Syphilis

MANAGEMENT SUMMARY

TEST IF

- MSM (at least annually, but ideally with every sexual health check)
- HIV positive (at least annually, but ideally with every sexual health check)
- Routine antenatal screen; consider rescreening in later pregnancy if partner change
- Routine immigration screen
- A sexual contact of a person with syphilis
- Routine sexual health check

Signs or symptoms of infectious syphilis:

- Genital ulcers (see Genital Ulcer Disease summary www.nzshs.org/guidelines)
- MSM with any genital symptoms or rash
- Any rash affecting the palms of the hands or soles of the feet, or that is persistent or unexplained
- Pyrexia of unknown origin, unexplained persistent lymphadenopathy, unexplained liver function disturbance, alopecia

RECOMMENDED TESTS

- Syphilis serology – if clinical suspicion of infectious syphilis specify on laboratory form
- HIV serology
- Routine STI tests (see Sexual Health Check guideline www.nzshs.org/guidelines)
- In MSM also request hepatitis A and B serology, unless known to be immune
- In persons with a history of IDU, incarceration, or who use recreational drugs during sex, request hepatitis C serology

Refer or discuss with a sexual health specialist if high index of suspicion of infectious syphilis (e.g. symptoms and/or signs, or contact of index case), **or if pregnant.**
It is recommended to discuss all positive syphilis serology with a sexual health specialist.

MANAGEMENT

- Advise to refrain from any sexual activity until assessed or discussed with a specialist service
- Do not use/prescribe any topical agents or oral antibiotics for genital ulcers
- Patients being treated for infectious syphilis should have syphilis serology repeated on the day treatment is commenced to provide an accurate baseline for monitoring treatment
- It is important that any intramuscular penicillin formulation used should be long-acting Bicillin LA (benzathine penicillin) 1.8g, as short-acting formulations are insufficient for syphilis treatment. Treatment should ideally be given at a sexual health service.

PARTNER NOTIFICATION AND MANAGEMENT OF SEXUAL CONTACTS

- **Referral or discussion with a sexual health specialist or service is strongly recommended**
- Be clear about language: 'partner' implies relationship
- All sexual contacts within the intervals below should be clinically and serologically evaluated

Infectious syphilis

- **Primary syphilis:** 3 months plus duration of symptoms. Empiric treatment for syphilis is recommended, as serology may be negative
- **Secondary syphilis:** 6 months plus duration of symptoms
- **Early latent syphilis and syphilis of unknown duration where RPR ≥ 1:32:** 12 months

Late latent syphilis, syphilis of unknown duration with low RPR and tertiary syphilis

- Serologic evaluation of current or last sexual contact and/or serologic evaluation of children if index case is female

FOLLOW-UP

Infectious syphilis

- Repeat serology at 3, 6 and 12 months
- Serological cure is defined by consistent four-fold (2 dilutions) drop in RPR titre
- Failure of RPR titre to decrease fourfold (2 dilutions) within 12 months indicates treatment failure – re-evaluation is necessary
- A subsequent four-fold (2 dilution) rise in RPR titre is an indication of re-infection – re-evaluation is necessary

Late latent syphilis and tertiary syphilis (excluding neurosyphilis)

- Repeat serology at 6 and 12 months to ensure remains serofast
- Fourfold (2 dilutions) increase in titre indicates either treatment failure or re-infection – re-evaluation is necessary

The Ministry of Health supports the use of these clinical guidelines, developed by clinical experts and professional associations to guide clinical care.
Further guideline information – www.nzshs.org/guidelines or phone a sexual health specialist.
This STI Management Guideline Summary has been produced by NZSHS. Every effort has been taken to ensure that the information in this guideline is correct at the time of publishing (September 2017).

Introduction

Syphilis is a sexually transmitted disease caused by a bacterium called Treponema pallidum pallidum. Infectious syphilis is a notifiable disease. Numbers of cases have greatly increased since 2000. **There is currently a syphilis epidemic in many areas in New Zealand. Syphilis can be complicated to manage and all cases should be referred to, or discussed with, a sexual health specialist.**

Most people with syphilis in New Zealand are thought to be infected inside New Zealand.

Syphilis is most commonly diagnosed in men who have sex with men (MSM); however infection in heterosexual males and females is becoming increasingly common.

Syphilis is also commonly diagnosed in immigrants from high-prevalence countries (e.g. Eastern Europe, Southeast Asia, China, South America, Africa, Pacific Islands esp. Fiji).

