Pertussis Update
Central Zone

Date: February 12, 2025

To: Central Zone Physicians and Emergency Department Staff

Copy: Communicable Disease Control (Notifiable Diseases), U of A Rural Program Coordinator, Medical Officers of Health, Office of the Chief Medical Officer of Health, Health Link Emerging Events

Central Zone: Lab Director, Public Health Directors and Area Managers, Workplace Health and Safety, Infection Prevention Control, Medical Affairs, Chief Zone Officer and Medical Director, Emergency Medical Services, Communications, Nurse Practitioners, Midwives, Environmental Public Health, Emergency/Disaster Management Director

From: Dr. Jaco Hoffman, Zone Medical Director
Dr. Ifeoma Achebe, Zone Lead Medical Officer of Health

We continue to see cases of pertussis in different parts of Central Zone. Since January 1, 2024 there have been 101 confirmed cases in the Zone to date, including three infants who required hospitalization.

This is a significant increase compared to the previous year when we had a total of 55 confirmed cases. We are also seeing outbreaks and clusters of cases within different demographics compared to years prior. Notably, among the 101 cases:

- the median age is 8 years
- 77% of cases are less than 19 years of age
- 47% of cases are unimmunized
- 30% of cases are partially immunized (one dose)

The sustained increase in pertussis cases in the Central Zone highlights the need for heightened awareness, including testing, reporting of suspected and confirmed cases, treatment, contact tracing, administration of prophylaxis, implementation of infection control measures, and immunization, as described further below. Physicians across the Zone are advised to maintain a high index of suspicion when patients with the following symptoms present:

For more information, contact
p: 587-797-0783 f: 403-592-4966
moh.central@ahs.ca ahs.ca/czmoh

Clinical Presentation

Typically, there are three stages to the presentation of pertussis symptoms:

1. Catarrhal
    - insidious onset of coryza, sneezing, low-grade fever, and mild cough
2. Paroxysmal
    - cough becomes more severe over one to two weeks with repetitive spells, followed by an inspiratory whoop or post tussive vomiting, or both
3. Convalescent
    - symptoms gradually wane over weeks to months

Older children and adults can have atypical manifestations with prolonged cough, with or without paroxysms and no whoop. Babies may not cough at all or may have apnea.

Transmission

Pertussis is a highly contagious bacterial infection that is spread through respiratory droplets, or direct contact with respiratory secretions.

Contacts are defined as persons:

- living in the same household
- sharing a confined space with a case for one hour
- in direct contact with nasal/respiratory secretions

Vulnerable contacts are defined as:

- pregnant women in the third trimester
- infants

Incubation Period

7-10 days with range of 5-21 days.

Period of Communicability

- from onset of catarrhal symptoms until two weeks after cough onset (approximately day 21 of illness) in untreated patients
- five days following antibiotic treatment

Diagnosis

Collect a nasopharyngeal swab (nylon flocked with plastic shaft) for PCR (polymerase chain reaction) testing. Place in Regan-Lowe Transport Medium (RLTM), or universal transport medium if RLTM is not available. RLTM is black and stored refrigerated; check the expiry date.

Management of Cases

Antibiotic treatment eradicates B. pertussis from the nasopharynx and reduces infectivity but has minimal effect on clinical symptoms or course of illness unless given in early stages (incubation period, catarrhal, or early paroxysmal); however, there is no time limit for treatment of symptomatic cases.

Cases should remain home for five days after start of antibiotic therapy (see enclosed *Appendix 1: Recommended Antibiotics for Treatment and PEP*).

Management of Contacts

The Communicable Disease Control Notifiable Disease Team will follow-up with all contacts of a confirmed pertussis case.

- Household and vulnerable contacts will be advised to contact their physician for antibiotic prophylaxis or treatment (see enclosure). Prophylaxis later than three weeks from the last exposure is not warranted.
- Contacts who reside/attend/work at a setting where infants or pregnant women in the third trimester are present on a regular basis may be advised to receive prophylaxis to avoid secondary transmission.
- Potential contacts at schools, churches, social events, and sports teams will be alerted to monitor for signs and symptoms and contact 811 if they are vulnerable contacts (as defined) or may expose vulnerable contacts.
- Asymptomatic contacts **do not** require testing.

Reporting

Suspected cases of pertussis should be reported to Communicable Disease Control (Notifiable Diseases) to allow timely contact follow-up:

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

Infection Control

Health care workers should use a surgical mask and eye protection (droplet precautions), with consideration of gloves and gown if the patient is coughing (routine practices). Coughing patients should be provided a mask and a separate/isolation room is ideal. If isolation/separation is not possible, coughing patients should be spaced 2m apart from others.

Immunization

Children, pregnant women in the 27th week or later during each pregnancy, health care workers (eligible at 18 yrs.), and general population adults (co-administered as part of Tdap (Tetanus/diphtheria/acellular pertussis) vaccine given as booster doses for diphtheria and tetanus every 10 years) are recommended to be immunized. Public can be directed to visit immunizealberta.ca to learn more about routine immunizations or call 811 to book an appointment at an AHS immunization clinic.

Thank you for your attention and assistance.

Enclosure

Appendix 1: Recommended Antibiotics for Treatment and PEP

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

https://open.alberta.ca/publications/pertussis [September 2021]