**Group B Streptococcus Guidelines**

Washington State Clinical Laboratory Advisory Council


**Prevention Strategy for Early Onset Using Prenatal Screening at 35 - 37 Weeks' Gestation:**

Are one or more of the following risk factors present:
- Previous infant with invasive Group B Strep (GBS) disease?
- GBS bacteriuria this pregnancy?
- Delivery at <37 weeks of gestation?*

**Yes**
- Give intrapartum antibiotic¹

**No**
- Collect rectal and vaginal swab for GBS culture at 35-37 weeks of gestation
- GBS isolated
  - Give intrapartum antibiotic¹
- GBS not isolated
  - Intrapartum prophylaxis is not needed

**At the Time of Delivery**

Negative GBS Culture done within the last 5 weeks
- Rapid GBS Screen not indicated

Positive GBS Culture or Rapid GBS Screen done within the last 5 weeks
- Initiate intrapartum antibiotic¹

GBS Status Unknown or Culture/Rapid GBS screen done more than 5 weeks ago
- Perform Rapid GBS Screen (OAI or PCR)
  - Positive
  - Give intrapartum antibiotic¹ if one or more of the following risk factors present:
    - Previous infant with invasive GBS disease?
    - GBS bacteriuria this pregnancy?
    - Delivery <37 weeks of gestation?*
    - Duration of ruptured membrane >18 hours?
    - Temperature >38°C (100.4°F)
  - Negative

¹ Broad spectrum antibiotics may be considered at the discretion of the physician based on clinical indicators.

* For ruptured membranes without labor at <37 weeks' gestation, collect GBS culture and either:
  a) Give antibiotics until cultures are completed and negative OR
  b) Begin antibiotics once positive culture results are available. No prophylaxis is needed if 35-37 weeks' culture result is known to be negative.

References:
Procedures for collecting and processing clinical specimens for group B streptococcal culture and performing susceptibility testing to clindamycin and erythromycin

Procedures for collecting clinical specimens for culture of group B streptococcus at 35 - 37 weeks' gestation

- Swab the lower vagina (vaginal introitus), followed by the rectum (i.e., insert swab through the anal sphincter) using the same swab or two different swabs. Cultures should be collected in the outpatient setting by the healthcare provider or the patient herself, with appropriate instruction. Cervical cultures are not recommended and a speculum should not be used for culture collection.
- Place the swab(s) into a nonnutritive transport medium. Appropriate transport systems (e.g., Amies or Stuart's without charcoal) are commercially available. If vaginal and rectal swabs were collected separately, both swabs can be placed into the same container of medium. Transport media will maintain GBS viability for up to 4 days at room temperature or under refrigeration.
- Specimen labels should clearly identify that specimens are for group B streptococcal culture. If susceptibility testing is ordered for penicillin-allergic women, specimen labels should also identify the patient as penicillin-allergic and should specify that susceptibility testing for clindamycin and erythromycin should be performed if GBS is isolated.

Procedures for processing clinical specimens for culture of group B streptococcus

- Remove swab(s) from transport medium. Inoculate swab(s) into a recommended selective broth medium, such as Todd-Hewitt broth supplemented with either gentamicin (8 ug/ml) and nalidixic acid (15 ug/ml), or with colistin (10 ug/ml) and nalidixic acid (15 ug/ml). Examples of appropriate commercially available options include Trans-Vag broth supplemented with 5% defibrinated sheep blood or LIM broth.
- Incubate inoculated selective broth for 18-24 hours at 35-37°C in ambient air or 5% CO2. Subculture the broth to a sheep blood agar plate (e.g., tryptic soy agar with 5% defibrinated sheep blood).
- Inspect and identify organisms suggestive of GBS (i.e., narrow zone of beta hemolysis, gram-positive cocci, catalase negative). Note that hemolysis may be difficult to observe, so typical colonies without hemolysis should also be further tested. If GBS is not identified after incubation for 18-24 hours, reincubate and inspect at 48 hours to identify suspected organisms.
- Various streptococcus grouping latex agglutination tests or other tests for GBS antigen detection (e.g., genetic probe) may be used for specific identification, or the CAMP test may be employed for presumptive identification.

Procedures for clindamycin and erythromycin disk susceptibility testing of isolates, when ordered for penicillin-allergic patients

- Use a cotton swab to make a suspension from 18-24 hour growth of the organism in saline or Mueller-Hinton broth to match a 0.5 McFarland turbidity standard.
- Within 15 minutes of adjusting the turbidity, dip a sterile cotton swab into the adjusted suspension. The swab should be rotated several times and pressed firmly on the inside wall of the tube above the fluid level. Use the swab to inoculate the entire surface of a Mueller-Hinton sheep blood agar plate. After the plate is dry, use sterile forceps to place a clindamycin (2 ug) disk onto half of the plate and an erythromycin (15 ug) disk onto the other half.
- Incubate at 35°C in 5% CO2 for 20-24 hours.
- Measure the diameter of the zone of inhibition using a ruler or calipers. Interpret according to NCCLS guidelines for Streptococcus species other than S. pneumoniae (2002 breakpoints: clindamycin: ≥19 mm = susceptible, 16-18 = intermediate, <15 = resistant; erythromycin: ≥21 mm = susceptible, 16-20 = intermediate, <15 = resistant).