Yukon Treatment Guidelines for Sexually Transmitted Infections (STI) in Adolescents and Adults 2020

- Some STI are **REPORTABLE** under the Yukon *Public Health and Safety Act*. To view a list of reportable diseases in Yukon, visit yukon.ca/en/yukon-reportable-diseases.
- Partner Notification (PN) is a critical component of STI control and important in preventing further spread of disease and re-infection. Assistance with PN is available from Yukon Communicable Disease Control (see section on Partner Notification on page 16).

This document has been adapted with permission from the *Canadian Guidelines on Sexually Transmitted Infections* (Public Health Agency of Canada); the *Alberta Treatment Guidelines for Sexually Transmitted Infections 2018* (Alberta Health and Wellness); and the 2014 British Columbia Treatment Guidelines "*Sexually Transmitted Infections in Adolescents and Adults*" (British Columbia Centre for Disease Control). Please refer to these guidelines for further discussion beyond the scope of this document. Variations within this document are based on local STI epidemiology. An online version of this document, as well as any updates to the guidelines are available at yukon.ca/en/health-and-wellness/medical-professionals/sti-guidelines.

Recommendations regarding treatment of pediatric infection are excluded from these guidelines. In general, children diagnosed with a STI should be managed in conjunction with a specialist at a referral centre and be reported to Yukon Family and Children's Services in Whitehorse or Regional Services in Yukon communities for investigation of possible sexual abuse (see page 16, "Considerations in Persons Under 19 Years of Age").

GENERAL CONSIDERATIONS FOR STI

- Due to rates of STI in Yukon, it is appropriate to assess for risk of and screen for STI at routine clinical appointments. This is particularly important for individuals at higher risk of STI* or for individuals where the risk of consequences of STI are high (e.g., adolescents, pregnant patients).
- All insertive sexual practices (oral, vaginal, and anal) put individuals at risk for STI.
- Having one STI puts one at risk for other STI, including HIV. Therefore, all individuals with a STI should be screened for other STI, particularly syphilis, HIV, gonorrhea, and chlamydia.
- Treatment of curable STI are necessary to mitigate sequelae of infection and to prevent further transmission.
- Medications for treatment of **REPORTABLE** STI are provided at no cost to the patient at Yukon Communicable Disease Control (YCDC) and rural Community Health Centres (when the patient presents at these locations).
- Patients and contacts should abstain from unprotected sexual intercourse until treatment in both is completed or 7 days after single dose therapy.
- Hepatitis A & B immunizations may be recommended. See Yukon Immunization Program Manual.
- Counselling about safer sex practices is important and effective in supporting behaviour change in individuals with or at risk for STI. This can in turn prevent re-infection and acquisition of new infections. Safer sex options include use of barrier contraceptives, reducing numbers of sexual partners, delaying onset of sexual debut, and abstinence.

* Risk factors contributing to STI acquisition typically include, but are not limited to: sexual contact with a person(s) with a known STI; sexually active under 25 years of age; a new sexual partner or greater than 2 sexual partners in the past year; use of non-barrier contraception; injection drug or other substance use; sex trade workers and their clients; survival sex (exchanging goods/shelter for sex); street involved/homeless; anonymous sexual partnering; previous STI; victims of sexual assault/abuse; men who have sex with men (MSM); sexual contact in or with individuals from geographic areas with high STI rates and/or reported antimicrobial resistance. (Public Health Agency of Canada, Canadian Guidelines on Sexually Transmitted Infections available at: www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines.html

SPECIFIC CONSIDERATIONS FOR SCREENING/SPECIMEN COLLECTION

A focussed STI risk assessment aims to elicit from patients specific information pertaining to:

- the anatomical sites involved in sexual activities (urethra, rectum, vagina, pharynx)
- signs and symptoms (including constitutional)
- number and types of sexual partners
- sexual contact in or with residents from geographic areas with high STI rates and/or risk of antimicrobial resistance

Swabbing of the urethra, rectum, vagina, pharynx, and conjunctiva (rarely) is based on patient history. This ensures that all sites of potential infection are tested and treated appropriately. For patients who present with **risk for gonorrhea,** the collection of **swabs for culture** is recommended to identify drug resistance.

Further resources available at: Public Health Agency of Canada, “Canadian Guidelines for Sexually Transmitted Infections.” Available at: www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines.html

Trans Care BC, “Gender-affirming Care for Trans, Two-Spirit, and Gender Diverse Patients in BC: A Primary Care Toolkit.” Available at: www.phsa.ca/transcarebc/Documents/HealthProf/Primary-Care-Toolkit.pdf

CHLAMYDIA

REPORTABLE

Swabbing (using a nucleic acid amplification test [NAAT]) of all sites (urethra, cervix, vagina, pharynx, rectum, conjunctiva) involved in a sexual act is recommended.

NOTE: Treatment recommendations differ depending on site of infection.

ADULTS Non-Pregnant/ Non-Breastfeeding

(Urethral, Cervical, Vaginal, Pharyngeal, Conjunctival Infections)

azithromycin 1 g po as a single dose (A-I; A-II for eye)

(A single dose of azithromycin may be considered when there are concerns for medication adherence, safety, privacy)

OR

doxycycline 100 mg po BID for 7 days (A-I; A-II for eye)

(contraindicated in pregnancy)

Pregnant/Breastfeeding

Preferred

azithromycin* 1 g po as a single dose (B-I)

*Available data suggests that azithromycin is safe and effective in pregnant and lactating women.

