Group B streptococcus in newborn babies

Group B streptococcus (GBS) is a relatively common normal bacteria in a woman's bowel or vagina. Around 10 to 30% of women have it on and off.

Having GBS in your body is called GBS carriage or colonisation and isn't considered to be an infection.

We don't know why some women have GBS and others don't. It isn't a sign of ill health or poor hygiene.

You don't need antibiotics if you have GBS carriage during pregnancy, but you'll need them if you have a urine infection caused by GBS.

A woman can pass GBS to her baby in two ways. The bacteria can move up a woman's vagina and get into the fluid around the baby after the waters break or the baby can pick it up while passing through the vagina at birth.

Most babies aren't affected but a very small number become infected.

Early-onset GBS infection happens if a baby develops GBS infection within seven days of birth (70% of affected babies have symptoms at birth and 95% by 24 hours after birth). In New Zealand, about 30 babies a year get early-onset GBS infection.

Although it's rare, GBS infection is the most common cause of life-threatening infection in babies during the first week of life.

Signs of GBS infection include:
- being floppy, or stiff and unresponsive
- poor feeding, or vomiting
- difficulty breathing, or grunting
- high or low temperature
- fast or slow heart rate
- pale or blotchy skin
- irritability
- shrill or moaning cry, or whimpering.

Late-onset GBS infection develops seven or more days after a baby is born. These babies may be colonised at birth but probably become infected after birth. GBS infections after three months are extremely rare. Antibiotics given in labour (see below) don't prevent late-onset infection.
**Risk factors for passing GBS to a baby**

You're more at risk of passing GBS to your baby if:

- you've already had a baby affected by GBS infection
- you've had a GBS urine infection in this pregnancy
- you have a high temperature (38°C or higher) during labour or when your waters break
- you go into premature labour (earlier than 37 weeks)
- your waters break more than 24 hours before you go into labour (this is called prolonged rupture of membranes)
- you're diagnosed as having vaginal or rectal GBS carriage at 37 weeks in this pregnancy (see below for details).

If you have any of these risk factors, you'll be offered intravenous (IV) antibiotics in labour to reduce the chances of your baby getting the infection. Your maternity carers will also monitor your baby's health for at least 24 hours after birth.

At-risk babies whose mothers don't have IV antibiotics during labour or for at least four hours before the birth, need to be watched more closely, including four-hourly checks for the first 24 hours.

If you're worried about your baby, tell the hospital staff if you're in hospital, or contact your midwife or LMC if you're at home.

**Complications caused by GBS infection**

GBS causes infection in a baby's lungs (pneumonia), blood (septicaemia) or brain (meningitis). It can make babies seriously ill, and some die from it.

Most babies make a full recovery after being treated with antibiotics and intensive care. But even with the best medical care, 5 to 10% of babies with early-onset GBS infection die. Most of the babies who die from GBS infection are premature (born before 37 weeks).

A few infected babies are affected permanently with problems such as cerebral palsy, deafness, blindness and serious learning difficulties.

Rarely, GBS can cause infection in the mother, such as an infection in her womb or urinary tract. More seriously, an infection in her blood can causes symptoms in her whole body (septicaemia).

**Preventing early-onset GBS infection**

Most GBS infection in newborn babies can be prevented by identifying mothers whose babies are at higher risk and treating the mothers with antibiotics during labour.
Tests for GBS

Sometimes women find out they have GBS when other tests are taken, such as a swab from their vagina or a mid-stream urine sample (MSU).

As GBS comes and goes, it's hard to know if it will be in your vagina when you give birth (which is how it can infect your baby). Swabs taken more than five weeks before labour aren't good at predicting whether it will be there when you're in labour.

If you have GBS any time before 37 weeks, it's best to have a repeat swab from your vagina and rectum (bottom) at 37 weeks. You can take the swab yourself or your midwife or a doctor can do it. Your maternity carers will use the result of this swab to decide whether to offer IV antibiotics during your labour.

Only women at risk of GBS infection are screened before giving birth.

When to contact your midwife or LMC if you have GBS

Contact your midwife or LMC:
- if your waters break
- if you're less than 37 weeks and you go into labour, whether or not your waters break.

Your midwife or LMC will assess you and your baby and will talk with you about how to manage your labour.

If you're less than 37 weeks, they'll offer you antibiotics, as your baby is premature.

If you're 37 weeks or more, and your waters break but you don't go into labour within 24 hours, your maternity carers will offer you induction of labour as soon as possible and recommend that you have IV antibiotics at the start of the induction.

If you're 37 weeks or more, your waters break and you go into labour, but you don't give birth within the next 24 hours, your maternity carers will offer you IV antibiotics from 24 hours after your waters break until your baby is born.

Treating GBS during labour

If there's a reason for you to have antibiotics during labour and you agree to this, it's best to start them as soon as possible after your labour is established. You'll be offered regular doses until you give birth to try to prevent your baby getting GBS infection.
We recommended that women with GBS risk factors give birth in Christchurch Women’s Hospital. But you may be able to give birth in a primary unit (such as Lincoln, Rangiora, St George’s or Ashburton) if your midwife or LMC, and the primary unit manager agree on a birth plan.

Penicillin is the most effective antibiotic for GBS. If you’re allergic to penicillin, please tell your midwife or doctor so they can offer you an appropriate alternative.

If your midwife, LMC or doctor recommends that you be given IV antibiotics, but you choose not to have them, your baby may be at a higher risk of GBS infection. If your baby has GBS infection and isn't treated with antibiotics, they may become seriously ill and even die.

**Risks of antibiotics**

Some women have a mild allergy to certain antibiotics and may have temporary side effects such as diarrhoea (the runs) or nausea (feeling sick). Rarely, a woman may have a serious allergy (anaphylaxis) to an antibiotic, which can be life-threatening. But for most women antibiotics are safe. Talk to your midwife, LMC or doctor about the risks and benefits of having antibiotics during labour.

Antibiotics can cause thrush (candida) in women, mostly in their vagina. They can also cause thrush in babies, mostly in their mouth or on their bottom (nappy rash). Your midwife or LMC can help you treat this.

**Breastfeeding**

GBS carriage doesn't affect breastfeeding. The antibiotics given in labour are safe for breastfeeding.

**Caesarean sections**

Doctors don’t recommend having a planned caesarean to prevent GBS infection in babies. Caesareans have risks for both mothers and babies and don't eliminate the risk of GBS infection.

But if you're having a planned caesarean for another reason, we don't recommend having antibiotics, as the risk of your baby developing GBS infection is very low.

**Things to remember**

Many women carry GBS, but GBS infection in babies is rare.

Most GBS infection in newborn babies can be prevented by giving antibiotics during labour to women who are at risk of passing it to their baby.

But even when the mother has antibiotic treatment in labour, some babies will still develop GBS infection.

Most GBS infection in newborn babies can be treated by giving babies IV antibiotics in a neonatal unit.

*Written by Christchurch Women's Hospital Maternity Services. Adapted by HealthInfo clinical advisers. Last reviewed December 2021.*