

Policy No: 6 - Group B Streptococcus

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All policies and guidelines will be circulated to appropriate staff for a two-week consultation prior to being finalised. The date of issue reflects the date finalised after this consultation has taken place.

MONITORING COMPLIANCE WITH THE POLICY	
Process for monitoring	Audit of Guideline
Frequency of monitoring	3 yearly
Responsible individual development of action plan	Head of Midwifery

NATIONAL GUIDANCE RELATING TO THIS POLICY (E.G. NIHCE, NATIONAL INSTITUTE FOR HEALTH AND CLINICAL EXCELLENCE)
<ul style="list-style-type: none"> National Institute for Health and Clinical Excellence, 2021. <i>Antenatal Care</i>. NICE Clinical Guideline No.201. London: NICE. National Institute for Health and Clinical Excellence, 2012. <i>Antibiotics for early-onset neonatal infection: Antibiotics for the prevention and treatment of early-onset neonatal infection</i>. NICE Clinical Guideline No.149, London, NICE. Royal College of Obstetricians and Gynaecologists, 2017. <i>Prevention of early onset group B streptococcal disease, Green top guideline No 36</i>. London, RCOG.

DOCUMENT REVIEW HISTORY			
Version	Review Date	Reviewed by	
1	June 2018	Trish Nolan Melfi, Deputy Head of Midwifery	NEWS chart added to this guideline

2	August 2019	Elizabeth Halliday, Assistant Head of Midwifery	
3	July 2021		
4	July 2021	Elizabeth Halliday RM	Updates
5	October 2021	Sally Goodwin - Matron	Changed to signpost GBS positive women/or women wanting more info to GBSS leaflet Changed information around NEWS observations for 12 hours and to teach parents how to undertake References updated

AUDITABLE STANDARDS	
1	Signpost all GBS positive clients/or clients wanting further information on GBS to Group B Strep Support information leaflet
2	Clients who receive a positive test result for GBS should be given a copy of this guideline and have an opportunity to discuss it with their midwife
3	Should a client decline antibiotic prophylaxis the midwife should ensure that hourly temperatures are recorded in active labour.
4	Should a client decline antibiotic prophylaxis the midwife should ensure that a NEWS and MEWS chart is completed over the first 12 hours and that the parents are aware of the signs and symptoms of EOGBS infection. This should be clearly documented.
5	Documentation should reflect discussion and informed decision making

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INTRODUCTION

Group B Streptococcus (Streptococcus Agalactiae, GBS, Beta Strep, Haemolytic Strep)

Group B Streptococcus (GBS) is a benign, common bacterium carried in the vagina/rectum which colonises the digestive, urinary and reproductive tracts of about 20% to 40% of adults in the UK and Ireland. Occasionally it may cause a UTI, septicaemia or pneumonia in susceptible individuals, usually the chronically ill.

Clients who test positive for GBS in pregnancy are rarely infected and do not require any treatment unless GBS has been found in their urine. 50% of babies born to colonised mothers will become colonised themselves during birth. Occasionally babies develop a GBS infection and may become seriously ill with sepsis, pneumonia or meningitis. Some of these infected babies may die. However, with prompt and appropriate intervention most babies will fully recover.

There are 2 types of neonatal GBS infection.

Early onset GBS (EOGBS):

Occurs between 0-6 days and most frequently in the first 12 hours after birth (90%).

Almost exclusively occurs in babies born to carriers of GBS.

Occasionally occurs in babies whose mothers are not colonised.

Occurs in 1:1750 of babies born in the UK and Ireland.

Late Onset GBS (LOGBS):

Occurs between 7 days and rarely beyond 3 months of age.

Not associated with pregnancy, exposure likely after birth via skin contact.

Occurs in 1:2700 of babies born in the UK and Ireland.

Not considered preventable by labour or post-partum intervention and thus not relevant to this guideline.

Of the babies who develop EOGBS infection:

- 87.4% babies will fully recover.
- 7.4% babies will recover but be left with some level of disability.
- 5.2% babies will die.

