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Increase in Cases of *Bordetella pertussis* in Ventura County

This health advisory updates local health providers about a recent increase in cases of *B. pertussis* (whooping cough) in Ventura County and provides some recommendations regarding the management and reporting of *B. pertussis* infections.

Incidence of whooping cough during the period from January 1, 2019 through March 14, 2019 in Ventura County has increased 2 to 3 times over the incidence from the previous two years (2017-2018) during the same January 1 through March 14 time frame, and 2 times the average incidence in the previous 4 years (2015 – 2018).

Every 3 to 5 years, whooping cough increases above endemic levels. Our last increase was 5 years ago in 2014. The current increase in pertussis incidence may be the beginning of a cyclical increase or may be a regular seasonal variation. It is too early to tell. Either way, expect to see more cases of pertussis over the next few months.

Key Points

- We are seeing an increase in pertussis cases in Ventura County.
- Infants too young to be fully immunized remain most vulnerable to severe and fatal pertussis. The primary [strategy](#) to prevent pertussis in young infants is immunization of pregnant women with Tdap, which provides transplacental immunity to the newborn. The number of women currently receiving Tdap during pregnancy is suboptimal.
- *B. pertussis* is highly contagious, and transmission occurs via direct person-to-person spread.
- Providers should consider ruling out pertussis in anyone with a cough lasting longer than usual, a cough associated with vomiting or passing out, or with a paroxysmal cough (a *whooping* cough).
- Initiate antibiotic [treatment](#) prior to obtaining test results, especially in infants and pregnant women or those who are in close contact with them.
- [Test for pertussis by PCR or culture](#) obtained by nasal aspirate (preferable) or nasopharyngeal swab. **Serologic testing for pertussis is not recommended.**

Recommendations for Providers

Vaccinate

- Immunize **all** women, regardless of their immunization history, with Tdap during **every** pregnancy between 27-36 weeks' gestation to optimize antibody transfer and protection of infants at birth. This is the most important measure to help protect young infants against pertussis. Tdap during pregnancy [has not been found to be associated with an increased risk of adverse events](#) in vaccinated women or their infants. Immunization of pregnant women with Tdap is covered by insurers, including Medi-Cal.
 - Postpartum vaccination does not provide transplacental antibodies to newborns but may prevent maternal acquisition and transmission of pertussis. If the postpartum mother has never received Tdap, promptly administer Tdap before discharge home.
- Advise women during pregnancy and delivery that other adults in contact with the newborn, such as fathers, grandparents, older siblings, and babysitters, should also be up-to-date with their Tdap vaccine.

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- Immunize young infants promptly with DTaP. During a community outbreak, the first dose of DTaP can be given as early as 6 weeks of age, especially to infants whose mothers did not receive Tdap during pregnancy. The primary DTaP vaccine series reduces severe disease in young infants, and even the first dose may offer some protection against fatal disease.
- Encourage all persons to be up-to-date with [current pertussis vaccination recommendations](#). As part of the “cocooning” strategy, all close contacts of infants (e.g., parents, siblings, grandparents, child care providers, etc.) and all [healthcare personnel](#) should be immunized against pertussis, particularly those who work with infants or pregnant women.

Diagnose, Treat, and Test

- [Diagnosing pertussis](#) in [young infants](#) is challenging, as they may have little or no cough, whoop, or fever. Mild illness may quickly progress to respiratory distress, apnea, cyanosis, or seizures. Delays in treatment may increase the risk of a fatal outcome. A white blood cell count of $\geq 20,000$ cells/mm³ with $\geq 50\%$ lymphocytes is a strong indication of pertussis.
- Consider pertussis **even in recently vaccinated people** when evaluating patients with symptoms compatible with pertussis. Immunity after immunization wanes within a few years.
- Consider pertussis **regardless of age** in patients with persistent cough. Symptoms are generally milder in teens and adults, especially in those who have received Tdap. Adults may report sweating episodes or feeling as if they’re choking.
- For [testing](#) by PCR or culture, obtain a nasal aspirate (preferable) or nasopharyngeal swab. **Serologic testing for pertussis is not recommended.**
- Report all suspected pertussis cases to the local health department.
- Initiate antibiotic [treatment](#) **prior to obtaining test results**, especially in infants and pregnant women or those who are in close contact with them. Azithromycin is preferred because of efficacy and compliance.
- Instruct patients with pertussis to stay home from school or daycare until they have taken 5 days of antibiotics and to avoid contact with infants and pregnant women.
- Provide [antibiotic prophylaxis](#) to household contacts, caregivers, and other persons who have had direct contact with respiratory, oral, or nasal secretions and aerosols from a symptomatic case, especially when there is an infant or pregnant woman in the home. The dosage and duration for antibiotic prophylaxis is the same as treatment and should not be shortened.

Early Stage Symptoms: Appears to be a common cold, lasts 1 – 2 weeks

- Runny nose
- Low-grade fever (generally minimal throughout the course of the disease)
- Mild, occasional cough (cough may be absent in babies)
- Apnea – (present in babies)

Later Stage Symptoms: After 1 – 2 weeks, traditional symptoms may appear

- Paroxysms of many, rapid coughs followed by a high-pitched “whoop” sound
- Vomiting during or after coughing fits
- Exhaustion after coughing fits

Additional resources for clinicians include the California Department of Public Health [pertussis website](#) and the Centers for Disease Control and Prevention [pertussis webpage for clinicians](#).

This bulletin is intended to improve the public health in our county by keeping physicians and nurses informed of noteworthy diagnoses, disease trends and other events of medical interest. Another goal of a public health department is to educate. We hope that you will use this information to increase your awareness. Please allow us to continue in our role of speaking to the press so that we may maximize the educational message to the benefit of all citizens of Ventura County.

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