

## Introduction

**Syphilis** is a sexually transmitted disease caused by *Treponema pallidum pallidum*. Classically the disease has 3 stages:

- **Primary** – manifested by a **chancre(s)**
- **Secondary** – manifested by **constitutional symptoms, rash, and other signs** such as alopecia and condylomata lata
- **Latent or tertiary** – latent syphilis has **no associated** symptoms and tertiary may be benign, cardiovascular or neurological

**Syphilis is uncommon in New Zealand but numbers of cases of early infectious syphilis have increased substantially over recent years.**

## Target populations for screening

- Because of the recent increase in cases of infectious syphilis, testing should be offered routinely to patients undergoing testing for STIs
- Currently all antenatal patients are screened for syphilis at least once during pregnancy. Additional testing is done where the clinician feels it is appropriate
- Groups at **high risk of infection** are: **immigrants and refugees** from high-risk countries (e.g. Eastern Europe, Southeast Asia, China, South America, Africa, Pacific Islands esp. Fiji), **sexual partners** of patients with a diagnosis of syphilis, **persons who have had sex in a high risk country, HIV positive persons, Men who have Sex with Men (MSM).**

### IMPORTANT:

**Syphilis is best managed by a Specialist Sexual Health Service.**

All new positive serology results should be discussed with a doctor at a Specialist Sexual Health Service and all patients with suspected syphilis of any duration should be referred to a Specialist Sexual Health Service for evaluation and treatment.

**All cases of clinical primary or secondary syphilis should be referred URGENTLY to a Specialist Sexual Health Service for further investigation and management.**

**Syphilis**

## Testing methods

### In Auckland:

- Initial serological screening is with Enzyme Immunoassay (EIA). If this is positive, then RPR and TPHA (or TPPA) are performed as confirmatory tests

### Demonstration of *Treponema pallidum*:

#### Dark ground microscopy:

- Suitable for chancres (**not mouth or rectal**), or moist skin lesions
- Requires specialist laboratory equipment

#### Direct Fluorescent Antibody (DFA):

- Suitable for chancres at any site, and moist skin lesions

### Serological tests:

#### EIA:

- Enzyme Immunoassay
- Initial screening test
- Reported as non-reactive or reactive
- False positives may occur, but are uncommon

#### RPR:

- Rapid Plasma Reagin
- Reported as non-reactive or reactive with titre given
- Titre used to help evaluate stage of infection, and to monitor resolution following treatment
- When used as a screening test in a low prevalence population, false positive results are a significant issue

#### TPHA / TPPA:

- Reported as non-reactive or reactive
- Diagnostic Medlab gives a titre but this is not significant
- False positives may occur

## Interpretation of results

### General points:

#### Non-venereal Treponematoses:

- None of the currently available tests are able to distinguish between syphilis and other non-venereal treponematoses e.g. Yaws
- The decision whether to treat for syphilis or not has to be made on the basis of history and clinical evaluation by a specialist

**False positive reactions:**

- All of the above testing methods may produce false positive reactions, especially in a low prevalence population
- **Many medical conditions including acute and chronic viral infections, malignancy, and autoimmune disorders can give a false positive non-treponemal test result**
- All new positive serology results should be discussed with a doctor at a Specialist Sexual Health Service so that the appropriate evaluation and follow-up can be arranged

**Management of patient with suspected primary chancre**

**DO NOT:**

- Prescribe antibiotics
- Give any solutions to apply to ulcer

**DO:**

- **Refer URGENTLY to a Specialist Sexual Health Service**
- Advise the patient not to put any applications on ulcer.
- Advise the patient to abstain from sexual activity until diagnosis confirmed

**Treatment**

**Primary, Secondary and Early Latent Syphilis:**

- **Benzathine penicillin 1.8gm im (or 2.4 megaunits)**

**Late Latent Syphilis or Syphilis of unknown duration:**

- **Benzathine penicillin 1.8gm im (or 2.4 megaunits) weekly for 3 weeks**

**Partner notification and management of sexual partners**

**Primary, secondary, or early latent syphilis:**

**Syphilis of unknown duration where RPR titre  $\geq$  1:32:**

- Contacts within 90 days should be tested and treated presumptively
- Contacts >90 days but within 6/12 (secondary) or 12/12 (early latent or unknown duration RPR >1:32) should be serologically evaluated

**Late syphilis (late latent and tertiary):**

- Serologic evaluation of partners
- Serologic evaluation of children if index case is female

**Syphilis**

## Follow-up

Primary, secondary, early latent syphilis and syphilis of unknown duration where RPR titre > 1:32:

- **Repeat serology at 1,2,3,6, and 12 months**
- **Primary or secondary syphilis - fourfold** (2 dilutions) **increase in titre or failure of RPR titre to reduce fourfold** (2 dilutions) within 6 months indicates risk of **treatment failure or reinfection** – re-evaluation is necessary
- **Early latent syphilis and syphilis of unknown duration where RPR > 1:32 – fourfold** (2 dilutions) **increase in titre or failure of the RPR titre to decrease fourfold** (2 dilutions) **within 12-24 months indicates treatment failure or reinfection** – re-evaluation is necessary

Late latent and tertiary syphilis (excluding neurosyphilis):

- **Repeat serology at 6 and 12 months**
- **Fourfold** (2 dilutions) **increase in titre indicates risk of treatment failure or reinfection** – re-evaluation is necessary

## Referral guidelines

Patients with suspected syphilis of any duration should be referred to a Specialist Sexual Health Service for evaluation and treatment

**Syphilis**