



# **Guidelines for the Management of Maternal Syphilis & Congenital Syphilis**

**National STD/AIDS Control Programme, Sri Lanka, 2011**

**Eliminate Congenital Syphilis in Sri Lanka by 2015**



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## 1. Introduction

Sexually transmitted infections (STI) are one of the commonest communicable diseases found in the world today. Primarily they are transmitted through unprotected sexual intercourse. Transmission can also occur through contaminated blood and blood products and from an infected untreated mother to child during pregnancy, child birth or via breast milk.

Syphilis is caused by the bacterium *Treponema pallidum*. It is estimated that globally about 12 million cases of syphilis occur annually and of them about 2 million are among pregnant women<sup>1</sup>. If a woman with untreated syphilis becomes pregnant, or a woman acquires syphilis during pregnancy, depending on the stage of syphilis, the infection can be transmitted to the foetus causing adverse pregnancy outcomes including congenital syphilis. Although estimates vary, adverse pregnancy outcomes occur in up to 80% of women with acute syphilis including stillbirth (40%), peri-natal death (20%) and serious neonatal infection (20%)<sup>2</sup>. Such outcomes are 12 times more likely in women with syphilis than in sero-negative women<sup>3</sup>. Early congenital syphilis is defined as syphilis from birth and within two years of life. Late congenital syphilis is when vertically acquired infection manifests from third year of life onwards.

Haematogenous spread is dependent upon the occurrence of maternal spirochaetaemia. Since the early stage of syphilis is characterized by spirochaetaemia the probability of transmission to the foetus is nearly 100% if the mother has early syphilis<sup>4</sup>. The signs of syphilis which the mother shows will depend on the stage of syphilis. The spirochaetaemia diminishes over time and two years after acquisition of syphilis the probability of sexual transmission becomes low<sup>5</sup>. However, the probability of transmission to a foetus can be up to 70% four years after acquisition of the disease by the mother<sup>6</sup>.

The spirochetes can cross the placenta at anytime during pregnancy although occurs more commonly in the last two trimesters. The stage of maternal syphilis, gestational age of foetus, adequacy of maternal treatment and the immunological response of the foetus causes the varied manifestations of congenital syphilis. The diagnosis is complicated because more than half of all infants are asymptomatic at birth and signs and symptoms of infants may be subtle and non specific. If the mother becomes infected late in pregnancy she may show no signs before delivery and the infected newborn may also appear normal at birth<sup>7</sup>.

There are two general scenarios that need to be considered when assessing the risk of congenital syphilis. 1) an infected untreated woman becoming pregnant 2) a woman becoming infected during pregnancy. The latter tends to be associated with overall severe outcomes for the infant as it always involves the early spirochetaemic stages of the disease in which the likelihood of transmission to the foetus is high<sup>7</sup>.

Unlike many neonatal infections, congenital syphilis (CS) can be effectively prevented, either through prevention of maternal infection or by detection of infection early in pregnancy and provision of adequate treatment. Control of sexually transmitted infections in the community by promoting safer sex, increasing awareness about syphilis and its adverse effects on mother and infant could also help prevent maternal infection. But, if an infected woman becomes pregnant, only screening programmes can prevent effects of maternal infection on the foetus. Universal

screening for syphilis during pregnancy, treatment of infected pregnant women, their partners and treatment of infants born to sero-positive women are shown to be cost effective, feasible in the prevention of congenital syphilis even at relatively low prevalence settings. Preventing even an occasional case is economically worthwhile and is cost effective even at very low prevalence settings of maternal infection. The cost of averting a case of CS is much lower than for other diseases<sup>8</sup>. Yet, in this era of concern about the number of babies who are born with HIV infection, congenital syphilis receives scant attention.

The overarching goal of the present WHO initiative is the elimination of congenital syphilis as a public health problem. This would be achieved through reduction of prevalence of syphilis in pregnant women and by the prevention of mother to child transmission of syphilis. WHO recommends four strategies for elimination of congenital syphilis

- 1) Ensure advocacy and sustained political commitment for a successful health initiative
- 2) Increase access to and quality of maternal and newborn health services
- 3) Screen and treat all pregnant women and partners
- 4) Establish surveillance, monitoring and evaluation systems<sup>1</sup>.

These 4 strategies will be adopted in Sri Lanka to eliminate congenital syphilis by 2015. The proposed interventions for elimination of congenital syphilis will contribute to the achievements of the UN Millennium Development Goals 4, 5 and 6.

## **2. Guiding Principles for action**

### **2.1. An integrated approach**

The elimination of congenital syphilis should not be conceived as a vertical programme. It is an integrated programme into the existing maternal and newborn health services, primary health care programmes, family planning clinics, well woman clinics and adolescent reproductive health services.

**No mother should leave the hospital after partus without the maternal serologic status having been determined.**

### **2.2. Partnership and collaboration**

Cross –sectoral collaboration at the government level (Ministry of Education, Ministry of Youth Affairs, etc) as well as with other reproductive health services and community based health programmes run by other civil society organizations is vital to achieve the goal of elimination of congenital syphilis by 2015. Participation of the community is crucial for acceptance of health programmes and compliance with recommended behavioural changes.

Collaborating with primary health care team can be effective in promoting and encouraging the early use of antenatal services and referral of mothers with positive test results to the STD clinic.

### 3. Diagnosis of Maternal Syphilis

Traditionally laboratory diagnosis in adults is based on initial use of a non-treponemal screening test. These tests detect antibody to reagin antigen, which is found in both *T. pallidum* and some human tissues. They are thus not specific for *T. pallidum* and could give false positive results. Examples include the Venereal Disease Research Laboratory (VDRL) test. If a non-treponemal test is positive, it should be confirmed by a treponemal test using an antigen of *T. pallidum*, examples include the *T. pallidum* haemagglutination assay (TPHA) and the *T. pallidum* particle agglutination assay (TPPA). Syphilis is diagnosed when the confirmatory treponemal test is positive.

