

# Chlamydia

## Investigative Guidelines

### November 2019

#### 1. DISEASE REPORTING

##### 1.1 Purpose of Reporting and Surveillance

1. To assess trends in disease patterns, understand the impact of chlamydia and better target population-level disease prevention efforts.
2. To assure adequate treatment for infected individuals, curtail infectiousness, and prevent complications (e.g., infertility).
3. To prevent transmission by identifying, informing, and referring to treatment recent sexual contacts of reported cases, and screening others at risk.

##### 1.2 Legal Reporting Requirements

1. Health care providers must report a case or suspected case of chlamydia within one working day to the Local Public Health Authority (LPHA) (OAR 333-018-0015).
2. Laboratories must report all positive test results indicative of chlamydia infection to the LPHA of the county where the patient resides within one working day from the time of positive result.

##### 1.3 Local Health Jurisdiction Investigation Responsibilities

1. Report all confirmed cases to the Public Health Division HIV/STD/TB (HST) Program through the Oregon Public Health Epidemiology User System (Orpheus) by the end of the calendar week of initial provider or laboratory report.
2. The LPHA is not required to investigate chlamydia cases. Health care providers should counsel patients to notify their partner(s) and provide patients with information about testing and treatment for partners.

#### 2. DISEASE AND EPIDEMIOLOGY

##### 2.1 Etiologic Agent

*Chlamydia trachomatis* bacterium

##### 2.2 Description of Illness

Chlamydia and gonorrhea share similar symptomatology and co-infection is common.

1. Sites of infection include the urogenital tract, rectum, and conjunctiva of the eye.
  - A. The urethra is the most common site of infection in heterosexual men. Most men with urethral chlamydia are asymptomatic. Symptomatic men may develop a clear, mucoid, or mucopurulent urethral discharge (distinct from the purulent discharge associated with gonococcal urethritis) often accompanied by painful urination. Among women, urethral infection is usually asymptomatic. Symptomatic women may have dysuria and increased urinary frequency.

- B. The cervix is the most common site of infection in women. Most women with cervicitis caused by *C. trachomatis* are asymptomatic. Symptomatic women may have mucopurulent endocervical discharge and easily induced endocervical bleeding on pelvic examination.
- 2. Extragenital chlamydia infections of the rectum are typically asymptomatic. Persons with symptomatic infections may have proctitis symptoms including rectal pain, discharge, or fever.
- 3. Lymphogranuloma venereum (LGV), a syndrome caused by three serovars of chlamydia, may present as an ulcerative lymphadenitis and/or a hemorrhagic proctitis. See the [CDC STD Treatment Guidelines](#) for additional information on LGV diagnosis.
- 4. Untreated chlamydia may cause the following complications:
  - A. Women: pelvic inflammatory disease (PID), ectopic pregnancy, premature delivery, and infertility
  - B. Men: epididymitis and urethral strictures
  - C. Newborns: ophthalmia neonatorum (conjunctivitis) and chlamydial pneumonia may occur in newborns of untreated mothers

### 2.3 Reservoirs

Humans

### 2.4 Sources and Modes of Transmission

Sexual – Contact with secretions from mucous membranes of infected people during vaginal, anal, and oral sex.

Perinatal - Neonatal infection occurs during vaginal delivery if an infected mother has not received treatment.

### 2.5 Incubation Period

Incubation period is poorly defined, as most chlamydial infections are asymptomatic. Among symptomatic patients, the incubation period is estimated to be between one to three weeks.

### 2.6 Period of Communicability

Chlamydia is communicable from the time the infection is acquired until adequate treatment is received and symptoms resolve.

### 2.7 Treatment

#### Uncomplicated Infections of the Cervix and Urethra

Recommended Regimen
Azithromycin 1 g orally in a single dose

Alternative Regimen—If Azithromycin Allergy
Doxycycline 100 mg orally twice daily for 7 days <b>Note: Doxycycline is contraindicated for use in pregnancy (§6.1)</b>

#### Uncomplicated Infections of the Rectum

While the 2015 CDC STD Treatment Guidelines recommend either azithromycin or doxycycline for rectal chlamydia, recent research suggests that doxycycline may be more

effective than azithromycin for rectal chlamydia and can be considered first-line therapy for this infection.