OR

amoxicillin 500 mg po TID for 7 days (A-I)

Rectal Infection

Preferred

doxycycline 100 mg po BID for 7 days (A-II)

(contraindicated in pregnancy)

Alternate

azithromycin 1 g po as a single dose (A-II)

(A single dose of azithromycin may be considered when there are concerns for medication adherence, safety, privacy)

Considerations

- If vomiting occurs > 1 hour post administration of azithromycin, a repeat dose is not required.
- Co-treatment for gonorrhea (see relevant section) should be provided if there is a positive test for gonorrhea or if treatment is being provided before test results are available.
- Patients and contacts should abstain from unprotected sexual intercourse until treatment in both is completed or 7 days after single dose therapy.

Considerations (conjunctival infections)

- Children < 9 years of age - consult pediatric Infectious Disease Specialist.
- All patients should be followed to ensure resolution of infection; test of cure using chlamydia culture should be performed in all cases.
- Patients should also have genitourinary specimens submitted for *Chlamydia trachomatis*.

Contacts (all chlamydia cases)

All contacts in the last 60 days, regardless of signs or symptoms, must be located, examined, tested, and treated. It may be necessary to extend this time period until a sexual contact is identified.

Follow Up (all chlamydia cases)

- **TEST OF CURE (TOC) IS NOT ROUTINELY INDICATED** when:
  - recommended treatment agent is taken
  - signs and symptoms have resolved
  - there is no re-exposure to an untreated partner
- **TOC IS RECOMMENDED** when:
  - compliance is sub-optimal or uncertain
  - patient is pregnant
  - patient is a child (< 14 years)
  - extragenital site involved (e.g., eye, rectum, pharynx)
  - treatment agent other than azithromycin or doxycycline has been used
- **If indicated, TOC using a NAAT, should be done 3-4 weeks** after completion of effective treatment to avoid false-positive results due to the presence of non-viable organisms.
- **TOC for patients who are co-infected with *Neisseria gonorrhoeae*** should be done using a NAAT 3-4 weeks after completion of effective treatment.
- Re-screening of all individuals diagnosed with chlamydia is recommended after 6 months.
- Infants born to untreated mothers must be closely monitored for signs of chlamydial infection (e.g., conjunctivitis, pneumonitis). Prophylaxis is not routinely recommended unless follow up cannot be guaranteed.

LYMPHOGRANULOMA VENEREUM (LGV)

REPORTABLE

C. trachomatis Serovars L1, L2, L3

NOTE: All rectal swabs that test positive for *C. trachomatis* undergo reflex testing for LGV.

Etiology

- Caused by C. *trachomatis*, serovars L1, L2, L3.
- LGV can be transmitted through vaginal, anal, or oral sexual contact.
- In general, an uncommonly reported STI in Canada.

Preferred

doxycycline 100 mg po BID for 21 days (B-II)

(contraindicated in pregnancy)

Alternate

azithromycin 1 g po as a single dose, once weekly for 3 weeks (C-III)

OR

erythromycin 500 mg po QID for 21 days (C-III) (Patients are less likely to be compliant with erythromycin QID x 3 weeks)

Considerations

LGV strains of *C. trachomatis* are more invasive, preferentially affecting the lymph tissue. If a patient presents **with:**

- a painless genital papule
- proctitis (especially hemorrhagic proctitis)
- painful inguinal/femoral region(s)
- lymphadenopathy (unilateral in ½ to ⅔ of cases)

Contacts (all LGV cases)

All contacts in the last 60 days, regardless of signs or symptoms, must be located, examined, tested, and treated. It may be necessary to extend this period until a sexual contact is identified.

Treatment of Contacts to LGV

doxycycline 100 mg po BID for 7 days (A-I)

(contraindicated in pregnancy)

OR

azithromycin 1 g po as a single dose (A-I)

Treatment of Contacts to LGV WITH symptoms and/or lab tests consistent with LGV

doxycycline 100 mg po BID for 21 days

(contraindicated in pregnancy)

GONORRHEA

REPORTABLE

Swabbing (using NAAT) of all sites (urethra, cervix, vagina, pharynx, rectum) involved in a sexual act is recommended. Collection of swabs for GC culture to determine antibiotic sensitivities is recommended in some instances.*

NOTE: Treatment recommendations differ depending on site of infection.

Combination therapy using ceftriaxone 250 mg IM PLUS another antimicrobial agent is the preferred treatment for *Neisseria gonorrhoeae* (GC) infections. This is of particular importance for GC infections due to increased antimicrobial resistance.

Adults & Youth ≥ 9 years of age; Pregnant & Breastfeeding

(Urethral, Cervical, Vaginal, Rectal, Pharyngeal infections)

Preferred

ceftriaxone 250 mg IM in a single dose (A-I) **PLUS azithromycin 1 g po** as a single dose (B-II; B-II for pharyngeal infections) *(The recommended diluent for this IM dose of ceftriaxone is 1% lidocaine without epinephrine to a final concentration of 250-350 mg/mL)*

Alternate

cefixime 800 mg po as a single dose (A-I; B-II for pharyngeal infections) **PLUS azithromycin 1 g po** as a single dose (B-II; B-III for pharyngeal infections) *(Oral treatment regimen should only be considered if the patient refuses or cannot tolerate IM injection, or as empiric treatment)*

OR *(not recommended in pregnancy)*

azithromycin 2 g po as a single dose (A-I) **PLUS gentamicin 240 mg IM** in 2 separate 3 mL injections of 40 mg/mL solution (B-II) (Gentamicin 240 mg IV infused over 30 minutes may be considered as an alternative route of administration when the IM route is not feasible)

OR

azithromycin 2 g po as a single dose** (A-I) (For patients with history of anaphylactic reaction to penicillin or allergy to cephalosporins)

**As azithromycin resistance has been reported, this agent should only be used as monotherapy if there is a strong contraindication to the use of cephalosporins (e.g., history of anaphylactic reaction to penicillin or allergy to cephalosporin).

