



UK National
Screening Committee

Frequently asked questions – Antenatal screening to prevent Early Onset Group B Streptococcus (GBS) infection

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Every year a small number of babies will sadly die or suffer long-term disability due to an infection they pick up at birth called Early Onset Group B streptococcus (GBS). One proposed solution is to introduce a national screening programme, offering all women at 35-37 weeks of pregnancy a test for GBS and offering prophylactic antibiotics to those who have positive results. Routine screening for early onset Group B Streptococcus in pregnant women is currently not recommended in the UK. This is kept under regular review to see if any new evidence, medical testing or new treatment would justify screening in the UK. This document explains what the disease is and the reasons why there isn't a screening programme.

What is Early Onset Group B Streptococcus and why is it of concern for pregnant women?

Group B streptococcus (GBS) is a bacteria that occurs naturally in the digestive system and lower vaginal tract of around a quarter of women at any one time and normally causes no harm. For pregnant women who carry GBS, the bacteria can be passed to their baby during labour. Most babies experience no ill-effect, but in a very small proportion this can cause illness.

GBS infection in the first seven days of life is called early onset disease (EOGBS). The infection can also occur after this point; this is called late onset disease (LOGBS) and is rarely caused by mother to infant transmission during labour.

Information on GBS is included in the NHS Pregnancy Book which is given free to all first time pregnant women. The Royal College of Obstetricians and Gynaecologists (RCOG) has produced an information leaflet for parents-to-be about GBS:

www.rcog.org.uk/en/patients/patient-leaflets/group-b-streptococcus-gbs-infection-in-newborn-babies/

How many babies are affected?

Illness due to GBS infection is rare but can be serious. Every year in the UK about 350 - 400 babies will develop early-onset GBS infection of the 800,000 born each year.

Most of these babies will fully recover with no long-term problems. However, GBS has been shown to cause long term disability in approximately 25 babies a year and around 40 babies a year do not survive.

What can happen to babies affected by the infection?

Most babies affected by EOGBS can be treated and will make a full recovery – but in a small number of cases the infection can cause death or long term problems including cerebral palsy, deafness, blindness and learning disabilities.

The infection can cause serious illness such as:

- blood poisoning (septicaemia)
- infection of the lung (pneumonia)
- infection of the lining of the brain (meningitis)

Who is at risk and what is being done to prevent this?

We know that there are some situations in which babies are at higher risk of becoming ill. The Royal College of Obstetricians and Gynaecologists recommend that women in the following groups are managed in line with national guidance:

- Mothers who have previously given birth to a baby who had an EOGBS infection
- GBS carriage detected in the current pregnancy (for example where there has been a urinary tract or vaginal infection)
- Mothers having a high temperature or other symptoms of infection during labour

Further information can be found here: www.rcog.org.uk/womens-health/clinical-guidance/prevention-early-onset-neonatal-group-b-streptococcal-disease-green-

Some maternity units have management pathways in place for women with prelabour rupture of membranes (a rupture of the amniotic sac membrane in which the fetus develops), as recommended in the antibiotics for early-onset neonatal infection NICE guideline.

Further information can be found here: www.nice.org.uk/guidance/cg149

Is there a test that could tell if a baby is going to have the infection?

If screening was introduced, pregnant women would be offered the screening test as close to the moment most babies are born as possible – between the 35th and 37th week of their pregnancies. About a quarter of pregnant women carry GBS at any time and this normally causes no harm, the test can only tell if a woman is carrying GBS – not if their unborn baby will become unwell.

Furthermore, testing can't completely predict which mothers will or will not have GBS by the time they go into labour. Around 25% of women whose tests would say they have GBS will actually be clear by the time they give birth. Around 5% of women's tests that came back clear would be carrying GBS by the time they go into labour.

For this reason the current test is not useful for screening.

Why is the Enriched-Culture Medium (ECM) test not offered to women?

The Enriched-Culture Medium (ECM) test, which is not currently recommended in the UK, is considered the most sensitive test for identifying women with GBS.

However, it is still not useful for screening as the likelihood of identifying which babies would be affected by EOGBS is very low. It is also a specific test for GBS carriage which may suppress other microorganisms that might be causing a serious infection and therefore

general bacterial tests may be more effective (for example in an investigation for symptoms of urinary tract infections).

Is there a treatment for GBS?

