HEALTH ALERT
APRIL 25, 2014

PERTUSSIS CASES ON THE RISE IN CONTRA COSTA – CORRECTED VERSION

SUMMARY:
A recent increase in cases of pertussis has been reported in Contra Costa County. Early recognition and aggressive treatment of pertussis in infants less than 6 months is important to prevent poor outcomes including death. With health care professionals likely seeing more patients with suspect pertussis the polymerase chain reaction (PCR) diagnostic test is an important tool for timely diagnosis. The most important strategy to prevent infection in vulnerable infants is Tdap vaccination of the mother. All pregnant women should receive Tdap vaccine during each pregnancy, any trimester but preferably between 27-36 weeks gestation, regardless of their vaccination history.

CURRENT SITUATION
So far during 2014, a total of 20 cases of pertussis disease have been reported. There have been no deaths. The ages of the cases ranged from 19 days to 49 years with a median age of 8 years old. Of the 20 total cases of pertussis, six cases were less than 2 years old and 4 of the cases were hospitalized.

Actions Requested of Healthcare Professionals:
1. Report suspect and laboratory-confirmed cases within one working day of identification and report outbreaks immediately by phone to Contra Costa Public Health at 925-313-6740.

2. Submit specimens for laboratory confirmation. The preferred methods of laboratory diagnosis of pertussis are culture and polymerase chain reaction (PCR). Serologic assays are not recommended.

3. Begin chemoprophylaxis of patients and household contacts regardless of age or vaccination status. Consultation regarding additional control measures is available through Contra Costa Public Health at 925-313-6740.

4. Implement standard and droplet precautions for individuals with clinical presentation of pertussis.

5. Review immunization records and stress the importance of up-to-date vaccination.
CURRENT RECOMMENDATIONS:

CLINICAL

- **The most severe cases of pertussis occur in young infants.** Infants <6 months of age are most likely to be hospitalized and infants <3 months of age are most likely to die from pertussis infection.
- Pertussis disease has three stages of illness:
  1) *Catarrhal stage* (1-2 weeks): onset of cold-like symptoms (coryza, sneezing and occasional cough) and fever is typically absent or low-grade.
  2) *Paroxysmal stage*: spasms of severe cough are followed by sudden inspirations, resulting in “whooping” sounds; post-tussive vomiting and exhaustion is common. Paroxysmal attacks occur frequently at night. Illness may be milder in previously vaccinated people.
    - **Important Note:** *Infants (< 6 months of age) may present differently* symptoms include:
      - a shorter catarrhal stage;
      - may gag, gasp or stop breathing;
      - facial color changes (may turn blue, purple or red); and
      - likely to have leukocytosis with an increased absolute lymphocyte count.
  3) *Convalescent stage*: decreasing frequency and severity of cough, whooping and vomiting.

TESTING

- Isolation/culture of *B. pertussis* from clinical specimen or positive polymerase chain reaction (PCR) test for *B. pertussis*. Serological assays are not recommended.
- Specimens for PCR should be obtained by aspiration or swabbing of the posterior nasopharynx ([http://www.cdc.gov/pertussis/clinical/diagnostic-testing/specimen-collection.html](http://www.cdc.gov/pertussis/clinical/diagnostic-testing/specimen-collection.html)).

TREATMENT

- Chemoprophylaxis of patients using the appropriate antimicrobial agent ([http://www.cdc.gov/mmwr/pdf/rr/rr5414.pdf](http://www.cdc.gov/mmwr/pdf/rr/rr5414.pdf)).
- Clinical guidance on pertussis recognition and treatment in young infants along with pediatric infectious disease programs that may be on call 24/7 for pertussis management advice is available at: [http://www.aap-ca.org/clinical/pertussis/pertussis_in_young_infants.html](http://www.aap-ca.org/clinical/pertussis/pertussis_in_young_infants.html).

HEALTHCARE FACILITY INFECTION CONTROL

- Standard and droplet precautions until five days of antimicrobial therapy have been completed; single patient room preferred; patient cohorting is an option.
- **Facility Control Measures:**
  1) Respiratory hygiene and cough etiquette including use of masks for coughing patients;
  2) Post signs at facility entrance in multiple languages instructing patients to inform reception of the following symptoms: cough, flu-like illness, respiratory secretions and/or known or suspect exposure to particular disease; and
  3) Consider instituting restriction of visitors from the newborn and infant units to limit exposure among a high-risk population and the facility or unit-specific (e.g. pediatrics) restriction of visitors with respiratory symptoms (consistent with pertussis) may prevent the introduction of pertussis into the hospital setting.
POST-EXPOSURE CHEMOPROPHYLAXIS (PEP) FOR CONTACTS

- Household contacts should receive PEP regardless of age or vaccination status.
- High risk contacts should consult with their provider about the need for PEP.
- High-Risk Contacts include:
  - Infant less than 1 year of age;
  - Pregnant women in 3rd trimester;
  - Caregivers and household contact of infants;
  - Childcare setting with infant or pregnant women;
  - Healthcare workers who care for infants or pregnant or postpartum women;
  - Persons with chronic medical conditions: respiratory, neuromuscular and immunodeficiency disorders

SCHOOL AND CHILDCARE SETTINGS

- Exclude case from childcare, school and other group activities until 5 days of effective antibiotic treatment (or 21 days after cough onset if no treatment).
- Identify high-risk contacts (see definition above) and direct them to their provider to evaluate the need for PEP.
- Monitor contacts, particularly unimmunized students, for acute illness for >21 days after last exposure to an infectious case. Exclusion of unimmunized students is not recommended.
- Notify parents/guardians and staff about pertussis signs/symptoms, prevention and control measures. Consider active surveillance for cough illness and exclusion of those with cough until evaluation by healthcare provider.
- Encourage pertussis vaccination for students and staff.

VACCINATION

Advisory Committee on Immunization Practices (ACIP) recommends:

http://www.cdc.gov/vaccines/hcp/acip-recs/index.html

- Pediatric DTaP is given as a 5-dose schedule at ages 2, 4, 6, 15–18 months and 4–6 years;
- A dose of Tdap vaccine booster for all adolescents aged 11-18 years (preferred at 11-12 years) and adults aged 19 years and up who have not yet received a booster; and
- Tdap vaccine should be administered to all pregnant women during every pregnancy regardless of vaccination history (preferably between 27-36 weeks gestation) to maximize the maternal antibody response and passive antibody transfer to the infant.

http://www.cdc.gov/mmwr/preview/mmwrhtml/mm6207a4.htm

ADDITIONAL QUESTIONS AND RESOURCES:
The Contra Costa Public Health Communicable Disease Programs can be reached 8AM-5PM M-F at: 925-313-6740 (phone) or 925-313-6465 (fax). More information may be found at http://cchealth.org/pertussis/ or http://www.cdc.gov/pertussis/clinical/index.html.