Considerations

- Combination therapy using two antimicrobial agents is recommended for all patients treated for gonorrhea (unless treatment for gonorrhea was with azithromycin 2 g).
- Combination therapy is thought to improve treatment effectiveness as well as potentially delay the emergence of antimicrobial resistance.
- Available data suggest that azithromycin is safe and effective in pregnant and breastfeeding patients.
- Due to higher sensitivity of NAAT over culture for *N. gonorrhoeae*, NAAT should be used for screening in most instances. Depending on the clinical situation, both culture and NAAT may be appropriate.
- ***Cultures for *N. gonorrhoeae*** should be performed in all cases with:
  - sexual contact outside of Canada
  - sexual contact of a positive GC case (symptomatic or asymptomatic)
  - sexual assault/abuse cases
  - infection in a extragenital site (e.g., eye, rectum, pharynx)
  - high risk sexual behaviours
  - treatment failure

NOTE: Antimicrobial susceptibility testing can only be conducted on culture specimens.

- Cultures are recommended in symptomatic clients prior to treatment (C&S and NAAT).
- Disseminated infections and infections involving the eye require expert consultation.
- Patients and contacts should abstain from unprotected sexual intercourse until treatment in both is completed or 7 days after single dose therapy.

Contacts

All contacts in the last 60 days, regardless of signs and symptoms, must be located, examined, tested, and treated. It may be necessary to extend this time period until a sexual contact is identified.

Follow Up

- **Test of Cure (TOC) is recommended in the following instances:**
  - Compliance is sub-optimal or uncertain.
  - All pharyngeal infections and any other extragenital site involvement (e.g., eye, rectum).
  - Persistent signs or symptoms post-therapy.
  - If one of the alternate treatment choices is used instead of the preferred regimen.
  - Documented antimicrobial resistance to the administered therapy.
  - Case is linked to another case with documented antimicrobial resistance to the treatment given.
  - Infection during pregnancy.
  - Pelvic inflammatory disease (PID) or disseminated gonococcal infection is diagnosed.
  - Case is a child (< 14 years).
  - Treatment failure for gonorrhea has occurred previously in the patient.
  - There is re-exposure to an untreated partner.
- **TOC using a NAAT should be performed 2-3 weeks after the completion of effective treatment** for gonorrhea to avoid false-positive results due to the presence of non-viable organisms. **TOC using culture** may be performed 3-7 days after treatment.
- **TOC for co-*infections of N. gonorrhoeae and C. trachomatis* using a NAAT should be performed 3-4 weeks after the completion of effective treatment** to avoid false-positive results due to the presence of non-viable organisms.
- Re-screening of all individuals diagnosed with gonorrhea is recommended after 6 months.
- Neonates born to women with untreated gonorrhea should be given a single dose of **ceftriaxone 25-50 mg/kg IM not to exceed 125 mg IM** in a single dose (A-III); consultation with a pediatric specialist is recommended. Prophylactic co-treatment for chlamydial infection is not recommended unless follow up cannot be guaranteed (see chlamydia).

SYPHILIS
REPORTABLE

Contact Yukon Communicable Disease Control (YCDC) for management, support, and to access long-acting benzathine penicillin G (Bicillin®) medication. Syphilis case management and follow up testing of ALL suspected or confirmed cases should be done in consultation with YCDC.

NAME ALERT: BICILLIN® IS LONG-ACTING AND SHOULD NOT BE CONFUSED WITH BENZYLPENICILLIN G WHICH IS SHORT-ACTING AND NOT APPROPRIATE FOR SINGLE DOSE OR WEEKLY THERAPY TREATMENT OF SYPHILIS.

Non-HIV Infected/Non-Pregnant Adults

Primary, Secondary, Early Latent Syphilis (<1 year duration)

Preferred

long acting benzathine penicillin G (Bicillin®) 2.4 mu IM as a single dose (MUST be ordered through YCDC)

Alternate

(For penicillin allergic patients ONLY. Strongly consider penicillin desensitization followed by treatment with penicillin)

OR

doxycycline 100 mg po BID for 14 days (B-II)

(Must consult YCDC prior to using this treatment agent)

NOTE: Jarisch-Herxheimer Reaction (i.e., fever, chills, headache, and myalgia) may occur 2-12 hours after treatment of early infectious syphilis and usually resolves within 24 hrs.

Late Latent Syphilis (>1 year duration or unknown duration)

OR

Tertiary Syphilis (Cardiovascular and other syphilis not involving the central nervous system)

Preferred

long acting benzathine penicillin G (Bicillin®) 2.4 mu IM weekly for 3 consecutive weeks (MUST be ordered through YCDC)

Alternate

(For penicillin allergic patients ONLY. Strongly consider penicillin desensitization followed by treatment with penicillin)

OR

doxycycline 100 mg po BID for 28 days (B-II)

(MUST consult YCDC prior to using this treatment agent)

Non-HIV Infected Pregnant Adults

Primary, Secondary, Early Latent Syphilis

long acting benzathine penicillin G (Bicillin®) 2.4 mu IM weekly for 2 consecutive weeks (C-III) (MUST be ordered through YCDC)

Late Latent

long acting benzathine penicillin G (Bicillin®) 2.4 mu IM weekly for 3 consecutive weeks (A-II)

(MUST be ordered through YCDC)

NOTE: Treatment of infectious syphilis in pregnancy may precipitate a **Jarisch-Herxheimer Reaction** which may cause **fetal distress or premature labour;** therefore, all patients > 20 weeks gestation should undergo **fetal monitoring for 12-24 hours** after administration of benzathine penicillin.

