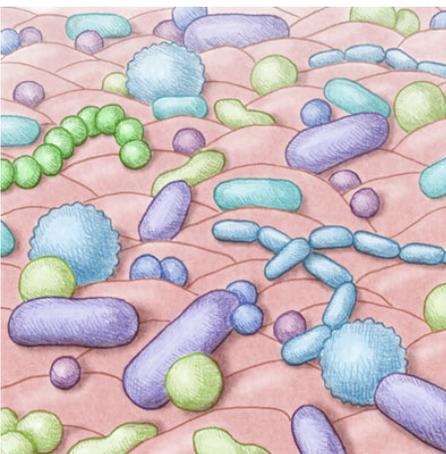
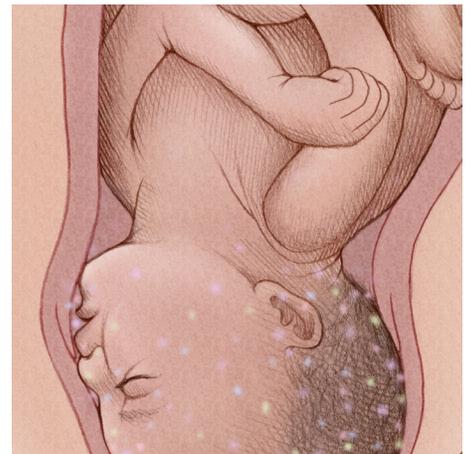
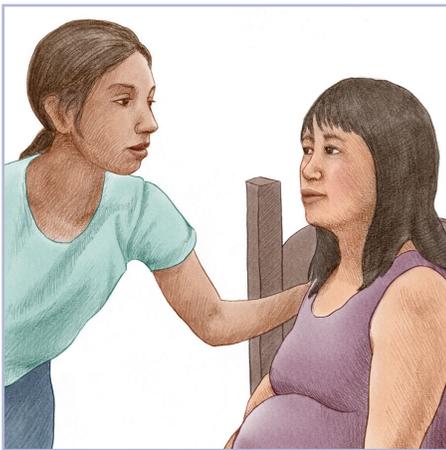


Visual Tools

to Support Informed Choice



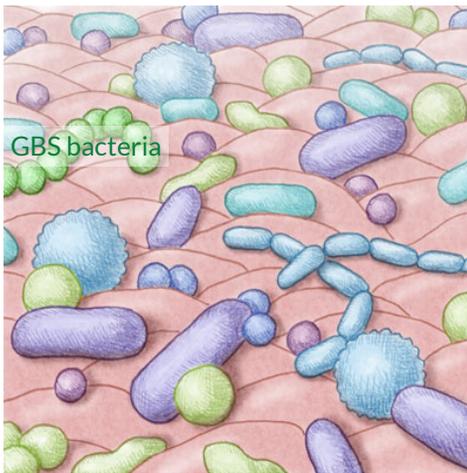
This pamphlet uses visual tools to support your informed choice discussion with your midwife. To learn more about GBS and other informed choice topics, visit uoft.me/visualtools.



Visual Tools

to Support Informed Choice

Group B Streptococcus, or GBS, is a type of bacteria that can live in the vagina. It is not the same type of Streptococcus that causes Strep throat. In fact, GBS does not usually make you sick. The reason GBS is a concern for pregnant women is that, in very rare cases, the GBS bacteria can get into the baby and cause serious illness.



The vagina has its own “colony” of bacteria that help you to stay healthy. **As the baby passes through your vagina during birth, she becomes coated in your vaginal fluids, which contain many different types of bacteria.** Some of this fluid and bacteria will also enter the baby’s mouth, and colonize her gut. Depending on how many GBS bacteria are in your vagina at that moment, GBS may be among the bacteria that enter your baby’s body.

If you test positive for GBS, your midwife will give you the option of taking intravenous (IV) antibiotics during labour. **The main benefit of antibiotic treatment is that it is scientifically proven to reduce the amount of GBS in your body, making it much less likely to get into your baby during birth.** However, there are downsides to antibiotics as well. These include:

- Less exposure to good, healthy bacteria for your baby
- Risk of yeast infection or rash for you and your baby
- Risk of your baby developing asthma and/or allergies
- Increased resistance to antibiotics in GBS bacteria



If you decide against antibiotic treatment, you may want to look into probiotics and other natural remedies. Probiotics are safe for pregnant women, whether you take supplements, or eat foods that contain them. Foods like yogurt, garlic, and honey are generally good for you and can help you maintain a healthy balance of bacteria in your body, which you can then pass on to your baby during birth.

