

Understanding your baby's group B Strep infection



“Stay alert for signs of group B Strep infection in your newborn baby.”

says Dr Chris Steele MBE, patron

This leaflet answers some of the questions you may have if your baby is diagnosed with a group B Strep infection.



Group B Strep Support

Preventing life-threatening group B Strep infection in newborn babies

www.gbss.org.uk

tel. 01444 416176

What is group B Streptococcus?

Group B Streptococcus (GBS or group B Strep) is a naturally occurring bacterium, carried by around 20-30% of UK adults. Group B Strep is not a sexually transmitted disease.

What is group B Strep carriage?

Carrying group B Strep infection (also known as colonisation) is normal – 20-30% of adults carry group B Strep, typically in the gut and/or vagina and have no signs or symptoms of infection. Group B Strep carriage can come and go over time and does not require treatment until labour starts. Babies born to mums who are colonised with group B Strep are at higher risk of becoming infected. At the start of labour, antibiotics should be offered to Mums carrying group B Strep to reduce the risk to the newborn baby of developing the infection.

What is group B Strep infection?

Group B Strep infection occurs most often in babies shortly before, during or after birth, though this is not common. Young babies are particularly at risk from group B Strep infections because their immune systems are immature.

Infection occurs when group B Strep invades the body tissues. Most babies suffering group B Strep infection recover completely with good medical care. Even so, one in ten of babies infected with group B Strep die, and more than one in every twenty survivors suffers long-term problems.

Group B Strep infection causes **septicaemia** (“bloodstream infection” or “blood poisoning”), **pneumonia** (lung infection) and **meningitis** (inflammation of the fluid and linings of the brain). After the first 6 days of life, group B Strep infection is uncommon and it is very rare after age 3 months. However, group B Strep is the most common cause of severe infection in newborn babies and the most common cause of bacterial meningitis in babies younger than three months.

The underlying rate of group B Strep infection in babies, assuming no prevention, is around one in every 1,000 babies born each year in the UK. If Mum is carrying group B Strep, this increases to around one in 300.

How is group B Strep infection diagnosed?

Group B Strep infection is diagnosed by growing the bacteria from body fluids that should be sterile, such as blood, urine, or spinal fluid. These cultures normally take 24-48 hours to grow the bacterium. None of the tests for group B Strep infection in newborn babies are 100% reliable. Occasionally the tests give “false negative” results: this means that blood cultures are negative, even though the baby has signs consistent with group B Strep infection. If swabs from the baby’s skin (usually an ear swab) and/or the mother are positive for group B Strep, and a blood marker of infection called a “CRP” (C-reactive protein) is raised, this indicates the presence of infection. If a chest X-ray has been taken because the baby has had breathing difficulties, this may show signs of infection (also called “pneumonia”). When this happens, doctors may make a presumed diagnosis of group B Strep infection, based on the baby’s clinical history and examination.

Early-onset group B Strep (EOGBS) infection

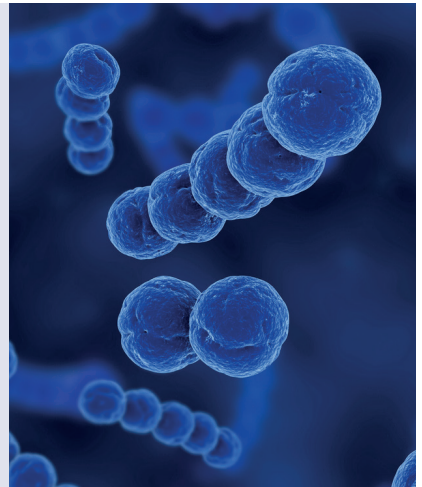
Two thirds of babies who develop group B Strep infection show signs in their first 6 days of life (early-onset). Of these, almost nine out of every ten show signs within 12 hours of birth. Early-onset group B Strep infection in babies usually shows as septicaemia or pneumonia. Less frequently, it shows as meningitis. Often an infected baby shows signs of having difficulty breathing at or within a few hours of delivery. The baby may need additional oxygen. In many babies, early signs may be detected and acted upon when they are very subtle. For other babies, even when treated promptly, oxygen requirements may increase. In more severe cases, the baby may need breathing help from a “ventilator”. Some babies may simply stop breathing.

