

Group B Streptococcus

Group B Streptococcus (GBS) is a type of bacteria that is found in the lower intestine of 10-35% of all healthy adults and in the vagina and/or lower intestine of 10-35% of all healthy, adult women. Group B strep should not be confused with Group A strep which causes strep throat. Group B strep is not a sexually transmitted disease. A person whose body carries Group B strep bacteria but who does not show signs of infection is said to be "colonized". GBS bacteria are a normal part of the commonly found bacteria in the human body. Normally, the presence of GBS does not cause problems. In certain circumstances, however, Group B Strep bacteria can invade the body and cause serious infection. This is referred to as Group B Strep disease.

GBS can cause infections in pregnant women- in the uterus, in amniotic fluid, in incisions following cesarean birth, and in the urinary tract. Each year there are over 50,000 cases of such infections in pregnant women in the US.

About half of all GBS disease occurs in newborns and is acquired during pregnancy or childbirth when a baby comes into direct contact with the bacteria carried by the mother.

In newborns, GBS is the most common cause of sepsis (infection of the blood) and meningitis (infection of the fluid and lining surrounding the brain) and is a frequent cause of newborn pneumonia.

Approximately 8,000 babies in the United States contract serious GBS disease each year. Up to 800 of these babies may die from it, and up to 20% of the babies who survive GBS-related meningitis are left permanently handicapped. Some babies that survive, especially those who develop meningitis, may develop long-term medical problems, including hearing or vision loss, varying degrees of physical and learning disabilities, and cerebral palsy.

Does everyone who has GBS get sick?

Many people carry GBS in their bodies but do not become ill. These people are considered to be "carriers". One of every four or five pregnant women carries GBS in the rectum or vagina. A baby may come in contact with GBS before or during birth if the mother carries GBS in the rectum or vagina. People who carry GBS typically do so temporarily- that is, they do not become lifelong carriers of the bacteria.

How does GBS disease affect newborns?

Approximately one of every 100 to 200 babies whose mothers carry GBS 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. Sepsis, pneumonia and meningitis are the most common problems. Premature babies are more susceptible to GBS infection than full-term babies, but most (75%) babies who get GBS disease are full term. 1.8 babies per 1000 born in the US will die from GBS disease.

GBS disease may also develop in infants 1 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 is associated with a mother who is a GBS carrier; the source of the infections for others with late-onset GBS disease is unknown.

The signs of early-onset GBS disease usually occur within hours of birth. They include rapid, shallow breathing, fever *or* low body temperature, loss of appetite and lethargy (as opposed to

normal sleepiness).

How is GBS disease diagnosed and treated in newborns?

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 infection in both newborns and adults is usually treated with antibiotics (e.g., penicillin or ampicillin) given through a vein.

Can pregnant women be tested for GBS?

GBS carriage can be detected during pregnancy by taking a swab of both the vagina and rectum for special culture. It takes 24 hours for the culture to grow. Care providers who culture for GBS carriage during prenatal visits usually do so late in pregnancy (35-37 weeks gestation). A woman who cultures positive at this time has approximately a 75% likelihood of being a GBS carrier when her child is born. Tests done earlier are less accurate in predicting the likelihood of GBS positive status during labor. Some women test positive early in pregnancy, and negative later in pregnancy.

Currently, research into "rapid detection" tests for GBS are under way. This is a test that could be done at the time labor begins, with results available within 2 hours or less. The preliminary results for some of these tests are promising; however, availability is limited at this time.

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

Who is at a higher risk for having a baby with GBS disease?

Pregnant women with the following conditions are at a higher risk of having a baby with GBS disease:

- Previous baby with GBS disease
- Urinary tract infection due to GBS
- GBS carriage late in pregnancy
- Fever during labor
- Rupture of membranes 18 hours or more before birth
- Labor or rupture of membranes before 37 weeks

The CDC recommends that health care providers offer one of two prevention strategies:

- Prenatal culture at 35-37 weeks gestation, and treating all women who test positive for GBS with IV antibiotics during labor
- No prenatal testing, and treating only women who develop risk factors with IV antibiotics

What is the standard medical treatment available to prevent GBS disease among newborns?