Considerations (Pregnancy)

The CMOH/YCDC endorses a continuation of the British Columbia "Interim Guideline on Syphilis Screening in Pregnancy." This guideline recommends that syphilis screening be done at time of delivery regardless of assessed or perceived risks for all clients. For more information see www.perinatalservicesbc.ca/Documents/Guidelines-Standards/Maternal/Guideline-syphilis-screening-in-pregnancy.pdf

All pregnant individuals should be screened for syphilis

- In the **first trimester OR** at **the first prenatal visit**
  AND
  At delivery (at the time of admission or any time after 35 weeks for those planning home births).
- More frequent screening for individuals at high risk of acquisition or re-infection with syphilis in their current pregnancy is recommended.
- For pregnant individuals with reactive serology, consultation with YCDC is recommended. Consultation will identify if the patient is a known case and has a history of prior treatment or stable serology.
- All pregnant individuals with infectious syphilis should be managed in conjunction with a specialist. If the patient is >20 weeks gestation, a detailed fetal ultrasound should be performed and the patient should be managed in conjunction with a materno-fetal specialist.

- There is no alternative to penicillin in pregnancy. Penicillin allergic pregnant patients should be considered for penicillin desensitization followed by treatment with long acting benzathine penicillin.
- Doxycycline is not recommended for use during pregnancy.

All Adults

Neurosyphilis

Central nervous system (CNS) involvement and symptoms of neurosyphilis can occur during any stage of syphilis infection. Consider syphilis as a differential diagnosis when unexplained neurological symptoms are present (e.g., headaches, vertigo, ataxia, uveitis, retinitis, auditory symptoms such as hearing loss or tinnitus, meningitis, personality changes, dementia) and complete syphilis serology.

Preferred

crystalline penicillin G 4 mu IV q4h for 10-14 days (A-II)
(Consultation with YCDC required)

Alternate

(For penicillin allergic patients ONLY. Strongly consider penicillin desensitization followed by treatment with penicillin)

OR

ceftriaxone 2 g IV/IM daily for 10-14 days (B-II)

(MUST consult YCDC prior to using this treatment agent)

Considerations (Neurosyphilis)

- Cerebrospinal Fluid (CSF) examination for cell count and differential, protein, glucose, and Venereal Disease Research Laboratory test (VDRL) is recommended to establish a diagnosis of neurosyphilis and is indicated in all patients with neurologic or eye/ear signs and symptoms, and patients meeting other criteria regardless of stage of infection (refer to syphilis chapter in Canadian Guidelines on Sexually Transmitted Infections).

Considerations (HIV co-infection)

- Some co-infected patients may require a longer course of treatment and follow up.

Considerations (all syphilis cases)

- Despite adequate treatment, syphilis treponemal tests usually remain positive for life. Therefore, not every patient with positive serology will require treatment. With documentation of adequate treatment in the past, patients need not be re-treated, unless there is clinical or serological evidence of re-infection, or treatment failure.
- Past history of treatment for syphilis may be available from YCDC and may help to guide current management.

Contacts (all syphilis cases)

All sexual contacts of infectious syphilis (primary, secondary, and early latent) must be located, tested, and treated.

Minimum trace back periods are as follows:

- primary syphilis: 3 months
- secondary syphilis: 6 months
- early latent: 1 year

NOTE: Trace back periods may be extended if no partners identified or if partners test negative.

- Vertical transmission (mother to baby) – risk highest in untreated primary or secondary syphilis; lower in latent syphilis; may occur in late latent syphilis; may occur in utero or vaginal delivery if syphilitic lesion present.
- For pregnant individuals with reactive syphilis serology and infants born to persons with reactive serology, follow up will depend on prenatal and neonatal history; advice should be sought from an **Infectious Disease Specialist.**
- Regarding late latent syphilis: children born of cases and regular partners of all cases should be tested and treated (if found to be infected).

Follow Up (all syphilis cases)

- Follow up serology is important to monitor immune response to long acting benzathine penicillin G (Bicillin®) or other syphilis treatment agent. Based on staging and other co-infections, recommendations for follow up serology will be given at time of consultation with YCDC.
- HIV testing should be done at baseline and at 1 and 3 months after diagnosis in patients with infectious syphilis.

Syphilis Serology

- In most cases, *Treponema pallidum* antibodies persist for the life of a patient and therefore the EIA test will detect a greater number of old syphilis cases.
- NAAT, e.g., Polymerase Chain Reaction (PCR) of lesions are not routinely preformed in Yukon, but may occasionally be clinically appropriate. Contact lab directly for direction on collection. Dark-field microscopy, Direct/Indirect Fluorescent Antibody (DFA/IFA) is not available in Yukon.

For more information, contact YCDC at 667-5080.

HIV

REPORTABLE

(Human Immunodeficiency Virus)

All individuals having unprotected sexual intercourse (oral, vaginal, or anal), injecting drugs, sharing needles and other injection drug use equipment, and/or infected with other STIs are at risk of HIV infection. The presence of a STI increases the risk of acquisition and transmission of HIV.

Testing/Results

HIV antibody testing should be offered to all at risk individuals, including those diagnosed with another STI. Consideration for and discussion of HIV testing should be made a component of routine care in order to normalize HIV testing.

HIV results, both positive and negative, should be given in person whenever possible.

Assuming no change in risk factors, there is **no** recommendation to test more frequently than intervals of 3-6 months after last potential exposure. Encouragement and support to modify risk behaviour should be provided.

Individuals testing positive must be counselled regarding their obligation to reduce/prevent transmission.

Point-of-care (POC) rapid tests for HIV antibodies are available for restricted clinical use within the hospital setting, through Yukon Hospital Corporation. Criteria for initiation of HIV POC test include: puncture injury with contaminated needle; screening test in an obstetric patient with no prior history of testing and imminent delivery; very sick ER patient with a presumptive HIV diagnosis. All positive POC tests require confirmatory HIV testing.

HIV Testing In Pregnancy

HIV testing in pregnancy is strongly recommended as part of routine prenatal care. Consideration for and discussion of HIV testing should be made a component of routine medical care in order to normalize HIV testing.

