

# Syphilis in pregnancy

Clinical Guideline Presentation v1.0



**45 minutes**

Towards CPD Hours

**References:**

Queensland Clinical Guideline: Syphilis in pregnancy is the primary reference for this package.

**Recommended citation:**

Queensland Clinical Guidelines. Syphilis in pregnancy clinical guideline education presentation E18.44-1-V1-R23. Queensland Health. 2018.

**Disclaimer:**

This presentation is an implementation tool and should be used in conjunction with the published guideline. This information does not supersede or replace the guideline. Consult the guideline for further information and references.

**Feedback and contact details:**

**M:** GPO Box 48 Brisbane QLD 4001 | **E:** [guidelines@health.qld.gov.au](mailto:guidelines@health.qld.gov.au) | **URL:** [www.health.qld.gov.au/qcg](http://www.health.qld.gov.au/qcg)

**Funding:**

Queensland Clinical Guidelines is supported by the Queensland Health, Healthcare Improvement Unit.

**Copyright:**

© State of Queensland (Queensland Health) 2018



This work is licensed under a Creative Commons Attribution Non-Commercial No Derivatives 4.0 Australia licence. In essence, you are free to copy and communicate the work in its current form for non-commercial purposes, as long as you attribute the Queensland Clinical Guidelines Program, Queensland Health and abide by the licence terms. You may not alter or adapt the work in any way. To view a copy of this licence, visit <http://creativecommons.org/licenses/by-nc-nd/3.0/au/deed.en>

For further information contact Queensland Clinical Guidelines, RBWH Post Office, Herston Qld 4029, email [guidelines@health.qld.gov.au](mailto:guidelines@health.qld.gov.au), phone (+61) 07 3131 6777. For permissions beyond the scope of this licence contact: Intellectual Property Officer, Queensland Health, GPO Box 48, Brisbane Qld 4001, email [ip\\_officer@health.qld.gov.au](mailto:ip_officer@health.qld.gov.au), phone (07) 3234 1479.

Images are property of State of Queensland (Queensland Health) unless otherwise cited.

# Learning objectives

- Recall basic pathophysiology of syphilis in pregnancy and congenital syphilis in the newborn
- Identify recommended screening according to risk assessment
- Identify indications for maternal and neonatal treatment



# Aetiology of syphilis

Syphilis is a bacterial infection caused by the spirochaete bacterium *Treponema pallidum* (*T. pallidum*)



Syphilis, and congenital syphilis, are notifiable diseases in Queensland

# Transmission

Transmission of syphilis can occur in multiple ways including:

- Direct contact with infectious lesions (chancre)—most commonly through sexual contact
- Vertical transmission—transplacental during pregnancy
- Less commonly through infected blood
- Incubation period is approximately 21 days from contact to the development of a chancre



# Assessment



Identify increased & higher risk groups

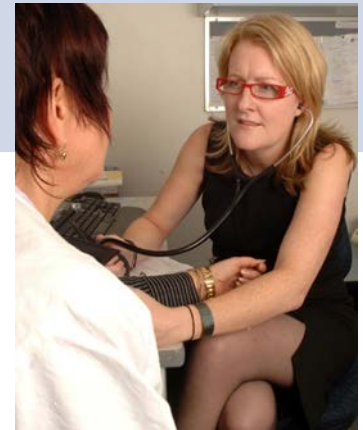
Maternal, obstetric and sexual history

Offer screening for sexually transmitted diseases (STIs)

Conduct clinical examination

Dry swab suspicious genital lesions for polymerase chain reaction (PCR)

Request *Syphilis serology* on pathology form



# Stages of syphilis

## Primary (Infectious)

- Lesions may be solitary or multiple
- Lesions may be painful or painless
- Spontaneously heal within 3–10 weeks without treatment

## Secondary (Infectious)

- Follows untreated primary syphilis 4–8 weeks after first lesion
- Rash to palms and soles of feet
- Resolves without treatment in 3–12 weeks

## Latent

- Follows untreated secondary stage
- Asymptomatic
- Reactive serology with no clinical manifestations

