

Group B Strep

What is Group B Strep (Beta Strep or GBS)?

Group B streptococcus (GBS) is a type of bacteria. 20-25% of pregnant women carry GBS in the rectum or vagina. Although it is possible for GBS to cause illness in the mother (especially urinary tract infections or infections inside the uterus), most women who carry GBS in their bodies do not become ill or have any symptoms at all. These people are considered to be "carriers." People who carry GBS typically do so temporarily; that is, they do not become lifelong carriers of the bacteria.

Why should I care about GBS?

A fetus may come in contact with GBS before or during birth if the mother carries GBS in the rectum or vagina, and unfortunately, they can become gravely ill. In fact, GBS is the most common cause of life-threatening infections in newborns, resulting in sepsis (blood infection), meningitis (infection of the fluid and lining surrounding the brain), or pneumonia.

Approximately one of every 100 to 200 babies whose mothers carry GBS (0.5%-1%) develop signs and symptoms of GBS disease. Three-fourths of the cases of GBS disease among newborns occur in the first week of life ("early-onset disease"), and most of these cases are apparent a few hours after birth. GBS disease may also develop in infants one week to several months after birth ("late-onset disease"). Meningitis is more common with late-onset GBS disease. Only about half of late-onset GBS disease among newborns comes from a mother who is a GBS carrier; the source of infection for others with late-onset GBS disease is unknown. Late-onset disease is very rare.

There are other factors besides GBS carrier status that increase the chances that a baby will be affected by GBS disease. They are:

- fever during labor
- rupture of membranes (water breaking) 18 hours or more before delivery
- labor or rupture of membranes before 37 weeks
- black race
- Hispanic ethnicity
- previous baby with GBS disease
- urinary tract infection due to GBS

Babies who get sick with GBS disease will likely spend a minimum of 10 days in the Newborn Intensive Care Unit on IV antibiotics. One of every 20 babies with GBS disease (5%) dies from infection. Premature babies are more susceptible to GBS infection and are more likely to die from it than full-term babies. Babies that survive, particularly those who have meningitis, may have long-term problems, such as hearing or vision loss or learning disabilities.

What are the symptoms of GBS disease?

The symptoms of GBS disease in babies can vary widely, making it hard to distinguish GBS disease from other problems. Generally, however, the symptoms are:

- difficulty breathing or periods of not breathing
- lethargy (baby is difficult to rouse or does not respond normally)
- seizures
- temperature too low or too high
- cyanosis (Blue hue to skin, particularly around the mouth and gums, or all over dusky color. Blue hands and feet are NOT cyanosis.)
- poor feeding

How is GBS disease diagnosed and treated in the baby?

GBS disease is diagnosed when the bacterium is grown from cultures of sterile body fluids, such as blood or spinal fluid. Cultures take a few days to complete. GBS infections in newborns are usually treated with antibiotics (e.g., penicillin or ampicillin) given through a vein.

Can I be tested for GBS?

GBS carriage can be detected during pregnancy by taking a swab of both the vagina and rectum for special culture. These cultures should be done late in pregnancy (35-37 weeks' gestation); cultures collected earlier do not accurately predict whether a mother will have GBS at delivery.

A positive culture result means that the mother carries GBS -- not that she or her baby will definitely become ill. A negative result means that the mother does not carry GBS.

Can GBS disease among newborns be prevented?

Most, but not all, cases of GBS disease can be prevented. The Centers for Disease Control (CDC) recommends that antibiotics (usually penicillin or ampicillin) be given intravenously (through a vein) in labor to mothers who carry GBS. Additionally, they recommend any pregnant woman who previously had a baby with GBS disease or who has a urinary tract infection caused by GBS should receive antibiotics during labor. The CDC protocol of IV antibiotics reduces the chance of GBS disease in the newborn from 1 in 200 to 1 in 4000.

An alternative to IV antibiotics is injectable antibiotics. The advantage of injectable antibiotics is that the mother's movement is not restricted by being attached to an IV, which can be especially important if you want to labor in the water (you cannot submerge the limb with the IV). The CDC does not recommend injectable antibiotics because IV administration achieves a higher concentration of antibiotic inside the uterus.

