SYPHILIS (REPORTABLE)

PREAMBLE

In BC, the diagnosis of syphilis is determined by the BCCDC Provincial STI/HIV Clinic physician directly or in coordination with the*physician or nurse practitioner (NP) in community who is managing the client. Blood work for Syphilis is processed through the BC Public Health Microbiology Reference Laboratory (BC-PHMRL). Diagnosis and treatment for syphilis is based on the health history, clinical findings, diagnostic test results, and stage of infection. Treatment occurs in coordination with a BCCDC Provincial STI/HIV Clinic physician.

RN are required to consult to confirm diagnosis and treatment and must receive a client-specific order from either the managing physician or NP or a BCCDC Provincial STI/HIV Clinic physician.

In BC syphilis diagnosis, treatment and contact management is centralized through the BCCDC. RNs are required to consult with the BCCDC CPS STI nurse responsible for syphilis contact follow-up to establish a contact follow-up plan. RNs who have the required competencies, may independently order appropriate diagnostic testing for suspected syphilis cases. RN(C)s may independently treat syphilis contacts using the CRNBC Treatment of STI Contacts DST.

*For the purposes of this document, the managing physician or NP in community is working in coordination with a BCCDC Provincial STI/HIV Clinic physician and may provide a client specific order for syphilis treatment.

DEFINITION

An infection caused by the bacteria Treponema pallidum.

CAUSES

Treponema pallidum

PREDISPOSING RISK FACTORS

Sexual contact where there is skin-to-skin contact or exchange of body fluid from an infectious lesion with an individual who has a syphilis infection.

Syphilis is most infectious in the primary, secondary and syphilis early latent (SEL) stages. The level of infectivity decreases over time in the later stages of syphilis infection.
TYPICAL FINDINGS

Sexual Health History

- current or previous history of oral, genital, or skin ulcer or rash
- at least one sexual partner
- may report a sexual contact as having been diagnosed with syphilis
- condoms may or may not have been used for sexual contact

Full STI screening is recommended for clients who have clinical symptoms suggestive of syphilis infection or who are contacts to a person diagnosed with syphilis infection.

Syphilis is diagnosed according to the stage of the infection:

- **Early Syphilis:** includes primary, secondary and early latent syphilis (SEL). These stages are considered infectious.
- **Late Syphilis:** includes syphilis late latent (SLL) (> 1 year in duration) and tertiary syphilis. These stages are considered less infectious.

Primary Syphilis:
Symptoms usually occur within 3-90 days of infection and may include:
- a non-tender, indurated (rubbery, hard) lesion or ulcer (may be located in the mouth, anus, peri-anal skin, vagina, labia, or penis)
- regional lymphadenopathy

Secondary Syphilis:
Symptoms usually occur within 2-12 weeks of infection and may consist of:
- most common manifestation is a non-itchy, rash (that may be infectious to sexual partners) that is either generalized over the body or isolated to the palms, soles of the feet or on genitals
- fever
- malaise
- lymphadenopathy, non-tender, infectious mucous membrane lesions, known as *mucous patches*, (in or around the mouth, penis, anus, vaginal or labia)
- condylomata lata – infectious, large raised lesions found in moist areas, e.g., anus, vaginal or perineum (may be mistaken for genital warts)
- alopecia
- neurological symptoms including headaches, vertigo, meningitis, and ocular presentations
Early Latent Syphilis (SEL):
Infection has been present for less than one year, identified by a negative test within the past year and the client is asymptomatic.

Late Latent Syphilis (SLL):
Infection has been present longer than one year, or the duration of infection may be unknown and the client is asymptomatic.

Tertiary Syphilis:
Consists of a variety of symptoms and complications that may affect many body systems including cardiovascular (e.g., aortic aneurysm) and neurological (e.g., vertigo, personality changes, dementia and ataxia). The infection has been present for greater than one year, usually more than 10 years.

Diagnostic Tests

Syphilis Serology:
- **Syphilis Screen**: order with routine STI screening. The lab test will show an Enzyme Immune Assay (EIA) result.
- **Syphilis Confirmation**: if the EIA is reactive further testing will be completed by the lab to confirm Syphilis infection.

Note: Syphilis serology will be interpreted by a BCCDC Provincial STI/HIV Clinic physician.

Lesion Specimen Collection:

Collect fluid specimen directly from lesion or mucous patch (if available). Send all specimens to the BC-PHMRL.