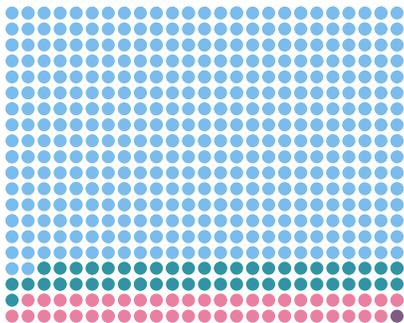
If you are colonized by GBS, there are certain factors that may raise the risk of your baby getting sick from GBS (see next page). Be sure to talk to your midwife about these risk factors before you decide whether or not to go on antibiotics.

Visual Tools

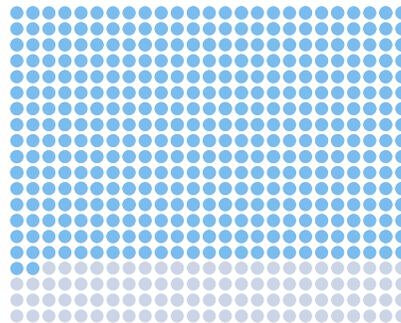
to Support Informed Choice

The statistics around GBS vary depending on a number of factors. These graphics break down the rates of different possible events associated with GBS so that you can understand what these numbers might mean for you and your baby.

This graph represents a group of 500 Ontario women. Each colour represents a different outcome, as shown to the right.



Out of 500 Ontario women who are tested at 36 weeks, about 402, or **80.4%**, are **negative** for GBS.

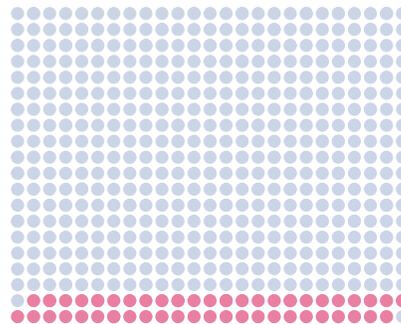


Out of the same group of 500, about 49 women, or **9.8%**, are positive for GBS, but **do not** pass the bacteria on to their babies.

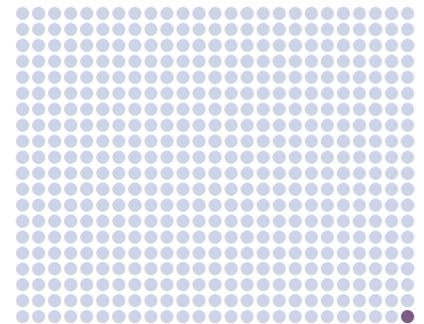


If you test positive for GBS, the average risk of your baby getting EOGBSD is about 0.5%. **However, this risk may be higher if you have any of the following risk factors:**

- if you have a fever during labour
- if you have a preterm birth (before 37 weeks)
- if your water breaks over 18 hours before the baby is born
- if your baby has a low birth weight (less than 2.5kg)
- if you have GBS in your urine during pregnancy
- if you have had a baby with EOGBSD before



48 women, or **9.6%**, are positive for GBS and **do** pass the bacteria on to their babies during birth, but their babies are **not infected** with early onset GBS disease (EOGBSD).

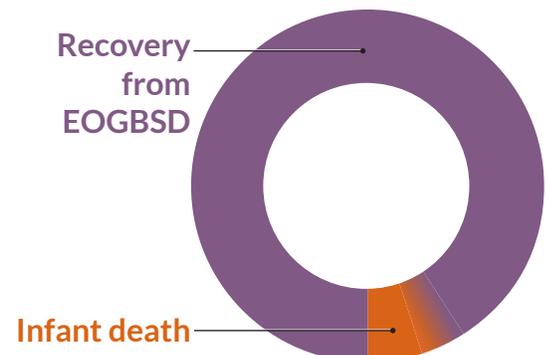
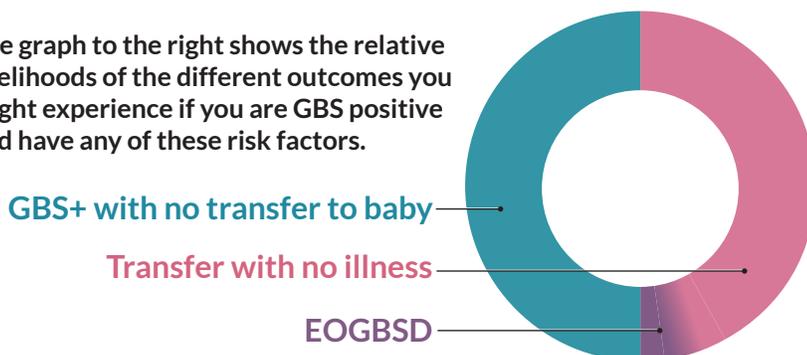


1 woman in the group, or **0.2%**, has a baby who is **infected with early onset GBS disease (EOGBSD)**.