When a non treponemal test is positive in the absence of a reactive treponemal test it is called a biological false positive test. The non treponemal test becomes positive sometimes due to certain physiological or pathological conditions. Acute false positive tests are found in persons suffering from many viral and bacterial infections or who have had certain vaccinations or immunizations. Chronic false positives are found in the presence of autoimmune conditions, tuberculosis, leprosy, or malaria. False positives are also found during pregnancy or even without a specific cause or a pre existing disease. Therefore a positive non-treponemal test should be confirmed by a specific treponemal serologic test to arrive at a diagnosis of syphilis.

The non treponemal test has the advantage of being and sensitive (especially in early infection). However, these tests cannot be done on whole blood, they require lab instruments for processing, and misinterpretation is common by inexperienced laboratory technicians because reading of the results is subjective. Thus false positive results may occur due to technical problems.

Treponemal tests, while theoretically more specific than non-treponemal tests may also give false positive results. Moreover, they cannot differentiate between individuals with active (untreated) syphilis and those who have previously been successfully treated for infection. In both cases, the treponemal test result will be positive. Non treponemal tests, on the other hand, can distinguish current or recent infections from old, treated infections to a certain extent based on the titre levels.

For the diagnosis of syphilis, a combination of the two tests is recommended. Traditional confirmatory assays require expensive laboratory equipment and technical expertise, and are therefore seldom available outside reference laboratories. However, these can now be replaced by simple, rapid, point-of-care treponemal tests which use whole blood, require minimal training, no equipment or special storage conditions.

Rapid simple treponemal tests using immunochromatographic strips (ICS) which use whole blood, do not need equipment or special storage conditions and require minimal training are now available and can be used on the site including peripheral areas. Sensitivity (85-98% and specificity ( 92-98%) of these tests are high.<sup>3</sup> The new rapid test has been estimated to cost only US\$ 7 per each case of congenital syphilis averted. The affordability, convenience and practicality of rapid tests make them attractive tools, as on-site screening tests in primary care settings or in areas where laboratory services are not available.

However, since treponemal antibodies persist for years irrespective of treatment, a positive test will not help in distinguishing active infection from past treated infection<sup>1</sup>. Treponemal tests cannot be used to monitor effectiveness of treatment<sup>1</sup>.

In the event the ICS becomes positive, a second sample should be drawn from the mother and sent to STD clinic for re-confirmation or refer the mother to the STD clinic as early as possible.

### **3.1. Case Definition of an antenatal mother with syphilis**

Case Definition of an antenatal mother with syphilis is a pregnant mother with serologic evidence of syphilis (positive TPPA test) in the current pregnancy with or without symptoms of syphilis. A woman who has documentary evidence of having been adequately treated in the past and in whom re-infection during the current pregnancy is ruled out is excluded from this case definition.

## **4. Treatment of Maternal Syphilis**

Syphilis in adults is easily cured. If not treated in its early stages, the disease can become chronic, often with a long latent period followed by clinically recognizable late stages. In pregnancy, early treatment with penicillin is required for a successful pregnancy outcome. Treatment should be provided early in gestation before significant fetal involvement take place. Treating the mother with penicillin during the first and second trimester will prevent major adverse outcomes, but later treatment, inadequate treatment or lack of treatment may result in fetal death, fetal damage or birth of an infected child.

### **4.1. Treatment of primary, secondary and early latent syphilis**

Benzathine penicillin 2.4 million units IM as a single dose after excluding allergy.

### **4.2. Late latent syphilis**

Benzathine penicillin 2.4 million units IM once a week for 3 consecutive weeks.

Adequate penicillin treatment will end infectivity within 24-48 hours.

There are conflicting data on whether giving a single dose of Benzathine penicillin to pregnant women is sufficient to prevent adverse pregnancy outcomes or whether a course of at least three doses is better. The WHO recommends that women with early syphilis (primary, secondary and early latent) be given one dose and women with late latent syphilis should be given three weekly doses.

### **4.3. Follow up**

Pregnant mothers treated for early syphilis should have monthly quantitative serology tests throughout pregnancy. Those who do not show a fourfold drop in titre at end of 3 months or who show a 4 fold rise in titre should be re-treated.

It is not necessary to retreat mothers who have documented evidence of adequate therapy for previous syphilis so long as there is no evidence of serologic or clinical evidence of re-infection or relapse. Babies born to such mothers do not require prophylactic penicillin therapy.

If doubts exist about the adequacy of previous therapy, re-treatment should be commenced promptly.

### **4.4. Allergy to penicillin**

When patient sensitivity to penicillin precludes its use, Erythromycin is recommended as an alternative. In early syphilis (primary, secondary and early latent) give erythromycin 500mg oral 6 hourly for 15 days. In Late latent syphilis give erythromycin 500mg oral 6 hourly for 30 days.

### **4.5. HIV infection**

Evidence suggests that treatment for syphilis in pregnant women who are HIV positive should be similar to that given to other pregnant women and follow up should be the same as for adults with HIV infection.

### **4.6. Treatment of partners**

#### **4.6.1. Sexual partners of mothers with primary, secondary, early latent syphilis**

Epidemiological treatment of sexual contacts is mandatory as these stages of syphilis are infectious. Those with reactive serology should be treated according to the stage of syphilis of the partner.

#### **4.6.2. Sexual partners of mothers with late latent syphilis**

Treat according to the stage of syphilis if clinical evidence of syphilis is present or if serology is positive.

### **4.7. Follow up of partners**

#### **4.7.1. Primary and secondary syphilis**

Patients should be re-examined clinically and serologically using VDRL test at 3 months, 6, 12 and 24 months after treatment.

