GBS Specimen Collection and Processing

GBS specimen collection and processing should be conducted according to the recommendations provided (Boxes 1–3 and Figure 7).

The following are key components of specimen collection and processing:

1. GBS colonization status should be determined by collecting both vaginal and rectal specimens at 35–37 weeks' gestation. A single combined vaginal-rectal specimen can be collected (AII).

2. Specimens should undergo 18–24 hour incubation at 35°–37°C in an appropriate enrichment broth medium to enhance the recovery of GBS (AI).

3. Accurate results are more important than rapid turnaround time for antenatal screening (AIII).

4. To ensure proper testing of specimens, clinicians must inform laboratories when submitted urine specimens are from pregnant women (AIII).

5. Antimicrobial susceptibility testing should be performed on antenatal GBS isolates from penicillin-allergic women at high risk for anaphylaxis because of a history of anaphylaxis, angioedema, respiratory distress, or urticaria following administration of a penicillin or a cephalosporin. (AII) (Box 3).

The following key changes were made from the 2002 guidelines:

1. Specimen transport options and timing until processing are clarified.

2. GBS identification options are expanded to include a positive identification from chromogenic media and identification directly from enriched broth. NAAT, such as commercially available PCR assays, can also be used after enrichment, if laboratories have validated NAAT performance and instituted appropriate quality controls (CII).

3. A direct plating option can be included in addition to enriched culture (CII). Direct plating has a lower sensitivity than enriched culture and should not be used as sole means to identify GBS.

4. Testing for inducible clindamycin resistance should be performed on antenatal GBS isolates that are susceptible to clindamycin, resistant to erythromycin, and are from penicillin-allergic women at high risk for anaphylaxis (CIII).

5. Laboratories should report GBS in urine culture specimens when present at concentrations of ≥10^4 colony-forming units/ml in pure culture or mixed with a second microorganism (AII) (Box 4).

**Intrapartum Antibiotic Prophylaxis**

Intrapartum antibiotic prophylaxis agents and dosing should be administered according to the recommendations provided (Figure 8).

The following are key components of intrapartum antibiotic prophylaxis agents and dosing:

1. Penicillin remains the agent of choice for intrapartum antibiotic prophylaxis, with ampicillin as an acceptable alternative (AI).

2. Penicillin-allergic women who do not have a history of anaphylaxis, angioedema, respiratory distress or urticaria following administration of a penicillin or a cephalosporin should receive cefazolin (BII).

3. Antimicrobial susceptibility testing should be ordered for antenatal GBS cultures performed on penicillin-allergic women at high risk for anaphylaxis because of a history of anaphylaxis, angioedema, respiratory distress or urticaria (BIII).

**BOX 1. Procedures for collecting clinical specimens for culture of group B Streptococcus (GBS) 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 health-care provider or, with appropriate instruction, by the patient herself. Cervical, perianal, perirectal or perineal specimens are not acceptable, and a speculum should not be used for culture collection.

- Place the swab(s) into a nonnutritive transport medium. Appropriate transport systems (e.g., Stuart’s or Amies with or without charcoal) are commercially available. GBS isolates can remain viable in transport media for several days at room temperature; however the recovery of isolates declines over one to four days, especially at elevated temperatures, which can lead to false-negative results. When feasible, specimens should be refrigerated before processing.

- Specimen requisitions should indicate clearly that specimens are for group B streptococcal testing. Patients who state that they are allergic to penicillin should be evaluated for risk for anaphylaxis. If a woman is determined to be at high risk for anaphylaxis,* susceptibility testing for clindamycin and erythromycin should be ordered.

* Patients with a history of any of the following after receiving penicillin or a cephalosporin are considered to be at high risk for anaphylaxis: anaphylaxis, angioedema, respiratory distress, or urticaria.