Referral

- Newly diagnosed HIV positive individuals require medical, emotional, and psychological support.
- In Yukon, management of HIV infected patients is provided by the **Infectious Disease Specialist.** A health care provider is required to refer the patient to the Infectious Disease Specialist and to provide ongoing support.
- Patient education packages are available form YCDC.

Contacts

- Identification and contact tracing of all known sexual and needle-sharing partners of HIV infected patients should be undertaken. It may be necessary to go back several years. Knowledge of a previous negative test can assist in determining the time frame for contact identification.
- Upon request, YCDC can assist in eliciting a list of contacts, as well as locating and counselling these individuals.

PELVIC INFLAMMATORY DISEASE (PID)

Outpatients

(non-pregnant/non-breastfeeding adults)

Preferred

ceftriaxone 250 mg IM as a single dose **PLUS doxycycline 100 mg po** BID for 14 days (A-II)
(The recommended diluent for this IM dose of ceftriaxone is 1% lidocaine without epinephrine to a final concentration of 250-350 mg/mL)

WITH or WITHOUT
metronidazole* 500 mg po BID for 14 days (B-III)

Alternate

levofloxacin 500 mg po once daily for 14 days (A-II)

WITH or WITHOUT
metronidazole* 500 mg po BID for 14 days (A-I)

Considerations

- *Addition of metronidazole is recommended when concurrent anaerobic infection is a concern (e.g., bacterial vaginosis, presence of tubo-ovarian abscess, and/or HIV co-infection). As ceftriaxone and levofloxacin are limited in the coverage of anaerobes, the addition of metronidazole to all regimens should be considered.

- Levofloxacin may be used if test results negative for GC or if positive for GC, a test of cure (TOC) must be obtained. A TOC should be done 2-3 weeks after the completion of antibiotics when NAAT is used and 3-7 days after treatment if a culture test is used.
- Patients on metronidazole should be advised not to take alcohol for the duration of treatment and for 24 hours after because of possible disulfiram-like (Antabuse®) reaction.
- Removal of IUD is no longer routinely recommended in PID; consultation with the practitioner who inserted the device and/or **Infectious Disease Specialist** is recommended.

Contacts

All contacts in the last 60 days, regardless of signs or symptoms, must be located, examined, tested, and treated. It may be necessary to extend this time period until a sexual contact is identified.

Follow Up

- Individuals treated as outpatients need careful follow up and should be re-evaluated for 2-3 days after treatment is initiated
- Refer to a specialist for consideration of hospitalization and discussion of treatment options if patient:
  - Is pregnant or breastfeeding
  - Is not responding clinically to outpatient treatment
  - Is unable to follow or tolerate an outpatient oral medication regimen
  - Has severe illness, nausea and vomiting, or high fever
  - Is immunocompromised, such as with HIV infection
  - Is a youth/adolescent (particularly if compliance is an issue)
  - There is an adnexal mass or tubo-ovarian abscess and/or surgical emergency (e.g., acute appendicitis cannot be excluded)

EPIDIDYMO-ORCHITIS

Preferred

ceftriaxone 250 mg IM as a single dose (A-I) **PLUS doxycycline 100 mg po** BID for **14 days (A-I)** *(The recommended diluent for this IM dose of ceftriaxone is 1% lidocaine without epinephrine to a final concentration of 250-350 mg/mL)*

Alternate

levofloxacin* 500 mg po once **daily for 14 days (C-III)**

*Levofloxacin may be used if test results negative for GC. If positive for GC, test of cure using a NAAT must be obtained 2-3 weeks after completion of antibiotics.

Considerations

- Depending on sexual history, gonococcal and/or chlamydial infections should be considered as the etiology of acute epididymo-orchitis in all sexually active men especially those under age 35 years (⅔ of epididymitis cases). Non-sexually transmitted epididymo-orchitis occurs more frequently in men > 35 years, those who have recently undergone urinary tract instrumentation or surgery, and those with abnormalities of the urinary tract.
- Bed rest, scrotal elevation and support, and analgesics are also recommended.

Contacts

When treatment is indicated for the index case and they are presumed to have sexually acquired epididymitis, all sexual partners from 60 days prior to symptom onset or the date of diagnosis should be located, clinically evaluated and treated with an appropriate regimen regardless of clinical findings and without waiting for test results.

Follow Up

Follow up should be arranged to evaluate the response to treatment. If a recommended regimen has been given, correctly taken and the patient has failed to improve after 48-72 hours, they should be assessed for an alternate diagnosis.

GENITAL HERPES SIMPLEX

First Episode*

acyclovir 400 mg po TID for 7-10 days (A-I)

OR

famciclovir 250 mg po TID for 5 days (A-I)

OR

valacyclovir 1 g po BID for 7-10 days (A-I)

***NOTE:** duration of therapy depends on severity of outbreak

Recurrent Lesions

Episodic Therapy

valacyclovir 500 mg po BID for 3 days (B-I)

OR

valacyclovir 1 g po QD for 3 days (B-I)

OR

famciclovir 125 mg po BID for 5 days (B-I)

OR

acyclovir 800 mg po TID x 2 days (B-I)

OR

famciclovir ** **1000 mg po** bid x 1 day

****MUST** be started **within hours** (not days) of appearance of signs and symptoms.

Suppressive Therapy *(Non-Pregnant)*

acyclovir 400 mg po BID (A-I)

OR

famciclovir 250 mg po BID (A-I)

OR

valacyclovir 500 mg po QD (A-I) **[for patients with ≤ 9 recurrences per year]**

OR

valacyclovir 500 mg po BID or **1 g po** QD (A-I) **[for patients with > 9 recurrences per year]**

Suppressive Therapy *(Pregnant)*

Suppressive therapy in late pregnancy≠ is the "standard of care" and is highly recommended to reduce possible transmission to neonate.

acyclovir 400 mg po TID **initiated at 36 weeks until parturition (A-I)**

OR

valacyclovir 500 mg po BID **initiated at 36 weeks until parturition (B-I)**

≠Antiviral therapy may be initiated earlier in pregnancy in patients experiencing symptomatic outbreaks.

