



APEC Guidelines Group B Streptococci

In the late 1970s, group B streptococci (GBS) emerged as an important cause of perinatal morbidity and mortality. Implementation of national guidelines for intrapartum antibiotic prophylaxis since the 1990s has resulted in approximately 80% reduction in the incidence of early-onset neonatal sepsis due to GBS.(ACOG, 2011) Yet, GBS remains the leading cause of infectious mortality and morbidity among newborns.(Verani et al., 2010) It is estimated that 10 to 30% of pregnant women are colonized with GBS in the vagina or rectum.(Verani & Schrag, 2010)

ACOG and CDC recommend universal screening of all pregnant women by vaginal and rectal culture at 35-37 weeks' gestation unless the patient has had GBS bacteriuria in the current pregnancy or a previous infant affected by early onset GBS disease. The culture is collected by inserting one swab into the vagina (vaginal introitus) and then into the rectum (through the anal sphincter). Women with positive cultures should receive intrapartum antibiotics: penicillin is the agent of choice with ampicillin as an acceptable alternative. Erythromycin does not provide adequate coverage or placental transfer for GBS prophylaxis.

Recommendations

- If a culture has not been performed or results are not available, pregnant women should receive intrapartum antibiotics based on the following risk factors:
 - Threatened preterm labor (<37 weeks gestation)
 - Intrapartum fever (>100 F)
 - Rupture of membranes >18 hours
- All women who have had a child affected by early-onset GBS disease should receive intrapartum prophylaxis and no culture is needed.
- For women who were colonized in a prior pregnancy but did NOT have a child affected by GBS, she may not remain colonized and therefore a culture should be performed.
- A positive urine culture for GBS during the current pregnancy mandates intrapartum antibiotic prophylaxis irrespective of the vagino-rectal culture result and thus, in such women, the 35-37 week culture is not needed.
- GBS prophylaxis is not needed for women who undergo **pre-labor, pre-membrane rupture** cesarean delivery. Women planning repeat cesarean delivery should still undergo screening for GBS as rupture of membranes may occur prior to the scheduled cesarean.

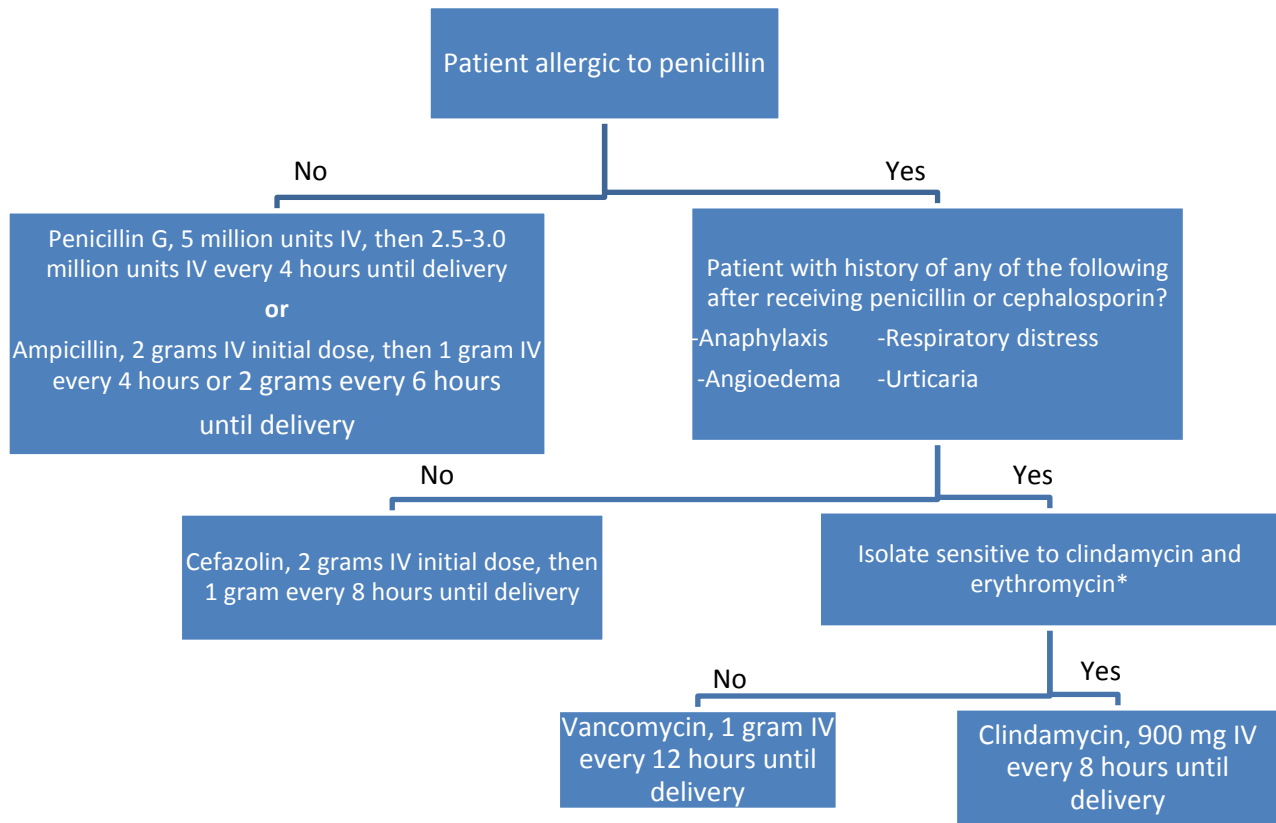
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Antibiotic Agents

