Group B Streptococcal (GBS): Prevention and Management Guideline

Classification:	Guideline
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Departments/Group this Document applies to:	Maternity

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Guideline to be followed by (target staff): Midwives and medical staff within the maternity and paediatric departments

To be read in conjunction with the following documents:

- Pre-Labour Rupture of Membranes at Term Guideline,
- Induction of Labour Guideline,
- Neonatal Antibiotics and Sepsis Guideline

Are there any eCARE implications? No

CQC Fundamental standards:

Regulation 9 – person centered care
Regulation 10 – dignity and respect
Regulation 11 – Need for consent
Regulation 12 – Safe care and treatment
Regulation 13 – Safeguarding service users from abuse and improper treatment
Regulation 14 – Meeting nutritional and hydration needs
Regulation 15 – Premises and equipment
Regulation 16 – Receiving and acting on complaints
Regulation 17 – Good governance
Regulation 18 – Staffing
Regulation 19 – Fit and proper

Disclaimer

Since every patient's history is different, and even the most exhaustive sources of information cannot cover every possible eventuality, you should be aware that all information is provided in this document on the basis that the healthcare professionals responsible for patient care will retain full and sole responsibility for decisions relating to patient care; the document is intended to supplement, not substitute for, the expertise and judgment of physicians, pharmacists or other healthcare professionals and should not be taken as an indication of suitability of a particular treatment for a particular individual.
The ultimate responsibility for the use of the guideline, dosage of drugs and correct following of instructions as well as the interpretation of the published material **lies solely with you** as the medical practitioner.

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Guideline Statement

To enable staff to care for women with prevention and management of Early-onset Group B Streptococcal (GBS), in line with national guidance.

The maternity unit is participating in the **GBS3 Trial** (the clinical and cost effectiveness of testing for Group B Streptococcus in pregnancy: a cluster randomised trial with economic and acceptability evaluations). The unit has been randomised to routine enriched culture medium (ECM) testing at 35-37/40 weeks' gestation. Intrapartum Antibiotic Prophylaxis (IAP) will be offered if the test is positive for GBS and a vaginal birth is anticipated.

The Standard Operating Procedure (SOP) Title: GBS3 Trial (Routine Testing for Group B Streptococcus) will be the standard practice for 12 months from the trial start date. The SOP will replace this Guideline and the risk-factor based strategy, outlined in it.

This guideline should be followed for those women who decline or miss routine ECM testing or where a result is not available.

Executive Summary

Objectives: It will assist clinicians in the prevention of Early-onset GBS infection in the Neonates.

1.0 Roles and Responsibilities:

1.1 Midwives

Identify women with risk factors for GBS and to provide evidence-based advice to women and their families. Administer treatment prescribed.

1.2 Midwives, nurses, nursery nurses

Complete neonatal observations for babies at risk.

1.3 Obstetricians

Obstetricians to identify risk factors, individualised management plans and prescribe treatment as required.

2.0 Implementation and dissemination of document

This guideline will be disseminated at staff and unit meetings highlighting the change in practice. This document will be available on the Trust Intranet and has followed the full guideline review process prior to publication.

3.0 Processes and procedures

3.1 Definition

Intrapartum antibiotic prophylaxis (IAP) is 80% effective at preventing early onset GBS but will not prevent all infections and deaths.

Antenatal treatment of women who have a positive **vaginal** GBS swab has not been shown to reduce the risk of neonatal infection. Antenatal detection of GBS in **urine** should be treated at the point of diagnosis.