Considerations

- Topical acyclovir does not alleviate signs or symptoms and should not be used.
- Choice of treatment depends on dosing frequency and cost.
- Counselling is an essential part of management.
- Oral acyclovir, famciclovir, and valacyclovir are comparatively efficacious.
- Start famciclovir preferably less than 6 hours and valacyclovir preferably less than 12 hours after the first symptoms appear.

Management Options

Treatment options for recurrent lesions are three-fold: no treatment, episodic therapy, or suppressive therapy.

The decision to start therapy is a subjective one, balancing the frequency of recurrence with the cost and inconvenience of therapy.

- **No Treatment:** Antiviral therapy is not necessary in all cases, particularly when recurrences are both mild and infrequent, and in cases where sexual transmission is not a concern.
- **Episodic therapy:** Treatment should be started as soon as possible, preferably during the prodromal symptoms or within hours of the development of a lesion.
- **Suppressive therapy:** Reduces recurrence rates, as well as asymptomatic shedding, and sexual transmission.

URETHRITIS

Urethritis is a diagnosis based on presenting urethral symptoms in the absence of microscopic assessment. The recommended regimen covers both *N. gonorrhoeae* and *C. trachomatis*.

Recommended Regimen

ceftriaxone 250 mg IM in a single dose (A-I)

(The recommended diluent for this IM dose of ceftriaxone is 1% lidocaine without epinephrine to a final concentration of 250-350 mg/mL)

OR

cefixime 800 mg po as a single dose (A-I)

PLUS

doxycycline 100 mg po BID for 7 days (A-I)

OR

azithromycin 1 g po as a single dose (A-I)

Considerations

- If patient presents with penile urethral symptoms (e.g., urethral discharge, dysuria, intermittent urethra itching/tingling, or meatal erythema) and Gram stain results are unavailable, test and treat empirically for both gonorrhea and chlamydia.
- Full resolution of symptoms can take up to 14 days or longer after therapy has been initiated.

Contacts

Patients and contacts should abstain from sexual activity for 7 days after the initiation of treatment and should be advised to avoid exposure to any untreated partner(s).

Follow Up

If symptoms persist or recur after therapy has been completed, (i.e., 14 days or more after the initiation of treatment) the patient should be re-evaluated.

See Persistent or Recurrent Urethritis section below. Symptoms alone are not sufficient for re-treatment in the absence of laboratory findings or clinical signs.

PERSISTENT OR RECURRENT URETHRITIS

Persistent or recurrent urethritis is defined as:

- **Persistent urethral symptoms**
- **Co-treatment of *N. gonorrhoeae* and *C. trachomatis* was more than 2 weeks ago**
- **There has been no re-exposure to an untreated or new sexual partner**

Recommended Regimen

If **doxycycline** was the initial treatment, consider **azithromycin 1 g po** as a single dose (A-I)

OR

erythromycin 500 mg po QID for 7-14 days

OR

If **azithromycin** was the initial treatment, consider **doxycycline 100 mg po** BID for 7 days (A-I)

OR

erythromycin 500 mg po QID for 7-14 days

Considerations

- Patients who have been appropriately treated for urethritis and continue to have urethral symptoms in the absence of a known STI infection may benefit from the anti-inflammatory properties of either doxycycline or erythromycin.
- If there is no resolution of symptoms after treatment, consider referring the patient to a urologist.
- Other potential causes of persistent or recurrent urethritis:
  - Organisms not covered by the original treatment (e.g., *Trichomonas vaginalis*)
  - Antimicrobial resistant organisms
  - Prostatitis
  - Non-infectious inflammatory syndromes.

NON-GONOCOCCAL URETHRITIS (NGU)

NGU is a diagnosis based on immediate laboratory microscopy (i.e., urethral smear) showing inflammatory/ pus cells as greater than or equal to 5 PMNs (i.e., polymorphonuclear leukocytes) in the absence of typical intracellular diplococci (i.e., *N. gonorrhoeae*). NGU is not a high occurrence infection.

Causative organisms may include:

- *Chlamydia trachomatis*
- *Mycoplasma genitalium*
- *Ureaplasma urelyticum*
- Trichomonas vaginalis (occasionally)
- *Viruses: HSV, VZV, or Adenovirus*

Recommended Regimen

doxycycline 100 mg po BID for 7 days (A-I)

OR

azithromycin 1 g po as a single dose (A-I)

Contacts

All partners in the last 60 days should be tested and treated to cover for chlamydia. Patients and contacts should abstain from unprotected sexual intercourse until treatment in both is completed or 7 days after single dose therapy.

MUCO-PURULENT CERVICITIS (MPC)

Case definition:

- **Inflammation of the cervix with a muco-purulent or purulent cervical discharge, or cervical bleeding on insertion of a swab.**
  AND
- **Negative tests from genitourinary specimens for gonorrhea and chlamydia.**

Empiric Treatment for MPC

(**Pending test results** – specimens collected, but test results not yet available)

Preferred

ceftriaxone 250 mg IM in a single dose **(C-III) PLUS azithromycin 1 g po** as a single dose **(C-III)** *(The recommended diluent for this IM dose of ceftriaxone is 1% lidocaine without epinephrine to a final concentration of 250-350 mg/mL)*

OR

cefixime 800 mg po as a single dose **(C-III) PLUS azithromycin 1 g po** as a single dose **(C-III)**

Alternate

cefixime 800 mg po as a single dose **(C-III) PLUS doxycycline* 100 mg** po BID for 7 days **(C-III)**