Early-onset group B Strep infection is more frequently associated with prematurity, rupture of membranes (waters breaking) for more than 18 hours, with Mum having a fever in labour and with Mum carrying group B Strep. Early-onset group B Strep infection is approximately 8-9 times more common than late onset infection. Most babies will fully recover from their early-onset group B Strep infection but, even with the best medical care, approximately 10% die, with a small number of survivors sustaining permanent mental and/or physical problems.

Early-onset group B Strep infection can be confused with a condition seen more commonly in preterm babies called “respiratory distress syndrome” (RDS) as they have similar clinical presentations and chest X-ray appearances.

Signs of early-onset group B Strep infection in newborn babies include:

- Rapid breathing or stopping breathing
- Making grunting sounds
- Poor feeding
- Being abnormally drowsy (lethargic)
- Being irritable
- High/Low temperature
- High/Low heart rate
- Low blood pressure
- Low blood sugar
- Pale, blotchy skin



Late-onset group B Strep (LOGBS) infection

Late-onset group B Strep infection occurs after 6 days of life. It is uncommon after a baby is one month old and very rare after three months old. It usually presents as meningitis and septicaemia.

Late-onset group B Strep infection in newborn babies is associated with the mother carrying group B Strep, prematurity, and multiple births.

Late-onset group B Strep infection is less common than early-onset group B Strep infection - approximately 30% of group B Strep infections in babies are of late onset. Late-onset group B Strep infection has a lower mortality rate than early-onset group B Strep infection, with approximately one in twenty of babies who develop late-onset group B Strep infection dying. Of group B Strep meningitis survivors, up to half suffer long-term mental or physical problems and in one in eight of meningitis survivors the problem is severe.

Typical signs are similar to those for early-onset infection and may also include signs associated with meningitis such as:

- Being irritable with high pitched or whimpering cry, or moaning
- Blank, staring or trance-like expression
- Floppy, may dislike being handled, be fretful
- Tense or bulging fontanelle (soft spot on babies' heads)
- Turns away from bright light.
- Involuntary stiff body or jerking movements

There are currently no known ways of preventing late-onset group B Strep infection in babies. A vaccine is in the early stages of development, but is expected to take at least 10 years to be available.

Trust your instincts!

If your baby shows any of these signs, immediately call your GP or go to the nearest Paediatric Accident & Emergency Department. Early diagnosis and treatment are essential – delay can be fatal.

Group B Strep infection can be effectively treated

Group B Strep infection can be treated with prompt intravenous antibiotic therapy and intensive care. Some babies will require all the expertise of full intensive care and ventilatory support, as provided in a neonatal or paediatric intensive care unit. Not all hospitals have such units, so some babies will have to be transferred to one with these specialised facilities.

The minimum recommended length of intravenous antibiotic treatment for babies diagnosed with group B Strep infection is usually at least 7 days if meningitis is not present, and at least 14 days if it is. Any other medical problems a baby has in addition to group B Strep infection (for example, jaundice or anaemia) will also need to be treated.

If the baby is one of a multiple birth, the same treatment should be given to the other babies as preventative medicine, even if they appear well, since they are at increased risk of developing group B Strep infection.

A baby who has recovered from group B Strep infection is at a slightly higher risk of re-infection. A few practitioners may prescribe a daily penicillin dose for the baby for the first 3 months of life in the belief that it may prevent group B Strep infection. There is no evidence to support this practice, although penicillin given in this way has been shown to reduce the risk of infection with another related bacterium, called pneumococcus, in individuals who have lost their spleens. Although this should not be routine practice, it is our medical advisory panel's view that this may be considered to prevent reinfection with group B Strep in those who develop more than one episode of infection. This would need to be discussed with the baby's paediatrician.

How will group B Strep affect my baby?

With prompt treatment, most babies with group B Strep infection make a full recovery. However, around half of babies who recover from group B Strep meningitis will have long-term mental or physical problems and, in about one in eight cases, these will be severe.

There is no evidence that group B Strep infection leaves a baby more likely to catch other illnesses, such as allergies, coughs, colds, colic etc. but there is little data available on this. Antibiotics given to babies have been linked with allergies as a result of changing the natural bacteria in and on the baby's body. Antibiotic therapy also increases the chances of developing bacterial resistance. This is why antibiotic therapy is only offered if there is a true risk of infection, or signs of infection, as opposed to "colonisation".

