Syphilis

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Case Definition

Confirmed case

Primary Syphilis
Laboratory confirmation of infection:
- Identification of *Treponema pallidum* by dark-field microscopy, fluorescent antibody or equivalent examination of material from a typical lesion (chancre) or a regional lymph node
  OR
- Detection of *T. pallidum* nucleic acid (e.g., Polymerase Chain Reaction (PCR)) in an appropriate clinical specimen
  OR
- Presence of one or more chancre(s), and reactive treponemal serology, regardless of non-treponemal test reactivity, in individuals with no previous history of syphilis
  OR
- Presence of one or more chancre(s) and a fourfold or greater increase in the titre over the last known non-treponemal test (e.g., Rapid Plasma Reagin (RPR), Venereal Disease Reporting Laboratory (VDRL)) in individuals with a past history of syphilis treatment.

Secondary Syphilis
Laboratory evidence of infection:
- Identification of *T. pallidum* by dark-field microscopy, fluorescent antibody or equivalent examination of mucocutaneous lesions, condylomata lata and reactive serology (non-treponemal and treponemal)
  OR
- Detection of *T. pallidum* nucleic acid (e.g., PCR) in an appropriate clinical specimen
  OR
- Presence of typical signs or symptoms of secondary syphilis (e.g., mucocutaneous lesions, alopecia, loss of eyelashes and lateral third of eyebrows, iritis, generalized lymphadenopathy, fever, malaise or splenomegaly) AND either:
  - A reactive serology (non-treponemal and treponemal)
  - A fourfold or greater increase in titre over the last known non-treponemal test.

Early Latent Syphilis (< 1 year after infection)
Laboratory confirmation of infection:
- An asymptomatic patient with reactive serology (treponemal and/or non-treponemal) who, within the past 12 months, had one or more of the following:
  - non-reactive serology,
  - symptoms suggestive of primary or secondary syphilis
Late Latent Syphilis (> 1 year after infection or of unknown duration)

Laboratory confirmation of infection:
- An asymptomatic patient with persistently reactive treponemal serology (regardless of non-treponemal serology reactivity) who does not meet the criteria for early latent disease and who has not been previously treated for syphilis.

Neurosyphilis, Early (< 1 year after infection)

Laboratory confirmation of infection:
- Fits the criteria of a confirmed case of primary, secondary or early latent syphilis
  **AND** one or more of the following:
  - Reactive CSF-VDRL in non-bloody cerebrospinal fluid (CSF),
  - Detection of *T. pallidum* nucleic acid (e.g., PCR) in CSF or vitreous humor,
  - Clinical evidence of neurosyphilis **AND** either elevated CSF leukocytes **OR** elevated CSF protein in the absence of other known causes.

Neurosyphilis, Late (> 1 year after infection)

Laboratory confirmation of infection:
- Reactive treponemal serology (regardless of non-treponemal serology reactivity)
  **AND** one or more of the following:
  - Reactive CSF-VDRL in non-bloody cerebrospinal fluid (CSF),
  - Clinical evidence of neurosyphilis **AND** either elevated CSF leukocytes **OR** elevated CSF protein in the absence of other known causes.

Tertiary Syphilis Other than Neurosyphilis

Laboratory confirmation of infection:
- Reactive treponemal serology (regardless of non-treponemal test reactivity) together with characteristic late abnormalities of the cardiovascular system, bone, skin or other structures, in the absence of other known causes of these abnormalities (*T. pallidum* is rarely seen in these lesions although, when present, it is diagnostic)
  **AND**
- No clinical or laboratory evidence of neurosyphilis.

Congenital Syphilis

- See Public Health Notifiable Disease Management guideline for Congenital Syphilis.

Laboratory Comments:
Diagnosis of syphilis requires combination of history including epidemiologic risk factors or exposure, physical examination and laboratory tests, as there is no single optimum diagnostic criterion.