Oral antibiotics before labor are not recommended because

antibiotic treatment prior to labor does not prevent GBS disease in newborns. An exception to this is when GBS is identified in urine during pregnancy. GBS in the urine should be treated at the time it is diagnosed.

Another option for preventing GBS disease in the infant is a chlorhexadine (Hibiclens®) wash. This protocol is also not approved by the CDC, but has been studied in Europe as an alternative to antibiotic prevention of GBS disease. Under this protocol, the vagina is rinsed with a 0.2% solution of chlorhexadine every 6 hours during labor. The advantage of this method is that neither needles nor antibiotics are involved.

None of these treatments is 100% effective at preventing GBS disease. Each of them carries its own risks. Because women who carry GBS but do not develop additional risk factors have a relatively low risk of delivering an infant with GBS disease, the CDC recommends that the decision to receive antibiotics during labor should balance these risks and benefits.

What are the risks to the treatments?

The risks of antibiotics are:

- 1 in 10 chance of experiencing a mild allergic reaction (such as rash)
- 1 in 10, 000 chance of developing a severe allergic reaction--anaphylaxis--to penicillin. Anaphylaxis requires emergency treatment and can be life-threatening, especially in an out-of-hospital setting.
- May cause resistance in the GBS bacteria making subsequent illness more difficult to treat.
- May produce other side effects (such as diarrhea or yeast infections such as thrush).
- May allow other bacteria in mother or baby to become resistant (especially E. Coli) and cause other complications which, in the rare worst case, can be life-threatening.

The risks of chlorhexadine are:

- May cause a burning sensation.
- Not an approved CDC protocol, may be less effective than IV antibiotics.

Are there any natural treatments for GBS?

Unfortunately, there are no natural remedies proven to reduce or eliminate GBS, or prevent GBS disease in newborns. GBS carriage is not affected by diet or general health.

What should I do?

Now that you know about GBS, you need to make some choices. First, please choose whether you want to be tested for GBS and check the corresponding option:

I choose to test for GBS. I recognize there is an additional fee for this service, and, as with all tests, there is a “false positive” and “false negative” rate, meaning that there is a small possibility the result of the test could be inaccurate.

I choose *not* to test for GBS. I realize that this means my GBS status at delivery will be unknown.

Now please review the following page for more options. If you chose to test for GBS, you may need to wait until the results are back to make your next choice.

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Sources:

The information in this document was taken from the CDC’s patient information brochure on Group B Strep, written and published by the Respiratory Diseases Branch, National Center for Infectious Diseases, Centers for Disease Control and Prevention, Atlanta, GA.

In addition, information regarding the chlorhexadine wash alternative to antibiotic prophylaxis was obtained from the following sources:

J Matern Fetal Med 2002 Feb;11(2):84-8. Chlorhexidine vaginal flushings versus systemic ampicillin in the prevention of vertical transmission of neonatal group B streptococcus, at term. Facchinetti F, Piccinini, Mordini B, Volpe A. "In this carefully screened target population, intrapartum vaginal flushings with chlorhexidine in colonized mothers display the same efficacy as ampicillin in preventing vertical transmission of group B streptococcus. Moreover, the rate of neonatal E. coli colonization was reduced by chlorhexidine."

Lancet 1992 Jul 11;340(8811):659. Prevention of excess neonatal morbidity associated with group B streptococci by vaginal chlorhexidine disinfection during labour. The Swedish Chlorhexidine Study Group. Burman LG, Christensen P, Christensen K, Fryklund B, Helgesson AM, Svenningsen NW, Tullus K. "Chlorhexidine reduced the admission rate for infants born of carrier mothers to 2.8% [from 5.4%]...Maternal S agalactiae colonisation is associated with excess early neonatal morbidity, apparently related to aspiration of the organism, that can be reduced with chlorhexidine disinfection of the vagina during labour."

Int J Antimicrob Agents 1999 Aug;12(3):245-51. Vaginal disinfection with chlorhexidine during childbirth. Stray-Pedersen B, Bergan T, Hafstad A, Normann E, Groggaard J, Vangdal M. "This prospective controlled trial demonstrated that vaginal douching with 0.2% chlorhexidine during labour can significantly reduce both maternal and early neonatal infectious morbidity."

