SCREENING FOR GROUP B STREPTOCOCCUS COLONIZATION IN PREGNANCY

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INSTRUCTIONS FOR USE
Physician Decision Support (PDS) is a lab ordering tool operated by BeaconLBS. This Clinical Guideline supports the Questions and Answers that appear in PDS for tests referenced in this document. UnitedHealthcare reserves the right, in its sole discretion, to modify its Clinical Guidelines as necessary. This Clinical Guideline is provided for informational purposes. It does not constitute a Medical Policy or medical advice.

GUIDELINES

BeaconLBS recommends screening for Group B Streptococcus (GBS) in:

- All pregnant women, by vaginal-rectal swab, at 35–37 weeks’ gestation.

These recommendations are based upon the 2010 Centers for Disease Control and Prevention (CDC) guidelines which are endorsed by the American College of Obstetricians and Gynecologists (ACOG), the American Academy of Pediatrics (AAP), the American College of Nurse-Midwives (ACNM), the American Academy of Family Physicians (AAFP), and the American Society for Microbiology (ASM).1

BACKGROUND

Streptococcus agalactiae, also known as Group B Streptococcus (GBS), is a gram-positive coccus characterized by the group B Lancefield antigen. GBS is the most common source of peripartum infection in women, neonatal sepsis, and infection in immunocompromised adults particularly diabetics.1-9 Maternal colonization of the vaginal and gastrointestinal (GI) tracts by GBS occurs in 10 - 45 % of all women and is asymptomatic, dynamic, and cannot be detected by history and clinical examination.1,10
Guidelines for the prevention of early-onset GBS disease issued in 2002 (and revised in 2010) by the CDC recommended universal recto-vaginal culture-based screening of all pregnant women at 35–37 weeks’ gestation to optimize the identification of colonized women who should receive GBS management.\textsuperscript{1,11} This has led to declines in GBS infection.

In pregnancy, GBS is associated with asymptomatic urine colonization, urinary tract infection, and amnionitis. In the peripartum period, GBS causes wound infection and endometritis.\textsuperscript{1-10} Neonates and infants have the highest incidence of GBS disease and GBS is the leading cause of neonatal sepsis and early neonatal morbidity and mortality in the United States.\textsuperscript{1,2} However, early intervention prevents maternal and early onset (age < 1 week) neonatal disease, as well as adult infection. Identification of GBS by culture and subsequent GBS management is indicated to prevent maternal and neonatal infection and avoid complications from infection.

**CLINICAL EVIDENCE**

**Guidelines and Recommendations**

*Centers for Disease Control*

Guidelines for the prevention of early-onset GBS disease were issued in 2002 (and revised in 2010) by the CDC.\textsuperscript{1,12} These recommendations have been endorsed by the ACOG, AAP, ACNM, AFP, and ASM.\textsuperscript{1} Late ante-natal screening for GBS colonization is the cornerstone of the recommendations.

Recommendations for the prevention of early-onset neonatal GBS disease include universal testing for all pregnant women at 35-37 weeks gestation by recto-vaginal culture-based screening to optimize the identification of colonized women.\textsuperscript{1}

Key components of the universal screening strategy include\textsuperscript{1}:

- All pregnant women should be screened at 35-37 weeks' gestation for vaginal and rectal GBS colonization.

- Women with GBS isolated from the urine at any time during the current pregnancy or who had a previous infant with invasive GBS disease should receive management and do not need third trimester screening for GBS colonization. Women with symptomatic or asymptomatic GBS urinary tract infection detected during pregnancy should be treated according to current standards of care for urinary tract infection during pregnancy and the GBS culture results should guide management.

*Unknown GBS colonization status at time of delivery*

For circumstances in which screening results are not available at the time of labor and delivery, GBS management should be provided to women who are <37 weeks and 0 days' gestation, have a duration of membrane rupture \(\geq 18\) hours, or have a temperature of \(\geq 100.4^\circ\) F \((\geq 38.0^\circ\) C).\textsuperscript{1} CDC recommends that in settings in which nucleic acid amplification testing (NAAT) for GBS is available, obstetric providers can choose to perform intrapartum testing of vaginal-rectal samples from women with unknown GBS colonization status and no intrapartum risk factors.
(temperature of $\geq 100.4^\circ F [\geq 38.0^\circ C]$ or rupture of amniotic membranes $\geq 18$ hours) at the time of testing and who are delivering at term. If an intrapartum risk factor subsequently develops, GBS management should be administered regardless of the intrapartum testing results.$^1$

**Pregnancy complications**

Preterm (at <37 weeks gestation) delivery is an important risk factor for early-onset GBS disease.$^2$ Often the GBS status is unknown when labor or rupture of membranes occurs before 35-37 weeks’ gestation. The original 2002 guidelines recommended that if GBS colonization status from the current pregnancy is not known, and if onset of labor or rupture of membranes occurred before 37 weeks’ gestation with a substantial risk for preterm delivery, then GBS screening should be performed and management for GBS should be provided pending culture results. However, the implementation of those recommendations has been suboptimal, with limited GBS screening on hospital admission.

The 2010 recommendations outline key components of threatened preterm delivery GBS management including$^1$:

- Women admitted with signs and symptoms of labor or with rupture of membranes at <37 weeks and 0 days' gestation should be screened for GBS colonization at hospital admission unless a vaginal-rectal GBS screen was performed within the preceding 5 weeks.

- Women admitted with signs and symptoms of preterm labor who have a positive GBS screen within the preceding 5 weeks, the results of that culture should guide management.

- Women with threatened preterm delivery or preterm premature rupture of membranes (pPROM) who have a GBS screen performed that is negative but do not deliver at that time should undergo repeat screening at 35--37 weeks' gestation. If such women are re-admitted at a later date with threatened preterm delivery, they should undergo repeat screening if the previous culture was performed $>5$ weeks prior.

**Specimen collection and timing**

Because GBS colonization status can change over the course of a pregnancy, the timing of specimen collection for determination of colonization status is important. Late third trimester colonization status has been used as a proxy for intrapartum colonization.$^{13}$ GBS can be cultured from the mother’s vagina and rectum with a swab during a pelvic examination; it can also be cultured from a mother’s urine. Swabbing both the lower vagina and rectum (through the anal sphincter) increases the culture yield substantially compared with sampling the cervix or the vagina without also swabbing the rectum.$^1$

The use of appropriate transport media can also help sustain the viability of GBS in settings where immediate laboratory processing is not possible. GBS isolates can remain viable in transport media for several days at room temperature. Regardless of the test method selected to identify GBS, use of selective enrichment broth improves detection substantially. Following enrichment, the conventional means for identifying GBS is through isolation on subculture to blood agar plates and presumptive identification by use of latex agglutination with group B streptococcal antisera or through other techniques such as DNA probes, chromogenic media, and nucleic acid amplification tests (NAAT).
US FOOD AND DRUG ADMINISTRATION (US FDA)

Laboratories should use FDA-approved/cleared or other validated tests for nucleic acid amplification (NAAT) for prenatal GBS screening.

CENTERS FOR MEDICARE AND MEDICAID SERVICES (CMS)

For Medicare populations, CMS does not pay for screening procedures (tests) performed in the absence of signs or symptoms. (Section 1862(a)(7) of the Social Security Act)

CMS does cover some services for GBS. Providers should consult their State’s guidelines for assistance.

APPLICABLE CODING

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REFERENCES


POLICY HISTORY/REVISION HISTORY

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