If you have any concerns about your baby's medical care or expected long-term outcome, please ask the doctors and nurses caring for your baby.

Handling your (or someone else's) newborn baby

Group B Strep can be carried on the skin, so everyone should wash and dry their hands properly before handling a baby during his/her first three months. These are standard good hygiene measures for a young baby, not group B Strep specific.

Should I breastfeed my baby?

Our medical advisory panel strongly recommends Mum breastfeeds her baby. In their opinion the advantages of breastfeeding greatly outweigh the remote risk of transmitting group B Strep through breastfeeding. If Mum develops mastitis or a breast abscess, she should seek medical advice regarding breast-feeding.

How did my baby get group B Strep infection?

A baby develops group B Strep infection after it has been exposed to the bacterium. Where this exposure comes from may vary. If a baby developed early-onset group B Strep infection, the bacteria will most probably have been passed from Mum to her baby during labour or, less frequently, during birth. Transmission during labour occurs if Mum is carrying group B Strep in her vagina when labour starts, and it either reaches the baby through ruptured membranes, or very occasionally across intact membranes. Transmission during labour may occur as the baby passes down the birth canal.

If a baby develops late-onset group B Strep infection, the bacteria may have been passed to the baby from Mum but it might have come from someone else. Around 1 in 4 people are colonised with group B Strep and it may be passed from one person to another through skin-to-skin contact. Someone who touched the baby could have exposed him/her to the group B Strep they were carrying.

Most babies exposed to group B Strep don't become infected. They may just become colonised. Why some babies are susceptible to the bacteria and develop infection, while others don't, is unclear.

Could I have prevented my baby becoming infected with group B Strep?

In the UK, up to 30% of adults carry group B Strep in the intestines and up to 25% of women carry group B Strep in both their vagina and intestines. Carrying group B Strep does not result in any signs or symptoms, so **a woman would not know she carried group B Strep unless a test had found it**. Parents should not feel guilty or responsible if their baby develops a group B Strep infection.

The Royal College of Obstetricians and Gynaecologists (RCOG) does not recommend routine screening of all pregnant women for group B Strep carriage. The “gold standard” sensitive Enriched Culture Medium (ECM) tests for group B Strep carriage are not widely available on the NHS, although ECM testing is available privately and from a growing number of NHS hospitals.

Thankfully, group B Strep infection in babies is relatively rare and most babies born to women carrying group B Strep are completely healthy. In the UK, it is estimated that, without preventative medicine, only one in every 300 babies born to women carrying group B Strep in their vagina at delivery would develop a group B Strep infection.

What should happen in a future pregnancy?

It may seem insensitive to raise the issue of a future pregnancy now, while your baby may be seriously ill, but it is vital that you know any future baby may be at a higher risk from group B Strep infection. However, there are effective prevention strategies. Having and using the information in this leaflet significantly reduces the likelihood of a future baby developing group B Strep infection.

Giving Mums whose babies are born in recognised higher risk situations intravenous antibiotics from the start of labour and at intervals until the baby is born is very effective at preventing group B Strep infection in newborn babies.

When a baby has developed a serious group B Strep infection, any future siblings will be at a substantially increased risk of developing group B Strep infection – approximately a one in 100 (1%) chance if no preventative action is taken. Our medical advisory panel therefore strongly agrees with the NICE and RCOG recommendation that Mum should be given intravenous (IV) antibiotics, as detailed below, in any future labour.

There are small but serious risks associated with taking antibiotics, so the decision must be considered carefully and Mum must tell her health professionals if she is allergic to Penicillin or any other antibiotic.

Remember... Mums who have had a baby who developed group B Strep **infection** don't need testing because they should **ALWAYS** be offered intravenous antibiotics from the start of labour in subsequent pregnancies.



Treatment in labour

If Mum decides to take it, **she should be given the first dose of intravenous antibiotics as soon as possible once labour has started** and then at regular intervals until delivery to prevent group B Strep infection in the newborn baby. The RCOG recommends the antibiotics should be given for a minimum of 2 hours before delivery. Group B Strep Support considers this the absolute minimum, with the first dose given at least 4 hours before delivery being ideal.

IV antibiotics recommended for Mums in labour until delivery are:

- **Penicillin G** 3g IV then 1.5g IV at 4-hourly intervals
- **Clindamycin** 900mg IV every 8 hours for Mums allergic to penicillin.

