Syphilis and pregnancy

Clinical Guideline Presentation V6

45 minutes

Towards CPD Hours

Clinical Excellence Queensland

Queensland Government

References:

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

Recommended citation:

Queensland4Clinical Guidelines. Syphilis and pregnancy clinical guideline education presentation E24.44-1-V6-R29. Queensland Health. 2024.

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 | **URL:** www.health.qld.gov.au/qcg

Funding:

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

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Objectives

- Identify the minimum universal screening recommendations during pregnancy
- Identify best practice recommendations related to maternal screening and treatment for syphilis infection
- Describe treatment regimens for:
  - Maternal syphilis infection during pregnancy
  - Congenital syphilis in the baby
- Identify follow up recommendations

Aetiology of syphilis

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

In Queensland *syphilis* and *congenital syphilis* are notifiable diseases*

*Public Health Act (2005) and Public Health Regulation (2018)

Syphilis infection

Stage	Description
Primary	Mean incubation 21 days (range 9 to 90 days) from contact to development of chancre
Secondary	Follows 4 to 6 months after untreated primary stage
Latent	Characterised by reactive serology with no clinical manifestations
Tertiary	Non-infectious, can affect any organ system

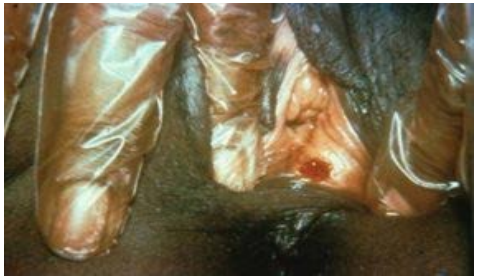
Transmission

Can occur via

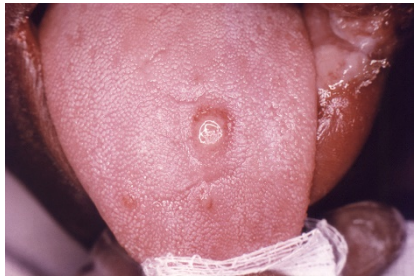
- Direct contact with infectious lesions (chancre)
  - Most commonly through sexual contact
- Vertical transmission—transplacental during pregnancy
- Less commonly through infected blood (e.g. shared needles)

Incubation period is approximately 21 days from contact to the development of a chancre

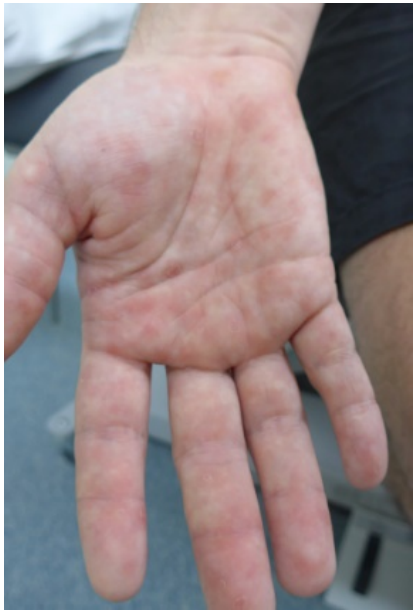
Chancres (sores) and rash presentation



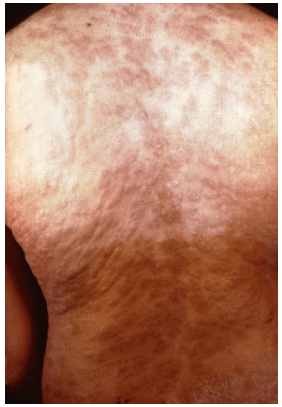
Primary stage syphilis chancre inside the vaginal opening*



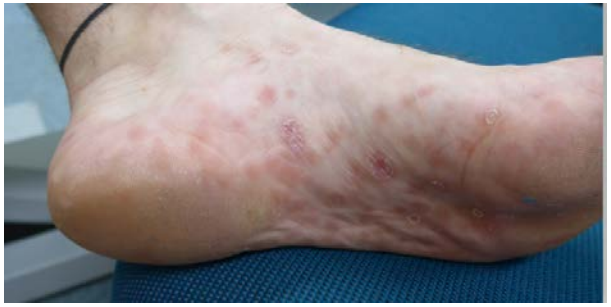
Primary stage syphilis chancre on tongue*