Recognition and immediate action are key factors in the full recovery of babies who develop EOGBS.

RISK FACTORS

The risk of EOGBS infection is increased in the following circumstances. 78% of babies who contract early onset GBS (EOGBS) will have at least one of these risk factors:

- **Mother has had a previous child with EOGBS infection.**
- **Mother has been shown to be colonised by GBS in this pregnancy.**
- **Pre-term Labour (before 37 weeks completed gestation) (22-38% of EOGBS infections).**
GBS infection may cause premature labour.
Premature babies with EOGBS also have an increased mortality rate (20-30% at 33 weeks, which decreases with gestation to 2-3% at 37 weeks).
- **Baby weighs less than 2500g at birth.**
- **Prolonged rupture of membranes (more than 24 hours before birth) regardless of signs of labour or lack thereof (68% of EOGBS infections).**
- **Maternal pyrexia in labour (38°C or higher) (19% EOGBS infections).**
- **GBS found in urine sample in late pregnancy.**

It should be noted that most clients presenting with one or more of these risk factors will not go on to have a baby with EOGBS infection.

ANTENATAL CARE

The midwife should offer the client information on GBS, options for testing and risk factors. The midwife should also discuss the implications of GBS testing for the client and baby in the event of a positive test including potentially increased medicalisation of birth and the neonatal period.

If requested, an Enriched Culture Medium (ECM) swab test should be completed at 35 to 37 weeks. Clients should be advised that in the case of a negative result there is a 4% chance that they will be positive for GBS at birth, and in the case of a positive result there is an 87% chance that they will be positive for GBS at birth.

Currently in the UK and Ireland clients who have tested positive for GBS in their current pregnancy or who present with risk factors are offered prophylactic intravenous antibiotics (IAP) in labour and may be offered immediate induction in the case of a pre-labour rupture of membranes.

Clients who have tested GBS positive in a previous pregnancy should be advised that they have 50% chance of testing positive for GBS in the current pregnancy and offered ECM testing at 35-37 weeks. Should they decline or have a confirmed negative GBS test, they should not be offered IAP unless their previous baby contracted GBS infection, or they present with other risk factors.

Any client who tests positive for GBS via a urine sample should be offered antibiotics at that time and an ECM test at 35-37 weeks. Should a positive test present at that time they should be offered IAP in labour.

A negative urine or non-selective high vaginal swab test is not accurate in predicting a negative GBS status and should not be offered to clients or used to provide reassurance.

Alternate Management

There is no evidence upon which to recommend any of the following remedies however clients may wish to discuss the alternative options below:

- Vaginal Douching may cause transient reduction in vaginal bacteria. A Cochrane Review concluded that studies in Chlorohexadine douching indicated a reduction in colonisation of the newborn but no reduction in morbidity or mortality. Douching in other substances such as vinegar or lemon juice has not been researched. The use of any foreign solution in the vagina brings with it risks of local inflammation and reaction, although no serious adverse reactions have been reported.
- Garlic - taken by clients both orally and as a vaginal pessary has not been researched, although the likelihood of any positive effect is probably greater with pessary treatment. However, a pessary may cause irritation of the vaginal mucosa and clients should be made aware of this risk.
- Oral Pro-biotics - A small test study suggests that daily oral pro-biotics reduce GBS count but are not effective at removing it altogether.

INTRAPARTUM CARE

Intravenous Antibiotic Prophylaxis (IAP)

Giving IAP in labour is thought to eliminate GBS bacteria from the vagina before birth, as well as providing cover for the baby if transmission occurs by crossing the placental barrier. However, a Cochrane Review concluded that the evidence for giving IAP in labour is lacking and though it appears to reduce the incidence of GBS infection in neonates by 86-89%, this practice does not reduce mortality rates stemming from GBS or other infection and all cases of EOGBS cannot be prevented by IAP.