<b>Recommended Regimen</b>
Doxycycline 100 mg orally twice daily for 7 days <b>Note: Doxycycline is contraindicated for use in pregnancy (§6.1)</b>

### **Lymphogranuloma Venereum**

<b>Recommended Regimen</b>
Doxycycline 100 mg orally twice daily for 21 days <b>Note: Doxycycline is contraindicated for use in pregnancy (§6.1)</b>

<b>Alternative Regimen</b>
Erythromycin base 500 mg orally four times daily for 21 days

## **2.8 Expedited Partner Therapy**

### 1. Description

Expedited partner therapy (EPT) is the practice of providing patients diagnosed with chlamydia (CT) and/or gonorrhea (GC) with a prescription or medication to be given to partners who are unable or unlikely to seek prompt medical care. All partners in the 60 days prior to diagnosis should be considered at risk for infection and treated. If the patient reports no partners in previous 60 days, the most recent partner(s) should be treated.

EPT should only be used for direct sexual contacts with the case. EPT is not appropriate in cases of sexual assault/rape, intimate partner violence, suspected child abuse, or in any situation where patient-partner communication or safety is in doubt.

Visit the OHA STD Prevention website ([www.healthoregon.org/std](http://www.healthoregon.org/std)) for the most current EPT guidelines and LPHA standard operating procedure for dispensing EPT. Refer pharmacists unfamiliar with the practice to the EPT materials on the Board of Pharmacy website ([www.pharmacy.state.or.us/](http://www.pharmacy.state.or.us/)).

### 2. Treatment

The EPT regimen is the same as the recommended regimen for uncomplicated urogenital infections.

<b>EPT for Chlamydia</b>
Azithromycin 1 g orally in a single dose

**Note:** If the patient is co-infected with gonorrhea, follow the expedited partner therapy recommendations included in the Disease Investigative Guidelines for gonorrhea.

## **2.9 Pre-Exposure Prophylaxis (PrEP)**

All men who have sex with men (MSM) with rectal CT should be offered pre-exposure prophylaxis (PrEP) for the prevention of HIV infection.

### 3. CASE DEFINITIONS, DIAGNOSIS, AND LABORATORY SERVICES

#### 3.1 Chlamydia Case Definition and Diagnosis

1. Clinical Description

A sexually transmitted infection commonly manifested by urethritis, cervicitis, proctitis, salpingitis, or pharyngitis. Infection may be asymptomatic. Perinatal infection may cause pneumonia and conjunctivitis in newborns.

2. Laboratory Criteria

B1. Isolation of *C. trachomatis* by culture **OR**

B2. Demonstration of *C. trachomatis* in a clinical specimen by detection of antigen or nucleic acid (NAAT)

3. Case Classification

- Confirmed: A case that meets laboratory criteria B1 or B2 above
- Presumptive: *Do not use*. If case does not meet the confirmed case definition, indicate “no case” status in Orpheus to reflect investigation of an unconfirmed case. A presumptively treated partner of a confirmed case should not be considered to have a confirmed case unless a laboratory test confirms chlamydia in the partner.
- Suspect Case: *Do not use*. If case does not meet the confirmed case definition, use “no case” status in Orpheus to reflect investigation of an unconfirmed case or when de-duplicating a laboratory report.
  - Guidance for determining when to report a positive laboratory report as a new case and de-duplication of laboratory reports can be found on the CDC website at <https://www.cdc.gov/std/laboratory/>.

#### 3.2 Extragenital Screening

Extragenital screening should be routinely incorporated into STD prevention services. Men who have sex with men (MSM) are highly vulnerable to extragenital gonorrhea and chlamydia infections. Among MSM, nearly 90% of rectal chlamydia and rectal gonococcal infections are asymptomatic. Screening only urine would miss more than 75% of these infections. Among heterosexual women, screening only urine would miss up to 50% of rectal chlamydia and rectal gonococcal infections.

The following strategies may improve implementation and uptake of extragenital screening:

- Opt-out approach: Implement an opt-out approach to STD screening. Offer patients the array of options (i.e., blood testing for syphilis and HIV, urine testing and swabs of the throat and rectum for gonorrhea and chlamydia) and allow the patient to choose which tests are applicable.
- Nurse-based screening: Nursing staff can offer extragenital screening to patients prior to appointments with their healthcare provider. Nursing staff could perform sample collection or patients may opt to self-collect samples prior to their screening visit.
- Self-collected rectal and pharyngeal swabs: Data show that quality of self-collected extragenital samples is equivalent to that of provider-collected extragenital samples among both men and women. Among HIV-positive patients who were offered and completed self-collection, more than 90% reported that it was easy and comfortable, that they would recommend self-collected screening to a friend, and that they would collect samples at home. Eighty-eight percent reported that they would prefer to collect their own samples and 77% reported that they would test more often if self-collection were an option. Self-collection visual aids can be ordered through the University of Washington STD Prevention Training Center (<http://uwptc.org/>).

