



Edwin M Lee  
Mayor

San Francisco Department of Public Health

Barbara A Garcia, MPA  
Director of Health

Tomás J. Aragón, MD, DrPH  
Health Officer

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Communicable Disease Control & Prevention

[sfdph.org/cdcp](http://sfdph.org/cdcp)

Tel (415) 554-2830 Fax (415) 554-2848

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July 8, 2014

Dear health care provider,

A pertussis epidemic was declared in California in June 2014. Pertussis incidence tends to peak every 3-5 years, and 2014 is the worst year since 2010. As of June 24, there have been 4,558 cases of pertussis reported in California in 2014, more cases than were reported in all of 2013. San Francisco is also experiencing an increase in pertussis cases, with 46 cases reported between January 1, 2014 and July 1, 2014, as compared with 59 cases reported during all of 2013.

Pertussis can cause illness in both immunized and unimmunized individuals of all ages, but young infants are at highest risk for hospitalization or death. **The most important strategy for prevention of pertussis among infants is for pregnant women to receive a pertussis vaccine during the third trimester of pregnancy.** The San Francisco Department of Public Health (SFDPH) urges all San Francisco clinicians to be alert for cases of pertussis and to promote immunization to prevent disease. Please refer to the attached "Quick Guide" for information on disease reporting, diagnostic testing, infection control, post-exposure prophylaxis, and immunization.

There is a link to Confidential Morbidity Report (CMR) form on our home page [sfdcdp.org](http://sfdcdp.org).

Thank you for your attention,

Cora Hoover, MD, MPH  
Director, Communicable Disease Control and Prevention  
Disease Prevention & Control Branch



RESPONSE TO COMMUNICABLE DISEASES  
A QUICK GUIDE FOR SAN FRANCISCO CLINICIANS

## Pertussis (Whooping Cough)

### CLINICAL DISEASE

Consider a diagnosis of pertussis in a patient with paroxysmal cough, inspiratory whoop, post-tussive emesis, and/or a severe cough lasting more than 2 weeks. **Infants < 6 months old are at highest risk of hospitalization and death, but may have atypical symptoms (see below).**

Pertussis usually presents in 3 stages:

- 1) *Catarrhal stage (7-10 days)*: Cold-like symptoms and a mild cough that worsens.
- 2) *Paroxysmal stage (1-6 weeks)*: Spasms of severe cough followed by a sudden deep inspiration may cause “whooping”. Post-tussive emesis is common in all ages. Adolescents and adults often have mild symptoms. **Infants < 6 months of age may present differently**; they may gag, gasp, or develop apnea, may not have noticeable cough or whoop and may have leukocytosis with an increased absolute lymphocyte count.
- 3) *Convalescent stage (7-10 days)*: Gradual resolution of coughing, whooping, and vomiting.

### CLINICAL RESPONSE

#### 1. REPORT ALL SUSPECT & CONFIRMED PERTUSSIS CASES WITHIN ONE WORKING DAY TO:

SFDPH Communicable Disease Control Unit  
(CDCU) Tel: 415-554-2830 | Fax: 415-554-2848

**AND** Your Infection Preventionist (**IP**) if applicable  
(check your institution’s directory)

#### 2. IMPLEMENT APPROPRIATE INFECTION CONTROL PRECAUTIONS

- Patients are infectious from onset of any catarrhal symptoms until 21 days after onset of paroxysmal cough (if no or partial treatment was given), or until 5 days of appropriate antibiotic treatment are completed.
- Use **droplet precautions** for all suspect cases:
  - **Isolate and provide a face mask** for suspect patient to wear.
  - Put the patient in a private exam room. Regardless of prior immunity, medical staff entering the patient’s room should wear an N95 respirator if available, however a surgical mask is also acceptable.

#### 3. PURSUE DIAGNOSTIC TESTING (use of commercial laboratory is OK)

- PCR and culture from nasal aspirate or nasopharyngeal specimens are the best diagnostic tests, though PCR may be preferred due to greater sensitivity and faster availability of results. Sensitivity of either test can decrease if specimen collection is delayed or antibiotic treatment has already been initiated. Serology is a less reliable test. DFA and ELISA tests are the least reliable and are not recommended.
- Only test patients with signs and symptoms of pertussis.
- Negative test results in cases with compatible symptoms do not rule out pertussis. For more testing info: [www.cdph.ca.gov/programs/immunize/Documents/CDPH\\_Pertussis\\_laboratory\\_testing\\_March2010.pdf](http://www.cdph.ca.gov/programs/immunize/Documents/CDPH_Pertussis_laboratory_testing_March2010.pdf)

#### 4. INITIATE ANTIBIOTIC TREATMENT FOR ALL SUSPECT CASES

- Do not wait for diagnostic testing results. Begin empiric **antibiotic treatment immediately** in all suspect cases. Azithromycin (5-day course) is the first-line antibiotic for treatment and post-exposure prophylaxis.
- For detailed dosing recommendations, see [cdph.ca.gov/HealthInfo/discond/Documents/CDPH\\_Pertussis/quicksheet\\_January/2014.pdf](http://cdph.ca.gov/HealthInfo/discond/Documents/CDPH_Pertussis/quicksheet_January/2014.pdf)

#### 5. ENCOURAGE PATIENTS TO TAKE APPROPRIATE STEPS TO PREVENT DISEASE SPREAD

- Encourage all pertussis cases to stay away from infants, young children, pregnant women and immunocompromised persons until they are no longer infectious (see #2 above).

