

Treat Congenital Syphilis Using Safe Penicillin Practices

The rise in congenital syphilis will put the spotlight on safe penicillin dosing and dispensing for newborns.

Congenital syphilis rates in US newborns increased tenfold between 2012 and 2022. Fetal complications include bony abnormalities, liver problems, swollen lymph nodes, edema...and even death.

Plus penicillin medication errors have led to neonatal deaths.

Recommend newborns receive penicillin when a pregnant patient has syphilis...but didn't get adequate treatment. The newborn's treatment depends on the risk from the syphilis exposure and their clinical status.

Save single-dose penicillin G benzathine 50,000 units/kg/dose IM for lower-risk newborns...such as when the pregnant parent received a full penicillin course at least 30 days before delivery.

But give higher-risk newborns, such as those with symptoms of syphilis (hepatosplenomegaly, "blueberry muffin" skin rash, etc), 10 days of aqueous IV penicillin G sodium or penicillin G potassium.

In these cases, start with 50,000 units/kg/dose every 12 hours for the first 7 days of life...then give this dose every 8 hours for the last 3 days of treatment.

Keep an eye on this dose change...it's easy to miss. Double-check order start times, frequencies, and durations.

Reinforce that penicillin doses can't be missed. Explain that missing more than 1 day requires starting treatment all over again.

IV ceftriaxone has no pediatric data for syphilis. Only use it if all penicillin options are unavailable...including imported products. You should consult an ID expert and closely monitor for increased bilirubin...which could cause brain damage.

Don't use the IM penicillin G benzathine with procaine product during shortages...it's not studied to treat syphilis. And penicillin G procaine IM is mentioned in guidelines, but it's no longer on the market.

Draw up patient-specific, weight-based penicillin doses in the pharmacy whenever possible. Always prepare in syringes for newborns...IV bags have too much volume.

Avoid stocking unit-dose penicillin products in pediatric care areas without staff education...to decrease risk of giving incorrect doses.

Order penicillin using generic names...brand names cause confusion. Specify penicillin types on orders to prevent product mix-ups...such as "penicillin G benzathine" or "penicillin G sodium."

Ensure your pharmacy has measures in place to avoid giving penicillin G benzathine IV...this can cause cardiac arrest and death. Include "For intramuscular use only" instructions on all penicillin G benzathine orders to increase safety.

Learn more about how to prevent medication errors in kids with our resource, [Keeping Pediatric Patients Safe](#).

Key References:

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