#### **4.7.2. Early and late latent syphilis**

Patients should be re-examined clinically and serologically using VDRL test at 6, 12 and 24 months for both early and latent syphilis.

Serofast non treponemal low antibody titres might not require re-treatment. However, persistent higher titre antibody tests might indicate reinfection and require treatment. Therefore discuss with a Consultant Venereologist.

### **5. Diagnosis of Congenital Syphilis**

The diagnosis of congenital syphilis depends on a combination of physical, serologic, radiographic, or direct microscopic evidence. Diagnosis is complicated because more than half of all infants are asymptomatic at birth and signs and symptoms of infants may be subtle and non specific.

At birth, babies born to mothers with confirmed syphilis should be examined thoroughly for physical signs of congenital syphilis. Attempts should be made to demonstrate the presence of *Treponema pallidum* by dark ground microscopy from clinical lesions. Serological tests on both the mother and the baby should be done. A sample of infant blood (5cc) should be sent to the STD clinic for VDRL and IgM antibody test together with 5cc of blood from the mother. Cord blood is not suitable for testing. The mother's non treponemal serology test (VDRL) should be compared with the VDRL titre of the baby.

#### **5.1. Signs and symptoms**

At birth about 50% of babies with congenital syphilis may be asymptomatic. Usually symptoms appear in the first months but the clinical manifestations may be delayed until the second year of life. The most frequent clinical signs at birth are hepatomegaly with or without splenomegaly (33-100%), blistering skin rash (40%), and bone changes seen on X-ray (75-100%). Other early signs are pseudoparesis.(12-36%), bleeding (10%), fever (16%), low birth weight (10-40%), swelling of joints, oedema, abdominal distention, pallor and respiratory distress<sup>9</sup>. None of these signs are pathognomonic of syphilis and are seen in other congenital infections.

#### **5.2. Investigations**

##### **5.2.1. Dark field microscopy**

A definitive diagnosis of syphilis is made by demonstrating the presence of *T.pallidum* by dark ground microscopy on any suspicious lesions or body fluids, for example in nasal discharge, skin rash<sup>1</sup>. However, this procedure is cumbersome and not always possible.

##### **5.2.2. Serology**

The diagnosis of congenital syphilis is complicated by passive transfer of maternal non treponemal and treponemal IgG antibodies to the foetus. The presence of these maternal antibodies makes the interpretation of reactive serological tests for syphilis in infants difficult.

Passively transmitted maternal antibodies would be catabolized and undetectable in non-infected infants by 6 months of age. Infants born to mothers with positive serologic tests for syphilis should be evaluated by a quantitative non-treponemal serologic test (VDRL) at birth. It is necessary to compare the infant's titre with maternal serologic titre using the same test. A fourfold higher VDRL titre in the infant is accepted as significant. However, studies from serum pairs from infected mothers and infants show that less than 30% of infants have higher titres than their mothers<sup>10</sup>. Congenital syphilis cannot be excluded in infants who do not have a fourfold or higher increase in VDRL titre. A sample of serum from the neonate should be sent, since cord blood may produce false-positive results.

The detection of Immunoglobulin M (IgM) in infant's serum also indicates active infection because maternal IgM antibodies do not cross the placenta. IgM antibodies can be detected in more than 80% of symptomatic infants but data on its sensitivity for asymptomatic infants are limited. Because IgM responses take time to develop in infants and may be diminished with early treatment or inadequate treatment. A negative IgM result should not be used to exclude congenital syphilis. False positives also could occur.

### **Serologic evidence of congenital syphilis**

- i. Serum quantitative non treponemal serologic titre (VDRL titre) that is fourfold higher than the mother's titre at the time of delivery or
- ii. Presence of IgM antibodies in the infant ( EIA test ) or
- iii. Rising non treponemal antibodies in infant's serum

Presence of non treponemal antibodies due to causes other than syphilis in the pregnant mother will also cross the placenta to produce a reactive serologic test which is of a false positive nature in the newborn. This titre usually reverts to non reactive by 3 months of life.

### **5.2.3. CSF Analysis**

Ideally babies with symptoms suggestive of syphilis or serological evidence is suggestive of syphilis should have a lumbar puncture and CSF analysis for VDRL, Cell count & protein

### **5.2.4. Other tests (when indicated)**

- i. Complete blood count
- ii. Long bone radiographs
- iii. Liver function tests
- iv. Cranial ultrasound
- v. Ophthalmoscopic examination
- vi. Auditory brain stem response

### 5.3. Case definitions of Congenital Syphilis

#### Case definition -1-a

Congenital syphilis is defined as a live born infant with clinical evidence (one major and 2 minor criteria) and serologic evidence of syphilis to a mother with confirmed syphilis.

##### Major criteria

Swelling of joints  
Bullous skin lesions  
Snuffles

##### Minor criteria

Hepatosplenomagaly  
Jaundice  
Anaemia  
Radiological changes in long bones

#### Case definition -1-b

Congenital syphilis is defined as a death of a neonate born to a mother with confirmed syphilis and has postmortem/ histological evidence of congenital syphilis

#### Case definition -2

Congenital syphilis is defined as a live born asymptomatic infant/ foetal loss/stillbirth\*\* to a mother with confirmed syphilis and **anyone** of the following

- Reactive non-treponemal test which is four fold higher than that of the mother's titre at delivery
- A reactive syphilis specific IgM antibody test
- Rising non-treponemal titre
- Persistently reactive treponemal test in the infant beyond 6 months of age

\*\* if it is a stillbirth, there should be postmortem/ histological evidence

**An Incidence case of congenital syphilis is an infant who fall into either case definition 1or 2**

#### Case definition -3

Congenital syphilis is defined as a live born asymptomatic infant, still birth, or foetal loss to a mother with syphilis where

- Mother was treated < 4weeks prior to delivery or
- Mother was untreated , treatment status undocumented or unknown, or
- Mother not completed the recommended course of penicillin during pregnancy or
- Mother treated with non penicillin antibiotics

Case definition -3 is for programmatic purposes. Since some babies of the above mothers would be uninfected although they fall into case definition -3 and should have a TPPA test after 6 months of age. The diagnosis of congenital syphilis is ruled out when the TPPA test is negative after 6 months.