“Do not test” options

Do not treat

Treat with IV antibiotics

Treat with injectible antibiotics

Treat with chlohexadine

I choose not to receive any form of preventive treatment for GBS. I recognize that, given that my GBS status is unknown, the chances my baby will be affected by GBS disease are approximately 1 in 800 (0.125%, 1/4x1/200), and I accept the risks of this decision.

Although my GBS status this pregnancy is unknown, I choose to receive IV antibiotic prophylaxis for group B strep. I recognize that there may or may not be any benefit to this treatment, although if I am a carrier of GBS this treatment is expected to reduce the risk to my infant. I recognize that it is still possible for my baby to contract GBS. I also recognize that there is a 1 in 10 (10%) chance that I will have a mild reaction to the antibiotic, and a 1 in 10,000 (0.01%) chance that I will have a life-threatening allergic reaction to the antibiotic. I recognize that I or my baby may have other side effects from the antibiotic (such as diarrhea or yeast infections). I recognize that the use of this antibiotic may contribute to antibiotic resistance of the GBS bacteria (which may make resultant illness more difficult to treat), and it may allow other bacteria in me or my baby to become resistant (especially E. Coli) and cause other complications which, in the worst case, can be life-threatening. I accept the risks of this decision.

Although my GBS status this pregnancy is unknown, I choose to receive injectable antibiotics during labor. I recognize that this is not a recommended protocol by the CDC, and there may or may not be any benefit to this treatment, although if I am a carrier of GBS this treatment is expected to reduce the risk to my infant. I recognize that it is still possible for my baby to contract GBS. I also recognize that there is a 1 in 10 (10%) chance that I will have a mild reaction to the antibiotic, and a 1 in 10,000 (0.01%) chance that I will have a life-threatening allergic reaction to the antibiotic. I recognize that I or my baby may have other side effects from the antibiotic (such as diarrhea or yeast infections). I recognize that the use of this antibiotic may contribute to antibiotic resistance of the GBS bacteria (which may make resultant illness more difficult to treat), and it may allow other bacteria in me or my baby to become resistant (especially E. Coli) and cause other complications which, in the worst case, can be life-threatening. I accept the risks of this decision.

Although my GBS status this pregnancy is unknown, I choose to receive chlorhexadine washes during labor. I recognize that this is not a recommended protocol by the CDC, and there may or may not be any benefit to this treatment, although if I am a carrier of GBS this treatment is expected to reduce the risk to my infant. I recognize that it is still possible for my baby to contract GBS. I also recognize that I may experience a mild reaction to the wash (such as a burning sensation). I accept the risks of this decision.

“Test, result is negative for GBS” options

Do not treat

Treat with IV antibiotics

Treat with injectible antibiotics

Treat with chlohexadine

I accept the CDC's recommendation *not* to receive preventive treatments for GBS during my labor because I have tested negative for this condition. I recognize that there is a possibility that I may become colonized with GBS prior to delivery, and that it is still possible for my baby to contract GBS disease, although this possibility is remote. I understand that the development of risk factors outlined in this document will increase the chance that my baby will develop GBS disease. I accept the risks of this decision.

Although I have tested negative for GBS, I choose to receive IV antibiotic prophylaxis for group B strep anyway, despite CDC recommendations to the contrary. I recognize that there will likely be no benefit to this treatment. I recognize that it is still possible for my baby to contract GBS, although this possibility is remote. I also recognize that there is a 1 in 10 (10%) chance that I will have a mild reaction to the antibiotic, and a 1 in 10,000 (0.01%) chance that I will have a life-threatening allergic reaction to the antibiotic. I recognize that I or my baby may have other side effects from the antibiotic (such as diarrhea or yeast infections). I recognize that the use of this antibiotic may contribute to antibiotic resistance of the GBS bacteria (which may make resultant illness more difficult to treat), and it may allow other bacteria in me or my baby to become resistant (especially E. Coli) and cause other complications which, in the worst case, can be life-threatening. I accept the risks of this decision.