Dark-field microscopy testing for *T. pallidum* is not reliable for oral/rectal lesions, as non-pathogenic treponemes may be present. Instead, direct fluorescent antibody test for *T. pallidum* should be used on such specimens.
Reporting Requirements

1. Physicians/Health Practitioners, STI Clinics and others
   - Physicians, nurses, nurse practitioners, midwives, persons in charge of an institution, or operators of a supportive living accommodation as listed in Section 22(3) and 22(4) of the Public Health Act, shall notify the Chief Medical Officer of Health (CMOH) (or designate) of all confirmed cases in the prescribed form by mail, fax or electronic transfer within 48 hours (two days). The completed Notification of Sexually Transmitted Infection (STI) form shall be forwarded to the CMOH (or designate) within two weeks of notification. The Notification of STI Form will include:
     o index patient information,
     o laboratory/clinical findings,
     o treatment details,
     o contact information and their treatment.
   - For out-of-zone, out-of-province and out-of-country reports, the following information should be forwarded to the CMOH (or designate) by phone, fax or electronic transfer within 48 hours (two days) including:
     o name,
     o date of birth,
     o current health care number,
     o current address of residence and phone number,
     o attending physician (locally and out-of-province),
     o positive laboratory report (faxed) and
     o date of exposure.

2. Laboratories
   - Section 23(b) of the Public Health Act (1) requires that all laboratories, including the Provincial Laboratory for Public Health (ProvLab), shall report all positive laboratory results by mail, fax or electronic transfer within 48 hours (two days) to the:
     o CMOH (or designate), and
     o Attending/ordering physician or health practitioner.

3. Alberta Health Services
   - The Medical Officer of Health (MOH) (or designate) is responsible for ensuring investigation, treatment and follow-up of all reported confirmed cases and contacts.

4. Canadian Blood Services
   - Reporting required on a person who has had reactive serology when donating blood. Referral to STI Services is required. Blood sample to be sent to ProvLab for confirmatory testing.

5. Citizenship and Immigration Canada (CIC)
   - Medical surveillance is required on all persons who have had evidence of previous disease and treatment for syphilis infection prior to entering Canada. STI Services will notify CIC by letter when follow up is complete.

6. Additional Reporting Requirements for Physicians, Health Practitioners and Others
   - In all cases, where a person under 18 is suspected or confirmed to have an STI, an assessment should be carried out by the clinician to determine if additional reporting is required.
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Alberta Health
Public Health Notifiable Disease Management Guidelines
Syphilis

To Child and Family Services
The clinician should determine whether there are reasonable and probable grounds to believe that they are in contact with “a child in need of intervention” [as per Section 1(2) of the Child, Youth and Family Enhancement Act (2)] and shall report to a director pursuant to Section 4 of the CYFEA (2).

Reporting is done by contacting the local Child and Family Services office or calling the CHILD ABUSE HOTLINE: 1-800-387-5437 (KIDS). For local office contact information see: www.child.alberta.ca/home/782.cfm

To Law Enforcement Agency
Consent is a key factor in determining whether any form of sexual activity is a criminal offence. Children under 12 do not have the legal capacity to consent to any form of sexual activity. The law identifies the exception for minors under age 16 years as having the ability to consent, in “close in age” or “peer group” situations. The law recognizes that the age of consent for sexual activity is 16.

Reporting is done by contacting your local City Police Detachment or RCMP Detachment http://www.rcmp-grc.gc.ca/ab/det-eng.htm.

For additional information see: Frequently Asked Questions:
- Age of Consent to Sexual Activity www.justice.gc.ca/eng/dept-min/clp/faq.html (3)
Etiology
Syphilis is caused by the spirochete *Treponema pallidum* ssp. pallidum. It is an extremely fragile organism, surviving for only a short period of time outside of the host. The organisms are slender, tightly coiled, unicellular and helical cells. The organism moves with a drifting, rotary, corkscrew motion and usually has a characteristic flexuose or undulation movement about its center. This distinctive feature is used to distinguish *T. pallidum* from other treponemes. Unlike most bacteria, *T. pallidum*’s genome lacks apparent compatible elements with other bacteria, suggesting it is extremely conserved and stable. This may explain why it has remained exquisitely sensitive to penicillin for over 70 years (5).