Risks associated with the use/overuse of antibiotics include gut disturbance, incidence of fungal infection (candida albicans), increased susceptibility to other bacteria, asthma, allergies, obesity, Obsessive Compulsive Disorder, Type 1 Diabetes, antibiotic resistance and anaphylaxis.

IAP cannot be facilitated at home. If the client consents to IAP it is the responsibility of the named midwife to liaise with the obstetric team at the clients booked hospital to arrange a plan of care.

IAP is not currently recommended for clients who have a planned caesarean section in the absence of labour and with intact membranes.

Alternate Management

- Water Birth – Has been shown to reduce the incidence of GBS colonisation and infection and is thought to wash some bacteria off the baby at birth. Clients birthing in water may be less likely to undergo interventions that may increase the risk of infection. GBS is not a contraindication to water birth regardless of whether the client chooses to have IAP, however local hospital guidelines should be consulted as they may vary in approach.
- Avoidance of intervention - interventions such as routine vaginal examination, artificial rupture of membranes, fetal blood sampling and fetal scalp electrodes may increase the risks of GBS infection. Avoiding these interventions may reduce the incidence of infection.

Should clients decline IAP the midwife should:

- **Discuss with the client that the presentation of any further risk factors will warrant further discussion with them and the midwife's line manager in regard to a potential change in care plan.**
- **Undertake hourly temperature monitoring in labour and transfer to hospital with any concerns in line with Guideline 37: NEWS and MEWs**
- **Avoid vaginal examinations if possible, especially if the membranes have ruptured.**
- **Consider transfer in the case of prolonged rupture of membranes (more than 24 hours) regardless of signs of early or active labour.**

POSTNATAL CARE

All babies born to clients who are known GBS carriers and did not receive a full cover of IAP should be monitored via a NEWS chart in line **Guideline 37 (NEWS and MEWs)** for a

minimum of 12 hours post birth and, if at home, transferred immediately to a hospital with paediatric facilities with any concerns.

It is recommended that the midwife performs the neonatal observations at birth, 1 hour of age and 2 hours of age and there has been a discussion with parents in the antenatal period and prior to leaving the home birth demonstrating how the parents can undertake the remainder of observations until 12 hours of age.

Reiterate to parents the importance of escalating any concerns urgently.

A 4 hourly MEWS chart should also be commenced.

NEWS chart observations should be undertaken at:

- **0 hours**
- **1 hour**
- **2 hours**
- **Then every 2 hours until 12 hours post birth**

Should a baby become symptomatic of GBS infection it is essential to access paediatric consultation without delay regardless of the client's GBS status. Midwives and parents should be alert to symptoms of EOGBS and maintain a high index of suspicion with a low threshold for transfer to hospital.

SIGNS AND SYMPTOMS OF EOGBS INFECTION

- **Respiratory distress, tachypnoea, grunting, moaning or other unusual noises, apnoea or bradypnoea**
- **Inconsolable crying**
- **Temperature outside of acceptable range (see NEWS chart), significant temperature fluctuations or notable poor peripheral perfusion**
- **Notable changes in heart rate, tachycardia or bradycardia**
- **Lethargic, unusually sleepy, floppy, unresponsive, unusual behaviour responses**
- **Feeding difficulties, refusing feeds, vomiting, distended stomach**
- **Pale, blotchy or mottled skin**
- **Seizure**
- **Jaundice within 24 hours of birth**

- **Bleeding (bruises, unusual swelling especially on the head)**
- **Hypoglycaemia, hypotension, low oxygen saturation, metabolic acidosis, respiratory acidosis.** Identification of these symptoms usually requires medical equipment which may not be available in a home environment

Further complications may include sepsis, pneumonia and/or meningitis. See page 11 for infographic on EOGBS and LOGBS signs and symptoms.

WIDER IMPLICATIONS OF DECLINING CONVENTIONAL PROPHYLACTIC THERAPY

When a client decides against IAP there may be further implications for her care and that of her baby in the immediate post-partum period. Hospital policies vary greatly on a local basis, and we recommend that the midwife and client educate themselves appropriately as to local policy guidelines before considering a GBS test or entering into dialogue about treatment options.