Secondary stage syphilis lesions on palms of hands (palmar lesions)



Secondary stage syphilis rash on the back*



Secondary stage syphilis lesions on soles of feet (plantar lesions)

**Image source: https://www.cdc.gov/syphilis/hcp/images/index.html*

Testing for syphilis

Types of tests

Nontreponemal (RPR) serology test reported as a titre

- Helps stage infection
- Provides baseline to assess response to treatment (or detect new infection)

Treponemal serology test reported as reactive or non-reactive

- Highly specific for syphilis
- Does not distinguish between current or past or untreated infection
- Usually remains reactive for life

Interpretation of serology results

MUST be interpreted with sexual health history and clinical information

- Are there symptoms? Are they a contact? Could it be reinfection?
- Are we testing in the window period?

What increases risk?

Unprotected sexual contact

- Oral, anal or vaginal intercourse without a condom or other barrier method with new, multiple or anonymous people or with a sexual partner who has other concurrent sexual contacts

Complex social circumstances

- Limited/no antenatal care
- Domestic & family violence
- Discrimination and/or intergenerational trauma
- Incarceration
- Financial hardship
- Drug and alcohol use
- Adolescent pregnancy
- Sexual partner is man who has sex with men (MSM)

Universal testing
(minimum 3 times during pregnancy)

Recommend to all pregnant women

- Before 10 weeks
  - At confirmation of pregnancy or at first antenatal visit
- At 26–28 weeks
- At 36 weeks
- **AND at any time that risk is identified**

Test at birth

Test mother if (any of):

- No serology available at 36 weeks gestation
- Preterm birth with most recent syphilis serology more than 4 weeks before birth
- Indicated following risk assessment

Test mother and baby in parallel if:

- Syphilis treated in this pregnancy
  ➔**irrespective of treatment history**
- Collect venous blood from baby (not cord blood)
- Send placenta for histopathology (in saline) and a PCR

Normalise discussions

At each contact during pregnancy

Check syphilis serology results

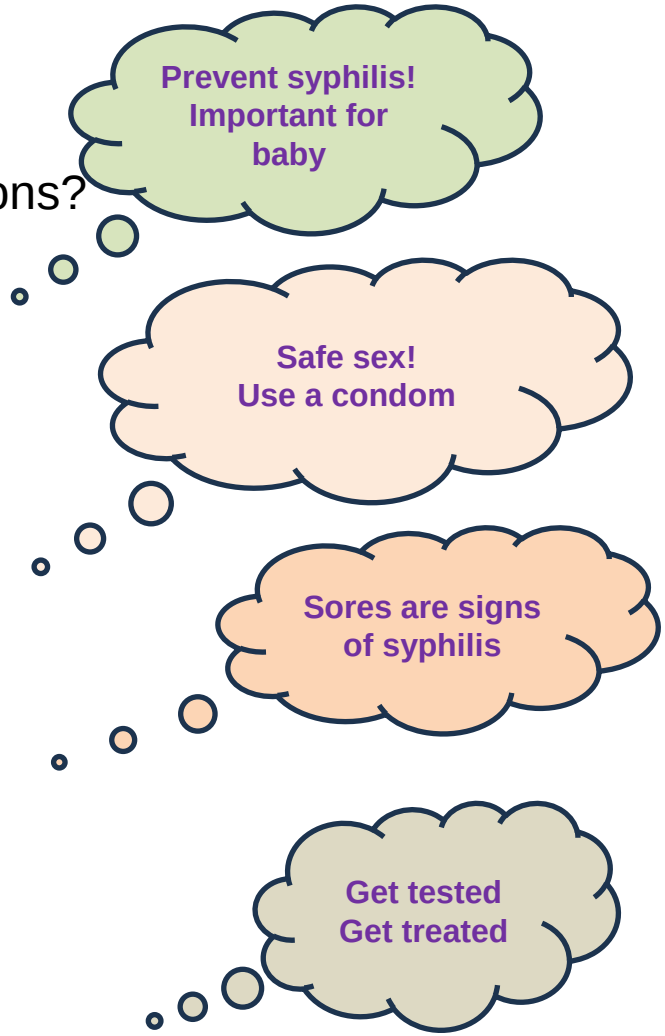
- Has testing been offered as per recommendations?
- Results reviewed and actioned?

