

What is Group Beta Strep (GBS) and how does it affect women in pregnancy?

GBS is a bacteria that normally lives in the intestinal tracts but also migrates down into the vagina, rectum, and urinary tract of many healthy women. Around the world 10-30% of pregnant women are "colonized" with GBS. For most people who have GBS in their body, it is not an infection - that is, it does not make them sick in any way. Instead it is called a "colonization" - the bacteria are simply growing and living in their bodies. Being colonized does not mean you have a GBS infection and women can test positive temporarily, on-and-off, or persistently.

In adults, it can be a problem if GBS becomes too abundant in the vagina or rectum, or if it is present in the urinary tract. GBS is one of many bacteria that can cause a urinary tract infection, or UTI. On rare occasions, GBS can cause an infection in the uterus. On rare occasions, even after a normal birth, GBS can infect the newborn baby and cause an infection in the baby's lungs (respiratory infection), the baby's bloodstream (sepsis), or the baby's spine (meningitis).

Who is most at risk?

The following factors have been found to increase the chance of carrying GBS in adults:

- **African American**
- **Multiple sex partners**
- **Male-to-female oral sex**
- **Frequent or recent sex**
- **Tampon use**
- **Infrequent handwashing**
- **Less than 20 years old**

The following factors have been found to increase the chance of GBS illness in newborns:

- **African American**
- **Being born at less than 37 weeks ****
- **Mother having a fever during labor ****
- **Mother having an infection of the uterus (chorioamnionitis)**
- **Intrauterine monitoring during labor**
- **Mother with a urinary tract infection as a result of GBS during your pregnancy**
- **Mother with a previous baby with GBS disease**
- **Premature rupture of membranes more than 18 hours before birth ****

**Most common risk factors but 60% of infants that develop early GBS infection have NO risk factors other than mother carrying GBS.

Most of the time, GBS does not get into the uterus and the baby is not exposed to GBS until the water breaks. Avoiding vaginal exams except when absolutely needed, and avoiding any monitoring device that goes into the uterus, lowers the risk of GBS infection from this factor.

In newborns, early-onset GBS infection develops in the first week of life. Late-onset GBS infection can develop after the first week until the baby is three months old. There are many options available that may reduce the risk of early-onset infection. These do not reduce the risk of late-onset infections.

Most babies who become sick with GBS are able to be treated. In 1970, about half of babies who had GBS disease would die. Today, only 4-6% of babies with GBS disease die. Babies who survive GBS, most often GBS meningitis, may have long term developmental disabilities and/or deafness.

What is "rare?"

In 1993, prior to routine antibiotics in labor for GBS positive women, the CDC reports a rate of 1.7 per 1,000 for babies who develop early-onset infection.

According to the March of Dimes in 2011, 25% of women will test positive for GBS bacteria during their pregnancy with a 1-2% chance of baby getting the infection.

****A study conducted on 4,432 hospital water births had only one baby who became sick with early onset GBS. That baby had a pneumonia which was treated and the baby survived; it tested positive for GBS on a skin culture. It was not determined whether the pneumonia was actually caused by the GBS. This study was on hospital water births in the United Kingdom. The general rate of GBS disease for newborns in the UK is one in 500 births. The full article can be accessed for free on the British Medical Journal website, www.bmj.com; the paper is titled "Perinatal mortality and morbidity among babies delivered in water: surveillance study and postal survey."**

Some practices that can affect the risk of GBS illness in your baby are:

1. After your water breaks, avoid vaginal exams unless absolutely needed. The amniotic fluid flushes bacteria out and away from the uterus. A vaginal exam, even with a sterile glove, drives bacteria that is in your vagina up towards your uterus and may increase the chance of GBS infection.
2. Monitoring devices that go into your uterus, such as internal fetal monitors or intrauterine pressure catheters (IUPC), may increase the chance of GBS infection.
3. According to the BMJ study aforementioned, waterbirth can decrease the risk of GBS illness in your baby.

How is testing done?

The CDC recommends all women be tested between 35-37 weeks of pregnancy, by a swab of both the vagina and rectum. This swab is then used to grow a culture in the lab over the next 72 hours. If the culture grows GBS, you are colonized with GBS and are called GBS positive.