3.2 Antenatal Management to reduce EOGBS disease

- Routine screening of all pregnant women for GBS is not recommended
- Screening is not recommended for women who have had a previous baby affected by early - or late-onset GBS disease as these women should be offered intrapartum antibiotic prophylaxis irrespective of carrier status.
- Women identified as GBS carriers in a previous pregnancy should be offered the options of either Intrapartum antibiotics or bacteriological testing in late pregnancy and IAP if they remain positive.
- Bacteriological testing should be carried out between 35-37 weeks of gestation or 3-5 weeks prior to the anticipated birth date if known. A swab should be taken from the lower vagina and anus. This can be a single swab (vagina followed by anus).
- Women with a GBS urine infection should receive appropriate antibiotics at diagnosis and IAP in labour.
- If GBS carriage is detected incidentally, IAP should be offered in labour.
- Membrane sweeping is not contraindicated in women who are carriers of GBS.
- Birth in a pool is not contraindicated if the woman is known GBS carrier provided she is offered appropriate IAP.
- Maternal request is not an indication for bacteriological screening for GBS.

3.3 Primary Management for all women

- If a woman has a risk factor for GBS (previous baby with GBS or GBS found incidentally in urine or high vaginal swab (HVS) this pregnancy) and is admitted with pre-labour rupture of membranes (PROM) after 37 weeks gestation, then immediate IAP should be offered along with induction of labour as soon as reasonably possible.

- Antibiotic prophylaxis is not required for a history of previous maternal GBS carriage, or GBS found incidentally in the vagina or urine in this pregnancy who is having a planned caesarean section and has intact membranes. Women who are known GBS carriers who are to be delivered by caesarean section after spontaneous rupture of membranes should be offered IAP and delivered by category 2 or 3 caesarean depending on other clinical findings.

3.4 Management of PROM >37/40 with history of GBS colonization in the vagina or urine at any time during current pregnancy or previous baby affected by GBS:

- If there is a certain history of pre labour rupture of membranes (PROM) there is no reason to carry out a speculum examination.
- If there is an uncertain history of PROM then the woman should be offered a speculum examination and Amnisure swab to determine whether membranes have ruptured.
- Digital examination in the absence of contractions should be avoided.
- Immediate induction of labour should be offered and started as soon as is reasonably possible.
- Start IAP immediately, even if induction of labour is delayed, as below.

3.5 Management of PROM <37/40 with history of GBS colonization in the vagina or urine at any time during current pregnancy or previous baby affected by GBS:

Offer an immediate birth (by induction of labour or caesarean birth) to women who are between 34 and 37 weeks' gestation who:

- have prolonged prelabour rupture of membranes, *and*
- have group B streptococcal colonisation, bacteriuria or infection at any time in their current pregnancy. [2021]

3.6 Management of PROM <34/40 with history of GBS colonization in the vagina or urine at any time during current pregnancy or previous baby affected by GBS:

The perinatal risks associated with preterm delivery are likely to outweigh the risk of perinatal infection. Women <34/40 should be offered oral erythromycin as per Pre-term Pre-labour rupture of membrane guidance and aim for delivery after 34/40, unless any other indication to expedite delivery.

Risk factors for early-onset neonatal infection, including 'red flags'

Red flag risk factor:

Suspected or confirmed infection in another baby in the case of a multiple pregnancy.

Other risk factors:

- Invasive group B streptococcal infection in a previous baby or maternal group B streptococcal colonisation, bacteriuria or infection in the current pregnancy.
- Pre-term birth following spontaneous labour before 37 weeks' gestation.
- Confirmed rupture of membranes for more than 18 hours before a pre-term birth.
- Confirmed prelabour rupture of membranes at term for more than 24 hours before the onset of labour.
- Intrapartum fever higher than 38°C if there is suspected or confirmed bacterial infection.
- Clinical diagnosis of chorioamnionitis
  (Neonatal infection: antibiotics for prevention and treatment NG195 April 2021)

3.7 GBS Treatment

Offer antibiotics during labour to women who:
• are in pre-term labour or
• have group B streptococcal colonisation, bacteriuria or infection during the current pregnancy or
• have had group B streptococcal colonisation, bacteriuria or infection in a previous pregnancy, and have not had a negative test for group B streptococcus by enrichment culture or PCR on a rectovaginal swab sample collected between 35 and 37 weeks' gestation or 3-5 weeks before the anticipated delivery date in the current pregnancy or
• have had a previous baby with an invasive group B streptococcal infection or
• have a clinical diagnosis of chorioamnionitis. [2021]

3.7.1 Give Intrapartum Antibiotic Prophylaxis (IAP) if:

- Women have had GBS infection (early or late) in a previous baby.
- GBS carriage confirmed in the urine or vagina at any time during the current pregnancy.

