Prince Edward Island
CANADA

Health and Wellness

Prince Edward Island Guidelines for the Management and Control of Chlamydia trachomatis

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Department of Health and Wellness
Chief Public Health Office

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Case Definition (1)

Confirmed Case

Genital Infections

Laboratory evidence of infection in genitourinary specimens (e.g., endocervical or vaginal swab; urine) [1]:

- Isolation of *Chlamydia trachomatis* by culture

OR

- Detection of *C. trachomatis* nucleic acid (e.g., PCR)

Extra-genital Infections

Laboratory evidence of infection in rectum, conjunctiva, pharynx or other extra-genital sites from appropriate specimen (e.g., rectal, conjunctiva, throat) :

- Isolation of *C. trachomatis* by culture

OR

- Detection of *C. trachomatis* nucleic acid (e.g., PCR)

Perinatally Acquired Infections

Laboratory evidence of *C. trachomatis* infection in **nasopharyngeal** or other **respiratory tract** specimens from an infant who developed pneumonia in the first six months of life:

- Isolation of *C. trachomatis* by culture

OR

- Detection of *C. trachomatis* nucleic acid (e.g., PCR)

Laboratory evidence of *C. trachomatis* in **conjunctival** specimens [1] from an infant who developed conjunctivitis in the first month of life:

- Isolation of *C. trachomatis* by culture

OR

- Detection of *C. trachomatis* nucleic acid (e.g., PCR)

Note: Each case classification is mutually exclusive. Individuals with more than one site of infection concurrently may fall under more than one case classification but will be counted as one case with multiple sites of infection identified to avoid duplicate counting of cases.

Reporting Requirements

Physicians, Health Practitioners and others

Physicians, health practitioners and others as listed in the *Public Health Act*, shall notify the Chief Public Health Officer (CPHO) (or designate) of all lab confirmed cases by phone within 5 business days of diagnosis. The information required will include:

- case name and MRN
- laboratory/clinical findings
- treatment details
- phone number for case

Laboratories

The Provincial Laboratory shall in accordance with the Prince Edward Island *Public Health Act (2)*, report all positive laboratory results by phone and mail, fax or electronic transfer as soon as the result is known to the Chief Public Health Officer (CPHO) (or designate).

Etiology

Chlamydia trachomatis is a bacterial agent (obligate intracellular organism).

Clinical Presentation (3)(4)

Genital Infections

Symptomatic and asymptomatic genital chlamydial infections occur, but as many as 85–90% of infections in men and women are asymptomatic. Infections can persist for months.

Symptomatic infection in males is generally characterized by urethritis including urethral discharge, dysuria and frequency, and non-specific symptoms such as redness, itch and swelling of the urethra. These symptoms, if untreated, can lead to complications including epididymitis, Reiter's Syndrome (oligoarthritis) and occasionally infertility.

Symptomatic females will most often experience cervical or vaginal discharge, dysuria and frequency, painful intercourse, lower abdominal pain, abnormal bleeding between periods, and vaginal symptoms including redness, itch and swelling. If untreated, complications such as ectopic pregnancy, infertility, Pelvic Inflammatory disease (PID); oophoritis, endometritis, salpingitis), and rarely sexually associated reactive arthritis (SARA) may occur.

Extra-Genital Infections

Pharyngeal and rectal infections are often asymptomatic. Rectal symptoms when present include rectal pain (proctitis or proctocolitis), mucoid discharge, blood in the stool, and tenesmus.

Conjunctivitis in adults manifests with preauricular lymphadenopathy, hyperemia, infiltration, and mucopurulent discharge. There may also be a chronic phase with discharge and symptoms which may last for a year or longer if untreated.

Perinatally Acquired Infections

Most infants remain asymptomatic after exposure in the birth canal but conjunctivitis and pneumonia occur in about 15% and 7% of exposed infants respectively. Conjunctivitis symptoms usually appear between 7 and 21 days postnatally, often starting as a mucoid discharge and progressing to a more purulent discharge. The eyelids become edematous and the conjunctiva becomes erythematous and thick. Symptoms of infant pneumonia include staccato cough, dyspnea, and a low-grade fever. Infants can become symptomatic between 10 days and 5 months of age.

Diagnosis

Diagnosis is made based on history, physical examination, and laboratory investigation. The diagnosis is confirmed by examination of genitourinary, rectal or conjunctival samples by culture or molecular diagnostic tests.

Specimens

Acceptable specimens for genitourinary infections include:

- For male genitalia – first stream urine. Urethral swab testing is not available in PEI.
- For female genitalia–clinician collected endocervial or vaginal swab, or self-collected vaginal swab (BDMAX UVE). Urine can be used if absolutely necessary but the testing on female urine will miss 1 in 10 cases compared to vaginal testing.