A GBS culture is usually accurate for about five weeks after it is done. The CDC does not recommend a second swab be done if a woman is still pregnant five weeks later. This is an alternate testing choice that you can make. The CDC estimates that in the general population, 1 in 2,000 women who test negative for GBS at 35-37 weeks will still go on to have a baby that becomes sick with GBS.

The CDC does not recommend that GBS be tested for earlier in pregnancy, even though it can cause serious problems long before 35 weeks. This is another alternate testing choice that you can make.

Another testing method that is available is a DNA Assay test. This test is less accurate than a culture, but results can be available in as little as an hour. (A culture test takes 72 hours.) Because it is less accurate, this

is not a routine test that is offered, but there may be times when it is useful to perform, such as premature rupture of membranes or labor prior to 37 weeks.

What are treatment options available?

The CDC recommends that you receive intravenous (IV) antibiotics during labor if:

- you have had a baby who became sick with GBS
- you had a urinary tract infection (UTI) during this pregnancy due to GBS
- you tested positive for GBS during this pregnancy
- you did NOT test for GBS this pregnancy, AND have a temperature of 100.4F or greater, or have had rupture of membranes for longer than 18 hours

According to the CDC, IV antibiotics during labor reduce the risk of a baby who becomes sick with GBS from about one in 200 to one in 4,000.

Many studies have shown that since the introduction of routine antibiotics use during labor, the incidence of GBS infection in newborns has decreased, but the incidence of other respiratory and blood infections (sepsis) in newborns have increased, often with bacteria that is resistant to the antibiotics used in labor. In order to be effective, the woman should receive the antibiotics for at least four hours prior to birth. In very rare cases, IV antibiotics can cause adverse (allergic) reactions in women so severe that they become life threatening (1 in 10,000) or fatal (1 in 100,000).

We have IV antibiotics available for homebirths as well as birth center births.

Some women who are GBS positive choose to take oral antibiotics during labor. This carries some risk as well, is not a recommended treatment protocol by the CDC or ACOG (American College of Obstetricians and Gynecologists), and there are no studies that show this to be effective.

GBS Informed Consent

What options are available with my midwives?

One option that is available is to simply watch for signs of infection in the baby. If the baby develops signs of infection, even if you are negative for GBS, that baby should be seen by a pediatrician for evaluation and treatment immediately. GBS is only one bacteria; there are many different bacteria that can make babies sick.

Another option is to use a diluted solution of Chlorhexadine (Hibiclens) to reduce GBS transmission to the baby. This is a topical antiseptic antimicrobial skin cleanser (soap). Hibiclens has been found in numerous studies to be effective in reducing the rate of GBS illness in newborns.

If you choose the alternative method of using Hibiclens as a preventative measure against GBS transmission to your baby, your midwife will supply you with a squeeze bottle that contains a small amount of Hibiclens. When labor starts, if your water has **NOT** broken, fill the bottle to the top with **warm** water, insert the tip into your vagina, and squeeze gently. Repeat this every four hours until your water breaks (or your baby is born). After your water breaks, you will use Hibiclens externally before and after performing a vaginal exam.

Another option is to receive IV antibiotics during your labor. Ideally, at least one dose of IV antibiotics will be administered at least four hours before the birth of the baby. The standard of care is to administer penicillin or ampicillin every four hours via IV until the birth of the baby. If you are known to be allergic to penicillin, another type of antibiotic, usually Clindamycin, may be used. The effectiveness of Clindamycin is not evidence-based for GBS in labor, and Clindamycin faces issues with bacteria resistance as well as not reaching the fetal bloodstream as quickly as penicillin.

More information about the impact of and treatment options for GBS during pregnancy and birth can be found at Evidence Based Birth at: evidencebasedbirth.com/groupbstrep

Testing Options:

My midwife and I have discussed what GBS is, the risks it poses and possible adverse outcomes, and risks and benefits of standard and alternative treatment options. I also understand that my midwife offers testing for chlamydia and gonorrhea at the same time GBS testing is done. I consent to:

Follow CDC recommendation of a single vaginal/rectal swab done at 35-37 weeks pregnancy

I decline/refuse to be tested for GBS

Treatment Options IF POSITIVE:

Use of antibiotics during labor **(to be paid for at the 36 week visit, \$125-600)**

Decline IV antibiotics, instead choose Hibiclens as explained above

I decline all treatments for GBS. Will treat the baby if shown to have symptoms of infection

Printed Name:

Signature:

Date: