Kimberley Clinical Protocols

Congenital Syphilis

BACKGROUND

Syphilis was endemic to the Kimberley, however between 2011 and 2013 there were no new cases of syphilis. In June 2014, the Kimberley declared a syphilis outbreak. The goal of the outbreak response is to prevent congenital syphilis and to reduce the number of infectious syphilis cases to pre-outbreak levels.

Syphilis a sexually transmitted bacterial infection caused by the spirochete Treponema pallidum. Congenital syphilis can be vertically transmitted from mother to fetus any time during pregnancy and at any stage of infection

Case Definition:

MATERNAL SYPHILIS

Early syphilis is defined as acquisition of syphilis within the past 2 years and includes those with clinical signs and symptoms of primary or secondary syphilis, reactive syphilis serology with a negative serology within the past 2 years OR a 4-fold or greater rise in RPR titre within the past 2 years.

Late/unknown duration of syphilis is characterized by positive serology tests without evidence of either previously treated infection or early syphilis OR those who acquired syphilis >2 years ago

CONGENITAL SYPHILIS

Early Congenital Syphilis	Late Congenital Syphilis
A child over two years of age who was infected in utero. Clinical signs may include: • Hepatosplenomegaly • Skin rash • Condylomata lata • Rhinitis • Osteochondritis (bone involvement) • Pseudoparalysis • Meningitis • Anaemia • Failure to thrive	A child over two years of age who was infected in utero. Clinical signs may include: • One or more of Hutchinson's triad (interstitial keratitis, defective incisors and nerve deafness). • Gummata • Neurosyphilis • Frontal bossing and anterior bowing of shins.

ASSESSMENT

1.History:

Maternal

- Take a sexual history and assess for genital or mucosal ulceration, genital lumps, rash, lymphadenopathy, patchy hair loss, fever and arthritis.

- Obtain history of past syphilis diagnosis, tests and treatment from patient medical record and/or Kimberley Syphilis Database (SDB) based at KPHU. Telephone 9194 1630

2. Diagnosis and Staging:

All pregnant women regardless of risk should have venous blood taken for syphilis screening, starting at the booking visit.

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♦ At booking – first trimester ♦ Week 28 ♦ Week 36	• All women with positive syphilis serology during pregnancy should be treated and followed up unless there has been documented adequate treatment appropriate to stage of infection and no evidence of reinfection.
♦ Delivery ♦ Six weeks postnatal.	• Women who are treated for syphilis after 20 weeks of gestation should have a foetal and placental ultrasound examination to evaluate for congenital syphilis. Sonographic signs of syphilis indicate a greater risk for treatment failure in the infant and must be referred to regional obstetrician URGENTLY.

RISK ASSESSMENT/INVESTIGATION FOR INFANT

No - Risk

Maternal

All mother's syphilis tests are negative.

OR

If mother's syphilis serology is positive the maternal history must meet **ALL** of the following criteria:

- Penicillin regimen appropriate to stage of infection prior to current pregnancy
- Completed treatment before this pregnancy
- Adequate serological response of either a 4-fold decrease in RPR titre or for late/unknown duration cases without a 4-fold drop the maintenance of stable titres below 1:4 **AND**
- NO suspicion of reinfection. Contact KPHU SDB for further advice.

Infant

Routine physical examination. No laboratory investigations required.

Low - Risk

Maternal

Women adequately treated for syphilis during pregnancy and meets **ALL** the following criteria:

- Penicillin regimen appropriate to stage of infection
- Treatment is completed more than 30 days prior to birth
- Documented adequate serological response to treatment at or before delivery (4-fold/2-titre decline in RPR, or if treated during late latent stage all RPR titres during pregnancy and delivery are low and stable (no greater than 1:4) **AND**
- There is no clinical suspicion of syphilis reinfection later in pregnancy

Infant

- Physical examination of the infant does not raise suspicion of congenital syphilis
- Infant (not cord) venous blood syphilis serology required at birth
- RPR titre of the infant is the **SAME** or **LESS THAN** the maternal titre at delivery.

High - Risk

Maternal

Maternal history meets **ANY** of the following criteria:

- Inadequate treatment history *e.g.* insufficient dose, treatment with a drug other than penicillin during pregnancy
- Incomplete treatment history *e.g.* missed dose
- Inadequate serological response on follow-up serology
- Syphilis untreated during pregnancy *e.g.* treatment refusal
- Treatment less than 30 days prior to birth

Congenital Syphilis

Infant

- Infant (not cord) venous blood syphilis serology required at birth
- RPR titre of the infant is **GREATER THAN** the maternal titre at delivery.

Examination

No - Risk

Routine physical examination

Low - Risk

Perform a physical examination for signs of congenital syphilis (see Silver book http://ww2.health.wa.gov.au/Silver-book/Notifiable-infections/Syphilis)

High - Risk

Perform a physical examination for signs of congenital syphilis **AND** consult with paediatrician.

⚠ For all infants with symptoms or signs suggestive of congenital syphilis a paediatrician should be consulted. Most affected infants are asymptomatic at birth and usually develop clinical features within 3 months of birth

Investigations

⚠ NO HIGH OR LOW RISK INFANT SHOULD BE DISCHARGED FROM HOSPITAL UNTIL CONGENITAL SYPHILIS RISK ASSESSED AND ALL PATHOLOGY AVAILABLE.

No-Risk

No investigation required.