Most hospitals offer a neonatal infection screen (obtained via blood testing) followed by 36-48 hours of IAP and 4 hourly observations (NEWS chart) for babies whose mothers did not receive an accepted level IAP in labour. Clients should be aware that they may choose to observe a well baby for signs and symptoms of infection rather than consenting to neonatal blood tests and/or IAP.

Should the clients choose to remain at home and decline IAP it is essential that they are instructed in how to closely monitor her baby for signs and symptoms of infection. Although these can be subtle (and may often present in a healthy baby), once infection takes hold babies become seriously ill very quickly. The midwife should advise a low tolerance level for any concerns, and all parents should be aware of the need to contact emergency services should their baby become unwell.

GBS remains a serious illness and requires treatment when active infection is confirmed, however the evidence surrounding who to test, how to test and whether IAP does more harm than good on a population basis is unclear and the issues are not quite as black and white as guidelines (local, regional and national) may appear. Full discussion should be entered into with the client and agreed care pathways should be documented clearly in the notes along with a detailed description of all discussions around the subject.

POLICY / GUIDELINE OUTLINE

- Signpost all GBS positive clients/or clients wanting further information on GBS to Group B Strep Support information leaflet.

- Issues around and risk factors for GBS infection should be discussed with clients who are known to be GBS positive OR request further information about GBS and the consequences that a positive test could have on their care pathway should be made clear.
- Clients presenting with known risk factors should be offered the option of ECM testing at 35-37 weeks.
- Clients should be advised of the serious nature of GBS infection in neonates, and the chances of infection for their baby.
- Clients should be advised of the risks and benefits of IAP.
- Should a client test positive for GBS:
 - a. They should be counselled regarding their options, including IAP, and supported in making an informed decision.
 - b. A copy of this guideline and local NHS/HSE policy (if available) should be provided to the client by the midwife.
 - c. Referral for access to IAP that cannot be provide at home should be sought if appropriate.
- In the case that a client declines IAP the midwife should:
 - a. Discuss that the presentation of any further risk factors will warrant further discussion with the client and the midwife's line manager.
 - b. Provide hourly intrapartum temperature monitoring with immediate transfer to hospital in line with MEWS chart guideline.
 - c. Avoid vaginal examinations where possible, especially if the membranes have ruptured.
 - d. Commence a NEWS chart at birth and take observations at 0, 1 and 2 hours of life, and then every 2 hours until 12 hours have elapsed.
 - e. Be alert to symptoms of EOGBS in all babies and maintain a high index of suspicion with a low threshold for transfer to hospital.
- Regardless of GBS status midwives should advise clients of signs and symptoms of an unwell baby (p11) and refer swiftly and appropriately with any concerns.
- Record keeping must be clear, detailed and robust – reflecting on discussions, advice and information given along with a detailed plan of care.

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Signs of group B Strep infection in babies

**Early treatment saves lives.
If your baby shows signs consistent
with group B Strep infection, seek urgent medical advice.**

Early-onset 0-6 days

Early-onset group B Strep infection occurs in the first 6 days of life. Most of these infections show signs within 12 hours of birth.

Early-onset group B Strep infection in babies usually presents as sepsis, pneumonia and meningitis.

Typical signs include:

- Grunting, noisy breathing, moaning, seems to be working hard to breathe when you look at the chest or tummy, or not breathing at all
- Being very sleepy and/or unresponsive
- Inconsolable crying
- Being unusually floppy
- Not feeding well or not keeping milk down
- A high or low temperature (if parents have a thermometer), and/or hot or cold to the touch
- Changes in their skin colour (including blotchy skin)
- An abnormally fast or slow heart rate or breathing rate
- Low blood pressure*
- Low blood sugar*
- * Identified by tests done in hospital

Late-onset 7-90 days

Late-onset group B Strep infection occurs after a baby's first six days of life, is uncommon after a month and very rare after three months.

Late-onset group B Strep infection in babies usually presents as meningitis and sepsis.

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

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



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