Yet, the recommended therapy for babies in category -3 and born to mothers who have been inadequately treated should have the IV penicillin regimen.

A syphilitic stillbirth is defined as a fetal death occurring after 20 weeks of gestation or weighing more than 500 g in which the mother had untreated or inadequate treatment for syphilis at delivery.

## 6. Treatment of infants

**Treatment decisions must be made on the basis of:**

1. Identification of syphilis in the mother,
2. Adequacy of maternal treatment
3. Presence of clinical, laboratory or radiological evidence of syphilis in infants
4. Comparison of maternal (at delivery) and infant non-treponemal serologic titres

### 6.1. Schedule -1

All asymptomatic babies who have no serological evidence of syphilis and are born to mothers who were adequately treated for maternal syphilis with penicillin during the current pregnancy before 4 weeks of delivery according to guidelines should be treated with a single dose of prophylactic penicillin.

#### **IM Prophylactic treatment regimen**

Benzathine penicillin G 50,000 units /kg given as a single intra muscular injection<sup>5</sup>.

### 6.2. Schedule -2

#### **IV treatment regimen**

Aqueous crystalline penicillin G 100,000-150,000 million units /kg/day intravenously. It could be given as 50,000 units /kg /dose IV every 12 hours during the first 7 days of life and thereafter every 8 hours for 3 days to complete a total of 10 days of treatment .

This should be given to:

1. All symptomatic babies
2. All asymptomatic babies
  - i. whose VDRL titre is 4 fold higher than that of the mother at delivery
  - ii. having a rising non-treponemal titre
  - iii. with a reactive syphilis specific IgM antibody test
  - iv. born to mothers with clinical evidence of syphilis
  - v. born to mothers who were treated with penicillin < 4 weeks before delivery,
  - vi. born to mothers who did not complete the recommended course of penicillin during pregnancy
  - vii. born to mothers whose non treponemal high titre had not dropped four folds as expected by 6 months of treatment
  - viii. born to mothers who were treated with non penicillin regimens (Erythromycin) during pregnancy
  - ix. born to mothers whose treatment status is unknown or undocumented

## 7. The Protocol to follow when an antenatal mother with a positive VDRL/ICS test is referred to the STD Clinic

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- Counsel the mother and get a second blood sample for confirmation of syphilis. Do a VDRL test on all mothers who have a positive ICS test. As non-treponemal serology results are helpful in comparing with baby's serology and for follow up. The mother will be given a OPD number
  - Only when the 2<sup>nd</sup> sample is positive the mother will be informed of the diagnosis and a STD file should be opened.
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**Step - 1** Take a detailed history (including whether the mother was treated in the past or this is a new infection during the current pregnancy)

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**Step - 2** Carry out a comprehensive clinical assessment taking into consideration the clinical and laboratory results.  
Determine the stage of syphilis.

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**Step - 3** Screen for other STI and treat as appropriate

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**Step - 4**

- Counsel and treat for syphilis according to the stage of syphilis
- Counsel on safer sex
- Promote HIV testing of mother

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**Step - 5** Refer to PHNS for health education and issue of contact slip.

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**Step - 6**

- Screen spouse/ partner and give epidemiological treatment
- Counsel on safer sex
- Promote HIV testing of the partner

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**Step - 7**

- Follow up the mother until delivery.
- Carry out monthly VDRL testing until delivery
- Give a referral letter to MOH/ VOG

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- Advise the mother to bring the baby to the STD clinic for review. Carry out complete physical examination of the baby. Draw blood for VDRL and IgM (ELISA) if these serological tests were not done at birth by the respective ward. There is no purpose in doing a TPPA test at this time as there will be passively transmitted antibodies.
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**Step – 8**      Make arrangements for management of baby according to national guidelines (Epidemiological Rx or IV penicillin regimen)

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**Step – 9**      Follow up

Symptomatic baby ( case definition -1)

- Review at 1, 3, 6, 12 months and until clinical features resolve and non treponemal test shows a fourfold drop
- Check whether the baby was treated according to treatment schedule-2 (IV penicillin regimen)
  
- Repeat VDRL at 3, 6 and 12 months by 6 months the VDRL titre should drop four folds. If the titre has not dropped by 6 months discuss with a Consultant Venereologist
- The diagnosis should be correctly done according to the guidelines given in page 10. Reporting form should be correctly filled. A copy of the reporting form should be sent to Director NSACP with a copy to focal point ECS and SIM unit

*In symptomatic infants given appropriate therapy clinical features such as hepatomegaly, jaundice and bone changes resolve within 3 months of birth and serological markers (VDRL & IgM) disappear within 6 months*

Asymptomatic infected baby ( case definition-2)

- Review at 3, 6, 12 months and carry out a thorough physical examination to reconfirm absence of symptoms
  - Check whether the baby was treated according to treatment schedule-2 (IV penicillin regimen)
  - Repeat VDRL at 3, 6 and 12 months by 6 months the VDRL titre should drop four folds. If the titre has not dropped by 6 months discuss with a Consultant Venereologist
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- The diagnosis should be correctly done according to the guidelines given in page 10. Reporting form should be correctly filled. A copy of the reporting form should be sent to Director NSACP, 29, De Saram Place Colombo 10, with a copy to focal point ECS and SIM unit

Asymptomatic baby born to mother treated with penicillin but < 4 weeks before delivery (presumed infected until proved otherwise) (case definition -3)

- Review at 1, 3, 7, 12 \*months and carry out a thorough physical examination to reconfirm absence of symptoms
- Check whether the baby was treated according to treatment schedule-2 (IV penicillin regimen)
- Repeat VDRL at 3, 7 and 12\* months of age.
- Do a TPPA test at 7 months (as passively transferred maternal antibodies are expected to disappear by 6 months of age). If it is a case of congenital syphilis then the TPPA test will remain positive beyond 6 months. Discuss with a Consultant Venereologist regarding further management.