Clinical Presentation
Infection with *T. pallidum*, if left unnoticed, undiagnosed or untreated, progresses through several stages; primary, secondary, latent and tertiary stages. These stages are grouped into three categories; infectious syphilis (primary, secondary, early latent), non-infectious syphilis (late latent, tertiary) and congenital syphilis (transmission from an infected mother). In 15 – 40% of untreated cases, it may progress to involve the central nervous system, heart or other organs. Syphilis is commonly referred to as the ‘great imitator’ or the ‘great impostor’ due to the extensive variability of symptoms. However, many cases are asymptomatic and may only be diagnosed if screening for syphilis is conducted using serologic tests. (6-10).

**Primary Syphilis**
Primary syphilis classically presents as a single, painless ulcer (chancre) but multiple, painful ulcers may also occur. Up to 30% of primary infections are asymptomatic. Primary syphilis may also be co-infected with herpes simplex virus. The chancre marks the point of entry of *T. pallidum* and exudes a clear fluid containing numerous spirochetes. Invasion of the bloodstream precedes the initial lesion. Painless regional lymphadenopathy is frequently present. Without treatment the resolution of symptoms occurs in 4 – 6 weeks. (10)

**Secondary Syphilis**
There may be no clear demarcation between primary and secondary syphilis. A primary chancre is still present in as many as 1/3 patients with secondary syphilis. Clinical signs of secondary syphilis appear on average between 2 – 12 weeks and up to six months after an untreated primary stage. This is considered the most bacteremic stage of infection. Presentation may include a skin rash, low-grade fever, malaise, pharyngitis, alopecia, weight loss, arthralgias and painless lymphadenopathy. Enlargement of the epitrochlear lymph nodes is a unique finding in secondary syphilis. The rash is often generalized and bilateral and is frequently present on the palms and soles but may be so faint as to go unnoticed. The lesions are highly infectious. The differential diagnosis of secondary syphilis is extensive and variable. The rash will disappear with or without treatment. Cases of secondary syphilis become latent for years in about 1/3 of untreated cases. (5;6;8;10)

**The possibility of a prozone reaction should be considered in individuals who are suspected of having secondary syphilis but whose non-treponemal test is non-reactive.** (A prozone reaction refers to a false negative non-treponemal test resulting from overwhelming antibody titres which interfere with the proper formation of the antigen-antibody lattice network that is necessary to visualize a positive flocculation test. If this situation is suspected then the lab should be asked to check for a prozone phenomenon and/or the test should be repeated 2 – 4 weeks later. Note that Alberta currently uses a treponemal test for screening for syphilis. (10)
**Early Latent Syphilis**
Early latent syphilis is disease that has been acquired within the preceding year. There are no signs or symptoms but without treatment the person remains infectious due to a 25% chance of relapse to the secondary stage in untreated cases in the first year after infection. Neurological manifestations including acute syphilitic meningitis may occur. (5;9;10)

**Late Latent Syphilis**
Late latent syphilis is syphilis acquired more than 1 year ago. Cases are asymptomatic but will have reactive treponemal serology. Relapse to the secondary stage is very unlikely. (5;9;10)

**Neurosyphilis**
Neurosyphilis occurs when there is evidence of central nervous system infection; CSF abnormalities must be present. (5;9;10)

**Tertiary Syphilis other than Neurosyphilis**
This stage refers to the presence of gummas and cardiovascular syphilis which may present as aortitis or gummatous changes of the bones, viscera or skin occurring years to decades after the primary infection. (5;9;10)

**Diagnosis**
- A diagnosis is made by identifying the spirochete from fluid taken from ulcers in primary and secondary syphilis and/or by serologic testing. (6)
- Two forms of serologic testing are available; non-treponemal antigen tests and treponemal antigen tests. In September, 2007 syphilis enzyme immunoassay (EIA), a treponemal test, replaced the non-treponemal Rapid Plasma Reagin (RPR) as the screening test for syphilis in Alberta. The RPR remains necessary to help with staging, to monitor the response to treatment and to diagnose re-infection so is automatically performed in Alberta if the EIA is reactive. (8;9;11)
- Interpretation of the serology is dependent on history, clinical findings, treatment and repeat serology. (12)
- CSF examination for cells, protein and VDRL is recommended to establish a diagnosis of neurosyphilis and is indicated in certain cases, e.g., neurologic including ocular and ear involvement, congenital syphilis, etc. (13;14)