- Penicillin is the treatment agent of choice for GBS with ampicillin as an acceptable alternative. The recommended dose is:
 Penicillin G, 5 million units IV, then 2.5-3.0 million units IV every 4 hours until delivery
 or
 Ampicillin, 2 grams IV initial dose, then 1 gram IV every 4 hours until delivery
 -Some units choose to use 2 grams of Ampicillin every 6 hours to keep dosing similar to that in other settings; this is an acceptable alternative regimen.
- Penicillin-allergic women who do not have a history of anaphylaxis, angioedema, respiratory distress or urticaria following administration of a penicillin or cephalosporin should receive cefazolin, 2 grams IV, then 1 gram every 8 hours until delivery.
- For Penicillin-allergic patients at high risk of anaphylaxis, susceptibility testing for clindamycin and erythromycin should be ordered at the time of the GBS culture. If the isolate is susceptible to both, clindamycin is the agent choice. Susceptibility testing must be performed to both (despite the fact that erythromycin is not an appropriate antibiotic) because some isolates with erythromycin resistance will also be partly resistant to clindamycin despite the results of susceptibility testing. If the isolate is susceptible to both clindamycin and erythromycin, Clindamycin, 900 mg IV every 8 hours can be given until delivery.
- For Penicillin-allergic patients at high risk of anaphylaxis in whom antibiotic susceptibility is unknown or in whom the isolate is resistant, vancomycin is the recommended antibiotic due to the increasing resistance to clindamycin and erythromycin in GBS isolates. Vancomycin, 1 gram IV every 12 hours should be given until delivery. For patients who develop a reaction to vancomycin, the infusion rate should be slowed and future doses should be diluted in a higher volume of IVF.

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Figure 1. Recommended regimens for intrapartum antibiotic prophylaxis for prevention of early-onset GBS disease. (Verani et al., 2010)



*Susceptibility testing must be performed to both (despite the fact that erythromycin is not an appropriate antibiotic) because some isolates with erythromycin resistance will also be partly resistant to clindamycin despite the results of susceptibility testing.

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References

- ACOG. (2011). Committee Opinion #485 Prevention of Early-Onset Group B Streptococcal Disease in Newborns. [Committee Opinion #485]. *The American College of Obstetricians and Gynecologists*.
- Verani, J. R., McGee, L., Schrag, S. J., Division of Bacterial Diseases, N. C. f. I., Respiratory Diseases, C. f. D. C., & Prevention. (2010). Prevention of perinatal group B streptococcal disease--revised guidelines from CDC, 2010. [Practice Guideline]. *MMWR Recomm Rep*, 59(RR-10), 1-36.
- Verani, J. R., & Schrag, S. J. (2010). Group B streptococcal disease in infants: progress in prevention and continued challenges. [Review]. *Clin Perinatol*, 37(2), 375-392. doi: 10.1016/j.clp.2010.02.002