This baby may need further follow up. \*Babies who test negative for TPPA at 7 months do not need a follow up at 12 months. This is not a case of congenital syphilis.

- The diagnosis should be correctly done according to the guidelines given in page 10. Reporting form should be correctly filled. A copy of the reporting form should be sent to Director NSACP, 29, De Saram Place Colombo 10, with a copy to focal point ECS and SIM unit

Asymptomatic baby born to mother treated adequately with penicillin according to the stage of maternal syphilis > 4 weeks before delivery (presumed uninfected)

- Check whether the following serology has been done- VDRL, IgM (EIA antibody test) and baby has no serological evidence of CS.
- Check whether the baby was treated according to treatment schedule-1 (Prophylactic penicillin regimen)
- Review at 3, 7 months of age .
- Do a TPPA test at 7 months (as passively transferred maternal antibodies are expected to disappear by 6 months of age and sero-eversion takes place). Babies who test negative for TPPA at 7 months do not need a follow up at 12 months. This is not a case of congenital syphilis
- The diagnosis should be correctly done according to the guidelines given in page 10. Reporting form should be correctly filled. A copy of the reporting form should be sent to Director NSACP with a copy to focal point ECS and SIM unit

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*Passively transmitted antibodies disappear by 6 months. Thus the Serological markers (VDRL/IgM) will be negative by 6 months.*

Asymptomatic baby born to mother treated adequately with penicillin according to the stage of maternal syphilis > 4 weeks before delivery (baby presumed uninfected) and the VDRL titre is the same as the mother's titre (equivocal titre) may not be infected. Therefore discuss with a Consultant Venereologist on the treatment schedule.

Asymptomatic baby born to mother treated adequately for infectious syphilis with penicillin > 4 weeks before delivery (baby presumed uninfected) but a 4 fold serology is not observed in the mother at delivery

- Check whether the following serology has been done- VDRL, IgM (EIA antibody test) and baby has no serological evidence of CS.
- Check whether the baby was treated according to treatment schedule-2 ( IV penicillin regimen)
- Review at 3, 7 months of age.
- Do a TPPA test at 7 months (as passively transferred maternal antibodies are expected to disappear by 6 months of age and sero-reversion takes place). Babies who test negative for TPPA at 7 months do not need a follow up at 12 months. This is not a case of congenital syphilis.
- The diagnosis should be correctly done according to the guidelines given in page 10. Reporting form should be correctly filled. A copy of the reporting form should be sent to Director NSACP 29, De Saram Place Colombo 10, with a copy to focal point ECS and SIM unit

*Passively transmitted antibodies disappear by 6 months. Thus the Serological markers (VDRL/IgM) will be negative by 6 months.*

Asymptomatic baby born to mother treated with erythromycin during delivery (presumed infected unless proved otherwise)

- Examine the baby thoroughly to exclude clinical evidence of congenital syphilis.
- Check whether the baby was treated according to treatment schedule-2 (IV penicillin regimen)
- Compare baby's VDRL serology with that of the mother. If baby is uninfected it should not be 4 fold higher than that of the mother
- Check whether the IgM result is available. Even if it is negative, follow up the baby as the sensitivity of the test is not optimal
- Repeat VDRL test at 3, 7, 12\*, months

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- Do a TPPA test at 7 months (as passively transferred maternal antibodies are expected to disappear by 6 months of age). \*Babies who test negative for TPPA at 7 months do not need a follow up at 12 months. This is not a case of congenital syphilis.
  - The diagnosis should be correctly done according to the guidelines given in page 10. Reporting form should be correctly filled. A copy of the reporting form should be sent to Director NSACP , 29 De Saram Place Colombo 10, with a copy to focal point ECS and SIM unit

There is another scenario where the pregnant mother is seen as a contact of a partner who has been treated for infectious syphilis. Then manage as follows:

- Counsel the mother and draw blood for VDRL and TPPA test and treat the mother with a single dose of Benzathine penicillin G 2.4 MU IM after the sensitivity test as epidemiological treatment
- Review in 1 week for test results. If negative inform the mother during counseling. To rule out maternal syphilis repeat TPPA test after 8-12 weeks. Discuss the possibility of re-infection and safer sexual practices.
- If the mother's TPPA test is positive – then the mother is diagnosed as syphilis. In the event she is in the stage of late latent syphilis (which is unlikely if she acquired syphilis from the current partner) treats with 3 doses of Benzathine penicillin.
- Counsel the partner and discuss the importance of follow up and safer sexual practices. Discuss the importance of preventing congenital syphilis
- Manage baby accordingly as given in the section on treatment

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**Step-10**      Mother - Follow up VDRL should be done according to the stage of syphilis.

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# **Annexes**





# Elimination of Congenital Syphilis

Collaborative Program of National STD/AIDS Control Programme & Family Health Bureau, Sri Lanka.