Group B Strep is becoming increasingly resistant to Clindamycin (17% resistance was reported by Public Health England for 2013), though not to Penicillin. If group B Strep has been found on culture, the report should indicate whether it is resistant to Clindamycin. If it is, Vancomycin should be used (Vancomycin, 1g IV every 12 hours until delivery).

Where infection of the membranes is diagnosed or suspected (called "chorioamnionitis"), or where there is preterm prelabour rupture of membranes (waters breaking before labour starts and before 37 completed weeks of pregnancy), broad-spectrum intravenous antibiotics should be given which include group B Strep cover:

If you are allergic to Penicillin or any other antibiotic, you MUST tell your health professionals. Using any antibiotic carries risks, so please discuss this with your health professionals.

Care after birth

Babies born at increased/high risk to Mums who HAVE received antibiotics for more than 2 hours before delivery should be:

- Carefully assessed by an appropriately trained Paediatrician, Advanced Neonatal Nurse Practitioner (ANNP) or Midwife.
 - If completely healthy, no antibiotics for the baby are required.
 - A period of monitoring (12-24 hours) may be appropriate for those at the highest risk of infection.

Babies born at increased/high risk to Mums who HAVE NOT received antibiotics for more than 2 hours before delivery should be:

- Examined thoroughly and investigated by an appropriately trained Paediatrician, ANNP or Midwife.
 - If completely healthy, no antibiotics for the baby are required.
 - Observed for a minimum of 12 hours, ideally 24 hours.

For well babies at the highest risk of infection, monitoring (12-24 hours) may be appropriate and this should be undertaken as a minimum if the baby is not screened and treated for infection.

If there's any doubt about whether an infection is present, the baby should be started on intravenous antibiotics until it is known that they are not infected.

Parents should be made aware of the early signs of infection and given a handout about group B Strep infection.

Oral antibiotics during pregnancy for group B Strep carriage have not been shown to be effective at preventing group B Strep infections in babies. A woman whose waters break at less than 37 weeks and who is not in labour may be given oral erythromycin. This has not been shown to reduce the risk of group B Strep infection developing in her newborn baby.

Caesarean Sections

Planned Caesareans are not recommended as a means of preventing group B Strep infection in babies since they only reduce, and do not remove the risk. They pose their own risks for both Mums and babies. A planned Caesarean should take place before waters break or labour starts. In this situation, the risk of the baby developing group B Strep infection is so low that antibiotics specifically against group B Strep infection are not recommended.

If however, labour has started or waters have broken, Mum should be treated as for a normal labour. If an emergency Caesarean section becomes necessary, the baby should be delivered immediately.

During a future pregnancy, Mum should make sure her GP, midwife and obstetrician are all aware of her history and agree a pregnancy and birth plan with them that includes what should happen to address the risk of group B Strep.

Group B Strep Support's position on prevention of group B Strep infection:

Group B Strep Support is a national charity providing free information materials about group B Strep to families and health professionals. It has no financial links with any laboratory or pharmaceutical company. It believes:

- Every pregnant woman should be informed about group B Strep as a routine part of her antenatal care
- All low-risk Mums should be offered a sensitive test for group B Strep carriage at 35-37 weeks of pregnancy. (This is not supported by the UK National Screening Committee.)
- Where not available on the NHS, Mums should be informed of the availability of the sensitive tests in the private sector (see: www.gbss.org.uk/test)
- Intravenous antibiotics in labour should be offered to all mums whose babies are at increased risk of group B Strep infection.

Following a screening approach could prevent over **80%** of group B Strep infections in newborn babies. Fewer than **60%** are potentially preventable using the current risk-based strategy - most newborn babies who develop group B Strep infection display none of the risk factors which prompt the offer of intravenous antibiotics in labour using the RCOG's recommended strategy. Screening would mean antibiotics targeted at women carrying group B Strep, resulting in fewer group B Strep infections in babies, preventing death, disability and infection, and saving NHS resources.

For more information about group B Strep, ask your midwife, GP, obstetrician or contact us.

Group B Strep Support

Preventing life-threatening infection in newborn babies

PO Box 203, Haywards Heath, RH16 1GF

www.gbss.org.uk (free downloadable information)

01444 416176 info@gbss.org.uk

Key Medical References - see: www.gbss.org.uk/research

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