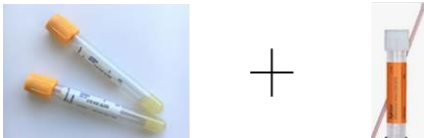



Syphilis – quick reference guide

Treponema pallidum is transmissible through any direct sexual contact and causes a chronic infection which progresses through primary, secondary, and tertiary stages. *Treponema pallidum* produces neurosyphilis and congenital syphilis as distinct syndromes.

ASSESS RISKS	SIGNS/SYMPTOMS (if any)	TESTING*	TREATMENT** (based on stage)	PUBLIC HEALTH ACTIONS
<p>Sexual behaviour: Condomless sex:</p> <ul style="list-style-type: none"> new sexual partner sex under the influence of substances multiple partners anonymous partners <p>Concern due to partner's sexual behaviour.</p>	See page 2	 <p>Syphilis serology (EIA; lab performs RPR and TPPA on all EIA positive samples). If lesion is present, swab for PCR test.</p> <p>Minimum testing during pregnancy:</p> <ol style="list-style-type: none"> at the first trimester or at the first prenatal visit, at 28 to 32 weeks gestation and at delivery (at time of admission for delivery or any time after 35 weeks for those planning home births). 	 <p>Benzathine penicillin G (Bicillin®) 2.4 million units IM in a single dose is preferred treatment for primary, secondary and early latent syphilis.**</p>	<p>Clinician activities include:</p> <ul style="list-style-type: none"> Testing for other STIs (including HIV) when diagnosed with syphilis Contact YCDC, they will support case consultation for staging, treatment and follow-up plan, as well as support for partner notification including testing/treatment for contacts Referral to local health centre or YCDC for immunization (ie., HAV, HBV, HPV, if appropriate)

*TESTING

- September 2019, BC interim guidelines were released related to syphilis screening in pregnancy, adding at time of delivery **regardless of assessed or perceived risks for all prenatal clients**. CMOH/YCDC endorses this practice. For more information see www.perinatalservicesbc.ca/health-professionals/guidelines-standards/maternal.
- Serum antibody testing for *T. pallidum* infection is routine. BCCDC Public Health Lab performs enzyme immunoassay (EIA) which is highly sensitive, but can lack specificity, so it is followed by a rapid plasma reagin (RPR) and *T. pallidum* particle agglutination (TPPA) as a specific, confirmatory test. Rapid plasma reagin (RPR) detects non-treponemal antibodies which increase during syphilis infection. RPR quantifies antibody concentration and provides some measure of disease activity and may help distinguish new infection, re-infection, and response to treatment. Use the BCCDC Serology Screening requisition for all testing OR use the "SYPH" order code in meditech.
- Nucleic Acid Amplification Tests (NAAT, e.g., Polymerase Chain Reaction [PCR]) of lesions are routinely performed in Yukon. Use Aptima Multitest Swab (orange). Indicate "Treponema pallidum Nucleic Acid Testing" on requisition (available from e-lab handbook - http://www.elabhandbook.info/PHSA/Files/RequisitionForms%2f2_20220408_032159_ZEPRReq%20Oct%202021%20WEB.pdf).

**TREATMENT

- Long acting Benzathine penicillin G (Bicillin®) is preferred treatment as it achieves detectable levels of penicillin for 2 to 4 weeks. Bicillin® is only accessible in consultation with YCDC. **NAME ALERT: BENZYL PENICILLIN G IS SHORT-ACTING AND NOT APPROPRIATE FOR SINGLE DOSE OR WEEKLY THERAPY.**
- Patients who are pregnant or patients co-infected with HIV may require a longer treatment regimen. Please see full treatment guidelines (link at bottom of this page).
- If a person is a sexual contact of a person with confirmed primary, secondary, or early latent syphilis in the preceding 90 days, treatment with Benzathine penicillin G 2.4 million units IM as a single dose **at the time of testing** is recommended.

Diagnosis of congenital or neurosyphilis requires further investigations—please consult pediatrics, neurology, obstetrics or infectious disease as appropriate.

FOR MORE INFORMATION ON SYPHILIS INCLUDING DIAGNOSIS, INTERPRETING SEROLOGY, OR MANAGEMENT, PLEASE CONTACT YCDC DIRECTLY 667-8323.

For treatment guidelines see: Yukon Treatment Guidelines for Sexually Transmitted infections (STI) in Adolescents and Adults. Available at <https://yukon.ca/en/health-and-wellness/medical-professionals/sti-guidelines>

Natural History of Syphilis Infection

EXPOSURE

3 weeks (mean); 3-90 days (range)

PRIMARY SYPHILIS (transmissible through sexual contact)

- single or multiple chancres at site of infection
- chancre may be asymptomatic and difficult to visualize
 - +/- regional lymphadenopathy
 - may persist up to six weeks

7 weeks (mean);
2 weeks – 6 months (range)

SECONDARY SYPHILIS (transmissible through sexual contact)

- typical rash is maculopapular and diffuse, and may involve mucosal surfaces Often non-pruritic, sometimes involving palms and soles
- possibly fever, malaise, pharyngitis, alopecia, lymphadenopathy
- chancre may still be present especially in individuals living with HIV

3-4 months (mean)⁴

EARLY LATENT SYPHILIS – within one year of infection (transmissible through sexual contact)

- asymptomatic, no signs on physical exam

LATE LATENT SYPHILIS – greater than one year since infection (not transmissible through sexual contact, vertical transmission possible)

- Asymptomatic, no signs on physical exam

TERTIARY SYPHILIS

- Cardiovascular (aortitis, aortic valvular disease, syphilitic aneurysm)
- “gummatous” syphilis (presence of necrotizing gummas to viscera, bone,

CONGENITAL SYPHILIS

- Fetal death
- Stillbirth
- Low birthweight, neonatal sepsis, anemia, jaundice, splenomegaly, renal complications, pneumonia
- May be asymptomatic at birth
- Other symptoms in first 3 months of life include rash, rhinitis

NEUROSYPHILIS

EARLY:

- Neuro-ophthalmologic symptoms and signs
- Vascular/stroke syndromes
- Acute or chronic meningitis
- Dementia

LATE:

- Tabes dorsalis /spinal cord signs

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 during vaginal delivery if syphilitic lesion present

References:

1. Developed in collaboration with the Office of the Chief Public Health Officer, Department of Health and Social Services, Government of Northwest Territories
2. Public Health Agency of Canada. Canadian Guidelines on Sexually Transmitted Infections – management and treatment of specific infections – syphilis. Available at <https://www.canada.ca/en/public-health/services/infectious-diseases/sexual-health-sexually-transmitted-infections/canadian-guidelines/syphilis.html>
3. Chapter 239 Syphilis (*Treponema pallidum*) in Bennett JE, Dolin R, Blaser MJ Mandell G L, Dougllass RG. Mandell, Douglas and Bennett's Principles and Practice of Infectious Diseases, 2015.
4. Garnett GP et al. The Natural History of Syphilis. Implications for the Transmission Dynamics and Control of Infection. Sexually Transmitted Diseases. 1997. 24 (4) 185-200