Actively consider risk of syphilis infection

- Discuss with everyone (make no assumptions!)
- Remember risk can't been seen
- Offer opportunistic testing if indicated
- Think about incubation period (9–90 days)

Talk about it!

- Importance for health of mother and baby
- Signs and symptoms of infection
- Prevention and safe sex practices
- Partner testing and treatment
- Testing at birth



Syphilis infection?

Assessment

Is there a history of syphilis diagnosis?

- Was the treatment adequate? (medication, route and duration)
- Confirm year and place of diagnosis
- Serological results/follow-up?
- Contact QSSS for treatment and testing history

Sexual history?

- Ask about contacts/tracing and their treatment
- Is there risk of reinfection?

Symptoms of syphilis infection?

- Clinical examination
- Dry swab suspicious lesions for polymerase chain reaction (syphilis PCR)

Congenital syphilis?

- If diagnosed after 20 weeks gestation, USS for congenital syphilis

QSSS

Role and function

- Maintains a treatment register for Qld positive syphilis cases
- Provides testing/ treatment history and advice to clinicians
- Assists with interpreting results
- Monitors and maintains
  - Enhanced surveillance data on all new cases of syphilis in Qld
  - Data on all cases of syphilis in pregnancy and congenital syphilis in Qld

Contact details

P: 1800 032 238
Northern: north-qld-syphilis-surveillance-centre@health.qld.gov.au
Southern: qld-syphilis-surveillance-service@health.qld.gov.au

Notify QSSS of treatment details and clinical follow up of all syphilis in pregnancy cases

Maternal treatment

Infectious syphilis requiring treatment (primary, secondary or early latent)

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

Benzathine penicillin is NOT the same as benzylpenicillin

Jarisch-Herxheimer reaction (JHR)

Reaction onset

- May occur following penicillin administration
- Acute nonallergic reaction
- Onset usually within 24 hours

Symptoms

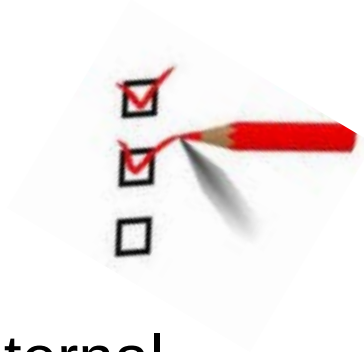
- Fever, chills, headaches, transient accentuation of lesions, rigors, joint pain, hypotension, tachycardia
- May include precipitate uterine contractions, decreased fetal movements, abnormal fetal heart pattern,
- Preterm birth and stillbirth reported

JHR management

Management advice

- Offer information about JHR
- Auscultate fetal heart before and after administration
- Maintain hydration, recommend paracetamol
- Advise when to contact health care provider
- If fetal ultrasound abnormalities, co-infected with HIV or syphilis titres are high
  - Increase fetal surveillance
  - Consider inpatient care
  - Supportive management

Maternal discharge



Everyone

- Review maternal serology results before maternal discharge

If syphilis during pregnancy

- Serological follow-up for woman at 3, 6 and 12 months
- Written advice to community healthcare providers
- Notify QSSS of discharge
- Advise of importance of follow-up

Congenital syphilis

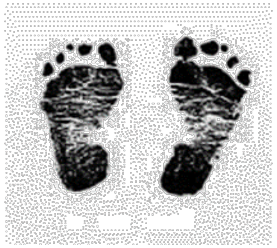
Complex condition

- More than 70% of babies born to women with untreated syphilis will be infected
- 60–90% of babies are asymptomatic at birth
- Usually appear by three months of age, mostly by 5 weeks
- Requires multidisciplinary approach to manage

Signs and symptoms

Usually subtle and non-specific

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



Suspect congenital syphilis

Suspect if:

