NHS
The Shrewsbury and Telford Hospital NHS Trust

The Prevention of Early Onset Neonatal Group B Streptococcal Disease

Version 8.1

Lead Person(s)	:	Jan Baker, Antenatal Screening Co-ordinator
Care Group	:	Women and Children's
First implemented	:	11th March 2004
This version implemented	:	26th September 2024
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Keywords	:	Group B Haemolytic Streptococcal Disease; Group B Strep; GBS.
Written by	:	Jan Baker and Jane Wilde, Screening Midwives
Consultation	:	Consultant Microbiologist and SaTH Antibiotics for Adults Policy, Adam Gornall
Comments	:	References to SaTH Guidelines in the text pertain to the latest version of the Guideline on the intranet. Relevant guidelines are cross-referenced in the text.

Version	Implementation Date	History	Ratified By	Review Date
1	11th March 2004	New Guideline	Labour Ward Forum Maternity Governance	2006
2	August 2005	Revised		
3	December 2006	Updated	Labour Ward Forum Maternity Governance	December 2008
4	24th May 2011	Review and minor revisions	MGG	May 2014
4.1	21st December 2011	Clarification and timing of Antibiotics	CG authorisation	December 2014
4.2	8th November 2012	CNST Level 3 Requirement	GC authorisation	December 2014
5	1st July 2013	Revised and updated to reflect national guidance	MGG Maternity Governance	July 2016
5.1	28th November 2016	Clarification section 5.6 subsequent dose of 1.2g in line with local SaTH Antibiotics for Adults Policy	MGG	May 2017
6.0	13th June 2017	Full Version Review	MGG Maternity Governance	June 2022
6.1	13th February 2018	Update to IAP as per RCOG GTG36 Sept 2017 Revisions to section 5.1 previous history of GBS Revisions to section 5.2 indications for IAP. Revision to section 5.4.1 if GBS detected in urine Revision to section 5.7 IAP 4 hours prior to birth.	MGG Maternity Governance	June 2022
7.0	5th August 2019	Full Version Review	MGG Maternity Governance	August 2024
7.1	October 2021	Full Version Review	MGG Maternity Governance	October 2024

7.2	December 2022	Audit & Monitoring paragraph updated to reflect new process		October 2024
7.3	March 2023	Auditable Standards added- Appendix 2		October 2024
8	23rd February 2024	Full review and update to include PGD for IAP.	Maternity Governance	Feb 2027
8.1	26th September 2024	Flow chart edited for clarification. ECM offered if found in previous pregnancies	Maternity Governance	Feb 2027

1.0 Introduction

1.1 Group B beta haemolytic streptococcus (GBS) is recognized as the most frequent cause of severe early-onset (less than 7 days of age) infection in newborn infants.

1.2 GBS is present in the bowel flora of 20–40% of adults (this is called 'colonisation'). People who are colonised are called 'carriers'. This includes pregnant women (there is no evidence that its carriage rate is specifically affected by pregnancy).

1.3 GBS can affect a pregnant woman or her fetus or both, but it may exist with no symptoms and may also exist without causing harm.

1.4 Early onset GBS disease is defined as an infection appearing within 7 days of a baby being born, (90% of cases occur within 24 hours). It can result in sepsis, pneumonia and meningitis.

1.5 Late onset disease occurs from 7 days up to 90 days of life.

1.6 The incidence of EOG BS disease in the UK and Ireland is 0.57/1000 births (517 cases). The risk is increased substantially, and may be as high as 40 per 1000 in the presence of one or more of the major risk factors below

- Preterm birth (before 37 weeks).
- Prolonged rupture of the membranes.
- Pyrexia.
- Suspected maternal intrapartum infection, including suspected chorioamnionitis.
- GBS found in current pregnancy on vaginal swabs or in the urine.
- Previous baby with GBS disease.