**Doxycycline is not recommended in pregnancy*

OR

ceftriaxone 250 mg IM in a single dose **(C-III) PLUS doxycycline* 100 mg po** BID for 7 days **(C-III)** *(The recommended diluent for this IM dose of ceftriaxone is 1% lidocaine without epinephrine to a final concentration of 250-350 mg/mL)*

**Doxycycline is not recommended in pregnancy*

Alternate

Azithromycin 2 g po** as a single dose **(A-I)**

**As azithromycin resistance has been reported, this agent should only be used as monotherapy if there is a strong contraindication to the use of cephalosporins (e.g., history of anaphylactic reaction to penicillin or allergy to cephalosporin)

Empiric Treatment for MPC (**Negative** tests for **gonorrhea AND chlamydia)**

Preferred

azithromycin 1 g po as a single dose **(A-1)**

Alternate

(Not recommended in pregnancy) **doxycycline 100 mg po** BID for 7 days **(A-1)**

Considerations

- Diagnosis of MPC should not be made in pregnancy due to poor positive predictive value of any criteria for defining MPC in pregnant patients.
- Not all patients with vaginal discharge have MPC; vaginal speculum examination is required to make this clinical diagnosis.
- All patients should be tested for gonorrhea and chlamydia.
- If cervicitis is diagnosed clinically, immediate treatment is recommended. Treat presumptively for gonorrhea and chlamydia pending laboratory results.
- Patients who remain persistently symptomatic 3-4 weeks after treatment for gonorrhea and chlamydia and in whom a diagnosis of MPC has been made and persistent or repeat infection with gonorrhea has been ruled out should be treated with doxycycline 100 mg po BID x 7 days.
- Patients and contacts should abstain from unprotected sexual intercourse until treatment in both is completed or 7 days after single dose therapy.

Contacts

All contacts in the last 60 days, regardless of signs or symptoms, must be located, examined, tested and treated. It may be necessary to extend this time period until a sexual contact is identified.

Follow Up

Patients should return for re-evaluation if symptoms persist or recur.

VAGINITIS

Inflammation of the vagina typically resulting in changes in vaginal discharge and may be accompanied by itching and discomfort.

The most common causes of vaginitis are:

- **bacterial vaginosis**
- **yeast infections**
- **trichomoniasis**

BACTERIAL VAGINOSIS

Non-Pregnant/ Non-Breastfeeding

Preferred

metronidazole* 500 mg po BID for 7 days (A-I)

OR

metronidazole gel (Nidagel®) 0.75%, one applicator (5 g)** intravaginally QD for 5 days (A-I)

OR

clindamycin cream 2%, one applicator (5 g) intravaginally QD for 7days (A-I)

Alternate

clindamycin 300 mg po BID for 7 days (A-I)

OR

metronidazole* 2 g po in a single dose (A-I)

Pregnant/Breastfeeding

Preferred

metronidazole* 500 mg po BID for 7 days (A-I)

Alternate

clindamycin 300 mg po BID for 7 days

*The effect of oral metronidazole on the nursing infant is unknown but no adverse effects have been reported in numerous studies. Infants should be observed for diarrhea.

Treatment for Recurrent BV

Pregnant/Non-Pregnant

Preferred

metronidazole 500 mg po BID for 10-14 days (B-III)

OR

metronidazole gel (Nidagel®) 0.75% one applicator (5 g)** intravaginally QD for 10 days (B-III), followed by suppressive therapy of metronidazole gel twice a week for 4-6 months (B-III)

**Nidagel® NOT Metrogel® or Flagystatin®

Considerations

- For therapy with metronidazole, a 7 day oral course and a 5 day course of gel are equally efficacious (cure rate 75-85%). A single oral dose also has a cure rate of 85% but a higher relapse rate at 1 months (35-50% vs. 20-33%) (A-I).
- Patients on metronidazole should be advised not to consume alcohol for the duration of the treatment and for 24 hours after due to the possibility of disulfiram-like (Antabuse®) reaction.
- Clindamycin cream is oil-based and may cause latex condoms or diaphragms to fail.
- Treatment of male sexual partners is not indicated and does not prevent recurrence.
- In cases of recurrent BV, condom use or abstinence should be introduced until the client is free of recurrences.

Asymptomatic

May consider treatment in cases of:

- Pregnant women with history of high-risk pregnancy (previous preterm delivery)
- Prior to IUD insertion
- Prior to gynecologic surgery or upper genitourinary tract instrumentation
- Prior to surgical therapeutic abortion

Pregnant Patients

- Low risk, asymptomatic pregnant women do not need to be screened and/or treated for BV.
- Treatment with an oral agent in asymptomatic pregnant women with a history of pre-term delivery may reduce the risk of preterm rupture of membranes and stillbirth.
- Systemic treatment is recommended in pregnancy as intravaginal treatment alone has not been shown to decrease the risk of adverse pregnancy outcomes.
- Intravaginal clindamycin cream has been associated with adverse outcomes in the neonate and should only be used when alternatives are not possible.
- Based on multiple studies, data support the safety and lack of teratogenicity of systemic metronidazole in pregnancy. Metronidazole is not contraindicated in pregnancy.

VULVOVAGINAL CANDIDIASIS

Non-Pregnant/ Non-Breastfeeding

Preferred

Topical agents
Intravaginal, over-the-counter azole ovules and creams (e.g., clotrimazole, miconazole) (A-I)

OR

Oral Agents
fluconazole 150 mg po as a single dose (B-III)

Pregnant/Breastfeeding

Preferred

Topical azole for 7 days (A-I)

Considerations

- Treatment is unnecessary for asymptomatic infection.
- Many topical/intravaginal agents are oil based and might weaken latex condoms and diaphragms.
- Treatment of sexual partners is not routinely recommended unless a male partner has *Candida balanitis*. In males, use a topical azole cream BID for 7 days. Some effective topical azole agents are: butoconazole, clotrimazole, miconazole, and terconazole.