**DFA-TP Test. (Direct Fluorescent Antibody T. pallidum Test)**
- for use on ano-gential lesions only: not for use on oral lesions
- without rubbing, directly apply each circle of the slide directly to the lesion or lesions and remove
- if the slide cannot be directly applied to the lesion, use the wooden tip of a swab to touch the lesion a few times and then transfer the swab exudate to the etched circles on the slide
- write the clients name directly on the slide and place in a plastic slide cover

**PCR Swab**
- of Syphilis lesion.
- PCR swab and transport medium is available from the BC-PHMRL and appropriate for endemic regions.
Follow-Up Diagnostic Testing Post Treatment

**Primary, secondary, early latent syphilis (SEL):**

- HIV negative clients
  - repeat Syphilis test at 6 and 12 months post treatment and every 6 months for 24 months
- HIV positive clients
  - repeat Syphilis test at 3, 6, 9 and 12 months post treatment and every 3-6 months with routine HIV blood work

For clients with incomplete or interrupted treatment, re-treatment may be indicated
  - repeat Syphilis test and monitor as per physician/NP recommendations

**Late latent syphilis (SLL):**

The follow-up for late latent syphilis (SLL) is based on initial RPR results:
- initial RPR less than 1:4 – no follow-up serology is required
- initial RPR higher than 1:4 – repeat RPR at 1 year and 2 years post treatment

**CLINICAL EVALUATION**

In BC, the diagnosis of syphilis is determined by the BCCDC Provincial STI/HIV Clinic physician in collaboration with the managing physician.

Syphilis diagnosis and treatment are based upon the health history, clinical findings, diagnostic test results and stage of infection.

**MANAGEMENT AND INTERVENTIONS**

**Goals of Treatment**

- treat bacterial infection
- prevent complications
- reduce transmission
## TREATMENT OF CHOICE – *USE ONLY IN CONSULT WITH PHYSICIAN OR NP*

<table>
<thead>
<tr>
<th>Stage of Infection</th>
<th>Treatment</th>
<th>Notes</th>
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<tbody>
<tr>
<td><strong>Primary</strong></td>
<td><strong>First Choice</strong></td>
<td>1. Bicillin LA® 2.4 MU comes divided into 2 separate injections (1.2 MU each) to be administered IM into the ventral or dorsal gluteal sites on the same visit. For IM injection, the ventral gluteal side is preferred.</td>
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<tr>
<td><strong>Secondary</strong></td>
<td>benzathine penicillin G (Bicillin LA®) 2.4 MU divided into 2 separate intramuscular injections 1.2 MU each.</td>
<td>2. DO NOT USE Bicillin LA® if history of allergy to or a history of anaphylaxis or immediate reaction to penicillins.</td>
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<td><strong>Early Latent</strong></td>
<td><strong>For early, infectious syphilis, the usual treatment is one set of Bicillin LA®. Two or three sets of Bicillin LA® may be indicated for infectious syphilis in HIV positive individuals.</strong></td>
<td>3. Advise client to remain in the clinic for at least 15 minutes post injection in case of anaphylactic reaction to treatment. Provide anaphylaxis treatment as required using the BCCDC Immunization Manual- Section V-Management of Anaphylaxis in a Non-Hospital Setting (BCCDC, Feb 2009, available at: <a href="http://www.bccdc.ca/NR/rdonlyres/52EA275F-0791-4164-ABA9-07F0183FF103/0/SectionV_Anaphylaxis_Jan05.pdf">http://www.bccdc.ca/NR/rdonlyres/52EA275F-0791-4164-ABA9-07F0183FF103/0/SectionV_Anaphylaxis_Jan05.pdf</a>.</td>
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<td>4. If serious allergic reaction develops including difficulty breathing, severe itchiness, have the client inform clinic staff immediately. If symptoms develop after leaving the clinic, advise the client to seek immediate emergency care.</td>
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<td>5. Advise the client about the possibility of a Jarisch-Herxheimer reaction. Clients should be made aware of this possible treatment reaction that presents as an acute febrile illness with headache, chills, and rigor, may occur soon following treatment, and is expected to resolve within 24 hours. This is not an allergic reaction. Symptoms may be treated with acetaminophen,</td>
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<td>6. Advise the client to abstain from sexual contact for 14 days after the onset of treatment with benzathine penicillin G (Bicillin LA®) or until completion of 14 days of doxycycline treatment.</td>
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<td>7. Advise the client of potential pain, redness and swelling at the injection site or diarrhea post treatment. If any of these effects persist or worsen advise the client to contact a health care provider.</td>
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<td>8. See BCCDC Client and Medication Information Sheets for further medication reconciliation and client information. Available at <a href="http://smartsexresource.com/health-providers/resources/categories/Medication%20handouts">http://smartsexresource.com/health-providers/resources/categories/Medication%20handouts</a>.</td>
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<tr>
<td>Primary</td>
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<td>Early Latent</td>
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| **Second Choice**     | doxycycline 100 mg po bid for 14 days. | 1. Advise the client about the possibility of a Jarisch-Herxheimer reaction. Clients should be made aware of this possible treatment reaction that presents as an acute febrile illness with headache, chills, and rigor, may occur soon following treatment, and is expected to resolve within 24 hours. This is not an allergic reaction. Symptoms may be treated with acetaminophen.  
2. Advise the client to abstain from sexual contact for 14 days after the onset of treatment with benzathine penicillin G (Bicillin LA®) or until completion of 14 days of doxycycline treatment.  
3. DO NOT USE doxycycline if allergic to tetracycline.  
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| Late Latent Or Syphilis of unknown duration | **First Choice**  
benzathine penicillin G (Bicillin LA®) 2.4 MU divided into 2 separate intramuscular injections 1.2 MU each.  
Repeat dose weekly for 3 weeks, 7 days apart (see note #2). | 1. Bicillin LA® 2.4 MU comes divided into 2 separate injections (1.2 MU each) to be administered IM into ventral or dorsal gluteal sites on the same visit. For IM injection, the ventral gluteal side is preferred.  
2. Treatment of 3-dose series is considered adequate providing there is no less than 5 days between doses, no more than 14 days between doses and that dosing is completed within a 4 week period.  
3. DO NOT USE Bicillin LA® if history of allergy to or a history of anaphylaxis or immediate reaction to penicillins.  
5. If serious allergic reaction develops including difficulty breathing, severe itchiness, have the client inform clinic staff immediately. If symptoms develop after leaving the clinic, advise the client to seek immediate emergency care.  
6. Advise the client about the possibility of a Jarisch-Herxheimer reaction. Clients should be made aware of this possible treatment reaction that presents as an acute febrile illness with headache, chills, rigor, may occur soon following treatment, and is expected to resolve within 24 hours. This is not an allergic reaction. Symptoms may be treated with acetaminophen,  
7. Advise the client to abstain from sexual contact for 14 days after the onset of treatment with benzathine penicillin G (Bicillin LA®) or until completion of 14 days of doxycycline treatment. |
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<th><strong>Second Choice</strong></th>
<th>doxycycline 100 mg po bid for 28 days</th>
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<td>1. Advise the client about the possibility of a Jarisch-Herxheimer reaction. Clients should be made aware of this possible treatment reaction that presents as an acute febrile illness with headache, chills, rigor that may occur soon following treatment and is expected to resolve within 24 hours. This is not an allergic reaction. Symptoms may be treated with acetaminophen.</td>
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<td>2. Advise client to abstain from sexual contact for 14 days after the onset of treatment with benzathine penicillin G (Bicillin LA®) or until completion of 14 days of doxycycline treatment.</td>
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<td>3. DO NOT USE doxycycline if allergic to tetracycline</td>
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<td>4. See BCCDC Client and Medication Information Sheets for further medication reconciliation and client information. Available at <a href="http://smartsexresource.com/health-providers/resources/categories/Medication%20handouts">http://smartsexresource.com/health-providers/resources/categories/Medication%20handouts</a>.</td>
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<td>5. Do not use doxycycline for the treatment of neurosyphilis.</td>
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Management of Syphilis Contacts