Syphilis is spread by intimate contact with muco-cutaneous skin so can be transmitted through oral sex. Condoms are not fully protective.

Test

- People presenting with possible signs or symptoms of syphilis:
  - Genital ulcers (see Genital Ulcer Disease summary **www.nzshs.org/guidelines**).
  - MSM with any genital symptoms or rash.
  - Any rash affecting the palms of the hands or soles of the feet, or that is persistent or unexplained.
  - Any unexplained neurological or ophthalmological signs, e.g. cranial nerve palsy or uveitis.
  - In cases of pyrexia of unknown origin, unexplained persistent lymphadenopathy, unexplained liver function disturbance, alopecia.
- Sexual contacts of someone with syphilis.
- MSM (at least annually, but ideally with every sexual health check).
- HIV positive MSM (at least annually, but ideally with every sexual health check).
- Pregnant women as part of routine antenatal screening. Consider rescreening in later pregnancy if partner change.
- As part of routine immigration screening.
- When doing a routine sexual health check.

Note: If patient is a contact of syphilis they may need empiric treatment at time of testing – see below.

If patient is asymptomatic and not a syphilis contact but is concerned about a specific recent sexual event – it is recommended to do a baseline test at time of presentation and do a repeat test 3 months from the time of last sexual intercourse.

Symptoms and Signs

Clinically the disease has 3 stages, however about 50% of people will have no symptoms and will only be diagnosed by serological testing.

Primary syphilis

- Incubation period 10 to 90 days (average 3 weeks).
- Patients may present with a genital ulcer or chancre(s) that is classically painless, however painful ulcers are not uncommon.
  - The ulcer usually has a well-defined margin with an indurated base.
  - May be unnoticed especially if on anal skin, cervix or in the mouth.
- In about 30% of cases there may be multiple chancres.
- Inguinal lymph nodes are usually enlarged, rubbery and non-tender.
- Even if untreated the chancre usually spontaneously heals within a few weeks.

Secondary syphilis

- Incubation period 2 to 24 weeks (average 6 weeks).
- The patient may present with constitutional symptoms such as fever, malaise, headache and lymphadenopathy.
- The skin is involved in over 90% of cases.
- The rash is usually generalised involving the trunk but may just affect the palms and soles.
  - The rash can be easily confused with drug eruptions, pytariasis rosea or guttate psoriasis.
- There may be alopecia and condylomata lata (warty growths in the anogenital area).
- There may also neurological signs and symptoms such as unilateral sensori-neural deafness, ocular nerve palsies, uveitis and meningitis.
- If untreated symptoms slowly resolve over a period of weeks.

Note: Skin lesions may be extremely infectious so always use gloves during examination of any rash or genital lesion.

Latent syphilis

- This means syphilis with no clinical symptoms or signs. Early latent is defined as less than 2 years duration, and late latent beyond 2 years.
- Some people never develop symptoms and will only be diagnosed by serological tests.
- If untreated all people become asymptomatic over a period of 12 to 24 months after initial infection.
- After 24 months people are no longer infectious to sexual contacts but women may still pass the infection on to the unborn foetus.

Tertiary syphilis

- Late symptoms/complications may develop months or years later in about one third of cases if not treated.
- Complications include skin lesions (gummas), cardiovascular or neurological disease.

Syphilis is best managed by a specialist sexual health service and all suspected cases should be either referred or discussed with a sexual health specialist.

Diagnostic Tests

- Diagnosis is usually by serology.
- All blood specimens are initially screened with an enzyme immunoassay (EIA).
- If this is reactive, then further serological tests will automatically be done by the laboratory for confirmation.
- RPR and TPPA (or TPHA) are usually both performed as confirmatory tests.
- Diagnosis may also be confirmed by direct identification of Treponema palliudum either visually (dark-field microscopy) or by antigen tests if there are lesions such as genital ulcers present (specialist services only).

Interpretation of Results

General points

- Syphilis serology can be difficult to interpret, therefore should be discussed with a sexual health specialist if positive.
- It can take up to 90 days for a test to become positive after infection therefore contacts of infectious syphilis should be treated empirically regardless of test results.
- Some serological tests remain reactive for life even after successful treatment.
- Follow-up testing to monitor non-treponemal test titres (RPR/VDRL) is important to establish effective cure.