1.7 Maternal GBS carriage is not a useful predictor of disease. When detected antenatally up to 50% of pregnant carriers may be culture negative at the time of labour.

1.8 Infection is predominately caused by exposure to maternal GBS during childbirth, the transmission of GBS from mother to baby can be reduced with the appropriate use of intrapartum antibiotic prophylaxis (IAP), based on maternal risk factors.

2.0 Aim

To provide clear, evidence-based guidance for obstetricians, midwives and neonatologists on the prevention of early and late onset neonatal group B streptococcal disease.

3.0 Objectives

3.1 All pregnant women are given information about GBS in their pregnancy.

3.2 To identify those women who have colonized GBS in their current pregnancy and are given treatment if appropriate and have a management plan in place for delivery.

3.3 To identify those women in labour who have a clinical risk factor and have an appropriate management plan.

3.4 Women with known colonization of GBS in a previous pregnancy make an informed decision regarding IAP in the current pregnancy and have an appropriate management plan in place for delivery.

4.0 Definitions

GBS- Group B streptococcus is also called Streptococcus agalactiae. It is one class of bacteria within the streptococcal family. Many streptococci, including GBS are haemolytic, that is they 'digest' red blood cells. GBS are naturally occurring bacteria found in men and women, often in the intestines and the vagina. GBS colonization is when the bacteria live in the body without causing harm or symptoms, these people are called carriers. GBS Infection is when the bacteria are actively causing disease directly by damage to cells or indirectly by the toxins they release.

IAP - Intrapartum antibiotic prophylaxis

MIS – Maternity Information system

ASC – Antenatal Screening Coordinator

ECM- Enriched Culture Medium

5.0 Process

5.1 Informed Choice

- At booking all women will be given the RCOG/Group B Strep Support Leaflet 'Group B Streptococcus (GBS) in pregnancy and newborn babies.
- The midwife will review the woman's obstetric history and previous lab reports and ask the woman at booking to identify whether she has previously colonized GBS.
- Women who have had GBS in any previous pregnancy will be advised that there is a 50% chance they will be carrying GBS again in this pregnancy and will be offered to either have GBS IAP or an ECM test at 35-37 weeks gestation, which can help identify if IAP are indicated or not.
- Women will be given information about antibiotic therapy and the rare complications that are associated with antibiotic use.
- Women who consent to IAP should be given the choice to birth on the MLU in the absence of other risk factors, including penicillin allergy.
- Women will be informed that IAP will reduce the risk of the baby developing early onset disease, but some babies may still acquire the infection.
- Currently specific screening for GBS is not recommended as part of the National Screening Programme and therefore we are not offering routine screening.
- Due to the transient nature of the bacteria, it may be identified incidentally in pregnancy, but women may choose to have screening privately using a specific culture medium (see section 5.4.)

5.2 Indications for IAP in labour

- **Women who have had a baby previously who developed GBS infection.**
  Mothers who have had a previous baby affected by early- or late-onset GBS are at increased chance of another affected baby compared with women of similar carrier status who have not had an affected baby. The reasons for this increased risk are not clear but may indicate persistence of carriage of a virulent strain of GBS or a deficient immune response. In view of this potentially increased risk, and the possibility of false-negative antenatal testing, IAP in such cases is recommended and maternal bacteriological tests are not recommended.
- **Women who have colonized GBS in their current pregnancy from either a urine or swab sample.**
- **Women who have previously colonized GBS in pregnancy who chose not to have an ECM test**.
- **Women who have previously colonized GBS in pregnancy and have a positive GBS culture on ECM testing in the current pregnancy.**
- **Women in labour where there is a suspicion of chorioamnionitis, as assessed via the screening tool.**
- **Women with pre-labour rupture of membranes at 37^{+0} weeks gestation or more, with a history of GBS colonization in the current pregnancy** will be offered immediate IAP and IOL as soon as reasonably possible.
- **Women in confirmed preterm labour.**
  - Also refer to **Preterm Labour** guideline
- **Women with preterm rupture of membranes once labour is established or induction of labour is commenced.**
  - Also refer to **Preterm Pre-labour Rupture of Membranes** guideline

5.3 Women who have previously colonized GBS in pregnancy

- At booking the midwife should explain to women that the likelihood of maternal GBS carriage in this pregnancy is 50%.
- The midwife will discuss the options of IAP, or bacteriological testing in late pregnancy and the offer of IAP if still positive. This discussion should be documented in the woman's electronic patient record.