For RN(C) see CRNBC Treatment of STI Contacts DST

Syphilis contact management is centralized through the BCCDC. Direction for follow-up of contacts to confirmed syphilis cases occurs in collaboration with the BCCDC STI Clinic registered nurse responsible for syphilis.

Contact to Primary, Secondary or Early Latent Syphilis

- perform routine sexual health history, exam, and STI screening and offer HIV serology to sexual contacts
- treat all sexual contacts of a client diagnosed with primary, secondary, or early latent syphilis for the 3 months preceding the diagnosis of the infection
- follow-up of women with syphilis acquired during the perinatal period will include testing and/or treatment of infants as per the direction of the managing physician and the BCCDC STI Clinic physician
- perform syphilis serology on all sexual contacts of a client diagnosed with:
  - primary syphilis within the 3 months preceding the start of symptoms in the client (index case)
  - secondary syphilis within the 6 months preceding the start of symptoms in the client (index case)
  - early latent syphilis within the 12 months preceding the diagnosis of infection

Contact to Late Latent Syphilis

- offer routine sexual health history, exam, and STI screening including HIV serology to sexual contacts
- treat only those contacts who have reactive syphilis serology
- syphilis serology is required for all current and ongoing sexual contacts
- follow-up of women with late latent syphilis infection will include syphilis serology for children 18 years or younger as per the direction of the BCCDC STI Clinic physician
PREGNANT OR BREASTFEEDING
Refer all pregnant or breastfeeding clients to a physician or nurse practitioner (NP).

PARTNER COUNSELLING AND REFERRAL
- all cases of infectious syphilis are followed by the BCCDC Provincial STI/HIV Clinic physician and the BCCDC Clinic registered nurse responsible for syphilis
- the BCCDC Provincial STI/HIV Clinic nurse responsible for syphilis follow-up will support partner counselling and referral services by health care providers including public health nurses who are treating clients for infectious syphilis

POTENTIAL COMPLICATIONS
- all body systems including cardiovascular and neurologic can be affected by untreated syphilis.
- congenital transmission

CLIENT EDUCATION AND FOLLOW-UP
Counsel client:
- to return if symptoms have not disappeared in 2 to 4 weeks.
- that having a current infection of syphilis increases the likelihood of becoming infected with HIV and other STI.
- that having a current infection of syphilis increases the likelihood of HIV and STI transmission onto sexual partners.
- regarding the complications of untreated syphilis.
- regarding transmission and the asymptomatic nature of the infection.
- regarding the partner notification process.
- regarding blood work follow-up.
- regarding follow-up by public health for positive syphilis results.
CONSULTATION OR REFERRAL

In BC, the diagnosis and treatment of clients with syphilis occurs in coordination with a BCCDC Provincial STI/HIV Clinic physician.

DOCUMENTATION

Reportable infection:
- complete H208 forms as per reporting guidelines
- as per agency guidelines

REFERENCES

