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HEALTH ALERT
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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>).

TREATMENT

- Chemoprophylaxis of patients using the appropriate antimicrobial agent <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.

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; and
 - 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>.