**Primary and Secondary Syphilis**
- Obtain material from lesions for dark-field microscopy and/or DFA/IFA and/or PCR for T pallidum.
- Ulcers should also be tested for herpes simplex virus. If epidemiologically appropriate, testing for Chancroid and/or Lymphogranuloma venereum may be considered after consultation with an STI expert and/or ProvLab.
- Screening is conducted with the syphilis EIA, which if positive will automatically be followed by a RPR and confirmatory test (syphilis InnoLia). If testing is done in early primary syphilis, it may be negative and should be repeated in 2 – 4 weeks if lesions are dark-field or DFA/IFA or PCR negative and/or if no treatment has been given. Syphilis serologic tests are almost always positive in the secondary stage; rare exceptions include patients with severe immunocompromise (e.g., advanced HIV or bone marrow transplant recipients) who may be unable to mount an antibody response.(13)
Latent Syphilis

- Screening is conducted with the syphilis EIA, which if positive will automatically be followed by a RPR and confirmatory test (syphilis InnoLia).
- Clinical evaluation, including neurological and cardiovascular examination to assess for signs of tertiary syphilis.
- Lumbar puncture may be appropriate. (5;13)

Tertiary Syphilis

- Screening is conducted with the syphilis EIA, which if positive will automatically be followed by a RPR and confirmatory test (syphilis InnoLia).
- CSF examination. (13)

Epidemiology

Reservoir
Humans are the only known reservoir (6).

Transmission
Transmission is by direct contact with infectious exudates from moist early lesions of skin and mucous membrane of infected person. Syphilis is usually acquired through sexual contact. Transmission is rare after the first year of infection. The infectious dose varies from person to person. (8;11)

Health care workers who have had close, unprotected contact with a patient before identification is made or during the first 24 hours of therapy (including congenital cases) may be at risk of contracting the infection. It is possible to contract syphilis by having non-sexual contact with the infectious lesions, although it is unlikely. They should be examined clinically for the presence of lesions 2 – 3 weeks after contact. If symptoms appear, serologic testing should be performed. If the exposure is considered substantial, immediate consideration, by an STI expert, should be given to initiating treatment. (8)

Incubation Period
The incubation period for primary syphilis is 3 – 90 days, averaging about three weeks. (9)

Period of Communicability
The infection is communicable during the primary, secondary and early latent stages of syphilis. Individuals are considered non-infectious after the resolution of open lesions with appropriate antibiotic therapy. Late latent and tertiary syphilis are not infectious. (14)

Host Susceptibility
Susceptibility is universal, however, only about 30% of exposures result in infection. A person who has been cured of syphilis may develop partial immunity; however a treated infection does not confer immunity against subsequent re-infection. (15)

The presence of genital (and oral) lesions such as those present in primary syphilis increases the risk of HIV transmission and/or acquisition three to five times, as well as increasing the risk of acquiring other STI.

Occurrence

General
This disease is found worldwide. Co-infection with other STI, including HIV is common. (11)
Canada
Syphilis has been notifiable since 1940 when, initially, rates were very high. Infectious syphilis rates started to decline in 1985 and reached their lowest point in 1996 when 0.25 cases per 100,000 population was reported. This rate has shown a steady increase to 4.2 per 100,000 population in 2008. The rate for 2009 was 5.0 per 100,000 population. (16;17)

Alberta
Beginning in 2003, Alberta has experienced a significant resurgence in infectious syphilis spreading to all regions of the province. In March 2007, a provincial syphilis outbreak was officially declared. The following chart contains a comparison of National and Alberta specific syphilis cases/rates. (16;18-20)

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**Key Investigation**

**Single Case**
Diagnosis and treatment is performed by community physicians and STI Services (including STI clinics in Edmonton, Calgary and Fort McMurray). All case files are reviewed by a STI consultant to ensure accurate staging and management.

The diagnosis of syphilis depends on a combination of epidemiologic history, signs and symptoms and past history of syphilis and/or treatment for syphilis. The interpretation of serology should be made in conjunction with a colleague experienced in the management of syphilis (9;12;13).

