Congenital Syphilis Treatment Guidelines

Neonates born to an individual who has reactive nontreponemal serologic tests for syphilis at delivery should be examined thoroughly for evidence of congenital syphilis.

The following scenarios describe the recommended congenital syphilis evaluation and treatment of neonates born to women who had reactive nontreponemal and treponemal serologic tests for syphilis during pregnancy (e.g., RPR reactive, TP-PA reactive or EIA reactive, RPR reactive) and have a reactive nontreponemal test at delivery (e.g., RPR reactive). Maternal history of infection with T. pallidum and treatment for syphilis should be considered when evaluating and treating the neonate for congenital syphilis in most scenarios, except when congenital syphilis is proven or highly probable.

Scenario 1: Confirmed Proven or Highly Probable Congenital Syphilis

Neonates with

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

Recommended Evaluation

- CSF analysis for VDRL, cell count, and protein
- Complete blood count (CBC) and differential and platelet count
- Long-bone radiographs
- 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 by IV every 12 hours during the first seven days of life and every eight hours thereafter for a total of 10 days.

OR

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

If >1 day of therapy is missed, the entire course should be restarted. 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 (648–650). Using agents other than penicillin requires close serologic follow-up for assessing therapy adequacy.

Congenital Syphilis: Treatment Guidelines, continued

Scenario 2: Possible Congenital Syphilis

Neonates who have a normal physical examination and a serum quantitative nontreponemal serologic titer equal to or less than fourfold 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.
- The mother was treated with erythromycin or a regimen other than those recommended in these guidelines (i.e., a nonpenicillin G regimen).
- The mother received the recommended regimen, but treatment was initiated <30 days before delivery.

Recommended Evaluation

- CSF analysis for VDRL, cell count, and protein
- CBC, differential, and platelet count
- Long-bone radiographs

This evaluation is not necessary if a 10-day course of parenteral therapy is administered, although such evaluations might be useful. For instance, a lumbar puncture might document CSF abnormalities that would prompt close follow-up. Other tests (e.g., CBC, platelet count, and long-bone radiographs) can 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 by IV every 12 hours during the first seven days of life and every eight hours thereafter for a total of 10 days.

OR

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

OR

Benzathine penicillin G 50,000 units/kg body weight/dose IM 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) should be normal, and follow-up should be certain. If any part of the neonate's evaluation is abnormal or not performed, if the CSF analysis is uninterpretable because of contamination with blood, or if follow-up is uncertain, a 10-day course of penicillin G is required.

If the neonate's nontreponemal test is nonreactive and the provider determines that the mother's risk for untreated syphilis is low, treatment of the neonate with a single IM dose of benzathine penicillin G 50,000 units/kg body weight for possible incubating syphilis can 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 10-day course of penicillin G should be considered even if the neonate's nontreponemal test is nonreactive, the complete evaluation is normal, and follow-up is certain.

Congenital Syphilis: Treatment Guidelines, continued

Scenario 3: Congenital Syphilis Less Likely

Neonates who have a normal physical examination and a serum quantitative nontreponemal serologic titer equal or less than fourfold 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.
- The mother has no evidence of reinfection or relapse.

Recommended Evaluation

No evaluation is recommended.

Recommended Regimens, Congenital Syphilis Less Likely

Benzathine penicillin G 50,000 units/kg body weight/dose IM in a single dose.*

* Another approach involves not treating the newborn if follow-up is certain but providing close serologic follow-up every 2–3 months for 6 months for infants whose mothers' nontreponemal titers decreased at least fourfold after therapy for early syphilis or remained stable for low-titer, latent syphilis (e.g., VDRL <1:2 or RPR <1:4).

Scenario 4: Congenital Syphilis Unlikely

Neonates who have a normal physical examination and a serum quantitative nontreponemal serologic titer equal to or less than fourfold of the maternal titer at delivery§ and both of the following are true:

- The mother's treatment was adequate before pregnancy.
- The mother's nontreponemal serologic titer 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 is required. However, any neonate with reactive nontreponemal tests should be followed serologically to ensure the nontreponemal test returns to negative (see Follow-Up). Benzathine penicillin G 50,000 units/kg body weight as a single IM injection might be considered, particularly if follow-up is uncertain and the neonate has a reactive nontreponemal test.

Neonates with reactive nontreponemal tests should receive thorough follow-up examinations and serologic testing (i.e., RPR or VDRL) every 2–3 months until the test becomes nonreactive.