- *Home-based screening*: Home-based self-collection for STD and HIV screening is used in many clinical studies and may be especially advantageous for individuals unlikely or unable to seek clinic-based screening. FDA-approved mail-in STD tests such as myLAB Box (<https://www.mylabbox.com/>) are often costly but offer convenience and privacy.

### 3.3 Services Available at the Oregon State Public Health Laboratory (OSPHL)

The following specimen sources can be tested for chlamydia at OSPHL:

- Urine
- Urethral (clinician-collected only)
- Endocervical (clinician-collected only)
- Vaginal (clinician-collected or patient-collected)
- Rectal (clinician-collected or patient-collected)

Patient-collected specimens must be collected in a medical facility; they cannot be collected at the patient's home. Gonorrhea testing is performed concurrently with chlamydia testing. Instructions for ordering, collecting, storing, and transporting specimens for gonorrhea and chlamydia testing can be found on the OSPHL website at [www.healthoregon.org/labtests](http://www.healthoregon.org/labtests).

## 4. ROUTINE CASE INVESTIGATION

### 4.1 Patient Interview

Patient interviews are neither required nor expected. The minimum information necessary for recording a new case is first and last name, date of birth, sex, race, ethnicity, specimen source, collection date, county, and zip code. If race and/or ethnicity information is not provided, these fields should be marked "unknown." If additional information is reported by the laboratory or provider, including patient or provider street address or phone number, this data should also be recorded in Orpheus. OHA does not require LPHAs to contact the laboratory, patient, or reporting physician to collect any unreported case information beyond the minimum data listed above.

### 4.2 Provider Interview

Provider interviews are neither required nor expected.

### 4.3 Supplementary Case Investigation and Response

LPHAs that choose to do so may interview case-patients or treating providers or attempt to identify and treat sex partners of reported cases. However, none of these activities are strictly required.

Limited public health benefit accrues from direct case-level public health intervention and many, if not most, cases of chlamydia are asymptomatic and not diagnosed or reported. LPHAs may choose to pursue case investigations for special subsets of chlamydia cases, such as MSM with rectal chlamydia, females under age 18 with two or more cases of chlamydia in one year, or females under age 15 with chlamydia.

### 4.4 Managing Sexual Partners

Contact investigation and partner notification are neither required nor expected. LPHAs may provide these services at their discretion. Where resources allow, LPHAs may elect to test and treat partners (contacts) of confirmed cases. Ideally, all partners in the 60 days prior to the patient's positive laboratory test should be examined, tested, and treated. If a case has not had sex in the 60 days preceding the positive laboratory test,

the most recent partner should be examined, tested, and treated. EPT should be provided for partners who are unable or unwilling to seek medical care (§2.8).

A medical provider may request assistance from the LPHA with partner services for any case. The LPHA may assist as circumstances and resources permit.

#### **4.5 Out-of-Jurisdiction Cases/Contacts**

Jurisdiction for a case belongs to the LPHA for a patient's county of residence. If the LPHA that received the initial report discovers that the case resides in a different county, the LPHA may transfer the case to the LPHA with jurisdiction via Orpheus by updating the home address in the case record and marking it for transfer when prompted by Orpheus.

If the patient identifies a partner who lives outside of the local health jurisdiction, the contact may be transferred to the appropriate jurisdiction via Orpheus by entering the contact's address and marking it for transfer when prompted by Orpheus. For partners residing out of state, LPHA staff should provide the state STD Program (971.673.0153) with the relevant information for necessary follow-up.

### **5. CONTROLLING FURTHER SPREAD**

#### **5.1 Education**

Patients should be advised to take all medications as directed, avoid sex for at least seven days after completion of treatment, avoid sex with partners until at least seven days after they have completed treatment, and use condoms to reduce the risk of acquiring sexually transmitted infections in the future.

#### **5.2 Case Follow-Up**

Repeat testing of the infected site is recommended three months post-treatment for all patients with chlamydia.

Test-of-cure is not recommended for patients with uncomplicated chlamydia treated with azithromycin or doxycycline unless symptoms persist or reinfection is suspected.

All patients with chlamydia should be tested for gonorrhea, syphilis, HIV and other STDs.