## QUARTERLY DATA COLLECTION FORM 1 (data to be obtained from MOH clinics)

Name of the Reporting STD clinic		Year		Quarter	
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1. MOH area	2. No; of Mothers Registered	3. Mothers registered by POA		4. No of mothers tested for syphilis (VDRL)			5. No; of mothers tested by VDRL	6. No; of mother tested by ICS	7. Total No; of mothers tested <sup>4</sup>	8. Percentage of coverage		9. No; of mothers TPPA positive	10. No; of mothers referred
		3.1 < 12 Wks	3.2 At delivery	4.1. STD clinic	4.2. Non STD State labs	4.3. Private Labs				8.1 Total coverage	8.2 Covered by Gov.Sector		
1													
2													
3													
4													
5													
6													
7													
8													
9													
10													
11													
12													
13													
14													
15													
16													
17													
18													
19													
<b>TOTAL</b>													

Column - 4.2-VDRL test done in government labs other than STD clinic laboratories, 4.3-Privet sector laboratories, 6-ICS – Immunochromatographic Strip test (Distributed under the ECS programme to MOH areas where VDRL testing is not available/feasible), 7.If a mother tested by VDRL and ICS, do not double count,

**Note:** No: of mothers tested by VDRL(**Column No 5**) should be able to get by adding the column No. 4.1, 4.2, and 4.3, Total No: of mothers tested( **column 7**) should be able to get by adding the column No 5 and 6, percentage of total coverage (**column 8.1**) should be able to get by Column 7 divided by column 2, percentage covered by Gov. Sector (**column 8.2**) should be able to get by total of Column 4.1 & Column 4.2 divided by Column 2



# Elimination of Congenital Syphilis

Collaborative Program of National STD/AIDS Control Programme & Family Health Bureau, Sri Lanka.

## QUARTERLY DATA COLLECTION FORM 2

Name of the Reporting STD clinic		Year		Quarter	
----------------------------------	--	------	--	---------	--

### Management of syphilis positive women, partners and their babies (During the quarter)

	Category	Count		Category	Count	Number appropriately treated	Number inappropriately treated
1	Total number of syphilis confirmed antenatal mothers registered.		1a	Total number of positive pregnant mothers treated for syphilis			
2	Total number of partners of pregnant women confirmed positive for syphilis		2a	Total number of partners of positive pregnant women treated			
3	Total number of symptomatic babies ( <i>Case definition - 1</i> )		3a	Total number of symptomatic babies treated ( <i>Treatment schedule – 2</i> )			
4	Total number of infants with congenital syphilis ( <i>Case definition 2</i> )		4a	Total number of infants (Diagnosed by case definition 2) treated ( <i>Treatment schedule – 2</i> )			
5	Total number of infants with congenital syphilis ( <i>Case definition 3</i> )		5a	Total number of infants (Diagnosed by case definition 3) treated ( <i>Treatment schedule – 2</i> )			
6	Total number of infants eligible for single dose prophylactic penicillin ( <i>Refer treatment schedule – 1</i> )		6a	Total number of infants who were given Single dose B. penicillin			
7	Total No ; of antenatal mothers with past history of syphilis referred by MOH						

Refer the book “Guidelines for the Management of Maternal Syphilis & Congenital Syphilis” for case definitions and treatment schedules

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ජාතික ලිංගාශ්‍රිත රෝග හා ජීවිත් මර්දන වැඩසටහන  
தேசிய பாலியல் நோய்/எயிட்ஸ் தடுப்பு வேலைத்திட்டம்  
National STD/AIDS Control Programme

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எனது இல: My No:

ඔබේ අංකය:  
உமது இல: Your No:

දිනය:  
திகதி: Date:

**MOTHERS TESTING POSITIVE FOR SYPHILIS**

- Name: .....
  - Results of serological tests for Syphilis - VDRL  TPPA
  - Diagnosis  Primary syphilis  Secondary syphilis  Early latent syphilis  Late latent syphilis
- Due to the following reason she **has not been adequately treated** according to the stage of syphilis
    - Mother presented < 4 weeks before delivery
    - Mother was not treated with penicillin due to hypersensitivity
    - Mother's VDRL titre has not shown a four fold drop
    - Mother not completed the full course of penicillin
    - Mother treated with non penicillin course

**Management of Baby**

- The baby should be evaluated by a pediatrician
- Since syphilis serology (VDRL & IgM ELISA antibody tests) have to be done on baby's blood, please send 5 cc of baby's blood to the STD/AIDS reference Laboratory, properly labeled, with the duly filled Pathology Request Form (Health 356). (Cord blood is not suitable)
- Together with baby's blood send 5cc of mother's blood

**Recommended treatment:**

Aqueous crystalline penicillin 100,000 -150,000 IU/kg/ day for 10 days. It is administered as 50,000 IU/kg/dose IV every 12 hours during the first 7 days and every 8 hours thereafter for 3 days.

- Please refer both mother and baby to the STD clinic before discharge from the Ward.

.....  
**Consultant Venereologist/MO (STD)**  
**National STD/AIDS Control Programme**



**Elimination of Congenital Syphilis**

Collaborative Program of National STD/AIDS Control Programme & Family Health Bureau, Sri Lanka.

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National STD/AIDS Control Programme

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මගේ අංකය: }  
எனது இல: }  
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Your No: }

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திகதி: }  
Date: }

**MOTHERS TESTING POSITIVE FOR SYPHILIS**

- 1) Name: .....
- 2) Results of serological tests for Syphilis - VDRL  TPPA
- 3) Diagnosis  Primary syphilis  Secondary syphilis  Early latent syphilis  Late latent syphilis

The above named mother has been adequately treated according to the stage of syphilis with benzathine benzylpenicillin and is no longer infectious.

**Management of Baby**

- The baby should be evaluated by a pediatrician
- Since syphilis serology (VDRL & IgM ELISA antibody tests) have to be done on baby's blood, please send 5 cc of baby's blood to the STD/AIDS reference Laboratory/ clinic , properly labeled, with the duly filled Pathology Request Form (Health 356). (Cord blood is not suitable)
- Together with baby's blood send 5cc of mother's blood
- If the baby is asymptomatic and has no serological evidence of syphilis the following treatment should be given as epidemiological treatment.

**Recommended treatment:** Benzathine penicillin 50,000 IU/kg IM in a single dose

- If baby has evidence of congenital syphilis, after drawing a specimen of blood for syphilis serology, the baby should be treated in a pediatric ward with intravenous penicillin.

**Recommended treatment:** Aqueous crystalline penicillin 100,000 -150,000 IU/kg/ day for 10 days. It is administered as 50,000 IU/kg/dose IV every 12 hours during the first 7 days and every 8 hours thereafter for 3 days.

- Please refer both mother and baby to the STD clinic before discharge from the Ward.

.....  
**Consultant Venereologist/ MO (STD)**  
**National STD/AIDS Control Programme**



**Elimination of Congenital Syphilis**

Collaborative Program of National STD/AIDS Control Programme & Family Health Bureau, Sri Lanka.

**ANTENATAL SYPHILIS SCREENING GUIDELINES FOR SAMPLE COLLECTION,  
STORAGE, TRANSPORTATION AND TESTING**

1. Drawing of blood should be done by MOH,MO,RMO/AMO,PHNS or Nurse. If it is a field clinic, either MOH or PHNS should draw blood. When STD clinic team visits ANCs for blood drawing MOSTD, Nurse or MLT may draw blood.
2. Disposable syringes should be used to draw blood and 5cc blood should be taken in to a tube or a plain bottle. Label the sample with reference number date and time of collection. It should be kept in room temperature for at least 2 hours.
3. If it is sent within 12 hours to the laboratory not necessary to keep in the refrigerator or use special carriers for transportation. If it is not sent within 12 hours, keep samples in the main compartment of the refrigerator and send to the laboratory in a vaccine carrier within three days. Given specimen forms should be used. There should be prior arrangement before sending samples to the STD lab.
4. In the STD laboratory if the test is not done on the same day serum should be separated and could be kept for about one month in the freezer compartment of the refrigerator.
5. Result of the screening test will be conveyed to relevant PHM through the MOH and positive cases will be referred to STD clinic and confirmatory test will be done there. MO/STD shall use the contact slip of NSACP to get the partner for management. MO/STD will inform the MOH/VOG for the management of mother and baby by the card prepared for this purpose.
6. MOMCH and MO/STD should meet quarterly and discuss the matters related to antenatal syphilis screening.
7. VDRL test will be the first choice for syphilis screening and in areas where facilities are not available, rapid test can be recommended by FHB and NSACP.

## **Laboratory Equipment required for VDRL testing**

1. Antigen preparation bottle
2. Binocular Microscope
3. Bowl – (to contain ejected tips)
4. Centrifuge
5. Graduated pipette (Pyrex) – 1ml, 5 ml, 10ml
6. Khan tubes
7. Micro Pipette - Adjustable 20 - 200  $\mu$ .
8. Micro tips
9. Pipette pillar
10. Serum Rack (96 wells)
11. Stop watch
12. Syringe & needle-18 gauge
13. Vacutainer tubes
14. VDRL Antigen Kits
15. VDRL shaker
16. VDRL slide ( perma slide)
17. Water bath 56° C
18. Wire Rack (96 wells)

# නිරෝගී දරු සම්පතක්



- ◆ සංජානීය උපදාංශය යනු මවගෙන් දරුවාට පැතිරෙන රෝගයකි. මෙය වැලැක්වීම සඳහා සෑම මවක්ම පූර්ව ප්‍රසව සායනයකදී VDRL රුධිර පරීක්ෂාව කර ගන්න.
- ◆ උපදාංශය නිසි ප්‍රතිකාර මගින් සම්පූර්ණයෙන් සුව කළ හැක.

2015 දී ශ්‍රී ලංකාවෙන් සංජානීය උපදාංශය තුරන් කරමු



World Health Organization



ශ්‍රී ලංකාවේ සංජානනීය උපදාංශය  
තුරන් කරමු



தாயிலிருந்து குழந்தைக்கு தொற்றும் சிபிலிஸ்  
நோயை தவிர்த்தல்



Prevention of mother to child  
transmission of syphilis infection



සමහර අයගේ "පොසිටිව්" තත්වයක් පෙන්වයි. එය රෝගී තත්වයක් නොවන නිසා ප්‍රතිකාර කිරීමට අවශ්‍ය නොවේ.

13. බොහෝ විටදී දරා මෙම පත්‍රිකාව ඔබ වෙත ලබාදෙනු ලබන්නේ ඔබව දැනුවත් කර ශ්‍රී ලාංකික ජනතාවගේ ලිංගික හා ප්‍රජනක සෞඛ්‍ය ඉහළ මට්ටමක පවත්වා ගැනීමටත් ලිංගිකව බෝවන රෝග වලින් තොර ශ්‍රී ලාංකුවක් බිහිකර ගැනීම සඳහාය. එබැවින් ඔබ හොඳින් දැනුවත් වී, මෙම පත්‍රිකාව තවත් අය වෙත ද ලබාදී ඔවුන්වද දැනුවත් කිරීමට කටයුතු කරන්න.



**ජාතික ලිංගාශ්‍රිත රෝග එඩ්ස් මර්දන වැඩසටහන**  
 කො: 29, ද ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජය, කොළඹ 10.  
 දුරකථන : 2667029, 2667163  
 Web site: www.aidscontrol.gov.lk

ලිංගාශ්‍රිත රෝග වලින් ආරක්ෂා වන්න.

- ▲ එක් විශ්වාසවන්ත සහකරුවෙක් සමඟ පමණක් ලිංගික සම්බන්ධතා පවත්වන්න.
- ▲ ආරක්ෂිත ලිංගික ක්‍රම (කොන්ඩම්) භාවිතා කිරීමට පුරුදු වන්න.