- Determine the presence or absence of symptoms.
- Determine if risk factors for syphilis are present:
  - sexual contact with person(s) with known infection or compatible syndrome,
  - unprotected sex with partner(s) originating from or following travel to an area with high endemicity for syphilis or geographical areas experiencing outbreaks of infectious syphilis,
- travelers to endemic countries who have had unprotected sex with a resident of that area,
- history of syphilis, HIV and other STI,
- vulnerable populations (e.g., IDU, incarcerated individuals, individuals involved in sex work, street youth, men who have unprotected sex with other men, etc.).

- Offer testing for HIV and other STI.
- Counsel and identify partners, including locating information.

**Control**

**Management of a Case**
- Because of the complexity of this disease, each case is assessed on staging and to determine what if any action is appropriate.
- Past history of treatment for syphilis may be available from STI Services and will help guide current management (9;12;13).
- Consultation or referral to STI Services is recommended.
- Cases should be interviewed for history of exposure, risk assessment, and sexual partner(s) identification.
- Counsel and test for HIV and other STI. Individuals with HIV co-infection should be co-managed with an HIV specialist.
- Immunization against hepatitis A may be recommended. Refer to Alberta Immunization Policy manual for immunization eligibility (21).
- Immunization against hepatitis B is recommended if not already given. Refer to Alberta Immunization Policy manual for immunization eligibility (21).
- All cases should be instructed about infection transmission.
- Sexual assault in adults should be managed in conjunction with local Sexual Assault services and other appropriate community support services.
- All cases should be provided with individualized STI prevention education, targeted at developing knowledge, skills, attitudes and behaviors to reduce the risk and prevent recurrences of STI.
- All patients with a notifiable STI qualify for provincially funded medications.
  - STI services will send replacement medication upon receipt of a Notification of STI Form when the physician mailing address is indicated on the form.
  - Physicians and STI clinics may order additional quantities of medication by contacting STI Services.
- Cases and their sexual partners should be counseled in the importance of abstaining from sex while clinical disease is present and until adequate treatment has been administered.
- Persons known to be infected with syphilis (especially infectious cases) should receive appropriate treatment as quickly as possible.
- Pregnant women with documentation of adequate treatment in the past need not be retreated unless there is clinical or serological evidence of re-infection.
- If the case is 14 years of age or younger a referral to a pediatrician should be made.

**Recalcitrant Patients**
- The Public Health Act (sections 39 through 52) authorizes detention of recalcitrant patients for medical examination, treatment and/or counseling (1).
- The CMOH [or designate (section 13(3) of the Public Health Act)] or MOH may issue a certificate to detain an individual who is believed to be infected and refuses or neglects to comply with treatment.
- There must be proof of infection or contact to an infected person and documentation of failure to comply with prescribed treatment and medical examination or non compliance for testing and/or treatment.
Canadian Blood Services
- Canadian Blood Services refers all positive screens from blood donor clinics for further investigation. All blood samples are forwarded to ProvLab for further testing. A referral is forwarded to STI Services for treatment and follow up, including partner notification (1).

CIC Medical Surveillance
- CMOH (or designate) will be notified of individuals with reactive syphilis serology requiring medical surveillance. Immigrants or refugees to Canada who are 15 years of age or older require documentation of adequately treated syphilis as part of the applicant’s medical admissibility. The immigrant or refugee is notified by letter from Citizenship Immigration Canada to contact the public health authority in their area of residence in Alberta, within 30 days of entry.

Treatment of a Case
- Medical and case consultation is available through STI Services at 780-735-1466 or toll free 1-888-535-1466.

Non-HIV Infected/Non-Pregnant Adults
- Primary, Secondary, Early Latent (< 1 year duration):
  - Preferred: Benzathine penicillin 2.4 mu IM as a single dose*.
  - Alternate (penicillin allergic patients): Doxycycline 100 mg po BID for 14 days.

- Latent (> 1 year duration or unknown duration and cardiovascular):
  - Preferred: Benzathine penicillin 2.4 mu IM weekly for 3 consecutive weeks*.
  - Alternate (penicillin allergic patients): Doxycycline 100 mg po BID for 28 days.

Non-HIV Infected/Pregnant Adults
- Primary, Secondary, Early Latent (< 1 year duration):
  - Benzathine penicillin 2.4 mu IM weekly for 2 doses*.

