NYC Health

Treatment of Infants Diagnosed With Congenital Syphilis

Infants born to a person who has reactive nontreponemal serologic tests for syphilis at delivery should be examined thoroughly for evidence of congenital syphilis. The birthing parent's history of infection with *Treponema pallidum* and treatment for syphilis should be considered when evaluating and treating the infant for congenital syphilis, except when congenital syphilis is proven or highly probable. This table summarizes recommendations for evaluation and treatment of infants born to people with reactive nontreponemal and treponemal serologic tests for syphilis during pregnancy[1] (for example, RPR and TPPA reactive, or EIA and RPR reactive) and a reactive nontreponemal test at delivery (for example, RPR reactive).

Scenario 1	Recommended evaluation and treatment
Confirmed proven or highly probable congenital syphilis: Infants with: • Abnormal physical examination consistent with congenital syphilis; • Serum quantitative nontreponemal serologic titer at least four times higher than the birthing parent's titer at delivery (for example, parental titer is 1:8, neonatal titer is greater than or equal to 1:32); or • Positive dark-field test or PCR of placenta, cord, lesions, or body fluids or a positive silver stain of the placenta or cord	**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, such as chest radiograph, liver function tests, neuroimaging, ophthalmologic examination, and auditory brain stem response **Treatment*** • Aqueous crystalline penicillin G 100,000 to 150,000 units per kg body weight per day, administered as 50,000 units per kg body weight per 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 per kg body weight per dose intramuscular in a single daily dose for 10 days

[1] American Sexually Transmitted Diseases Association. Federal guidelines, reports, and resources. https://www.astda.org/federal-guidelines-reports-and-resources

* If the infant misses more than one day of therapy, the entire course should be restarted. Data are insufficient regarding use of other antimicrobial agents such as 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.

Note: All infants with reactive nontreponemal tests should receive thorough follow-up examinations and serologic testing such as RPR or VDRL every two to three months until the test becomes nonreactive.

Scenario 2	Recommended evaluation and treatment
Possible congenital syphilis: Infants with a normal physical examination, a serum quantitative nontreponemal serologic titer less than four times the birthing parent's titer at delivery (for example, birthing parent titer is 1:8, neonatal titer is equal to or less than 1:16), and one of the following: • Birthing parent was not treated, was inadequately treated, or has no documentation of treatment for syphilis; • Birthing parent was treated with a regimen other than those recommended, such as a non-penicillin G regimen; or • Birthing parent received the recommended regimen but treatment was initiated less than 30 days before delivery	**Evaluation†** • CSF analysis for VDRL, cell count, and protein • CBC, differential, and platelet count • Long-bone radiographs **Treatment‡** • Aqueous crystalline penicillin G 100,000 to 150,000 units per kg body weight per day, administered as 50,000 units per kg body weight per 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 per kg body weight per dose intramuscular in a single daily dose for 10 days; OR • Benzathine penicillin G 50,000 units per kg body weight per dose intramuscular in a single dose

†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 (for example, CBC, platelet count, and long-bone radiographs) can be performed to further support a diagnosis of congenital syphilis.

‡Before using the single-dose benzathine penicillin G regimen, the recommended evaluation — such as CSF examination, long-bone radiographs, and CBC with platelets — should be normal, and follow-up should be certain. If any part of the infant'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 infant's nontreponemal test is nonreactive and the provider determines that the mother's risk for untreated syphilis is low, treatment of the infant with a single intramuscular dose of benzathine penicillin G 50,000 units per kg body weight for possible incubating syphilis can be considered without an evaluation. Infants 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 infant's nontreponemal test is nonreactive, the complete evaluation is normal, and follow-up is certain.

Note: All infants with reactive nontreponemal tests should receive thorough follow-up examinations and serologic testing such as RPR or VDRL every two to three months until the test becomes nonreactive.

Scenario 3	Recommended evaluation and treatment
Congenital syphilis less likely: Infants with a normal physical examination, a serum quantitative nontreponemal serologic titer less than four times the birthing parent's titer at delivery (for example, birthing parent is 1:8, infant is less than 1:16), and following: • Birthing parent was treated for syphilis during pregnancy, treatment was appropriate for the infection stage, and the treatment was initiated at least 30 days before delivery; and • Birthing parent has no evidence of reinfection or relapse	**Evaluation** No evaluation recommended **Treatment** • Benzathine penicillin G 50,000 units per kg body weight per dose intramuscular in a single dose Note: Another treatment approach involves not treating the newborn if follow-up is certain but providing close serologic follow-up every two to three months for six months for infants whose birthing parent's nontreponemal titers decreased at least fourfold after therapy for early syphilis or remained stable for low-titer latent syphilis (for example, VDRL ≤ 1:2 or RPR ≤ 1:4).

Scenario 4	Recommended evaluation and treatment
Congenital syphilis unlikely: Infants with a normal physical examination, a serum quantitative nontreponemal serologic titer less than four times the birthing parent's titer at delivery, and both of the following: • Birthing parent's treatment was adequate before pregnancy; and • Birthing parent's nontreponemal serologic titer remained low and stable (serofast) before and during pregnancy and at delivery (for example, VDRL ≤ 1:2 or RPR ≤ 1:4).	**Evaluation** No evaluation recommended **Treatment** • No treatment required • If an infant has a reactive nontreponemal test, consider Benzathine penicillin G 50,000 units per kg body weight as a single intramuscular dose, particularly if follow-up is uncertain. • Always provide serologic follow-up every two to three months for any infant with a reactive nontreponemal test until the test becomes nonreactive.

Note: All infants with reactive nontreponemal tests should receive thorough follow-up examinations and serologic testing such as RPR or VDRL every two to three months until the test becomes nonreactive.