### **6. MANAGING SPECIAL SITUATIONS**

#### **6.1 Pregnancy**

Azithromycin, the first-line treatment for chlamydia, is safe for use in pregnancy.

Doxycycline, the alternative treatment, is contraindicated for use in pregnancy. In cases of azithromycin allergy, the optimal alternative treatment is amoxicillin 500 mg orally three times a day for seven days. See the CDC 2015 STD Treatment Guidelines for additional recommendations.

Test-of-cure 3–4 weeks after treatment is recommended because severe sequelae can occur in women and newborns if the infection persists. In addition, all pregnant women diagnosed with chlamydia should be retested 3 months after treatment and/or during the third trimester.

#### **6.2 Co-infection with HIV**

Patients with HIV should receive the same treatment for chlamydia as those who do not have HIV.

## 7. APPLICABLE RULES

### 7.1 Reporting

OAR 333-018-0000 through 333-018-0020

### 7.2 Investigation

OAR 333-019-0000 and 333-019-0002

## 8. REFERENCES

1. Bachmann LH, Johnson RE, Cheng H, et al. Nucleic acid amplification tests for diagnosis of *Neisseria gonorrhoeae* and *Chlamydia trachomatis* rectal infections. *J Clin Microbiol.* 2010;48(5):1827–1832.
2. Centers for Disease Control and Prevention. 2015 STD Treatment Guidelines. Available at: [www.cdc.gov/std/tg2015/default.htm](http://www.cdc.gov/std/tg2015/default.htm)
3. Centers for Disease Control and Prevention. *Chlamydia Trachomatis* Infection 2010 Case Definition. Available at: <https://wwwn.cdc.gov/nndss/conditions/chlamydia-trachomatis-infection/case-definition/2010/>
4. HIV/STD/TB Program, Public Health Division. Extra-genital gonococcal and chlamydial infections in Oregon. *CD Summary.* 2018;67(11):1-3. Available at: <https://www.oregon.gov/oha/ph/diseasesconditions/communicabledisease/cdsummarynewsletter/documents/2018/ohd6711.pdf>
5. Kent CK, Chaw JK, Wong W, et al. Prevalence of rectal, urethral, and pharyngeal chlamydia and gonorrhea detected in 2 clinical settings among men who have sex with men: San Francisco, California, 2003. *Clin Infect Dis.* 2005;41(1):67–74.
6. Marcus JL, Bernstein KT, Kohn RP, Liska S, Philip SS. Infections missed by urethral-only screening for chlamydia or gonorrhea detection among men who have sex with men. *Sex Transm Dis.* 2011;38(10):922–924.
7. Menza T, Holt A, Hankins T, McAngus E, Heine A, Farel C. Improving extra-genital GC/CT screening among HIV-positive patients at the University of North Carolina Infectious Diseases Clinic. *Open Forum Infectious Diseases.* 2017;4(1):S669-S670. <https://doi.org/10.1093/ofid/ofx163.1787>
8. Rodriguez-Hart C, Chitale RA, Rigg R, Goldstein BY, Kerndt PR, Tavrow P. Sexually transmitted infection testing of adult film performers: is disease being missed? *Sex Transm Dis.* 2012;39(12):989–994.
9. Tao G, Hoover KW, Nye MB, Peters PJ, Gift TL, Body BA. Infrequent testing of women for rectal chlamydia and gonorrhea in the United States. *Clin Infect Dis.* 2018;66(4):570–575. <https://doi.org/10.1093/cid/cix857>
10. Trebach JD, Chaulk CP, Page KR, Tuddenham S, Ghanem KG. *Neisseria gonorrhoeae* and *Chlamydia trachomatis* among women reporting extragenital exposures. *Sex Transm Dis.* 2015;42(5):233–239.
11. van der Helm JJ, Hoebe CJ, van Rooijen MS. High performance and acceptability of self-collected rectal swabs for diagnosis of *Chlamydia trachomatis* and *Neisseria gonorrhoeae* in men who have sex with men and women. *Sex Transm Dis.* 2009;36(8):493–497.

## UPDATE LOG

October 2019. Minor revisions before publication of the updated guidelines.  
Added update log. (Garai)

May 2019. Extensive formatting and language revisions Updated in accordance with 2015 CDC Treatment Guidelines, Orpheus changes and recent research findings. (Garai)

August 2014. Revised based on CLHO feedback: revised list of information items that must be reported by laboratories; added information about repeat testing during pregnancy. (Schafer)

June 2014. Revised based on CLHO feedback. (Schafer)

April 2014. Drafted. (Schafer)