Giving certain pregnant women antibiotics through the vein during labor can prevent most, but not all GBS disease in newborns.

According to the CDC, all pregnant women *who are known to carry GBS* should be offered antibiotics at the time labor or rupture of membranes (breaking of water). Women of *unknown GBS status* should be offered antibiotics with any of the following conditions:

- Fever during labor
- Rupture of membranes 18 hours or more before birth
- Labor or rupture of membranes before 37 weeks

Because women who carry GBS but do not develop any of these three complications have a relatively low risk of delivering an infant with GBS disease, the decision to take antibiotics during labor should balance risks and benefits. Penicillin is very effective at preventing GBS disease. A GBS carrier with none of the above conditions has the following risks:

- 1 in 200 chance of delivering a baby with GBS disease if antibiotics are not given.
- 1 in 4,000 chance of delivering a baby with GBS disease if antibiotics are given.

Are there risks associated with administering IV antibiotics during labor?

Yes. Intravenous penicillin administration during labor may be associated with the following risks (other intravenous antibiotics carry similar risks):

- 1 in 10 chance of developing a mild allergic reaction to the penicillin (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.

Another possible side effect of intravenous antibiotic administration during labor is increased susceptibility to antibiotic-resistant (i.e. untreatable) GBS or e-coli infections in the newborn during the first few weeks of life. Since 1999, several studies have been published showing connection between the use of intravenous ampicillin (an antibiotic similar to penicillin) during labor and antibiotic-resistant infections in the newborn. In one study, the incidence of GBS sepsis dropped to zero, but the incidence of drug-resistant e-coli sepsis rose to the same level as was previously seen with GBS. It is believed that with the current widespread usage of antibiotics during labor, this phenomenon may indeed become a significant and dangerous trend.

Another minimally researched (but common) side effect of antibiotic use during labor is maternal and newborn thrush (yeast infection of the mother's nipples and baby's mouth, digestive tract and bottom). Thrush can be very uncomfortable for mom and baby, and can make breastfeeding quite difficult, leading some mothers to cease breastfeeding altogether. It is difficult, but not impossible, to treat.

There is also concern that treatment of a pregnant woman with antibiotics may affect colonization of normal bacteria of the baby's intestine. This can lead to problems of atopy ("food allergy"), a condition that has dramatically increased in recent years.

It is up to you to decide if you want to be tested for GBS and if so, to make your own arrangements for testing. In making your decision, you should take into consideration what you would do if you test positive. I believe that treating a woman with IV antibiotics during labor is outside the scope of my practice. I encourage you to consider carefully all of your options and the possible outcomes with any approach toward detecting and preventing GBS disease. While I cannot provide statistical data on alternative approaches to treating GBS, some women who have previously tested positive have treated with natural remedies and then tested negative. I would be happy to discuss non-traditional approaches to GBS disease with you. Please discuss any questions and your feelings about this with me.

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I have read and understood the information about GBS as outlined in this document. I have had all my questions answered. After careful consideration, I have decided that:

I am not interested in being tested for GBS and I am not interested in receiving IV antibiotics nor in treating for potential GBS infection during labor with IV antibiotics based on the risk factors outlines. I may choose to re-evaluate my position on this matter should risk factors develop.

Mother's Signature

Date

I wish to be treated for GBS at the appropriate time in my pregnancy. I understand that I am responsible for making my own arrangements for testing. I understand that Amanda Topping is not able to administer IV antibiotics to me, should I decide to receive them during labor.

Mother's Signature

Date

I am not interested in being tested for GBS but would like to receive IV antibiotics if I develop a risk factor. I understand that Amanda Topping is not able to administer IV antibiotics to me, and that should I develop risk factors, it may be necessary to access medical care.

Mother's Signature

Date