LABupdate

Group B *Streptococcus* (GBS): *Reminder — Best Specimen Collection for Best Results*

Background

Streptococcus agalactiae (or Group B *Streptococcus* [GBS]) colonizes the vagina and rectum and is carried asymptomatically in women at rates ranging approximately from 10% to 30%.[1]

- GBS is one of the leading causes of neonatal infection in the US and other Western countries.
- Early-onset GBS infection occurs after the bacteria have passed from mother to baby, either before or during delivery. Infection of the neonate during delivery can lead to severe disease or death, primarily from sepsis, pneumonia, or meningitis.
- Such risks can be prevented by prophylactic antibiotic treatment immediately prior to and during labor.

Administration of prophylaxis is generally based on risk factor assessment and by direct screening for GBS colonization on properly collected clinical specimens between 35 and 37 weeks of gestation.[2]

Guidelines and Advantage of Co-Collection of Vaginal and Rectal Specimens

It has been reported that there is both vaginal and rectal carriage of GBS during pregnancy with indications that the intestinal tract may be the primary site of colonization by GBS and the likely source of vaginal colonization.[3-5]

- GBS recovery was found to be 75% higher in rectal cultures of women as compared to vaginal cultures.[4]
- GBS carriage was demonstrated in 18% of women by anorectal culture and in only 4% by vaginal culture.[5]

GBS in the gastrointestinal tract is considered a risk factor for vaginal GBS.[6]

CDC Guidelines for Specimen Collection

Current guidelines from the CDC recommend both a vaginal and rectal swab specimen because the sensitivity of a vaginal/rectal swab is higher than a vaginal swab alone for detection of GBS. Failure to culture both sites substantially decreases detection. In order to reach the sensitivity required for maximizing GBS detection and preventing neonatal GBS disease, co-collection is vital.[7,8]

If performed within five weeks of delivery, at 35 to 37 weeks, a positive GBS test result indicates there is an 87% chance that a woman will carry GBS at delivery. Similarly, a negative result has been shown to be 96% predictive that a woman will not be carrying GBS at delivery.[9] LabCorp offers a nucleic acid amplification (NAA) test that has been shown to provide a sensitivity of 99% and a specificity of 92.4% for GBS detection.[10]

- Testing before 35 weeks of pregnancy has been shown to be less effective at predicting GBS colonization at delivery, with a sensitivity of only 43%.[9]
- Testing later than 37 weeks of pregnancy increases the chance that the baby will be born before the result is available.

For additional information, including specimen requirement, consult the Test Menu at labcorp.com, or review the **Specimen Collection Requirements** on the reverse.

Specimen Collection Requirements

As per revised CDC guidelines, a vaginal and rectal swab specimen is recommended.[7,8] The following specimen collection steps must be followed:

1. Use an Amies gel bacterial swab transport (or similar non-nutritive transport medium). E-swabs are not acceptable.
2. Remove the swab from the packaging, being careful not to contaminate it.
3. Collect both a vaginal **and** rectal specimen, using a single swab (alternatively a double swab can be used). Swab the lower vagina (vaginal introitus), followed by the rectum (swab should be inserted through the anal sphincter) preferably using the same swab. Move swab from side to side, or rotate the swab at the collection site, allowing several seconds for absorption of organisms by the swab. Cervical, perianal, perirectal or perineal specimens have been shown to be less sensitive than co-collection of vaginal and rectal specimens and are not acceptable; pelvic examination or visualization of the cervix by speculum examination should not be performed for collection of specimens for this testing.
4. Place swab (or swabs) into the transport tube.
5. Specimen should be kept at room temperature and transported to the laboratory within 24 hours of collection. Specimens that might be received in the testing lab more than 24 hours after collection should be kept refrigerated (but not frozen).

Test Name	Test Nº
Group B *Streptococcus* Colonization Detection Culture	**188130**
Group B *Streptococcus* Colonization Detection Culture With Reflex to Susceptibilities	**188135**
Group B *Streptococcus* Colonization Detection, NAA	**188132**
Group B *Streptococcus* Colonization Detection, NAA With Reflex to Susceptibilities	**188139**

For the most current information regarding test options, including specimen requirements and CPT codes, please consult the online Test Menu at **www.LabCorp.com.**

References

1. American College of Obstetricians and Gynecologists. Committee Opinion Nº 485. Prevention of early-onset group B streptococcal disease in newborns. *Obstet Gynecol*. 2011 Apr; 117(4):1019-1027.
2. Centers for Disease Control and Prevention. Prevention of perinatal group B streptococcal disease: revised guidelines from CDC. *MMWR*. 2002; 51(RR-11):1-32.
3. Anthony BF, Eisenstadt R, Carter J, Kim KS, Hobel CJ. Genital and intestinal carriage of group B streptococci during pregnancy. *J Infect Dis*. 1981 Jun; 143(6):761-766.
4. Badri MS, Zawaneh S, Cruz AC, Mantilla G, Baer H, Spellacy WN, et al. Rectal colonization with group B Streptococcus: Relation to vaginal colonization of pregnant women. *J Infect Dis*. 1977 Feb; 135(2):308-312.
5. Dillon HC, Gray E, Pass MA, Gray BM. Anorectal and vaginal carriage of group B streptococci during pregnancy. *J Infect Dis*. 1982 Jun; 145(6):794-799.
6. Meyn LA, Krohn MA, Hillier SL. Rectal colonization by group B Streptococcus as a predictor of vaginal colonization. *Am J Obstet Gynecol.* 2009 Jul; 201(1):76.e1-76.e7.
7. Centers for Disease Control and Prevention. Prevention of perinatal group B streptococcal disease: revised guidelines from CDC, 2010. *MMWR*. 2010; 59(RR-10):1-34.
8. Centers for Disease Control and Prevention. *Q&As About Implementing the 2010 Guidelines for Obstetric Providers.* Available at: http://www.cdc.gov/groupbstrep/clinicians/qas-obstetric.html. Accessed April 14, 2016.
9. Yancey MK, Schuchat A, Brown LK, Ventura VL, Markenson GR. The accuracy of late antenatal screening cultures in predicting genital group B streptococcal colonization at delivery. *Obstet Gynecol*. 1996 Nov; 88(5):811-815.
10. Xpert® GBS LB 301-0576, Rev A, November 2012 [package insert]. Sunnyvale, Calif: Cepheid; 2013.

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