- Maternal RPR reactive at baby's birth and treatment history is unknown, or inadequate
- Mother had syphilis requiring treatment in pregnancy (irrespective of adequacy of treatment)
- Baby has clinical signs or there is suspicion of syphilis

Assessments to aid diagnosis

At birth

Placenta

- Histopathology (entire fresh placenta and cord, fresh not frozen, in normal saline)
- Dry swab syphilis PCR

Serology

- Collect serology from mother & baby on same day (paired sample)
  - Venous blood from baby(not cord blood)
- Write on path forms (mother and baby):
  - “syphilis serology - test in parallel with mother/baby UR #.....”
  - Baby: add syphilis IgM to path form

Newborn clinical examination

Features of concern

Maternal

- Inadequate maternal treatment
- Placental histology consistent with syphilis infection
- Placental syphilis PCR positive

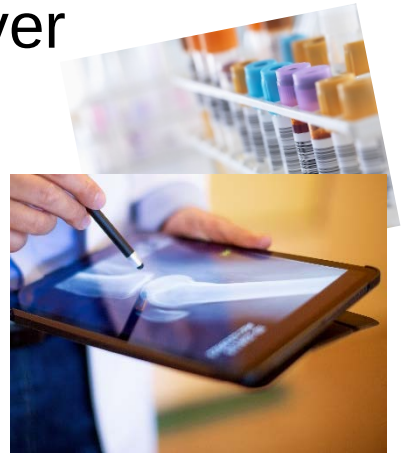
Baby

- RPR reactive
- Direct demonstration of *Treponema pallidum* in swabs or samples
- Positive syphilis IgM
- Physical exam has features of congenital syphilis

Additional investigations

In consultation with an expert:

- Bloods (full blood count, electrolytes and liver function test)
- Cerebrospinal fluid (CSF)
- Radiography (chest, long bone)



If suspicion of syphilis or inadequate maternal treatment, commence penicillin treatment of baby

(Do not delay treatment while waiting for test results)

Confirmed case

Diagnostic criteria confirmed case

- Baby's RPR is 4x higher (or more) than the maternal titre
  - Less than four-fold the maternal titre *may* indicate congenital syphilis and requires investigation
- Direct demonstration of *Treponema pallidum* in baby swabs or samples
- Positive syphilis IgM
  - Negative syphilis IgM does not exclude congenital syphilis

Probable case

Criteria

Mother is seropositive by a treponemal specific test OR by *Treponema pallidum* specific rapid immunochromatography

AND one or more of:

- Direct demonstration of Treponema pallidum as for confirmed case, but without serological confirmation in the baby
- Baby seropositive on nontreponemal testing in the absence of IgM testing
- A reactive cerebrospinal fluid (CSF) nontreponemal test (i.e. VDRL) in a non-traumatic lumbar puncture

AND one or more of

- Clinical features suggestive of congenital syphilis on physical examination or on radiograph of long bones
- An elevated CSF cell count or protein without other cause
- Maternal treatment inadequate during pregnancy

Treatment

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

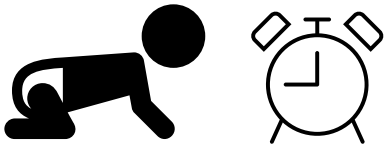
Benzylpenicillin 30 mg/kg IV
***Change frequency* according to current day of life**
for a *total* of 10 days

- If baby 0–7 days of age administer every 12 hours until day 8 of life *then*
- Between 8–30 days of age administer every 8 hours for a total of 10 days
- If > 30 days of age administer every 4–6 hours for a total of 10 days

Example:
Baby starts treatment for congenital syphilis on day **3** of life

(day 3–7) Benzylpenicillin 30 mg/kg every 12 hours then
(day 8–12) Benzylpenicillin 30 mg/kg every 8 hours
= total of 10 days of treatment

Refer to NeoMedQ Benzylpenicillin



Follow-up

Recommended

- Clinical assessment at every opportunity for signs of congenital syphilis
- Serology (RPR) every 2–3 months

If at 6 months of age

- RPR is non-reactive, no further assessment required
- Persistent RPR titre
  - ➔Manage in consultation with expert
    - CSF : VDRL, PCR cell count,
    - Retreatment likely indicated