- Latent (> 1 year duration or unknown duration and cardiovascular):
  - Benzathine penicillin 2.4 mu IM weekly for 3 consecutive weeks*.

*Benzathine penicillin is available from STI Services.

Considerations for Pregnant Women:
- With documentation of adequate treatment in the past, patients need not be retreated, unless there is clinical or serological evidence of re-infection or treatment failure.
- All pregnant patients with infectious syphilis should be managed in conjunction with a STI specialist. If the mother is > 20 weeks gestation, a detailed fetal ultrasound should be performed and she should be managed together with a materno-fetal specialist.
- Treatment of infectious syphilis in pregnancy may precipitate a Jarisch Herxheimer reaction which may cause fetal distress or premature labour; all patients > 20 weeks gestation should undergo fetal monitoring for 12 – 24 hours after administration of benzathine penicillin.
- Doxycycline is not recommended for use during pregnancy. Therefore, there is no satisfactory alternative to penicillin in pregnancy. Penicillin allergic pregnant women should be considered for desensitization followed by treatment with benzathine penicillin.
All Adults with Neurosyphilis
- Preferred: Crystalline penicillin G 4 mu IV q4h for 10-14 days.

Considerations:
- Past history of treatment for syphilis may be available from STI Services and may help to guide current management.
- CSF examination for cell count and differential, protein, glucose and VDRL is recommended to establish a diagnosis of neurosyphilis and is indicated in all patients with neurologic or ophthalmic symptoms or signs, and patients meeting other criteria (Refer to Syphilis Chapter in Canadian Guidelines on Sexually Transmitted Infections, http://www.phac-aspc.gc.ca/std-mts/sti-its/pdf/510syphilis-eng.pdf).

HIV Co-Infection
- Patients with HIV co-infection should be co-managed with an HIV specialist. It is generally recommended that all HIV infected patients without evidence of neurologic involvement receive 3 weekly doses of benzathine penicillin 2.4 mu IM*.
  *Benzathine penicillin is available from STI Services.

Refer to: Alberta Treatment Guidelines for Sexually Transmitted Infections in Adolescents and Adults (9;12;13)

Pediatric Cases
- If the case is < 14 years of age a referral to a pediatrician should be made.
- Neonates born to untreated, infected mothers must be tested and treated.
- If the case is an infant, the mother and her sexual partner(s) should be examined and tested.
- It is recommended that all children <14 years of age (except for congenitally acquired infections) be managed in consultation with a referral centre in either:
  - Edmonton:
    Child and Adolescent Protection Centre
    Stollery Children's Hospital
    1C4.24 Mackenzie Health Sciences Centre
    8440-112 Street
    Edmonton, Alberta T6G 2B7
    Tel: 780-407-1240
  - OR
  - Calgary:
    Child Abuse Service
    Child Development Centre
    Suite 200, 3820-24 Ave NW
    Calgary, Alberta. T2N 1N4
    Tel: 403-955-5959

Follow-up (All Cases)
- Consultation with or referral to a STI specialist or STI clinic is recommended.
- For infectious syphilis (primary, secondary and early latent), repeat syphilis serology (RPR) should be obtained at 1*, 3, 6, and 12 months following therapy. Serology should be repeated at 24 months in HIV positive individuals.
For late latent syphilis, syphilis serology (RPR) need not be repeated until 12 months post therapy.

For pregnant women with reactive syphilis serology and infants born to mothers with reactive serology, follow up will depend on maternal and neonatal history; advice should be sought from STI expert.

Repeat testing is not required if the baseline or follow-up NTT (RPR) is non-reactive or becomes non-reactive during follow up, but may be considered in HIV-infected individuals or in recent exposures to syphilis (e.g., early primary syphilis).

Repeat HIV testing should be done in all primary syphilis cases since syphilis increases the risk of acquisition of HIV; HIV testing should be done at 1 and 3 months.

As per Canadian STI treatment guidelines, some experts recommend follow up at this time to ensure non-treponemal titres are not rising. (9)

Management of Contacts

Partner Notification

Partner notification will identify those at risk, reduce disease transmission/re-infection and ultimately prevent disease sequelae.