Health PEI laboratory detailed instruction for testing can be found in the appendix.

Testing of the oral pharynx or rectum is done through same type of BDMAX UVE swab used for vaginal samples. Second molecular target confirmation is required and results are not fully standardized. Culture is also possible but requires coordination in advance with the lab. Contact the provincial lab in advance of collecting the sample to arrange for culture.

For any specimen potentially associated with sexual assault, there is a chain of custody process that must be maintained in consultation with the microbiology lab.

The specimen for infants under six months of age is generally taken from the conjunctiva or nasopharynx for both culture and molecular testing with second molecular target confirmation.

Epidemiology(3)(4)

Reservoir

Humans are the only known reservoir.

Transmission

Transmission of *Chlamydia trachomatis* is person to person via sexual contact (oral, vaginal, cervical, urethral or rectal routes), or through the birth process (vertical transmission). The transmission is more efficient from male to female than female to male. The bacteria may also spread from the primary site of the case to other sites causing infection of the uterus, fallopian tubes, ovaries, abdominal cavity, glands of the vulva area in females and testes in males. The eyes of adults may become infected through the transmission of the infected genital secretions to the eye, typically by the fingers. Newborns become infected by direct contact with an infected birth canal.

Incubation Period

The incubation period is variable depending upon the type/site of infection. It is commonly 7 – 14 days, but can be much longer.

Period of Communicability

Chlamydia trachomatis is communicable for as long as the person harbours the organism. This may be for many months in untreated individuals. Abstinence from sexual activity should be practiced for 7 days after single dose antibiotics or until completion of a 7-day course of antibiotics, to prevent spreading the infection to partners.

Host susceptibility

All persons are susceptible to this disease if exposed. No acquired immunity has been demonstrated; the recurrent infection rate among young sexually active individuals is quite high.

Occurrence

General

This sexually transmitted infection is one of the most frequently reported worldwide. The World Health Organization estimates globally there are approximately 131 million persons infected each year (4). This infection is the most common cause of urethritis and cervicitis in North America.

Chlamydia infections have been found in all population groups but they are predominantly characterized by young age and high-risk behaviours. It affects both males and females in all age groups; however, females are

affected more often than males. Sporadic cases of chlamydial conjunctivitis are reported throughout the world in sexually active adults.

Canada

The number and rate of reported chlamydia cases are increasing in Canada. In 2017, 126,322 cases of chlamydia were reported nationally, corresponding to a national rate of 345.7 cases per 100,000 population. This is the highest number of chlamydia cases ever reported in Canada since the disease was declared notifiable in 1991. Since 2008, the number of chlamydia cases increased by more than 43,000 cases and the rate increased by 39% (248.8 to 345.7 cases per 100,000 population)(5).

Prince Edward Island

Chlamydia is the most frequently reported STI on Prince Edward Island. The rate of infection remains below the Canadian average but has been steadily increasing over the past decade.

Control

The effort to control chlamydia involves follow up of cases and their partners as well as education of those at risk and the general public. **It is mandated under the *Public Health Act* that every attempt is made to identify, locate, examine and treat sexual partners of all cases**. It is hoped that along with contacting the case, partner notification will identify those at risk, reduce disease transmission/re-infection and ultimately prevent disease sequelae.

Management of a case

Ordering Health Care Provider should:

- Notification of the diagnosis to the infected client should be carried out by the ordering health care provider as soon as possible to prevent further transmission and to arrange treatment. For treatment direction please see **Treatment** section.
- If cost is a barrier for treatment the ordering provider can write “STI program” on the prescription and the client will be enrolled in the program at the pharmacy. The medication will be provided at no cost to the client.
- All clients should be instructed about infection transmission. Clients should be counselled about the importance of abstaining from unprotected intercourse until 7 days after completion of treatment of both the case and partner(s).
- Test for cure is not routinely required; however, for pregnant women, alternative treatment regimen (erythromycin) is used, or any situation where treatment adherence is in doubt a test for cure should be done in 4 weeks (see Treatment section for more information).
- Clients should be notified by their ordering Health Care Provider that public health nursing (PHN) will be calling to provide further education, immunizations and to collect information for confidential partner follow up.

- Once the client is notified and treatment has been arranged, the ordering health care provider should contact the Chief Public Health Office using the CD confidential voice mail at 902 620 3886 or physician on call number 902 629 9624 to notify the CPHO of the *medication prescribed* and the *phone number of the client*.

Chief Public Health Office will:

- Send the client information to the appropriate PHN clinic lead or designate for follow up once the ordering physician has notified the CD coordinator of the treatment provided and a working phone number for the client.
- Refer the client to PHN if the ordering health care provider has not notified the CPHO within 5 working days of the lab result.

