

# Pertussis Outbreak

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**Date:** August 8, 2023

**To:** Central Zone Family Physicians, Pediatricians, and Emergency Department Staff

**Cc:** Chief Zone Officer and Medical Director, Communications, Medical Affairs, Communicable Disease Control (Notifiable Diseases), Senior Operating Officers, Infection Prevention Control, Workplace Health and Safety, Health Link (Emerging Events), Public Health Director and Area Managers

**From:** Dr. Thara Kumar, Medical Officer of Health, Central Zone

**Subject:** Pertussis Outbreak - Two Hills County and Surrounding Area

We are seeing a higher-than-expected number of pertussis cases in Central Zone in 2023, with a specific recent cluster (6 cases) of pertussis in the Two Hills area since June 2023. As a result, we have declared a Pertussis Outbreak for Two Hills and the surrounding area. Please be aware of this and keep pertussis in your differential diagnosis for persistent cough. The majority of cases in this outbreak have occurred in children and unvaccinated individuals. Please note the following information:

**Pertussis vaccine** is a part of the routine vaccine schedule. A single dose of pertussis-containing vaccine is recommended for adults, combined with the tetanus and diphtheria booster. All pregnant women should be immunized at 27-32 weeks gestation during each pregnancy. Immunizations are available through public health at no charge. Please encourage patients to be vaccinated (if not already up to date), and if you or your health care colleagues have not received a pertussis-containing vaccine as an adult, please make arrangements with local public health to do so.

If patients want to inquire about their immunization status or appointment availability, they can call their local CHC (community health center) to inquire. **Please note that Two Hills CHC will be offering extra drop in dTap clinics on Aug 9, 16 & 23 (1630-1800).** Booked appts will be offered on Tuesdays, Wednesday and Thursdays. Same day appointments may be available. Patients are encouraged to call to speak to a nurse or make an appointment if they want further information about pertussis or immunization.

**Pertussis clinical history** has a 6-21 day incubation period followed by 1-2 weeks of fever, rhinorrhea and mild cough, then a paroxysmal phase of severe coughing episodes that last several weeks to months. Older children and adults (even those who are fully vaccinated) may present with atypical symptoms but are able to transmit the disease.

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For more information, contact  
p: 587-797-0783 f: 403-592-4966  
moh.central@ahs.ca | [ahs.ca/czmoh](https://ahs.ca/czmoh)

**The most vulnerable populations** are infants under one year of age, and are at the highest risk of complications including pneumonia, seizures, and death. Because of this, we ask that you advise patients who are pregnant to be aware that pertussis is circulating in our zone, and that they (and their infant, when born) should avoid close contact with individuals with a cough.

**Classic pertussis symptoms** are paroxysmal cough of any duration, cough ending in vomiting, or associated with apnea, or cough with inspiratory “whoop”. If you should see a patient with these symptoms, please take a nasopharyngeal (NP) swab transported in Regan Lowe Transport Medium (alternative is Universal transport medium). These test kits do expire, so more stock may need to be ordered from the lab. Note that testing for influenza requires a different NP swab and transport medium. Please also consider treating as per the attached antibiotic guideline (see appendix 2).

**Antibiotics (see Appendix 2)** have little effect on the clinical course once the classic paroxysmal cough symptoms begin, but their use can hasten clearance of the organism and limit spread of the disease. There is no limit to the start date for treatment of confirmed cases of pertussis. Prophylaxis is recommended by public health for close contacts of confirmed cases where contacts are either children under one year of age or pregnant women in their third trimester, or household contacts of those vulnerable groups.

**Isolation of ill cases** at home is advised until 5 days of antibiotic treatment has been completed. Physician Office and Emergency Department Infection Prevention and Control precautions are those for droplet precautions in addition to routine practices. Health Care Workers should use a surgical mask and eye protection (droplet precautions), with consideration of gloves and gown if patient is coughing (routine practices). While waiting to be assessed, the patient should be given a mask and placed in a separate room, or if unavailable, at least 2 meters from others.

#### **Your role as a physician:**

- Maintain a high index of suspicion for pertussis when investigating cough, especially in young children and unvaccinated individuals.
- Consider diagnostic testing and treatment (see appendix 2) when appropriate.
- **Reporting requirements:** Please report all **confirmed or probable** cases of pertussis to public health (**see Appendix 1** for case definitions).

