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IS1500 Pertussis	**EFFECTIVE DATE:** June 13, 2016 **REVISED DATE:** **REVIEWED DATE:** October 8, 2019

1.0 PURPOSE

To prevent transmission of pertussis to patients and staff.
To provide guidance to healthcare workers on how to report a case of pertussis.

2.0 DEFINITIONS

Pertussis is an acute and prolonged infectious cough illness caused by *Bordetella pertussis,* a gram-negative bacterium. The duration of pertussis illness is usually 6 to 10 weeks in children.

The clinical course of pertussis is divided into 3 stages:

- **Catarrhal stage** (lasts 1 – 2 weeks); symptoms indistinguishable from a respiratory tract infection; intermittent cough becomes paroxysmal
- **Paroxysmal stage** (usually lasts 1 – 6 weeks but may persist for up to 10 weeks); individual has repeated bursts or paroxysms of numerous, rapid coughs that follow each other without inspiration and may end with an inspiratory "whoop" and may be followed with mucous production and vomiting
- **Convalescent stage** (lasts 2 – 6 weeks or longer); recovery is gradual with a paroxysmal cough subsiding and decreasing frequency of coughing bouts

The most common complication of pertussis is secondary bacterial pneumonia.
Pertussis is highly infectious – the secondary attack rate exceeds 80% among susceptible persons.
Neither vaccination nor natural disease confers complete or lifelong protective immunity against pertussis or re-infection.

The highest incidence of pertussis generally occurs in infants < one year of age.
Pertussis demonstrates cyclical peaks every three to five years.

Chemoprophylaxis – Purpose is to prevent disease in susceptible high-risk individuals exposed to a case of pertussis and to decrease transmission to high-risk individuals. Chemoprophylaxis with appropriate antibiotics eliminates *B. pertussis* from the nasopharynx of infected individuals. Chemoprophylactic treatment of all high-risk contacts (regardless of immunization status and whether they have symptoms) is recommended because immunization provides only partial protection and immunized people can still harbour and transmit *B. pertussis*.

Contact Identification – Identify contacts that had the following types of contact with the case during the period of communicability:

- **High risk contacts** – that had the following types of contact with the case during the period of communicability: face-to-face contact > 5 minutes; shared the same confined air space for > 1 hour; or direct contact with respiratory secretions of the infected person:
  - Infants < 1 year of age
  - Pregnant women in the 3rd trimester
  - All household or family daycare contacts IF there is an infant < 1 year of age or pregnant woman in 3rd trimester in household or daycare

2.1 Mode of transmission

- Transmitted from an infected person to susceptible persons, primarily through aerosolized droplets of respiratory secretions or by direct contact with respiratory secretions from the infected person

2.2 Incubation period

- Averages 7 – 10 days (range: 5 – 21 days)
- The infectious period is reduced to 5 days after the start of antibiotics

2.3 Period of communicability

- Extends from the beginning of the catarrhal stage (one to two weeks before the onset of paroxysmal coughing) to three weeks after the onset of the paroxysmal cough

2.4 Diagnostic testing

- Bacterial detection in nasopharyngeal swab

3.0 GUIDING PRINCIPLES

3.1 Follow BCCDC guidelines regarding chemoprophylaxis for contacts.

3.2 Chemoprophylaxis should be started as soon as possible - it may prevent contacts from developing disease when it is given to contacts no later than 21 days after the contact's first exposure to the case during the time the case was infectious.

3.3 Immunization following recent exposure is not effective against infection but will provide protection if subsequent exposure occurs.

3.4 Exclusion of contacts from any setting is not indicated.

3.5 During community outbreaks, notification will be sent out to Infection Control Practitioners (ICPs) by the CD Unit/MHO; ICPs will then notify hospital emergency rooms to heighten awareness of potential pertussis cases.

4.0 PROCEDURE

4.1 Additional Precautions

- Confirmed or suspect cases must be placed on **Droplet Precautions** – do not await laboratory confirmation of the case

4.2 Discontinuing Precautions

- Until 5 days of appropriate antimicrobial therapy received
- 3 weeks after onset of paroxysms if not treated

4.3 Reporting requirements for patients seen in hospital including Emergency

- Report high risk contacts, including infants < 1 year old and pregnant women in their 3rd trimester, of all lab-confirmed or probable pertussis cases to the CD Unit (1-866-778-7736) Monday to Friday 0830-1630 or the Medical Health Office On-Call (1-866-457-5648) after hours
- Notify ICP and Infection Prevention & Control (IPAC) Medical Director or designate; ICP will complete Communicable Disease Notification Tool

4.4 Management of Pertussis Case and Contacts

- **CD Unit** will notify ICP if they are aware of any high risk contacts (including infants < 1 year of age or pregnant women in the 3rd trimester) and/or if the pertussis case is admitted to hospital
- **Patient admitted to hospital including Emergency Department:**
  - Contact tracing for admitted patient contacts done by ICP using Insight Contact Tracing Report and reviewed with the IPAC Medical Director or designate - MHO consulted at the discretion of IPAC Medical Director or designate
  - **If necessary,** ICP will utilize a multidisciplinary team to determine management of patient case and contacts; team consists of Medical Health Officer (MHO), IPAC Medical Director or designate, ICP, nursing unit manager and others as required
  - **Follow up of community contacts** provided by MHO/CD Unit
  - **Follow up of staff contacts** provided by Workplace Health and Safety (WH&S)
  - **Follow up of the index patient** (if still admitted) and **patient contacts** who remain hospitalized will be done by the Most Responsible Physician under the direction of the IPAC Medical Director and CD Unit as required
- **Patient Discharged from Emergency Department when Pertussis result becomes available:**
  - ICP will complete **the Communicable Disease Notification Tool**
  - **Follow up of index patient and community contacts** provided by MHO/CD Unit
  - **Follow up of staff contacts** provided by WH&S
  - Contact tracing for admitted patient contacts done by ICP using Insight Contact Tracing Report and reviewed with the IPAC Medical Director or designate - MHO consulted at the discretion of IPAC Medical Director or designate
  - **Follow up of patient contacts who remain hospitalized** will be done by the Most Responsible Physician under the direction of the IPAC Medical Director

5.0 REFERENCES

1) **BC Centre for Disease Control Communicable Disease Control Manual – Pertussis; June 2010.** http://www.bccdc.ca/NR/rdonlyres/FEC42ABA-A725-4AD4-AE08-893234733BEA/0/EPI_Guideline_CDChapt1Pertussis_20100625.pdf, accessed Oct 2019