Public Health Nursing will:

- Provide clients/partners with individualized STI prevention education, targeted at developing knowledge, skills, attitudes and behaviors to reduce the risk and prevent recurrences of STI.
- Assess the immunization status and requirements for clients as per the *PEI Adult Immunization Guide* (6).
- Ask clients to provide contact information for sexual partners (all forms of sexual contacts, e.g. oral, anal or vaginal, sex toys etc.) in the past 60 days.
- Complete case/partner report forms for cases and partners.
- Provide information/linkages to other services as necessary e.g. sexual health clinic, mental health service, addictions services.
- Make every effort to contact clients and their partners. A minimum of 3 contact attempts on different days at different times should be made. These can be made by phone, text, email or letter.
- In cases where contact follow up is unsuccessful, consult with the CD coordinator at the CPHO for further options e.g. notification through school.
- Send the case/contact form back to CPHO if contact has not been made within 1 month.

The CPHO initiates follow-up on all out of province/country referrals of cases and contact(s).

Treatment (7)

- Comprehensive treatment guidelines are available here: *Canadian Guidelines on Sexually Transmitted Infections* As of late 2019, adult treatment for non-pregnant and non-lactating adults with urethral, endocervical, rectal, or conjunctival infection includes:
  - Doxycycline 100 mg po bid for 7 days is preferred and especially so for rectal cases.
  - Azithromycin 1g PO in a single dose preferred and especially so if poor compliance is expected.

Note: If the single dose of azithromycin is vomited after 1 hour post-administration, repeat treatment is ***not*** required.

- Pelvic inflammatory disease or epididymitis (complicated infections) require alternative courses of therapy.

- Test of cure for *C. trachomatis* is ***not routinely*** recommended when appropriate treatment is taken, signs and symptoms disappear and there is no re-exposure to an untreated partner.
- Test of cure ***is*** recommended when:
  - compliance is sub-optimal,
  - an alternative treatment regimen has been used,
  - the patient is a child (<14 years of age),
  - the patient is a pregnant woman,
  - non-genital site involved (e.g., eye, rectum, pharynx) or in cases of complicated infection (PID or epididymitis).
- If a test for cure is required:
  - A nucleic acid amplification test (NAAT) is performed 4 weeks after completion of treatment.

Preventative measures

- Include sexual health assessments in routine health visits to Heath Care Providers and test accordingly.
- Include information about risk for STI during pre-travel health counseling.
- Ensure STI services are culturally appropriate, and readily accessible and acceptable.
- Provide the general public information about methods of risk factors or chlamydia personal protective measures to prevent all STBBIs, and options for testing.

Testing

Should be offered to anyone who feels they are at risk for contracting an STBBI.
Particularly clients who:

- Have had sexual contact with a partner who was diagnosed with a chlamydia infection.
- Have a new sexual partner.
- Have more than 2 sexual partners in the preceding year.
- Have had a history of STBBI.
- Are members of a vulnerable population (e.g., a person who uses illicit drugs, is incarcerated, a sex worker, a street involved youth, etc.).
- Are sexually active persons under 25 years of age (test at least annually).
- Are pregnant women (at first prenatal visit; re-screen all who are positive at first screen and those at high risk in third trimester).
- Are having insertions of an IUD, a therapeutic abortion, or a D & C.
- Are victims of sexual assault.

Testing for other STBBIs such as HIV, HBV, HCV, gonorrhea and syphilis should also take place when testing for chlamydia.

Re-testing

- Repeat testing for individuals with chlamydia infection is recommended 6 months post- treatment or earlier depending on risk as noted above.

Sexual assault in adults should be managed in conjunction with local police services and other appropriate community support services.

Cases younger than 14 years should be discussed with the CPHO and may require involvement of Child Protective Services.

References

1. **Public Health Agency of Canada.** Case Definitions for Communicable Diseases. *Public Health Agency of Canada.* [Online] November 2009.
2. **Province of PEI**. Public Health Act R.S.P.E.I [Online]. 2013.
3. **Government of Alberta**. *Chlamydia Infections Guideline 2012.* [Online]
4. **Heymann, David L.** 2015. *Control of Comminicable Diseases Manual 20th Edition.* Washington : American Public Health Association.
5. **Public Health Agency of Canada**. *Report on Sexually Transmitted Infection in Canada, 2017*. [Online], 2019.
6. **Chief Public Health Office**. *Prince Edward Island Adult Immunization Detailed Schedule*. [Online], 2018.
7. **Public Health Agency of Canada**. Canadian Guidelines on Sexually Transmitted Infections [Online], Jan 2008.

