

What is Group Beta Strep (GBS) and what can it do to us?

GBS is a bacteria that normally lives in the intestinal tracts of many healthy people. GBS also lives in the vagina of many healthy women. About one-third of healthy adults have GBS in their intestinal tract or vagina, and do not have any symptoms of the bacteria. 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.

GBS is not the same as Group A Strep, the bacteria that causes strep throat.

In adults, it can be a problem if it becomes too abundant in the vagina or rectum, or if it is present in the urinary tract. It 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).

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.

Who is most at risk?

While it is possible to have a healthy pregnancy, a normal birth, no risk factors present, and still have a baby who becomes sick with GBS, this scenario is extremely unlikely. The following factors have been found to increase the chance of GBS illness in newborns:

- a urinary tract infection as a result of GBS during your pregnancy
- a previous baby with GBS disease
- a mother who has a fever during labor. This indicates that an infection has developed in the mother, increasing the chance that an infection will develop in the baby. A persistent fever in labor of 101°F or more is an indication for transport to the hospital.
- premature rupture of membranes (PROM) before 37 weeks of pregnancy. If GBS gets into the uterus during pregnancy, it can cause the water to break prematurely. This means that the baby is also being exposed to the GBS.
- gestational age less than 37 weeks. This risk is two-fold:

1. GBS infection of the uterus can cause labor to begin prior to 37 weeks.
 2. Babies less than 37 weeks are more fragile and more likely to develop infection.
- rupture of membranes more than 18 hours before birth. 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.

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 CDC, the risk today of GBS illness in a newborn is approximately one in 200 if antibiotics are not given, and one in 4,000 if they are given during labor.

A study conducted on 4,432 hospital waterbirths 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 waterbirths 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 rare cases, IV antibiotics can cause adverse reactions in women so severe that they become life-threatening or fatal.

I do not have IV antibiotics available for homebirths. If you choose to have IV antibiotics during labor, you will need to transfer care to a hospital.

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.

What options are available at home?

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. 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). If your water is NOT broken and you are in labor, you can use a squeeze bottle to flush the lower part of your vagina with a diluted solution of Hibiclens every six hours until your water breaks or your baby is born. If your water is broken, your midwife can use an external Hibiclens wipe before performing vaginal exams. Hibiclens has been found in numerous studies to be effective in reducing the rate of GBS illness in newborns. Abstracts of these studies are available upon request.

If you choose the alternative method of using Hibiclens as a preventative measure against GBS transmission to your baby, you will need to purchase a small bottle of Hibiclens and a squeeze bottle from your local pharmacy. When labor starts, if your water has not broken, prepare a 10% solution of Hibiclens and warm water, insert the tip into your vagina, and squeeze gently. Repeat this every six hours until your water breaks (or your baby is born). After your water breaks, your midwife will use an external Hibiclens wipe when performing a vaginal exam.

What if I choose not to test?

If you do not choose to test for GBS colonization, risk screening for GBS will be preformed. When preforming risk screening, we are looking for specific risk factors. The risks are,

- labor starting before 37 weeks gestation
- a temperature of 100.4F or greater
- have had rupture of membranes for longer than 18 hours

If one of these risks presents during labor, the CDC recommends IV antibiotics.

GBS is one of many bacteria that can cause a baby to have an infection. To be mindful of this fact, regardless of whether a mom declines testing, if test results are negative, or if test results are positive, risk screening will be preformed.

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.

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

_____ Alternate testing choice: DNA assay test

_____ I decline/refuse to be tested for GBS

Treatment Options IF POSITIVE

_____ Transfer care for a hospital birth, so that IV antibiotics can be received during labor

_____ Decline hospital birth and 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.

Signature of Client _____

Printed Name of Client

_____ Date _____

Signature of Midwife

_____ Date: _____