Congenital Syphilis Treatment Guidelines

Indiana Department of Health

Scenario #1: Confirmed Proven or Highly Probable Congenital Syphilis

Any neonate with:

- an abnormal physical examination that is consistent with congenital syphilis;
- a serum quantitative non-treponemal serologic titer that is four-fold (or greater) higher than the titer of the mother at delivery (e.g., maternal titer = 1:2, neonatal titer ≥1:8; maternal titer = 1:8, neonatal titer ≥1:32); or
- a positive darkfield test or polymerase chain reaction (PCR) of placenta, cord, lesions, or body fluids or a positive silver stain of the placenta or cord.

Recommended Evaluation

- Cerebrospinal fluid (CSF) analysis for Venereal Disease Research Laboratory (VDRL) test, cell count, and protein; and/or
- complete blood count (CBC) and differential and platelet count; and/or
- long-bone radiographs; and/or
- other tests as clinically indicated (e.g., chest radiograph, liver function tests, neuroimaging, ophthalmologic examination, and auditory brain stem response).

Recommended Regimens, Confirmed or Highly Probable Congenital Syphilis

Aqueous crystalline penicillin G 100,000–150,000 units/kg body weight/day, administered as 50,000 units/kg body weight/dose, intravenously, every 12 hours during the first 7 days of life and every 8 hours thereafter for a total of 10 days

OR

Procaine penicillin G 50,000 units/kg body weight/dose, intramuscularly, in a single daily dose for 10 days

If >1 day of therapy is missed, the entire course must be re-started. Data are insufficient regarding the use of other antimicrobial agents (e.g., ampicillin). When possible, a full 10-day course of penicillin is preferred, even if ampicillin was initially provided for possible sepsis. Using agents other than penicillin requires close serologic follow-up for assessing therapy adequacy.

Scenario #2: Possible Congenital Syphilis

Any neonate who has a normal physical examination and a serum quantitative non-treponemal serologic titer equal to or less than four-fold of the maternal titer at delivery (e.g., maternal titer = 1:8, neonatal titer ≤1:16) and one of the following:

- the mother was not treated, was inadequately treated, or has no documentation of having received treatment; or
- the mother was treated with erythromycin or a regimen other than those recommended in these guidelines (i.e., a non-penicillin G regimen); or
- the mother received the recommended regimen but treatment was initiated <30 days before delivery.

Recommended Evaluation

- Cerebrospinal fluid (CSF) analysis for Venereal Disease Research Laboratory (VDRL) test, cell count, and protein; and/or
- complete blood count (CBC) and differential and platelet count; and/or
- long-bone radiographs.

This evaluation is not necessary if a ten-day course of parenteral therapy is administered, although such evaluations may be useful. For instance, a lumbar puncture may document CSF abnormalities that may prompt close follow-up. Other tests (e.g., CBC, platelet count, and long-bone radiographs) may be performed to further support a diagnosis of congenital syphilis.

Recommended Regimens, Possible Congenital Syphilis

Aqueous crystalline penicillin G 100,000–150,000 units/kg body weight/day, administered as 50,000 units/kg body weight/dose, intravenously, every 12 hours during the first 7 days of life and every 8 hours thereafter for a total of ten (10) days

OR

Procaine penicillin G 50,000 units/kg body weight/dose, intramuscularly, in a single daily dose for 10 days

OR

Benzathine penicillin G 50,000 units/kg body weight/dose, intramuscularly, in a single dose

Before using the single-dose benzathine penicillin G regimen, the recommended evaluation (i.e., CSF examination, long-bone radiographs, and CBC with platelets) is expected to be normal, and follow-up is recommended to be certain. If any part of the evaluation of the neonate is abnormal or not performed, if the CSF analysis is uninterpretable because of contamination with blood, or if follow-up is uncertain, a ten-day course of penicillin G is required.

If the non-treponemal test of the neonate is non-reactive and the provider determines that the risk of the mother for untreated syphilis is low, treatment of the neonate with a single intramuscular dose of benzathine penicillin G 50,000 units/kg body weight for possible incubating syphilis may be considered without an evaluation. Neonates born to mothers with untreated early syphilis at the time of delivery are at increased risk for congenital syphilis, and the ten-day course of penicillin G may be considered even if the non-treponemal test of the neonate is non-reactive, the complete evaluation is normal, and follow-up is certain.

Scenario #3: Congenital Syphilis Less Likely

Any neonate who has a normal physical examination and a serum quantitative non-treponemal serologic titer equal or less than four-fold of the maternal titer at delivery (e.g., maternal titer = 1:8, neonatal titer ≤1:16) and both of the following are true:

- the mother was treated during pregnancy, treatment was appropriate for the infection stage, and the treatment regimen was initiated ≥30 days before delivery; and
- the mother has no evidence of re-infection or relapse.

Recommended Evaluation
No evaluation is recommended.

Recommended Regimens, Congenital Syphilis Less Likely
Benzathine penicillin G 50,000 units/kg body weight/dose, intramuscularly, in a single dose

Scenario #4: Congenital Syphilis Unlikely

Any neonate who has a normal physical examination and a serum quantitative non-treponemal serologic titer equal to or less than four-fold of the maternal titer at delivery and both of the following are true:

- the treatment of the mother was adequate before pregnancy; and
- the non-treponemal serologic titer of the mother remained low and stable (i.e., serofast) before and during pregnancy and at delivery (e.g., VDRL ≤1:2 or RPR ≤1:4).

Recommended Evaluation
No evaluation is recommended.

Recommended Regimens, Congenital Syphilis Unlikely
No treatment required. However, benzathine penicillin G 50,000 units/kg body weight/dose, intramuscularly, in a single dose may be considered, particularly if follow-up is uncertain and the neonate has a reactive non-treponemal test.