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 (EOGBS), in line with national guidance.

Executive Summary

The objective is to assist clinicians in the prevention of Early-Onset GBS Infection (EOGBS) in the Neonates.

1.0 Roles and Responsibilities:

1.1 Midwives

Identify women with risk factors for Group-B Streptococcal (GBS) infection and to provide evidence-based advice to women and their families. To provide treatment as per PGD and administer treatment prescribed.

1.2 Midwives, nurses, nursery nurses

Complete neonatal observations for babies at risk.

1.3 Obstetricians

Obstetricians to identify risk factors for GBS, individualised management plans and prescribe intra-partum antibiotic prophylaxis and counsel service users regarding their use.

2.0 Implementation and dissemination of document

This guideline will be disseminated at staff 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 public

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 with antibiotics based on sensitivity at the point of diagnosis.

3.2 Antenatal Management to reduce EOGBS disease

- All pregnant women should be provided with an appropriate information leaflet.
- Universal screening of all pregnant women for GBS is not recommended.
- Identification of service users with history of previous baby affected by early or late-onset GBS at booking. Community Midwives to refer these women for consultant-led care.
- At their first Hospital Antenatal Clinic appointment, discuss screening and management option in the current pregnancy.
- Screening is not recommended for service users who have had a previous baby affected by early or late-onset GBS disease; they should be offered IAP irrespective of carrier status.
- Service users identified as GBS carriers in a previous pregnancy should be informed that chances off maternal GBS carriage in current pregnancy is 50%. They should be offered the options of

- intrapartum antibiotics (IAP) or
- bacteriological testing in late pregnancy. A swab should be taken from the lower vagina and anus, between 35-37 weeks of gestation or 3-5 weeks prior to the anticipated date of delivery, if known eg 32-34 weeks for service users with twins. This can be a single swab (vagina followed by anus). Those who test positive should be offered IAP.

- Women with a GBS urine infection identified in current pregnancy, should receive treatment with appropriate antibiotics at the time of diagnosis and offer IAP.
- Treatment of GBS carriage in pregnancy is not recommended.
- If GBS carriage is detected in pregnancy on a vaginal swab, IAP should be offered.
- Baby Alert should be completed for service users who require IAP. This is the responsibility of the clinician that reviews the GBS+ result.
- Membrane sweeping is not contraindicated in service users who are carriers of GBS.
- Birth in a pool is not contraindicated if the service user is known GBS carrier provided appropriate IAP are offered.
- Maternal request is not an indication for bacteriological screening for GBS.

3.3 Management of pre-labour Term SROM with history of GBS colonisation in the vagina or urine at any time during current pregnancy or previous baby affected by GBS- Offer immediate IAP and induction of labour as soon as reasonably possible.

- 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.

Service-users having a planned caesarean section and with intact intact membranes- 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.

Service-users who are known GBS carriers and delivered by caesarean section after spontaneous rupture of membranes should be offered IAP and delivery by category 2 or 3 caesarean, depending on other clinical findings.

3.4 Management of PROM, between 34-37/40 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]

3.5 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 guidelines – Please see the Management of Preterm Pre-Labour Rupture of membranes and Preterm Labour guideline MIDW/GL/51 and aim for delivery after 34/40, unless any other indication to expedite delivery.

3.6 Management of women who are pyrexial in labour (38°C or greater) offer broad spectrum antibiotics that cover GBS and chorioamnionitis, as per table 3.7.1

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

3.7.1 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]

3.7.2 Intrapartum Antibiotic Prophylaxis (IAP) regime

- To optimise the efficacy of IAP, the antibiotic should be started as soon as possible- when labour starts (or as soon as infection is suspected, in the case of chorioamnionitis)
- Continue IAP until the birth of the baby. [2021]
- The first dose should be given at least 4 hrs prior to delivery.

Check allergy status of service user.

Allergies	Women without chorioamnionitis	Women with chorioamnionitis
No Penicillin allergy	Use Benzylpenicillin 3 g IV stat then 1.5 g 4 hourly until delivery	Use benzylpenicillin 3g plus gentamicin 5mg / kg plus Metronidazole- 500 mg IV 8 hourly.
Penicillin allergy that is not severe	Use Cephalosporin with activity against group B streptococcus (for example cefotaxime). Cefuroxime IV 1.5 g stat then 750 mg 8-hourly until delivery 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 1 g IV (administered over 2 hours) 12 hourly until delivery. If patient requires more than 2 doses of vancomycin, take a trough blood sample before the 3rd dose. Continue to give the 3rd dose and review level before the 4th dose **Or** An alternative antibiotic 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. In April 2021 this was an off-label use of vancomycin	Consider: Vancomycin plus gentamicin plus metronidazole 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.

- If using intravenous gentamicin during labour, use once-daily dosing. [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.

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, feeling light-headed.

Severe Penicillin allergy-

- Anaphylaxis is a rare life-threatening condition and develops suddenly.
- The frequency of anaphylaxis is estimated at 1-5 per 10,000 cases of penicillin therapy.

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 membranes and preterm labour guidelines. Aim for delivery after 34/40 unless any other indications to expedite delivery.

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.

- 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.

- 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.

4.0 Statement of evidence/references

References:

1. Neonatal infection: antibiotics for prevention and treatment NICE guidelines 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
4	09/2021	Swati Velankar/Erum Khan/Aarti Batavia/ Mary Plummer	Complete review
5	05/2024	Swati Velankar & Alex Fry	Complete review. Review and sign posting to postnatal care pathway. Removal of GBS trial information.

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			
Women's Health Guideline Review Group	Women and Children	05/2024	-	-	Yes

5.3 Audit and monitoring

Audit/Monitoring Criteria	Tool	Audit Lead	Frequency of Audit	Responsible Committee/Board
Adverse maternal outcome where GBS has been a factor	Radar	Governance Team	As per event	Women's Health
Unexpected term admissions to Neonatal unit where infection is thought to be cause	Radar, ATAIN workbook	Governance Team and ATAIN lead	As per event	Women and Children's Health

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