Mountain Spotted Fever	<5
Salmonellosis	26
Shigellosis	6
Streptococcal disease (group A, B, <i>S. pneumo</i> ), invasive	6
Syphilis	7 <sup>^</sup>
Varicella	33
West Nile	<5

\*This list only includes those notifiable conditions reported to Collin County during the specified time period and does not include conditions for which there are no current cases. To view a complete list of notifiable conditions, please visit: <http://www.dshs.state.tx.us/idcu/investigation/conditions/> or call Collin County Health Care Services at 972-548-4707.

<sup>^</sup>Preliminary Data