



# ALEXANDRIA HEALTH DEPARTMENT

## Main Office

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Health Director

February 9, 2024:

Dear Colleague:

A case of pertussis has been diagnosed in an individual who was at Alexandria City High School while infectious. The Alexandria Health Department (AHD) is working with the school system.

- A schoolwide letter was sent to inform staff, students, and families of the case.
- A second letter was sent out to individuals who were likely exposed to case.
- Exposed or symptomatic individuals may be seeking care

### Here's how you can help AHD and patients in the following categories:

1. **Asymptomatic Exposed Individuals.** Provide post-exposure prophylaxis (PEP) for these risk factors:

- Household contacts
- People who are or have close contact with someone who is pregnant or an infant less than 12 months old
- People who are or have close contact with someone who has an immunodeficiency or chronic respiratory condition (e.g., asthma)
- People in high-risk settings such as neonatal intensive care units, childcare, and maternity wards.

### 2. Symptomatic Individuals

- **Adopt a high index of suspicion** for pertussis, regardless of vaccination status, in patients who present with the following:
  - Suspected exposure
  - Cough lasting longer than two weeks, especially if they also have at least one of the following symptoms:
    - Paroxysms of cough
    - Inspiratory whoop
    - Post-tussive vomiting
    - Apnea
- **For patients coughing less than 21 days:**
  - Test with a nasopharyngeal swab sent for pertussis PCR and culture, serology is **not** reliable for the diagnosis of an acute case of pertussis. If you need advice on what specimens to collect or what test to order, please call AHD contact information below.

- Do not delay treatment with appropriate antibiotics while waiting for laboratory results if there is known exposure or no alternative diagnosis.
- Strongly consider antibiotic prophylaxis for all household members if a pregnant person, an infant less than 12 months old, or anyone with an immunodeficiency lives in the household.
- Exclude from school / work and other group activities until they have **completed 5 days of appropriate antibiotic therapy.**
- **For patients coughing 21 days or more:**
  - Laboratory testing for pertussis is not necessary. CDC does not recommend laboratory testing after 3 weeks of cough. PCR/culture are only sensitive during the first 2-3 weeks of cough when bacterial DNA is still present in the nasopharynx.
  - For most patients, antibiotic treatment is not required after 21 days of cough, with the following exception: you should treat infants and pregnant people in their third trimester through 6 weeks after cough onset.
  - The patient is no longer infectious and can return to school.

### 3. Report all suspected and confirmed cases of pertussis to AHD immediately.

#### **Pertussis Clinical Manifestations & Transmission Pertussis**

Pertussis is spread via airborne transmission through contact with infected droplets. The incubation period is commonly 7-10 days with a range of 5-21 days. The patient is infectious from the beginning of symptoms until 3 weeks after the start of the paroxysmal cough or until 5 days of treatment with an appropriate antibiotic.

The clinical course of the illness is divided into three stages:

- **Early Stage** - Catarrhal Stage (1-2 weeks)
  - Onset of coryza (runny nose), sneezing, low grade fever, and a mild cough.
  - As this stage continues, the cough becomes more severe.
  - In infants and young children, this stage can present as apnea and cyanosis.
- **Later Stage** - Paroxysmal Stage (1-6 weeks)
  - Cough becomes the classic 'whooping cough' in which a patient has paroxysms of cough followed by a long inspiratory effort, 'the whoop.'
  - Patients can become cyanotic during the paroxysmal cough.
  - Post-tussive vomiting can occur.
  - Paroxysmal cough episodes are more frequent at night.
- **Recovery** - Convalescent Stage (weeks to months)
  - Cough gradually lessens over 2-3 weeks

#### **Prophylaxis and Treatment**

For your reference, the CDC recommended treatment and prophylaxis of pertussis is included on the following page.

#### **Support from AHD**

If you have questions or need assistance, please contact AHD's Communicable Disease Division by calling the **provider reporting line** at 703.746.4951 (business hours) or 571.259.8549 (after hours).

**Recommended Antimicrobial Therapy and Postexposure Prophylaxis for Pertussis in Infants, Children, Adolescents, and Adults<sup>a</sup>**

Age	Primary Agents			Alternative
	Azithromycin	Erythromycin	Clarithromycin	TMP-SMZ
< 1 mo	10 mg/kg/day as a single dose daily for 5 days <sup>bc</sup>	40 mg/kg/day in 4 divided doses for 14 days	Not recommended	Contraindicated at younger than 2 mo
1-5 mo	10 mg/kg/day as a single dose daily for 5 days <sup>b</sup>	40 mg/kg/day in 4 divided doses for 14 days	15 mg/kg/day in 2 divided doses for 7 days	2 mo or older: TMz 8 mg/kg/day; SMX 40 mg/kg/day in 2 divided 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 2-5 (maximum 250 mg/day) <sup>b,d</sup>	40 mg/kg/day in 4 divided doses for 14 days for 7-14 days (maximum 2 g/day)	15 mg/kg/day in 2 divided doses for 7 days (maximum 1 g/day)	2 mo or older: TMP 8 mg/kg/day; SMX 40 mg/kg/day in 2 divided doses for 14 days.
Adolescents and adults	500 mg in a single dose on day 1 then 250 mg per day on days 2 through 5 <sup>b,d</sup>	2 g/day in 4 divided doses for 7-14 days	1 g per day in 2 divided doses for 7 days	TMP 320 mg/day, SMX 1,600 mg/day in 2 divided doses for 14 days

SMX indicates sulfamethoxazole; TMP, trimethoprim

<sup>a</sup>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

<sup>b</sup>Azithromycin should be used with caution in people with prolonged QR interval and certain proarrhythmic conditions.

<sup>c</sup>Preferred macrolide for this age because of risk of idiopathic hypertrophic pyloric stenosis associated with erythromycin.

<sup>d</sup>A 3-day course of azithromycin for PEP or treatment has not been validated and is not recommended.

Sincerely,

David C. Rose  
 Director  
 Alexandria Health Department