Contact the Provincial Communicable Disease Control (Notifiable Diseases) with questions or to report cases.

- Daily 08:30 to 16:00 by email [provincialcdcintake@ahs.ca](mailto:provincialcdcintake@ahs.ca) or call 1-855-444-2324.
- All other times phone the MOH on-call at 403-356-6430.

Further information on the management of pertussis cases and contacts is available at the Alberta Health Notifiable Diseases web page: <https://open.alberta.ca/publications/pertussis>.

Thank you for your assistance in the care of these patients.

## Appendix 1: Case Definition

### 1) Confirmed Case

Laboratory confirmation of infection:

- Isolation of *Bordetella pertussis* from an appropriate clinical specimen (e.g., nasopharyngeal swab)

**OR**

- Detection of *Bordetella pertussis* nucleic acid by nucleic acid testing (e.g. polymerase chain reaction [PCR]) from an appropriate clinical specimen (nasopharyngeal swab) **AND** one or more of the following:
  - cough lasting two weeks or longer,
  - paroxysmal cough of any duration,
  - cough with inspiratory “whoop”, and/or
  - cough ending in vomiting or gagging, or associated with apnea

**OR**

A person who is epidemiologically linked to a laboratory-confirmed case **AND** has one or more of the following for which there is no other known cause:

- cough lasting two weeks or longer,
- paroxysmal cough of any duration,
- cough ending in vomiting, or associated with apnea, and/or
- cough with inspiratory “whoop”.

### 2) Probable Case (outbreaks only)

Cough lasting two weeks or longer in the absence of appropriate laboratory tests, and not epidemiologically linked to a laboratory-confirmed case, **AND** has one or more of the following, with no other known cause:

- paroxysmal cough of any duration,
- cough with inspiratory “whoop”, and/or
- cough ending in vomiting or gagging, or associated with apnea.

Reference: Alberta Health Disease Management Guidelines: Pertussis (Sept. 2021)

## Appendix 2: Recommended Antibiotics for Treatment and PEP of Pertussis

Antibiotic	Dosage	Comments
<b>Azithromycin</b>	<p><b>Infants &lt; 6 months:</b> 10 mg/kg/day as a single dose orally daily for 5 days</p> <p><b>Infants ≥ 6 months to Children &lt; 12 years:</b> Day 1: 10 mg/kg/day as a single dose orally (maximum 500 mg/day) Day 2–5: 5 mg/kg/day as a single dose orally (maximum 250 mg/day)</p> <p><b>Children ≥ 12 years and adults:</b> Day 1: 500 mg/day as a single dose orally Day 2-5: 250 mg/day as a single dose orally</p>	<b>First Line</b>
<b>Clarithromycin</b>	<p><b>Infant ≥ 1 month to Children &lt; 12 years:</b> 15 mg/kg/day in 2 divided doses orally for 7 days (maximum 1g/day)</p> <p><b>Children ≥ 12 years and adults:</b> 500 mg BID orally/day for 7 days</p>	<b>Second Line</b> Not recommended for infants aged <1 month and in pregnancy
<b>Erythromycin</b>	<p><b>Adults:</b> 2000 mg/day divided into 4 doses orally for 7 days</p>	<b>Third Line</b> For adult use ONLY. <i>* Erythromycin estolate (liquid/oral suspension) for pediatric population is not available in Canada as of spring 2017</i>
<b>Trimethoprim-Sulfamethoxazole (TMP-SMX)</b>	<p><b>Infants ≥ 2 months to Children &lt;12 years:</b> 8 mg/kg/day (TMP) and 40 mg/kg/day (SMX) divided into 2 doses orally for 14 days</p> <p><b>Children ≥ 12 years and adults:</b> 320 mg/day (TMP) and 1600 mg/day (SMX) divided into 2 doses orally for 14 days</p>	<b>Alternate</b> – used only if above drugs are contraindicated. Cannot be used for children under the age of 2 months, in pregnancy or during lactation

Reference: Alberta Health Disease Management Guidelines: Pertussis (Sept. 2021)