

# County of Santa Clara

## Public Health Department



Health Officer  
976 Lenzen Avenue, 2<sup>nd</sup> Floor  
San José, CA 95126

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### UPDATE # 3: Pertussis (Whooping Cough)

**DATE:** July 27, 2010

**TO:** Internal Medicine  
Pediatrics  
Obstetrics/Gynecology  
Infectious Disease  
Hospital Emergency Departments

This fax contains 3 pages.

Please copy and distribute to  
ALL physicians at your location.

**FROM:** Martin Fenstersheib, MD, MPH  
Health Officer

Since the last alert dated June 30<sup>th</sup>, the number of pertussis cases reported in Santa Clara County has continued to increase. As of July 23<sup>rd</sup>, 95 cases have been reported this calendar year, including 12 infants less than 6 months. There have been ten hospitalizations; seven of those hospitalized are under 6 months of age. No deaths have been reported.

This alert focuses on use of post-exposure prophylaxis, the expanded vaccination guidelines issued by the State of California on 7-19-2010, and laboratory testing.

#### **Transmission**

Pertussis is transmitted by large respiratory droplets. Persons with pertussis are most infectious during the first 3 - 4 weeks of infection: from onset of runny nose until after 5 days of treatment, or until 2 - 3 weeks of paroxysmal cough if no or partial treatment is given. Susceptible close contacts – those who have direct contact with respiratory, oral or nasal secretions from, or who share a confined space for  $\geq 1$  hr with an infectious person – are most at risk of infection. Incubation is typically 7 - 10 days (range 5 - 21 days).

#### **Chemoprophylaxis**

Use of post-exposure prophylaxis (PEP) of close contacts within 2 - 3 weeks of exposure to an infectious index case may limit transmission in households. PEP is recommended for all close contacts regardless of age or immunization status. However, starting PEP >3 weeks after exposure to an infectious case is probably of little benefit.

Board of Supervisors: Donald F. Gage, George Shirakawa, Dave Cortese, Ken Yeager, Liz Kniss  
County Executive: Jeffrey V. Smith

## Vaccination Update

In the June 30, 2010 physician alert on pertussis, the standard approach to immunizing children, adolescents and adults against pertussis was discussed.

In addition to the typical series of childhood and adult pertussis immunizations, the California Department of Public Health (CDPH) now recommends use of the adolescent-adult pertussis booster vaccine (Tdap) for:

- anyone 7 years and older who is not fully immunized, including those who are more than 64 years old (this recommendation includes off-label use of current licensed vaccines)
- women of childbearing age, before, during, or immediately after pregnancy, and
- other people who have contact with pregnant women or infants.

## Laboratory Testing

The CDC and the California Department of Public Health have determined that culture and PCR (polymerase chain reaction) are the only two accepted methods for the laboratory diagnosis for pertussis. Current serological tests for pertussis have not been standardized as of yet and are not considered to be a laboratory test for the confirmation of *Bordetella pertussis*. In addition, testing by DFA (direct fluorescent antibody) is not recommended at this time either.

Specimens for pertussis PCR and/or culture testing should be obtained by nasal aspiration or nasopharyngeal (NP) swab using Dacron-tipped (or other synthetic material) NP swabs with a flexible wire shaft. ***Cotton or calcium alginate swabs are not acceptable.*** Detailed instructions for collecting these specimens can be found at:

[http://www.cdph.ca.gov/programs/immunize/Documents/CDPH\\_Pertussis%20laboratory%20testing\\_March2010.pdf](http://www.cdph.ca.gov/programs/immunize/Documents/CDPH_Pertussis%20laboratory%20testing_March2010.pdf)

Specimens (NP swabs) collected for PCR testing only should be placed in a sterile tube or cup and refrigerated until transported to the lab. Testing should be performed within 72 hours of collection.

Specimens (NP swabs) collected for both PCR and culture should immediately after collection be placed into Regan-Lowe transport medium (leave swab in media). ***Specimens should NOT be submitted in Amies or Stuarts media.*** Specimens collected in Regan-Lowe may be kept at ambient temperature for up to 8 hours while transported to the laboratory. If immediate shipment is not possible, specimens must be incubated at 35°C for up to 48 hours prior to laboratory testing.

Specimens for PCR, or PCR and culture testing may be sent to the Santa Clara County Public Health Laboratory (see below) or your current commercial molecular diagnostics laboratory.

Santa Clara County Public Health Laboratory  
Specimen Receiving  
2220 Moorpark Ave., 2<sup>nd</sup> Floor  
San Jose, CA 95128

408.885.4272 (T) ♦ 408.885.4275 (F)

For questions contact: Patricia Dadone, Director or Lorna Way

## Additional Information

Uninsured household contacts to infants may be referred to the Public Health Immunization Clinic. For more information see: [www.sccphd.org](http://www.sccphd.org)

For further questions, please contact the Disease Prevention and Control Program at 408-885-4214 during regular business hours. After hours and on weekends, healthcare providers may call County Communications at 408-998-3438 and ask to speak with the public health officer on call.

## Resources

Santa Clara County Public Health Department: [www.sccphd.org](http://www.sccphd.org)

California Dept. of Public Health: <http://www.cdph.ca.gov/HealthInfo/discond/Pages/Pertussis.aspx>

Centers for Disease Control and Prevention: <http://cdc.gov/vaccines/vpd-vac/pertussis/default.htm>

## Recommended Treatment and Postexposure Prophylaxis, by age group

Age group	Azithromycin	Erythromycin*	Clarithromycin	Alternate agent: TMP-SMX†
<1 month	Recommended agent for infants <1 month; 10 mg/kg per day in a single dose x 5 days	Not preferred; associated with hypertrophic pyloric stenosis in infants <1 month. If azithromycin is unavailable use 40–50 mg/kg per day in 4 divided doses x 14 days	Not recommended	Contraindicated in infants <2 months (risk for kernicterus)
1–5 months	10 mg/kg per day in a single dose x 5 days	40–50 mg/kg per day in 4 divided doses x 14 days	15 mg/kg per day in 2 divided doses x 7 days	Contraindicated in infants <2 months  For infants aged ≥2 months, TMP 8 mg/kg per day; SMX 40 mg/kg per day in 2 divided doses x 14 days
Infants aged ≥6 months and children	10 mg/kg as a single dose on day 1 (maximum 500 mg); then 5 mg/kg per day as a single dose on days 2–5 (maximum 250 mg/day)	See above (maximum 2 g/day)	See above (maximum 1 g/day)	See above
Adolescents and adults	500 mg as a single dose on day 1 then 250 mg as a single dose on days 2–5	2 g/day in 4 divided doses x 14 days	1 g/day in 2 divided doses x 7 days	TMP 300 mg/day, SMX 1600mg/day in 2 divided doses x 14 days

\*Some experts prefer erythromycin estolate over erythromycin stearate or ethylsuccinate because it achieves higher serum levels with equal doses.

†Trimethoprim-sulfamethoxazole (TMP-SMX) can be used as an alternative agent to macrolides in patients aged ≥2 months who are not pregnant or nursing and are allergic to, cannot tolerate, or are infected with a rare macrolide-resistant strain of *B. pertussis*.