

# Valley Midwifery Group

## Group Beta Streptococcus (GBS) bacterium

Group Beta Streptococcus (GBS) bacterium is a normal inhabitant ('normal flora') of the lower intestines, urinary tract and vagina. Between 15-40% of all pregnant women carry GBS. In pregnancy, this bacterial population can overgrow, leading to infections that may or may not cause symptoms in a woman. It is first screened for in early pregnancy with routine urine cultures. Later in pregnancy, between 35-37 weeks pregnancy, it is screened for by a single swab of the woman's vaginal opening, perineum, and anal opening.

The concern regarding GBS is that it may be transmitted to the baby (40-75% of babies) once a woman's water has broken ("membranes have ruptured"). Most babies will have no problems as a result of the transmission of GBS, but a very small number of babies, about 2 in 1000 live births<sup>1</sup>, will become severely sick. Infection is characterized by rapid onset of respiratory distress, sepsis (infection of the blood), and shock. Infection rates are related to how heavily colonized the mother is, immaturity and birth weight of the baby (premature babies are at higher risk), prelabor rupture of membranes, and maternal fever during labor.

GBS remains a leading cause of serious newborn infection despite protocols focused on GBS disease prevention. In 2002, the Center for Disease Control, the Society of Obstetricians and Gynaecologists, and the BC Reproductive Care Program adopted new guidelines in the attempt to reduce GBS infection. It is now recommended that maternity care providers offer universal prenatal screening for vaginal and rectal GBS colonization of all pregnant women at 35-37 weeks gestation. Women who swab positive would then be treated with I.V. antibiotics in labor. Prior to this 2002 recommendation, women were offered the option to screen or to be treated based on risk factors. Risk factors for GBS infection include:

- \* Preterm labor (less than 37 completed weeks pregnant)
- \* Prolonged rupture of membranes (longer than 18 hours)
- \* GBS found on early pregnancy urine culture during current pregnancy
- \* Previous infant with GBS infection
- \* Maternal fever of  $\geq 100.4^{\circ}\text{F}$  ( $\geq 38.0^{\circ}\text{C}$ )

Data collected after issuance of 1996 CDC guidelines found that still too many babies were getting sick, which prompted revision of guidelines from offering the choice of treatment based on risk factors or screening results to universal screening of all pregnant women.

The use of antibiotics in labor has been shown to reduce transmission of GBS, but not eliminate it. At least two doses of I.V. antibiotics administered 4 hours apart will offer about 83% reduction in risk of infection.

Although there is potential for adverse consequences of intrapartum antibiotic use to prevent GBS disease, including maternal allergic reaction to the I.V. antibiotics, the emergence bacterial antibiotic resistance and the increase in yeast infections/thrush in mom and baby. However, at current time, this regimen is viewed as the best available interim strategy until other options become available.

---

<sup>1</sup> Enkin et al. A Guide to Effective Care in Pregnancy and Childbirth. Third Edition. Oxford University Press, June 2000. Page 165.

## WHAT HAPPENS IF YOU DON'T WANT ANTIBIOTICS?

The risk of GBS disease to the baby in the absence of antibiotics given in labor is as follows<sup>1</sup>:

	<b>Risk Factors Present</b>	<b>Risk Factors Absent</b>
<b>Culture Positive for GBS</b>	1:25	1:200
<b>Culture Negative for GBS</b>	1:1100	1:3200
<b>Culture Unknown/Not Done</b>	1:120	1:770

### UNDERSTANDING THE NUMBERS

1:2 = likely  
1:10 = 10% = common  
1:100 = 1% = uncommon  
1:1000 = 0.1% = rare  
1:10,000 = 0.01% = very, very rare  
1:100,000 = 0.001% = negligible risk

Prepared by Trang Duong ND RM

---

<sup>1</sup> Boyer KM, Gotoff SP: Strategies for chemoprophylaxis of GBS early-onset infections. *Antibiot Chemother* 35:267-280, 1985