Low-risk infants

- **Infant venous blood** for syphilis serology including RPR read in parallel with maternal serum
- Syphilis IgM of infant serum

High – Risk Infants

- **Infant venous blood** for syphilis serology including RPR read in parallel with maternal serum
- Syphilis IgM of infant serum
- Full blood count
- Placental tissue and or amniotic fluid for T.pallidum PCR
- Histological examination of placenta

All cases should have a paediatric review or discussion for advice on additional testing, particularly in cases with signs or symptoms which could be consistent with early congenital syphilis (see Case Definition). Consider:

- Liver function tests
- T.pallidum PCR from any mucosal or skin lesions or nasaldischarge.
- Lumbar puncture with CSF microscopy, protein, PCR andsyphilis serology
- X-ray of long bones.

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TREATMENT

Maternal

If serology is positive, the treatment regimen is the same as in non-pregnant adults except where there is documented evidence of previous adequate treatment for syphilis and no suspicion of reinfection.
Always repeat the RPR on the first day of treatment to ensure a peak RPR reading is obtained to allow accurate documentation of post-treatment response.

- Early syphilis during pregnancy
  → Single dose of benzathine penicillin 1.8g (2.4 million units) intramuscularly
- Late/ unknown duration of syphilis during pregnancy
  → Benzathine penicillin 1.8g (2.4 million units) intramuscularly weekly for 3 weeks

- Any missed or late doses of benzathine penicillin for treatment of late syphilis in pregnant women require the treatment course to be repeated.
- Women with penicillin allergy should be referred to hospital for in-hospital desensitization. If penicillin cannot be used, treatment must be considered to have been inadequate for the purposes of determining appropriate neonatal follow-up. See Silver book http://ww2.health.wa.gov.au/Silver-book/Notifiable-infections/Syphilis. **For discussion with Regional Obstetrician.**
- Pregnant women should be advised to abstain from sexual contact until one week following the final dose of treatment in both themselves and their partner/s.
- Women treated for early syphilis during the second half of pregnancy are at increased risk of premature labour and/or foetal distress. They should be advised to seek medical attention should any contractions or decrease in foetal movements occur after treatment with penicillin.

Infant

No-Risk Infants

No treatment required

Low-Risk infants

- If neonate ≥ 3kg single dose intramuscular benzathine penicillin 50,000 units/kg
- If <3kg commence IV benzylpenicillin and contact Paediatric Infectious Diseases for treatment plan.

High-Risk Infants

- Immediately start benzylpenicillin 50mg/kg intravenously every 12 hours for 10 days in consultation with paediatrician.

For treatment of older children discuss with pediatrician

FOLLOW UP

Maternal

- Following syphilis treatment in pregnancy serology testing should be conducted monthly, at delivery and 6 weeks post-partum
- Adequate serological response is defined as either a 4-fold decrease in RPR titre or for late/unknown duration cases without a 4-fold drop in titre the maintenance of stable titres below 1:4. Discuss with KPHU SDB.
- Women who are treated for syphilis after 20 weeks of gestation should have a foetal and placental ultrasound examination. If sonographic signs of syphilis refer to regional obstetrician **URGENTLY**.

- All women with positive syphilis serology who do not meet all the criteria for previously adequately treated syphilis must have clear documentation in their antenatal record that their neonate requires risk assessment and treatment at delivery.
- To prevent reinfection, sexual contacts of pregnant women treated for primary, secondary or early latent syphilis require urgent testing and should be treated presumptively on the day of testing.
- A woman with syphilis in pregnancy should be closely monitored in all subsequent pregnancies with syphilis testing at 16, 24, 30, 36 weeks, at delivery and 6 weeks postnatal.

Infant

No-Risk Infants

No follow up required

Low-Risk infants

Immediate

- All cases should be notified by clinicians to Disease Control KPHU telephone 9194 1630
- Ensure maternal and infant delivery serology result is checked as infants managed with an RPR titre ≥4 fold/2 titres than the mother's delivery sample must be reclassified as early congenital syphilis and referred to a paediatrician.

At 3 months:

- Physical examination for signs of congenital syphilis (GP or paediatrician).
- Syphilis serology:
  - Non-reactive RPR and negative EIA and TPPA no further follow up is require
  - If non-reactive RPR but positive EIA/TPPA repeat serology at 15 – 18 months

If positive RPR, repeat at 6 months and if still positive refer to paediatrician for assessment and management as probable treatment failure (RPR titres should decline by 3 months and be negative at 6 months of age).

At 18 Months:

- Syphilis serology
  - If syphilis serology EIA, TPPA or RPR is positive after 15-18 months refer to paediatrician for assessment and management as probable treatment failure.

High -Risk Infants

Immediate

- All cases should be notified by clinicians to Disease Control KPHU telephone 9194 1630
- Ensure maternal and infant delivery serology result is checked as infants managed as high risk with an RPR titre greater than the mother's delivery sample must be diagnosed as early congenital syphilis and be managed under the care of a paediatrician.

At 3 and 6 months

- Physical examination by a paediatrician
- Syphilis serology

Interpretation and action after the 6-month assessment:

- If no clinical signs are detected, RPR is non-reactive and EIA and TPPA are negative then no further follow up is required after the 6-month review

- If no clinical signs are detected, but RPR is reactive after 6 months refer to paediatrician for assessment and management as probable treatment failure
- If no clinical signs are detected, RPR is non-reactive but EIA/TPPA is positive, repeat serology at 15-18 months
- If any clinical signs are noted at any time assess for possible treatment failure in consultation with the paediatrician.

At 15-18 months

- Syphilis serology
- If EIA/TPPA remain reactive after 15 months refer to paediatrician for assessment and management as probable treatment failure.

CONTACT TRACING

The following time periods are recommended for contact tracing according to stages of syphilis

Primary syphilis:	3 months plus duration of symptoms (if uncertain, up to 6 months)
Secondary syphilis:	6 months plus duration of symptoms (if uncertain, up to 12 months)
Early latent:	12 months