TRICHOMONIASIS

Vaginal Infections (Non-Pregnant/Non-Breastfeeding)

Preferred

metronidazole 2 g po as a single dose (A-I)

OR

metronidazole 500 mg po BID for 7 days (A-I)

Vaginal Infections (Pregnant/ Breastfeeding)

Preferred

metronidazole* 2 g po as a single dose (A-I)

OR

metronidazole* 500 mg po BID for 7 days (A-I)

*The effect of oral metronidazole on the nursing infant is unknown but no adverse effects have been reported in numerous studies. Infants should be observed for diarrhea.

Considerations

Pregnancy

- Pregnant patients: treat if symptomatic.
- Based on multiple studies, data support the safety and lack of teratogenicity of systemic metronidazole in pregnancy.
- Metronidazole is not contraindicated in pregnancy.

All infected patients

- Intravaginal metronidazole is not effective.
- Patients on metronidazole should be advised not to consume alcohol for the duration of treatment and for 24 hrs after because of possible disulfiram-like (Antabuse®) reaction.
- Sexual partners should be treated simultaneously.

Patients and contacts should abstain from unprotected sexual intercourse until treatment in both is completed or 7 days after single dose therapy.

Partner Notification for STI

It is mandated under the *Public Health and Safety Act* that every attempt is made to identify, locate, examine, and treat partners/contacts of all cases of REPORTABLE STI.

- Partner notification will identify those at risk, reduce disease transmission/re-infection, and ultimately prevent disease sequelae.
- Partners should be tested prior to any treatment being given.
- Clinicians are required to provide partner names, locating information, testing and treatment information on the *Contact Tracing Form* and forward these to YCDC.
- YCDC notifies the appropriate jurisdiction of all out of territory/country referrals of cases and partners of **REPORTABLE** STI.

STI Resources (Public and HCP)

- Medical and case consultation for STI/HIV is available through YCDC by calling: 867-667-8323
- Healthline 811: 24 hour service for anyone in Yukon to call regarding STI-related and other health-related issues. Call: 811
- "Better to Know" website with patient oriented resources related to sexual health: bettertoknow.yk.ca
- "Options for Sexual Health" British Columbia sexual health website and confidential "Sex Sense" telephone service. optionsforsexualhealth.org
  Call: 1-800-SEX-SENSE
  (1-800-739-7367)
- For information on community based HIV organizations: Blood Ties Four Directions 867-633-2437 or bloodties.ca

Considerations in Persons Under 19 Years of Age

- In all cases, where a person under 19 years of age is suspected or confirmed to have an STI, an assessment should be carried out by the clinician to determine if additional reporting is required.
- All Yukoners are required by law *(Child and Family Services Act SY 2008, C.1)* to immediately report if they have reason to believe that a child is in need of protective intervention; this includes suspected sexual abuse or exploitation. Where there is concern about the child's safety or welfare, including suspected sexual assault, abuse or exploitation, contact Yukon Family and Children's Services 24/7 at 867-667-3002 (in Whitehorse), a social worker at Regional Services (in rural communities) see phone listing at yukon.ca/en/child-abuse/#how-to-report-child-abuse-by-phone or the RCMP.
- For additional information see Yukon Care and Consent Act available at: www.gov.yk.ca/legislation/acts/care_consent_c.pdf
- Medical and case consultation for STI/HIV is available through YCDC by calling: 867-667-8323

STI Services

- **Yukon Communicable Disease Control (YCDC)**
  #4 Hospital Road, Whitehorse, Yukon
  867-667-5080 or 867-667-8323
  or toll-free in Yukon: 1-800-661-0408 ext. 8323
- **Yukon Community Health Centres**
  For contact info visit: yukon.ca/en/health-and-wellness/hospitals-and-health-centres/find-hospital-or-health-centre

This guideline includes the level of recommendation and quality of evidence indicators for the treatment recommendations. The indicators reflect a combination of the methodologies from the U.S. Preventive Services Task Force and the Canadian Task Force on Preventive Health Care and have been modified and simplified for use as outlined below (re-printed with permission from the Canadian Guidelines on Sexually Transmitted Infections).

Levels of Recommendation tables

A Strongly recommends that clinicians routinely provide the treatment to eligible patients. Good evidence that the treatment improves important health outcomes and concludes that benefits substantially outweigh harms.

B Recommends that clinicians routinely provide the treatment to eligible patients. At least fair evidence that the treatment improves important health outcomes and concludes that benefits outweigh harms.

C No recommendation for or against routine provision of the treatment. At least fair evidence that the treatment can improve health outcomes but concludes that the balance of the benefits and harms is too close to justify a general recommendation.

D Recommends against routinely providing the treatment to asymptomatic patients. At least fair evidence that the treatment is ineffective or that harms outweigh benefits.

I Evidence is insufficient to recommend for or against routinely providing the treatment. Evidence that the treatment is effective is lacking, of poor quality or conflicting, and the balance of benefits and harms cannot be determined.

Quality of Evidence

I Evidence from at least one properly randomized, controlled trial.

II Evidence from at least one well-designed clinical trial without randomization, from cohort or case-control analytic studies (preferably from more than one centre), from multiple time-series studies or from dramatic results in uncontrolled experiments.

III Evidence from opinions of respected authorities based on clinical experience, descriptive studies or reports of expert committees.

This document has been adapted with permission from the Canadian Guidelines on Sexually Transmitted Infections (Public Health Agency of Canada); the Alberta Treatment Guidelines for Sexually Transmitted Infections 2018 (Alberta Health and Wellness); and the 2014 British Columbia Treatment Guidelines "Sexually Transmitted Infections in Adolescents and Adults" (British Columbia Centre for Disease Control).

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