- Instruct children with pertussis to stay home from school or daycare until they are no longer infectious.
- 6. HELP IDENTIFY EXPOSED CONTACTS AND PROVIDE POST-EXPOSURE PROPHYLAXIS (PEP)**
- Please provide information about exposed close contacts to CDCU and your IP so that we can quickly manage contacts by recommending PEP, vaccination or both.
  - **High risk close contacts** for whom antibiotic PEP is recommended are infants <1 year old, 3<sup>rd</sup> trimester pregnant women, and persons who may expose them, including health care workers.
  - If PEP is recommended, it should be provided even if the contact is up-to-date with pertussis vaccine.
  - All identified close contacts who are not up to date for pertussis vaccine should receive Tdap/DTaP.
- 7. PREVENT DISEASE WITH IMMUNIZATION**

**Pregnant Women: Tdap Vaccination in Every Pregnancy**

- A dose of Tdap should be given during every pregnancy, irrespective of the interval since the patient's prior Tdap or Td vaccination.
- Ideally, Tdap should be given in the prenatal care setting. However, if a prenatal care provider is unable to provide vaccine on-site, patients may be referred to community pharmacies or to the SFDPH Immunization and Travel Clinic (AITC website: [sfcdcp.org/aitc.html](http://sfcdcp.org/aitc.html)).
- Tdap may be given at any time during pregnancy, but vaccination during the 3<sup>rd</sup> trimester (at 27-36 weeks gestation) provides the highest concentration of maternal antibodies to be transferred to the newborn infant.
- If Tdap is not given during pregnancy:
  - Women who lack documentation of previous vaccination with Tdap should receive Tdap immediately postpartum;
  - For women previously vaccinated with Tdap, giving a postpartum Tdap dose (though not specifically recommended by CDC) is not contraindicated and may be reasonable clinically.

**Infants and Children**

- Infants should receive their first pertussis vaccine dose as soon as possible. The first dose of pertussis vaccine can be given as early as 6 weeks of age.
- Infants and children should be vaccinated in a timely manner with pertussis vaccines according to the age-appropriate CDC Recommended Immunization Schedules<sup>1</sup>.

**Adolescents and Adults**

- Adolescents and adults should be vaccinated in a timely manner with pertussis vaccines according to the age-appropriate CDC Recommended Immunization Schedules<sup>1</sup>.
- Adolescents and adults who have or anticipate having close contact with an infant aged <12 months should receive a dose of Tdap to protect against pertussis if they have not received Tdap previously, ideally at least 2 weeks before planned infant contact to allow pertussis immunity to develop.
- CDC has not recommended routine adult revaccination with Tdap, but has found that Tdap revaccination is "safe and immunogenic."<sup>2</sup> For discussion of safety of multiple Tdap doses refer to the following references<sup>2,3</sup>. Since pertussis immunity wanes within a few years after immunization, Tdap revaccination of those anticipating or having contact with an infant is not contraindicated and may be reasonable clinically.

**ADDITIONAL RESOURCES:**

San Francisco Department of Public Health [www.sfcdcp.org/pertussis](http://www.sfcdcp.org/pertussis)

California Department of Public Health: [cdph.ca.gov/healthinfo/discond/pages/pertussis.aspx](http://cdph.ca.gov/healthinfo/discond/pages/pertussis.aspx)

Centers for Disease Control & Prevention: <http://www.cdc.gov/pertussis/>

American Academy of Pediatrics: <http://www2.aap.org/immunization/illnesses/dtp/pertussis.html>

American College of Obstetricians and Gynecologists: [immunizationforwomen.org/immunization\\_facts/vaccine-preventable\\_diseases/pertussis](http://immunizationforwomen.org/immunization_facts/vaccine-preventable_diseases/pertussis)

<sup>1</sup> For CDC Recommended Immunization Schedules see: [cdc.gov/vaccines/schedules/hcp/index.html](http://cdc.gov/vaccines/schedules/hcp/index.html)

<sup>2</sup> [cdc.gov/vaccines/acip/meetings/downloads/min-archive/min-jun13.pdf](http://cdc.gov/vaccines/acip/meetings/downloads/min-archive/min-jun13.pdf)

<sup>3</sup> <http://www.cdc.gov/vaccines/vpd-vac/pertussis/tdap-pregnancy-hcp.htm/safety>