Intrapartum antibiotics:

(Neonatal infection: antibiotics for prevention and treatment NG195: April 2021)

Allergies	**Women without chorioamnionitis**	**Women with chorioamnionitis**
No Penicillin allergy	Use Benzylpenicillin	Use benzylpenicillin plus gentamicin plus metronidazole
Penicillin allergy that is not severe	Use Cephalosporin with activity against group B streptococcus (for example cefotaxime). Use with caution. In April 2021 this was an off-label use of cephalosporins.	Use Cephalosporin with activity against group B streptococcus (for example cefotaxime) Use with caution. In April 2021 this was an off-label use of cephalosporins.
Severe penicillin allergy	Consider: Vancomycin **or** An alternative antibiotic that would be expected to be	Consider: Vancomycin plus gentamicin plus metronidazole **or**

	active against group B streptococcus based on either sensitivity testing performed on the woman's isolate or on local antibiotic susceptibility surveillance data. In April 2021 this was an off-label use of vancomycin	An alternative antibiotic to vancomycin that would be expected to be active against group B streptococcus based on either sensitivity testing performed on the woman's isolate or on local antibiotic susceptibility surveillance data plus gentamicin plus metronidazole. In April 2021 this was an off-label use of vancomycin.

Penicillin allergy- Common signs and symptoms are hives, rash and itching. Other signs are wheezing, shortness of breath, fever, itchy watery eyes and runny nose.

Severe Penicillin allergy-

- Anaphylaxis is a rare life-threatening condition. The frequency of anaphylaxis is estimated at 1-5 per 10,000 cases of penicillin therapy.
- Swelling of skin around the face and tightness in throat.

- If using intravenous gentamicin during labour, use once-daily dosing. [2021]
- Give the first dose of antibiotics as soon as possible after labour starts (or as soon as infection is suspected, in the case of chorioamnionitis), and continue until the birth of the baby. [2021]
- Be aware that therapeutic drug monitoring may be needed when using gentamicin or vancomycin during labour. [2021]
- Antibiotic therapy is associated with a risk of anaphylaxis.
- Women with known GBS colonisation who decline IAP should be advised the baby should be very closely monitored for 12 hours after birth and be discouraged from seeking early discharge.

3.8 Monitoring of the neonate following birth (Please refer to RCOG green top guideline No.36)

- Term babies at risk of early onset GBS who are well at birth and whose mothers received IAP for prevention >4 hours from delivery do not require special observations.

- Term babies at risk of early onset GBS who are well at birth but whose mothers did not receive adequate IAP >4 hours prior to delivery should be reviewed at birth for clinical indicators of infection and have their observations checked at 0, 1 and 2 hours and the 2 hourly for 10 hours.

- Babies born by Elective Caesarean section and with no history of ruptured membranes, do not require neonatal observations, as there is no risk of vertical transmission due to presence of intact membranes.

- Babies of a mother who has had a previous baby with GBS disease should be evaluated at birth for clinical indicators of neonatal infection and have their vital signs checked at 0, 1 and 2 hours, and then 2 hourly for a further 10 hours.

3.9 Treatment for Neonates (Please refer to NICE NG 195)

Most infants who develop early onset GBS present with illness soon after birth and 90% have presented clinically by 12 hours of age, before culture results become available. Babies with clinical signs of EOGBS disease should be treated with penicillin and gentamicin within an hour of the decision to treat as per Neonatal infection (early onset): antibiotics for prevention and treatment (NICE NG 195, 2021) (5)

3.9.1 Consider giving antibiotics to the following babies: (Please refer to NICE NG 195)

- Babies born to mothers who should have received IAP but did not.

- Babies born to mothers who received the first dose of antibiotics less than 2 hours prior to birth.