It is mandated under the Public Health Act that every attempt is made to identify, locate, examine and treat partners/contacts of all cases. (1)

Physician/case manager are required to provide partner names and locating information on the Notification of STI Form and forward to STI Services.

If testing and/or treatment of partner(s) are not confirmed on the Notification of STI Form, STI Services will initiate follow up by a Partner Notification Nurse.

Partner Notification Nurse (PNN) is specially trained to conduct notification of partners and contacts in a confidential manner that protects the identity of the index case.

The phone number for your designated PNN is available by calling STI Services at 780-735-1466 or toll free 1-888-535-1466.

All contacts should be screened for HIV and other STI.

All contacts should be instructed about infection transmission.

All contacts should be provided with individualized STI prevention education, targeted at developing knowledge, skills, attitudes and behaviors to reduce the risk and prevent recurrences of STI.

STI Services initiates follow-up on all out of province/country referrals of cases and partner(s).

Primary Syphilis

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

Named contacts should be treated prophylactically.

If the contact refuses treatment, repeat serology monthly until three months has elapsed since last sexual contact with infected individual.

Sexual partners must be treated at the same time to prevent re-infection.

Secondary and Early Latent Syphilis

All contacts of secondary syphilis in the last six months and early latent syphilis in the last 12 months regardless of symptoms or signs, must be located, examined, tested and treated if applicable. It may be necessary to extend this time period until a sexual contact is identified.

All individuals with contact within the preceding three months should be treated prophylactically.
• If the contact refuses treatment repeat serology monthly until three months has elapsed since last sexual contact with infected individual.

**Late Latent Syphilis**

• When appropriate, a serologic test for syphilis should be performed on long-term sexual partners. Children born to females with LLS should be tested, regardless of current age of child, based in estimated duration of infection in mother.

**Presumptive**

• Persons who are treated as contacts to confirmed infectious syphilis should not be interviewed for contacts until it has been confirmed that they also have infectious syphilis.

### Preventive Measures

• Ensure appropriate treatment of syphilis for cases.
• Interview case, identify and ensure appropriate treatment of syphilis for sexual partner(s).
• Include information about risk for STI during pre-travel health counseling.
• Make STI services culturally appropriate, readily accessible and acceptable, regardless of economic status.
• Educate the case, sexual partners and the public on methods of personal protective measures, in particular the correct and consistent use of condoms and discuss safer sex options including:
  o abstinence,
  o delaying onset of sexual activity,
  o developing mutually monogamous relationships,
  o reducing the numbers of sexual partners,
  o discouraging anonymous or casual sexual activity,
  o sound decision making.
• Educate the case, sexual partners and the public about symptoms, transmission and prevention of syphilis infection.

### Screening

• Universal screening is recommended in all individuals engaging in sexual activity outside of mutually monogamous relationships.
• High risk persons should have annual screening. Screening may be more frequent based on local epidemiology and/or presence of symptoms suggestive of infectious syphilis. Individuals at higher risk for acquisition of syphilis include persons involved in sex trade, MSM, injection drug users, street involved, homeless, multiple sex partners and their partners, persons with other sexually transmitted diseases and their partners, and persons with HIV infection.
• All pregnant women should be screened for syphilis during pregnancy. Screening should be performed in the first trimester for all pregnant women and again at the time of delivery.
• For pregnant women at high risk of acquisition or re-acquisition of syphilis during pregnancy (e.g., active sex trade) they may require more frequent screening, e.g., monthly. This includes women:
  o who have had contact with a known case of syphilis,
  o who are sex workers,
  o who are street involved/homeless,
  o who are injection drug users,
  o of Aboriginal ethnicity,
  o with multiple sexual partners,
  o with a history of syphilis,
- with HIV and other STI,
- originating from or having sex with an individual from a country with a high prevalence of syphilis,
- living in areas experiencing outbreaks of heterosexual syphilis,
- with sexual partners of any individuals with the preceding characteristics, and
- victims of sexual assault.
References

http://www.qp.alberta.ca/574.cfm?page=P37.cfm&leg_type=Acts&isbncln=9780779733873


(10) Dr. Amita Singh. 2012. Ref Type: Personal Communication


(20) Communicable Disease Reporting System (CDRS) [computer program]. Alberta Health and Wellness; 2011.