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 in the newborn and is generally safe. A GBS carrier with none of the conditions above has the following risks:

- 1 in 200 chance of delivering a baby with GBS disease if antibiotics **are not** given
- 1 in 4000 chance of delivering a baby with GBS disease if antibiotics **are** given
- 1 in 10 chance, or lower, of experiencing a mild allergic reaction to 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.

If a prenatal culture for GBS was not done or the results are not available, physicians may give antibiotics to women with one or more of the risk conditions listed above.

What research is being done on prevention of GBS disease?

In spite of testing and antibiotic treatment, some babies still get GBS disease. Vaccines to prevent GBS disease are being developed. In the future, women who are vaccinated may make antibodies that cross the placenta and protect the baby during birth and early infancy.

Who is at higher risk for GBS disease?

Pregnant women with the following conditions are at 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 delivery
- labor or rupture of membranes before 37 weeks

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CDC
CENTERS FOR DISEASE CONTROL AND PREVENTION

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Group B Streptococcal Infections

Group B streptococcus (GBS) is a type of bacterium that causes illness in newborn babies, pregnant women, the elderly, and adults with other illnesses, such as diabetes or liver disease. GBS is the most common cause of life-threatening infections in newborns.

U.S. DEPARTMENT OF HEALTH & HUMAN SERVICES

How common is GBS disease?

GBS is the most common cause of sepsis (blood infection) and meningitis (infection of the fluid and lining surrounding the brain) in newborns. GBS is a frequent cause of newborn pneumonia and is more common than other, better known, newborn problems such as rubella, congenital syphilis, and spina bifida.

Before prevention methods were widely used, approximately 8,000 babies in the United States would get GBS disease each year. One of every 20 babies with GBS disease dies from infection. Babies that survive, particularly those who have meningitis, may have long-term problems, such as hearing or vision loss or learning disabilities.

In pregnant women, GBS can cause bladder infections, womb infections (amnionitis, endometritis), and stillbirth. Among men and among women who are not pregnant, the most common diseases caused by GBS are blood infections, skin or soft tissue infections, and pneumonia. Approximately 20% of men and nonpregnant women with GBS disease die of the disease.

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." Adults can carry GBS in the bowel, vagina, bladder, or throat. One of every four or five pregnant women carries GBS in the rectum or vagina. A fetus 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.

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 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.

How is GBS disease diagnosed and treated?

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

Can pregnant women be checked for GBS?

GBS carriage can be detected during pregnancy by taking a swab of both the vagina and rectum for special culture. Physicians who culture for GBS carriage during prenatal visits should do so 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. Women who carry GBS should not be given oral antibiotics before labor because antibiotic treatment at this time 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. Carriage of GBS, in either the vagina or rectum, becomes important at the time of labor and delivery — when antibiotics **are** effective in preventing the spread of GBS from mother to baby.

Can GBS disease among newborns be prevented?

Most GBS disease in newborns can be prevented by giving certain pregnant women antibiotics through the vein during labor. 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. Pregnant women who carry GBS should be offered antibiotics at the time of labor or membrane rupture. GBS carriers at highest risk are those with any of the following conditions:

- fever during labor
- rupture of membranes (water breaking) 18 hours or more before delivery
- labor or rupture of membranes before 37 weeks