Although I have tested negative for GBS, I choose to receive injectable antibiotics during labor anyway, despite CDC recommendations to the contrary. I recognize that there will likely be no benefit to this treatment. I recognize that it is still possible for my baby to contract GBS, although this possibility is remote. I also recognize that there is a 1 in 10 (10%) chance that I will have a mild reaction to the antibiotic, and a 1 in 10,000 (0.01%) chance that I will have a life-threatening allergic reaction to the antibiotic. I recognize that I or my baby may have other side effects from the antibiotic (such as diarrhea or yeast infections). I recognize that the use of this antibiotic may contribute to antibiotic resistance of the GBS bacteria (which may make resultant illness more difficult to treat), and it may allow other bacteria in me or my baby to become resistant (especially E. Coli) and cause other complications which, in the worst case, can be life-threatening. I accept the risks of this decision.

Although I have tested negative for GBS, I choose to receive chlorhexadine washes during labor anyway. I recognize that this is not a recommended protocol by the CDC, and that there will likely be no benefit to this treatment. I recognize that it is still possible for my baby to contract GBS, although this possibility is remote. I also recognize that I may experience a mild reaction to the wash (such as a burning sensation). I accept the risks of this decision.

“Test, result is positive for GBS” options

Do not treat

Treat with IV antibiotics

Treat with injectible antibiotics

Treat with chlohexadine

Although I am a carrier of GBS, I choose not to pursue any preventive treatment during my delivery. I recognize that the risk of my baby being affected by GBS disease is approximately 1 in 200 (0.5%), or higher if I have or develop any of the risk factors outlined in this document. I recognize that the CDC recommends antibiotic treatment to reduce this risk. I accept the risks of this decision.

As a carrier of GBS, I accept the CDC's recommendation and choose to receive IV antibiotics during labor. I recognize that if I receive antibiotics, the chances that my baby will develop GBS disease are approximately 1 in 4000 (0.025%), or higher if I have or develop any of the risk factors outlined in this document. I also recognize that there is a 1 in 10 (10%) chance that I will have a mild reaction to the antibiotic, and a 1 in 10,000 (0.01%) chance that I will have a life-threatening allergic reaction to the antibiotic. I recognize that I or my baby may have other side effects from the antibiotic (such as diarrhea or yeast infections). I recognize that the use of this antibiotic may contribute to antibiotic resistance of the GBS bacteria (which may make resultant illness more difficult to treat), and it may allow other bacteria in me or my baby to become resistant (especially E. Coli) and cause other complications which, in the worst case, can be life-threatening. I accept the risks of this decision.

As a carrier of GBS, I choose to receive injectable antibiotics during labor. I recognize that the CDC recommends IV antibiotics, not injectable, because of the higher intraamniotic concentrations achieved with this method. I recognize that data are not available to estimate this difference in risks, but the chances are presumed to lie between 0.5% and 0.025% (the "no treatment" and "IV antibiotics" risks), or higher if I have or develop any of the risk factors outlined in this document. I also recognize that there is a 1 in 10 (10%) chance that I will have a mild reaction to the antibiotic, and a 1 in 10,000 (0.01%) chance that I will have a life-threatening allergic reaction to the antibiotic. I recognize that I or my baby may have other side effects from the antibiotic (such as diarrhea or yeast infections). I recognize that the use of this antibiotic may contribute to antibiotic resistance of the GBS bacteria (which may make resultant illness more difficult to treat), and it may allow other bacteria in me or my baby to become resistant (especially E. Coli) and cause other complications which, in the worst case, can be life-threatening. I accept the risks of this decision.

As a carrier of GBS, I choose to receive chlorhexadine washes during labor. I recognize that this is not a recommended protocol by the CDC. I recognize that data are not available to estimate this difference in risks, but the chances are presumed to lie between 0.5% and 0.025% (the "no treatment" and "IV antibiotics" risks), or higher if I have or develop any of the risk factors outlined in this document. I also recognize that I may experience a mild reaction to the wash (such as a burning sensation). I accept the risks of this decision.

I have chosen the option checked above.

Signature: _____

Date: _____