Antibiotics given through a vein via a drip during labour can sometimes help to prevent early onset GBS infection in the baby. Some women who are identified as at risk of having a baby affected by GBS are already offered antibiotics.

Similar to the use of antibiotics in primary care, there are a number of concerns about widespread use of antibiotics unnecessarily among women who do not require them:

Effectiveness – there is limited evidence on the effectiveness of antibiotics in preventing the most severe outcomes of early onset GBS. Therefore, it is not clear that antibiotic treatment in labour is effective in preventing death and disability.

Reduced delivery options – women receiving antibiotic treatment in labour would not be able to have their baby at home or in some midwifery led units. It would make birth more “medical”.

Antibiotic resistance - resistance to some antibiotics used to prevent GBS is an increasing problem, specifically in women who cannot be given penicillin. Treating so many people to try and reduce the risk of a very rare condition could have a long-term impact on the effectiveness of antibiotics on much more common life-threatening conditions.

Risks of antibiotic allergic reaction – antibiotics can cause allergic reactions in labour and this can be life-threatening. A UK wide study of these reactions in pregnancy and labour is underway and may help improve understanding of how big a risk allergic reaction is.

Long term effects on the newborn - antibiotics used in pregnancy and labour are the subject of increasing concern, for example some studies link this to increased obesity and asthma. In premature babies an increased risk of cerebral palsy has been associated with use of some antibiotics in labour. These outcomes are debated and research is on-going.

Limited effectiveness in important groups – antibiotic treatment in labour does not reduce GBS infection affecting the baby more than seven days following the birth (late onset GBS disease) and has not been shown to reduce GBS in premature babies in whom there are often many causes of poor health.

It is estimated that between 17,000 and 25,000 women would need to be treated to prevent one death from early onset GBS.

For these reasons it is not clear that the benefit of screening would outweigh the harms and it is not clear that screening would significantly reduce the worst effects of GBS infection.

Why do we not have screening in the UK?

The introduction of screening would need to prevent the worst effects for babies without causing harm in the process. Currently there are limitations with the tests and the treatment, as well as aspects of the condition, that mean it is not at all clear that screening would be of benefit overall. Screening is not a risk free option, and we need to be sure that it wouldn't do more harm than good. The current GBS test is not accurate enough and would lead to many thousands of women being offered antibiotics they didn't need. The use of antibiotics in labour are the subject of increasing concern and current UK guidance recommends against unnecessary use.

Most of the deaths and long term problems from GBS are in babies who would not be helped by screening. For example premature babies are born before screening would take place and are often affected by other conditions which increase the risk of ill health. It is estimated

that around 65% of deaths from GBS are found among these babies. GBS causing illness after seven days of life (late onset GBS) cannot be prevented by screening programmes and most long term disability is caused by this type of GBS.

National guidance in the UK recommends management strategies for a range of risk factors for those women identified as at risk of having a baby affected by GBS.

Why do some countries offer screening, but not the UK?

Screening is offered in some countries and others manage high-risk pregnancies like the UK. Realistic comparisons between levels of GBS infection in different countries are difficult because there can be a lot of differences between the situation in different countries. But reports have shown similar levels of GBS in the UK and those in countries where screening is recommended or where other approaches are taken.

The problems with screening have led to an interest in other solutions to GBS infection, such as a vaccine.

What progress is being made in addressing the issue of GBS in the UK?

The 2012 UK NSC review highlighted some outstanding questions over the benefits and potential harms of possible prevention methods.

To address this, the UK NSC has commissioned a study comparing the different approaches to preventing EOGBS infection in babies. These approaches include the current high risk management strategy used in the UK, and potential screening strategies used elsewhere, the aim being to establish the benefits and any limitations of each by determining:

- the number of babies prevented from getting EOGBS infection
- the overall health outcome for babies with EOGBS infection
- the appropriate use of antibiotic treatment

This research will also provide a forum for experts to discuss important questions that are currently under much debate. The outcome will help provide clarity on this complicated area and inform the next policy review in 2015/16.

Public Health England is monitoring the evolving situation in vaccine development; a number of international and European trials are underway.

For more information

The UK National Screening Committee (UK NSC) reviews the evidence for screening for conditions against strict criteria, which you can find here: www.screening.nhs.uk/criteria

Details of the review process can be found here: www.screening.nhs.uk/policyreview