## ශ්‍රී ලංකාවෙන් සංජානනීය උපද්‍රවය තුරන් කරමු



**උපද්‍රවය සහ VDRL පරීක්ෂණය**

සෑහෙන මිලික උපද්‍රව රෝගයන් ව්‍යාප්ත බව තහනම් කිරීමට අප සම්පූර්ණ ප්‍රතිකාරය ලබා ගන්නා රෝගීන් සඳහා, උපන් දරුවාට ප්‍රතිකාර කිරීමේ අත්‍යවශ්‍යය මෙම ප්‍රතිකාරය දරුවාගේ ආරක්ෂාව සහිත සිදුකරනවා ඇත. එම නිසා දරුවා ද ලිංගාශ්‍රිත රෝග සාක්ෂිවලට පත්වීමට වැළැක්වීමට වැදගත්ය.

**ලිංගාශ්‍රිත රෝග වලින් ආරක්ෂා වන්න.**

- එක් විශ්වාසවන්ත සහකරුවෙක් සමඟ පමණක් ලිංගික සම්බන්ධතා පවත්වන්න.
- ආරක්ෂිත ලිංගික ක්‍රම (කොන්ඩම්) භාවිතා කිරීමට පුරුදු වන්න.

**ලිංගාශ්‍රිත රෝග:**  
 ජාතික ලිංගාශ්‍රිත රෝග,  
 එඩ්ස් මර්දන වැඩසටහන  
 කො. 29, කොළඹ 10.  
 දුරකථන : 011-2667163  
 Hot Line: 011-2667162

අනුග්‍රහය: ලෝක සෞඛ්‍ය සංවිධානය

### ලිංගාශ්‍රිත රෝග සායන පැවැත්වෙන ස්ථාන :

ලිංගාශ්‍රිත රෝග ක්ෂේත්‍ර මධ්‍යම සායනය:  
 ද ශ්‍රී ලංකා ප්‍රජාතාන්ත්‍රික සමාජවාදී ජනරජය, කොළඹ 10.

ලිංගාශ්‍රිත රෝග සායන කැපීපත්වීමේ මත රෝගාලය සහ මූලික රෝගාලය :-

- |  |                                    |                                   |
|--|------------------------------------|-----------------------------------|
| <input type="checkbox"/> රාගම          | <input type="checkbox"/> සවිඛේදිය  | <input type="checkbox"/> මාංශ     |
| <input type="checkbox"/> සරාපිටිය      | <input type="checkbox"/> සුරාසාලය  | <input type="checkbox"/> සැලැල්ල  |
| <input type="checkbox"/> මහනුවර        | <input type="checkbox"/> අනුරාධපුර | <input type="checkbox"/> සාපහාය   |
| <input type="checkbox"/> අඹේපාය        | <input type="checkbox"/> සවිඛේදිය  | <input type="checkbox"/> නුවරඑළිය |
| <input type="checkbox"/> කම්බන්කොට     | <input type="checkbox"/> පානදුර    | <input type="checkbox"/> මාතලේ    |
| <input type="checkbox"/> මොණරාගල       | <input type="checkbox"/> මහියංගනය  | <input type="checkbox"/> බලපිටිය  |
| <input type="checkbox"/> මහලොව         | <input type="checkbox"/> මහනුවර    | <input type="checkbox"/> රත්නපුර  |
| <input type="checkbox"/> පොළොන්නරුව    | <input type="checkbox"/> කලාපිත    | <input type="checkbox"/> බදුල්ල   |
| <input type="checkbox"/> ශ්‍රී ලංකාමලය | <input type="checkbox"/> එළවැව     |                                   |

## ශ්‍රී ලංකාවෙන් සංජානනීය උපද්‍රවය තුරන් කරමු



**උපද්‍රවය ඇති බව  
හඳුනාගත් මව්වරුන්  
සඳහා**

## Referral card for prevention of Congenital Syphilis Mo-(STD to MOH/VOG)

STD clinic -----

Name of mother -----

Date of registration -----

POA -----

EDD -----

Stage of maternal syphilis -----



### Treatment given

Benzathine penicillin – 1dose on -----

Benzathine penicillin – 2dose on -----

Benzathine penicillin – 3dose on -----

Erythromycin – on -----

### ▲ **Maternal treatment completed**

#### **Baby requires –**

- clinical evaluation
- serologic test for syphilis (VDRL/IgM)
- Prophylaxis treatment - benzathine penicillin 50,000IU/kg intra-muscular in a single dose before discharge from ward

### ▲ **Maternal treatment incomplete**

#### **Baby requires –**

- clinical evaluation
- serologic test for syphilis (VDRL/IgM)
- Treatment for congenital syphilis – aqueous crystalline benzyl penicillin 100,000-150,000IU/kg, IV in two divided doses for 7 days and three times a day for another 3 days to complete 10 days(given as 50,000IU, IV b.d for 7 days and t.d.s for another 3 days)

Dates for follow up clinic visits -----

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*Please bring this card when visiting the clinic*

## ශ්‍රී ලංකාවෙන් සංජානනීය උපදෙශය තුරන් කරමු

සූර්ව ප්‍රසව සායනයේදී මවට කරන ලද ලේ පරීක්ෂාවක් ගැන අප අවධානය යොමුවී ඇත. මේ පිළිබඳ වැඩි විස්තර ලබා ගැනීමටත්, ඊට අදාළ වැඩිදුර පරීක්ෂණ සඳහා පහත සඳහන් ලිංගාශ්‍රිත රෝග සායනය වෙත උදේ 8.00 සිට සවස 3.30 දක්වා කාලය තුලදී පැමිණීම හා හමුවන්න.



වෛද්‍ය .....

ලිංගාශ්‍රිත රෝග සායනය .....

දිනය .....