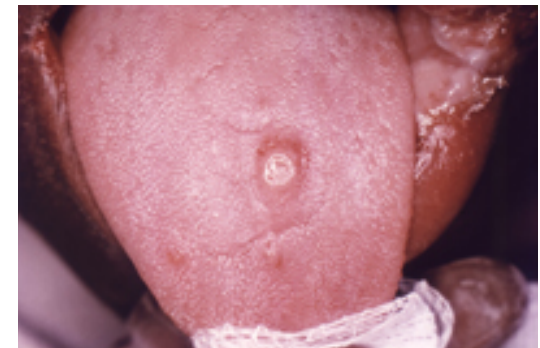
## Tertiary

- Can affect any organ system
- Occurs in one-third of untreated patients



*Treponema pallidum*

Primary  
chancre sores  
& typical rash  
presentations



Images from the Centre for Disease  
Control and Prevention (CDC) 2018



# Additional screening



## Increased risk of syphilis

- Woman or partner(s) identify as Aboriginal and/or Torres Strait Islander
- Adolescent pregnancy
- STI in the current pregnancy or preceding 12 months
- The woman or her partner(s) have ongoing sexual links in high prevalence countries (e.g. migrants or refugees)

## High risk of syphilis

- Sexual contact with an infectious syphilis case
- Woman or her partner(s) identify as Aboriginal and/or Torres Strait Islander AND the woman or her partner(s) reside in declared outbreak area
- Substance use during pregnancy—particularly ('ice')
- Woman's partner is a man who has sex with men
- Late, limited or no antenatal care
- Engages in high risk sexual activity

# Antenatal testing



## Universal Risk

Routinely screen at first appt  
(ideally before 10 weeks)

Repeat screening if risk of  
exposure during pregnancy



If suspicious lesions—dry  
swab PCR and full STI  
check

## Increased Risk

Screen as per universal  
risk



### Repeat screening

- At 26–28 weeks

### Test woman at birth if:

- No repeat serology after 26 weeks &/or
- Preterm birth with most recent serology > four weeks before birth

## High Risk

Screen as per universal  
risk



### Repeat screening:

- Around 20 weeks (16–24 weeks)
- 26–28 weeks
- 34–36 weeks
- At birth (woman)

# Maternal treatment

## Infectious syphilis requiring treatment (primary or secondary)

Benzathine penicillin 1.8 g (2.4 million units)  
IM as a single dose

**NB:** if syphilis requiring treatment is suspected and there is concern the woman will not re-present for care—presumptively give the recommended treatment

## Late latent or syphilis of unknown duration requiring treatment

Benzathine penicillin 1.8 g (2.4 million units) IM weekly for three weeks



# Postpartum maternal testing

## Repeat maternal syphilis serology at birth if:

- Syphilis requiring treatment in pregnancy
- **High** risk
- **Increased** risk and
  - NO repeat serology after 26 weeks
  - Pre-term labour with last syphilis serology > four weeks pre-birth
- Following risk assessment



## If syphilis requiring treatment, maternal serological follow-up at:

- Three months
- Six months **and**
- 12 months



## Discuss with QSSS and expert practitioner if:

- Maternal titre not decreased four-fold within 12 months **OR**
- There is a four-fold increase

# Aetiology of congenital syphilis (CS)

Cause: the spirochaete bacterium *Treponema pallidum* (*T. pallidum*) crossing the placenta, from the mother who has reactive serology



# Babies at risk of CS

## **Suspect CS in babies born to women who:**

- Had syphilis requiring treatment in pregnancy (irrespective of adequacy of treatment)
- Limited or no antenatal care
- Diagnosed with syphilis (any stage) within three months postpartum



# Diagnosis of CS

**NB: Do not** delay treatment while waiting for prenatal diagnostic tests

## Prenatal diagnosis

- Ultrasound examination
- Maternal diagnosis



## Diagnosis at birth

- Conduct full clinical examination
- Collect syphilis serology (do not collect blood from umbilical cord)
- Placental histopathology (collect entire fresh placenta for testing)



