Technical Bulletin
Division of Public and Behavioral Health

Date: April 2018
Topic: Pertussis: Alert for Healthcare Providers
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To: Rural HealthCare Providers and Medical Facilities

Current Situation:

The Office of Public Health Informatics and Epidemiology is currently investigating an increase of pertussis cases among residents of Pahrump. Healthcare providers are encouraged to be aware of the presence of laboratory confirmed pertussis in the community when evaluating patients with consistent symptoms. Early diagnosis and treatment are essential to stop ongoing transmission of pertussis.

Clinical Description:

Pertussis symptoms typically begin within 5 to 10 days after exposure, but can take up to 3 weeks.

- Early/Catarrhal Stage: The disease usually starts with cold-like symptoms with possibly a mild cough or fever. Infants may not exhibit a cough at all, but experience periods of apnea. Most deaths that occur with pertussis involve children under 4 months of age.
- Later/Paroxysmal Stage: After 1 to 2 weeks of disease progression, the more traditional symptoms of pertussis may appear. This includes paroxysms, post-tussive vomiting, cyanosis, and an inspiratory "whoop." It is important to note that not everyone will experience the infamous "whoop" with pertussis.
- Recovery/Convalescent Stage: The paroxysmal cough becomes less persistent, but full recovery is very gradual.

Diagnosis:

Pertussis should be considered in persons with a severe and/or persistent cough. Testing can be ordered up to 3 weeks after the onset of the paroxysmal cough.

- Appropriate testing includes PCR or culture. **DO NOT** order serology tests for diagnostic purposes.
- It is important to keep specimen collection supplies in your office. Contact your laboratory provider to obtain these supplies. Patients cannot be sent to commercial laboratories for specimen collection. Specimens should be collected from the posterior nasopharynx (NP) using a flexible Dacron NP swab.
- **DO NOT** order pertussis testing on asymptomatic persons, even if they are contacts to a laboratory confirmed case.

Treatment and Post-Exposure Prophylaxis:

- Treatment: Early antimicrobial treatment of pertussis is imperative, especially among infants. Clinicians are encouraged to treat prior to test results if the clinical history is strongly suggestive of pertussis. Table 3.49 (below), referenced from the Red Book, 2015 Edition, outlines the treatment and post-exposure prophylaxis recommendations from the American Academy of Pediatrics (AAP), as well as the Centers for Disease Control and Prevention (CDC).
- Post-Exposure Prophylaxis (PEP): Antimicrobial PEP is considered effective in preventing illness in those exposed to a confirmed case of pertussis. PEP should be administered to high-risk contacts or to anyone who could transmit disease to persons at high risk. High risk individuals are defined as:
    - Household contacts to the case;
    - Infants <1 year of age;

- Pregnant women (especially those in their third trimester);
- All people with pre-existing health conditions that may be exacerbated by pertussis;
- Anyone who could expose infants or pregnant women to pertussis

- Initiation of PEP more than 21 days after exposure is not recommended.

Table 3.49. Recommended Antimicrobial Therapy and Postexposure Prophylaxis for Pertussis in Infants, Children, Adolescents, and Adults[a]

	Recommended Drugs		Alternative
Age	Azithromycin	Erythromycin	Clarithromycin	TMP-SMX
Younger than 1 mo	10 mg/kg/day as a single dose daily for 5 days[b,c]	40 mg/kg/day in 4 divided doses for 14 days	Not recommended	Contraindicated at younger than 2 mo of age
1 through 5 mo	See above	See above	15 mg/kg per day in 2 divided doses for 7 days	2 mo of age or older: TMP, 8 mg/kg/day; SMX, 40 mg/kg/day in 2 doses for 14 days
6 mo or older and children	10 mg/kg as a single dose on day 1 (maximum 500 mg), then 5 mg/kg/day as a single dose on days 2 through 5 (maximum 250 mg/day)[b,d]	40 mg/kg/day in 4 divided doses for 7-14 days (maximum 1-2 g/day)	15 mg/kg/day in 2 divided doses for 7 days (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 through 5[b,d]	2 g/day in 4 divided doses for 7-14 days	1 g/day in 2 divided doses for 7 days	TMP, 320 mg/day; SMX, 1600 mg/day in 2 divided doses for 14 days

TMP indicates trimethoprim; SMX, sulfamethoxazole.
[a]Centers for Disease Control and Prevention. Recommended antimicrobial agents for the treatment and postexposure prophylaxis of pertussis: 2005 CDC guidelines. *MMWR Recomm Rep.* 2005;54(RR-14):1-16
[b]Azithromycin should be used with caution in people with prolonged QT interval and certain proarrhythmic conditions. [c]Preferred macrolide for this age because of risk of idiopathic hypertrophic pyloric stenosis associated with erythromycin. [d]A 3-day course of azithromycin for PEP or treatment has not been validated and is not recommended.

Vaccination:

CDC's Advisory Committee on Immunization Practices (ACIP) recommends the pertussis vaccination schedule for infants, children, adolescents and adults:

- Children 2 months through 6 years of age should receive five doses of DTaP.
- One dose of Tdap should be given to those 11 years or older, with a preferred administration at 11 or 12 years of age.
- Pregnant woman during *each pregnancy* should receive a dose of Tdap, with a preferred administration during the early part of gestational weeks 27 through 36.
- Adults of all ages, especially those who have contact with an infant less than one (1-year-old), should receive a single dose of Tdap.

Please refer to the ACIP recommendations for detailed schedules at:
https://www.cdc.gov/vaccines/hcp/acip-recs/vacc-specific/tdap-td.html

Reporting: All known or suspected cases of pertussis are required to be reported to the Nevada Division of Public and Behavioral Health (DPBH). When reporting a case, please use the *Confidential Morbidity Report* form:
http://dpbh.nv.gov/Programs/OPHIE/dta/Forms/Public_Health_Informatics_and_Epidemiology_(OPHIE)_-_Forms/

For More Information: Please contact DPBH M-F 8:00 AM to 5:00 PM at (775)684-5911. The after-hours line can be contacted at (775)-400-0333.

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Reference: https://www.cdc.gov/pertussis/index.html ; https://redbook.solutions.aap.org/redbook.aspx