3.9.2 Give antibiotics to the following babies: (Please refer to NICE NG 195)

- Any baby who presents at any gestation with symptoms of sepsis e.g., tachypnoea, grunting, poor feeding, poor tone, fever.

- In multiple births if one baby is diagnosed with GBS disease treat all others.

4.0 Statement of evidence/references

References:

1. Neonatal infection: antibiotics for prevention and treatment NICE guideline Published: 20 April 2021:NG195
2. Prevention of Early-onset Neonatal Group B Streptococcal Disease Green-top Guideline No. 36 September 2017
3. O'Sullivan *et al.* GBS disease in UK and Irish infants younger than 90 days, 2014-2015. *Arch Dis Child*. 2016;101: A2
4. Ohlsson *et al.* Intrapartum antibiotics for known maternal GBS colonization. *Cochrane Database Syst Rev* 2014;(6):CD007467
5. Hughes *et al.* On behalf of the Royal College of Obstetricians and Gynaecologists.
6. Prevention of early-onset neonatal group B streptococcal disease. Green-top guideline No.
7. 36. BJOG 2017;124: e280-e305
8. UK National Screening Committee Policy on GBS Screening in Pregnancy. March 2009. 5. National Institute of Health Care and Excellence. Neonatal Infection (Early Onset): Antibiotics for Prevention and Treatment. NICE clinical guideline 149. London: NICE, 2012.

5.0 Governance

5.1 Document review history

Version number	Review date	Reviewed by	Changes made
5	09/2021	Swati Velankar/Erum Khan/Aarti Batavia/ Mary Plummer	Complete review

5.2 Consultation History

Stakeholders Name/Board	Area of Expertise	Date Sent	Date Received	Comments	Endorsed Yes/No
Women's digital review group	Women and children	08/09/21	23/09/21		Yes
Melissa Davis	Head of Midwifery	29/09/21	29/09/2021	Re; penicillin allergy	Yes
Guideline group	Women and children	29/09/21	29/09/21		Yes
Joanna Mead	Research Midwife	29/09/21		To align with GBS3 SOP	Yes
Erica Puri	Audit and guideline Midwife	29/09/21		References updated	Yes
Women's CIG	Women and Children	06/10/21			

5.3 Audit and monitoring

Audit/Monitoring Criteria	Tool	Audit Lead	Frequency of Audit	Responsible Committee/Board
Audit criteria under review				

5.4 Equality Impact Assessment

As part of its development, this Guideline and its impact on equality has been reviewed. The purpose of the assessment is to minimise and if possible remove any disproportionate impact on the grounds of race, gender, disability, age, sexual orientation, religion or belief, pregnancy and maternity, gender reassignment or marriage and civil partnership. No detriment was identified. Equality Impact assessments will show any future actions required to overcome any identified barriers or discriminatory practice.

Equality Impact Assessment			
Division	Women and Children	Department	Maternity
Person completing the EqIA	Erica Puri	Contact No.	87153
Others involved:	Yes	Date of assessment:	19/10/21
Existing policy/service	Yes	New policy/service	No

Will patients, carers, the public or staff be affected by the policy/service?	Yes
If staff, how many/which groups will be affected?	*All Staff*

Protected characteristic	Any impact?	Comments
Age	NO	Positive impact as the policy aims to recognise diversity, promote inclusion and fair treatment for patients and staff
Disability	NO	
Gender reassignment	NO	
Marriage and civil partnership	NO	
Pregnancy and maternity	NO	
Race	NO	
Religion or belief	NO	
Sex	NO	
Sexual orientation	NO	

What consultation method(s) have you carried out?
Emails and teams meetings
How are the changes/amendments to the policies/services communicated?
emails
What future actions need to be taken to overcome any barriers or discrimination?

What?	Who will lead this?	Date of completion	Resources needed
Review date of EqIA	09/2024		

Appendix 1: Prevention of Early Onset Group B Streptococcal Infection in Neonate: Management in Pregnancy/Labour