The graph below shows that, among the rare cases of EOGBSD, about **5-9%** of babies do not survive.

Almost all of the babies who die from EOGBSD are born preterm.

The graph to the right shows the relative likelihoods of the different outcomes you might experience if you are GBS positive and have any of these risk factors.



Visual Tools

to Support Informed Choice

Worksheet

Below, you can check off which statements apply to you and use this to frame future discussions with your midwife. Visit uoft.me/visualtools to learn more about GBS.

<input type="checkbox"/> I did not/will not get tested for GBS]→	<input type="checkbox"/> I will consider antibiotics if I have one or more risk factors	I am concerned about: _____ _____ _____
		<input type="checkbox"/> I definitely do not want antibiotics	
		<input type="checkbox"/> I will use probiotics and/or natural remedies	
<input type="checkbox"/> I tested negative for GBS]→	<input type="checkbox"/> I will have antibiotics even if I do not have any risk factors	I want to learn more about: _____ _____ _____
<input type="checkbox"/> I tested positive for GBS]→	<input type="checkbox"/> I will consider antibiotics if I have one or more risk factors	
		<input type="checkbox"/> I definitely do not want antibiotics	
		<input type="checkbox"/> I will use probiotics and/or natural remedies	

Questions for my midwife: _____

References

Ajslev, T. A., C. S. Andersen, M. Gamborg, T. I. A. Sorensen, T. Jess. "Childhood overweight after establishment of the gut microbiota: the role of delivery mode, pre-pregnancy weight and early administration of antibiotics." *International Journal of Obesity* (April 2011), 35, p. 522-529.

Association of Ontario Midwives. "Clinical Practice Guideline No. 11: Group B Streptococcus." Last modified January 2010, http://www.ontariomidwives.ca/images/uploads/guidelines/No11CPG_GBS_May_2012FINAL.pdf.

Benitz, William E., Jeffrey B. Gould, Maurice L. Druzin. "Risk Factors for Early-onset Group B Streptococcal Sepsis: Estimation of Odds Ratio by Critical Literature Review." *Pediatrics* (June 1999), 103 (6), p. 77.

Demarest, R. J., R. Charon. *An Illustrated Guide to Human Reproduction & Fertility Control*. New York: Parthenon Publishing Group, Inc., 1996.

Filocamo A., C. Nueno-Palop, C. Bisignano, G. Madalari, A. Narbad. "Effect of garlic powder on the growth of commensal bacteria from the gastrointestinal tract." *Phytomedicine* (June 2012), 19 (8), p. 707-711.

Hanson, Lisa, Leona VandeVusse, Nasia Safdar, Megan Duster, Simone Warrack, Prerna Panjkar. "Effects of Probiotic Use During Pregnancy on Lactobacillus and Group B Streptococcus Vaginal Colonization: Pilot Results." *Journal of Midwifery & Women's Health* (2012), 57 (5), p. 537.

Lindsay, Karen L., Colin A. Walsh, Lorraine Brennan, Fionnuala M. McAuliffe. "Probiotics in pregnancy and maternal outcomes: a systematic review." *Journal of Maternal, Fetal, and Neonatal Medicine* (2013) 26 (8), p. 772-778.

Mandal, Manisha Deb and Shyamapada Mandal. "Honey: its medicinal property and antibacterial activity." *Asian Pacific Journal of Tropical Biomedicine* (April 2011), 1 (2), p. 154-160.

Melin, P. "Neonatal group B streptococcal disease: from pathogenesis to preventative strategies." *Clinical Microbiology and Infection* (May 2011) 17, p. 1294-1303.

Sobko, Tanja, Jessica Schiott, Anna Ehlin, Jon Lundberg, Scott Montgomery, Mikael Norman. "Neonatal sepsis, antibiotic therapy and later risk of asthma and allergy." *Paediatric and Perinatal Epidemiology* (2010) 24, p. 88-92

Zimmer, Carl. "Tending the Body's Microbial Garden." *The New York Times* (June 18, 2012).

About this pamphlet

The Visual Tools pamphlets originated as part of a Master's research project comprising a series of printed pamphlets and corresponding web modules focusing on specific informed choice topics in midwifery care. The web modules offer more detailed information on each topic, including additional illustrations, and can be accessed at uoft.me/visualtools. The project was completed by Amanda Montañez (amandamontanez.com) with the support of the MScBMC program at the University of Toronto.

Master of Science in Biomedical Communications



All content copyright © 2014 Amanda Montañez.