Appendix

Chlamydia & Gonorrhea Testing Collection Appendix

To Transfer <u>URINE</u> Samples to the BD MAX Sample Buffer Tube:

1. Gently swirl the urine in the urine culture container to ensure the sample is evenly mixed. **NOTE: Avoid forming bubbles**
2. Uncap the BD MAX UVE Sample Buffer Tube. Use the graduated transfer pipette to transfer approximately 1mL of urine sample into the BD MAX UVE Sample Buffer Tube.

NOTE: The transfer pipette has graduations marked on it, use them as a guide. Do not overfill or underfill the tube.

3. Discard the transfer pipette in a biohazard waste container. **NOTE: The transfer pipette is intended for use with a single sample.**
4. Tighten the cap securely on the BD MAX UVE Sample Buffer Tube.
5. Invert the BD MAX UVE Sample Buffer Tube 3–4 times to ensure that the specimen and reagent are well mixed.
6. Label the BD MAX UVE Sample Buffer Tube with the patient's name and MRN.

NOTE: Be careful not to obscure the black barcodes on the bottom of the tube.
See Below:

7. BD MAX UVE Sample Buffer Tube should be kept refrigerated at 2-8°C until shipped to QEH Microbiology Laboratory

Clinician-collected vaginal swabs:

- Collect swab prior to pelvic, speculum or bimanual exam.
- No lubricant is used for collecting the vaginal swab sample.
- After parting the labia, gently slide the dry swab no more than 2 inches into the vagina, with gentle rotation, making sure the swab touches the walls of the vagina so that moisture is absorbed by the swab.
- Rotate the swab gently for 10-15 seconds. Withdraw the swab without touching the skin.
- Do not collect specimen at the posterior fornix.

Clinician-collected endocervical swabs:

- When using a speculum: Lukewarm water may be used to warm and lubricate the speculum. If lubricant must be used, lubricant should be used sparingly and applied only to the exterior sides of the speculum, avoiding contact with the tip of the speculum.
- Avoid contact between the swab and speculum or lubricant.
- Insert the collection swab into the endocervical canal and rotate gently for 10-15 seconds. Withdraw the swab without touching the speculum.
- Do not collect specimen at the posterior fornix.

Transfer of Endocervical or Vaginal Swab Samples to the BD MAX UVE Sample Buffer Tube:

NOTE: Swabs should be transferred from the swab sheath to the BD MAX UVE Sample Buffer Tube immediately (preferred) but no longer than 2 hours from collection when kept at 2–30 °C.

1. Uncap the BD MAX UVE Sample Buffer Tube and fully insert the swab into the tube so that the swab tip is at the bottom.
2. Grasping the swab by the cap, carefully break the swab shaft at the score mark. Use caution to avoid splashing or contamination of the tube contents.
3. Tighten the cap securely on the BD MAX UVE Sample Buffer Tube.
4. Label the BD MAX UVE Sample Buffer Tube with patient's name and MRN **NOTE: Be careful not to obscure the black barcodes on the bottom of the tube.**
5. BD MAX UVE Sample Buffer Tube should be kept refrigerated at 2-8°C until shipped to QEH Microbiology Laboratory

Patient instructions for self-collected vaginal swabs

1. Wash hands with soap and water. Rinse and dry.
2. It is important to maintain a comfortable balance during the collection procedure.
3. Remove the sterile swab from its sheath, taking care not to contaminate the tip or shaft. Do not lay the swab down on any surface. If you touch the swab tip or the swab is laid down, discard it and request a new

BD MAX UVE Specimen Collection Swab. Check for presence of the swab tip. If the swab has no tip, discard it and request a new BD MAX UVE Specimen Collection Swab.

4. Hold the swab by the cap in one hand so the swab tip is pointing toward you.
5. With your other hand, gently spread the skin outside the vagina. Insert the tip of the swab into the vaginal opening. Point the tip toward your lower back and relax your muscles.
6. Gently slide the swab no more than 2 inches into the vagina. If the swab does not slide easily, gently rotate the swab as you push. If it is still too difficult, do not attempt to continue. Make sure the swab touches the walls of the vagina so that moisture is absorbed by the swab.
7. Rotate the swab for 10-15 seconds.
8. Withdraw the swab without touching the skin.
9. Replace the swab in its sheath and cap securely.
10. After collection, wash hands with soap and water, rinse and dry.
11. Return the swab in its sheath to the nurse or clinician as instructed.

Patient education:

If possible, patients should be counseled ahead of time to refrain from using intravaginal medication, vaginal lubricants, douching, using tampons, or having sexual intercourse for at least 48 hours before the collection of the swab specimens. They should avoid scheduling their appointment during heavy menstrual bleeding.