Non-venereal treponematoses

- None of the currently available diagnostic tests are able to distinguish between syphilis and other non-venereal treponematoses, e.g. Yaws.
- Yaws was formerly endemic in the Pacific region but is unlikely to be the cause of positive treponemal serology in people born in the Pacific after 1960.
- The decision whether to treat for syphilis or not has to be made on the basis of history and clinical evaluation.

False positive reactions

- All of the available serological tests may produce false positive reactions, especially in low prevalence populations.
- Many medical conditions including acute and chronic viral infections, pregnancy, malignancy, and autoimmune disorders can give rise to false positive results.
- However when 2 or 3 different serological tests are positive (EIA, RPR and TPPA) the patient is highly likely to have either current or past infection with syphilis.

Management

If a patient has suspected primary or secondary syphilis i.e. symptoms or signs:

- **Early referral or discussion with a sexual health specialist or service is strongly recommended, prior to treatment.**
- Advise patient to refrain from any sexual activity until assessed and treated and until any rashes or lesions have healed.
- Do not use/prescribe any topical or oral antibiotics for genital ulcers or systemic disease.

Other recommended tests

- HIV serology.
- Routine STI tests (see Sexual Health Check guideline **www.nzshs.org/guidelines**).
- In MSM also request hepatitis A and B serology, if immune status unknown.
- In persons with a history of IVDU or incarceration request hepatitis C serology (**www.hepatitisfoundation.org.nz/**).
- A viral swab for HSV if any genital ulceration present (see Genital Ulcer Disease summary **www.nzshs.org/guidelines**).

Treatment Regimens

Treatment should be given by, or after discussion with, a sexual health specialist. Patients should have syphilis serology repeated on the day treatment is commenced to provide an accurate baseline for monitoring. **Any intramuscular penicillin formulation used should be long-acting, i.e. Bicillin LA (benzathine penicillin), as short-acting formulations provide insufficient treatment duration.**

Infectious syphilis (i.e primary, secondary and early latent syphilis:

- Bicillin LA (benzathine penicillin) 1.8g im stat.

Non-infectious syphilis (i.e late latent)

- Bicillin LA (benzathine penicillin) 1.8g im weekly for 3 weeks (total 5.4g).

Partner Notification and Management of Sexual Contacts

Partner notification

- Referral or discussion with a sexual health specialist or service is strongly recommended.
- Be clear about language: 'partner' implies relationship.
- **All sexual contacts within the intervals below should be clinically and serologically evaluated.**

Notification Intervals

Primary syphilis

- 3 months plus duration of symptoms.

Secondary syphilis

- 6 months plus duration of symptoms.

Early latent syphilis and syphilis of unknown duration where RPR ≥ 1:32

- 12 months.

Late syphilis (late latent and tertiary)

- Current or last sexual contact/s and/or serologic evaluation of children if index case is female.
- Most choose to tell contacts themselves.
- Giving written information is helpful.
- Notifying all contacts may not be possible, e.g. if there insufficient information or a threat of violence.

Management of sexual contacts

- Referral or discussion with a sexual health specialist is strongly recommended.
- Perform a full sexual health check, including general examination for signs of syphilis (see Sexual Health Check guideline www.nzshs.org/guidelines).
- Serology for syphilis and HIV.
- Treat empirically for syphilis if sexual contact with infectious syphilis was less than three months ago.
- Advise to abstain from sexual activity until assessed or discussed with a specialist service.
- Review in person in one week to discuss results and check resolution of any symptoms.
- If they test positive for syphilis – partner notification as above.

Follow-up

Infectious syphilis (primary, secondary, early latent syphilis and syphilis of unknown duration where RPR titre ≥1:32)

- Repeat serology at 3, 6 and 12 months.
- Serological cure is defined by consistent four-fold (2 dilutions) drop in RPR titre.
- Failure of RPR titre to decrease fourfold (2 dilutions) within 6 months is suggestive of treatment failure – re-evaluation with a sexual health specialist is strongly recommended.
- A subsequent four-fold (2 dilution) rise in RPR titre is an indication of re-infection – re-evaluation is necessary.

Late latent syphilis and tertiary syphilis (excluding neurosyphilis)

- Repeat serology at 6 and 12 months to ensure remains serofast.
- Fourfold (2 dilutions) increase in titre indicates either treatment failure or re-infection – re-evaluation with a sexual health specialist is strongly recommended.

Referral Guidelines

Syphilis is best managed by a specialist sexual health service and all suspected cases should be either referred or discussed with a sexual health specialist.

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