## Additional diagnostic tests for consideration

- Cerebrospinal fluid (CSF) testing
- Haematology
- Radiography

# Signs and symptoms of CS

**60–90% of babies are asymptomatic at birth**  
**Signs and symptoms are usually subtle and non-specific**  
**Usually appear by three months of age, most often by 5 weeks**

- Hepatomegaly
- Rhinitis
- Rash
- Generalised lymphadenopathy
- Nonimmune fetal hydrops
- Fever/sepsis
- Failure to move extremities secondary to pain
- Ophthalmologic manifestations
- Gastrointestinal manifestations





# Treatment

**NB: If a dose is missed restart the entire treatment regimen**



## Newborn 0–7 days of age

### **Recommended:**

Benzyl penicillin  
50 mg/kg IV 12  
hourly for 10 days

**Alternative:** Procaine  
penicillin 50mg/kg IM  
daily for 10 days

## Newborn 8–30 days of age

### **Recommended:**

Benzyl penicillin  
50 mg/kg IV 8  
hourly for 10 days

**Alternative:** Procaine  
penicillin 50mg/kg IM  
daily for 10 days

## Newborn more than 30 days of age

### **Recommended:**

Benzyl penicillin  
50 mg/kg IV 4–6  
hourly for 10 days

**Alternative:** Procaine  
penicillin 50mg/kg IM  
daily for 10 days

# Newborn follow up



- Follow-up serology:
  - At three, six and 12 months of age
  - If non-reactive at 12 months, no further testing required
- If follow-up testing is potentially difficult:
  - Aim to repeat testing at least twice in the first six months of life (with at least four weeks between tests)
  - Consider feasibility of testing at routine follow up appointments (e.g. immunisation, infant health checks)
- If initial newborn serology is non-reactive in the reactive mother, follow-up at three and six months
- If serology remains non-reactive at six months, no further testing is required

# Case study: Syphilis

- Mary is a 30 year old multigravida. She lives in a syphilis outbreak declared area and identifies as an Aboriginal and Torres Strait Islander woman.
- She returns to the hospital reporting that her baby Alexander, now 12 days of age, was suffering from a white discharge from his nose (resolved at day 5).
- Alexander has developed a rash on his back and feet and cries when he tries to move his legs
- When you review Mary's chart you notice that she had non-reactive syphilis serology at her booking-in visit at 26 weeks. She then had a reactive serology test at birth but no treatment or follow up was documented

# Clinical indicators

What indicators for syphilis and congenital syphilis do you identify from Mary's presentation?

- Mary identifies as an Aboriginal and Torres Strait Islander and resides in a syphilis declared outbreak area
- Late antenatal booking in with no follow-up serology based on risk category
- Reactive syphilis serology antenatally
- Baby Alexander has signs of congenital syphilis (rhinitis, rash and failure to move extremity secondary to pain (pseudoparalysis of Parrot)
- Mary is multigravida– ? risk of previous babies born with syphilis

# Communication

## What questions might you consider asking Mary?

- Some of our activities in life can make us at a higher risk for syphilis. Have you ever taken any illegal drugs before? How many sexual partners do you have? Have you ever been treated for an STI?
- Have you, or your partners, ever tested positive to syphilis before?
- Have you, or your partners, ever been treated for syphilis before?
- How many other children do you have? How old are they? Did any of your other children have signs or symptoms of congenital syphilis?

# Testing and treatment

## What tests do you recommend to Mary and baby Alexander?

*Mary:*

- *Syphilis serology* on pathology request form

*Baby Alexander:*

- *Syphilis Serology* pathology request
- Consider CSF test (consult with expert health practitioner)

## What treatment would you recommend?

*Mary:*

- Benzathine penicillin 1.8 gm (2.4 million units) IM as a single dose

*Baby Alexander:*

- Benzyl penicillin 50 mg/kg IV 12 hourly for 10 days

**NB:** all treatment in consultation with an expert practitioner



# Communication

## Who will you communicate with?

- Expert health practitioner/s
- Queensland Syphilis Surveillance Unit
- Discuss contact management with Mary
- Importance of treatment
- Communicate with other health practitioners through documentation in clinical notes
- Aboriginal and/or Torres Strait Islander liaison, as required