- If the woman choses bacteriological testing, the community midwife should undertake the ECM test at 35–37 weeks of gestation or 3–5 weeks prior to the anticipated delivery date, e.g., 32–34 weeks of gestation for women with twins.
- When testing for GBS carrier status, a swab should be taken from the lower vagina and the anorectum. A single swab (vagina then anorectum) or two different swabs can be used. GBS spread is transperineal so rectal and low vaginal swabs have a higher yield than high vaginal and cervical swab.
- Enriched culture medium (ECM) tests are recommended. The clinician should indicate that the swab is being taken for GBS on the request form.
- After collection, the swabs should be placed in the non-nutrient transport medium and transported and processed as soon as possible. If processing is delayed, specimens should be refrigerated.
- Results and plan should be documented in the notes and the women informed of the results by the CMW.
- If GBS positive, place of birth will be dependent on risk factors present. IAP can be supplied under PGD on Delivery Suite or MLU.
- If plans for home birth IAP cannot be provided and a referral would be required to the Consultant Midwife.

Women with previous GBS colonization should be informed of the following when making a decision:

- Where no screening is performed and antibiotics are declined, the risk of neonatal early-onset GBS disease is around 1 in 700
- For women known to carry GBS in the current pregnancy and do not have antibiotics, the risk of neonatal early-onset GBS disease is 1 in 400
- For women who test negative, the risk of neonatal early-onset GBS disease is around 1 in 5000, which is similar to women who receive antibiotics.

5.4 Women who have colonization GBS in their current pregnancy

From a urine sample

GBS bacteriuria is associated with a higher risk of chorioamnionitis and neonatal disease. It can also increase the risk of preterm birth and maternal ascending infection.
Women with GBS bacteriuria should be offered IAP. Additionally women with GBS Bacteriuria, defined as a growth of greater than 105cfu/ml, during pregnancy should receive appropriate treatment at the time of diagnosis as well, according to sensitivities. **Treatment may also be considered at a lower level for women who are symptomatic of a urinary tract infection**

Positive results from vaginal or rectal swab, including from private screening

GBS is a naturally occurring bacteria found in the vagina. As colonization is intermittent, immediate treatment is not advocated as it does not reduce the likelihood of GBS colonization at the time of delivery.[3]

- Contact the woman to inform her of the positive result
- Check received GBS information at booking
- Discuss her place of birth preferences.
- Inform her that IAP will be offered in labour.
- Update the woman's electronic notes to trigger the offer of antibiotics in labour.

Postnatal positive result

- Inform the woman
- Signpost the woman to the RCOG GBS leaflet
- Update the MIS so that the woman can be offered antibiotics/ECM testing in any future pregnancy.

5.5 Contraindications for IAP in labour

- Women undergoing planned caesarean delivery in the absence of labour or membrane rupture do not require IAP for GBS, regardless of GBS status as the risk of neonatal disease is extremely low.[3]
- Women with term (37^{+0} weeks gestation or more) pre-labour rupture of membranes without other risk factors.

5.6 Women who decline IAP/ Women who give birth sooner than 4 hours after receiving IAP

- Women will be advised that it is recommended following birth that their baby has additional observations (refer to Neo-NEWS and Neonatal Infection guidelines).
- Refer to the RCOG leaflet 'GBS in pregnancy and newborn babies (available via BadgerNet)

5.7 Management in labour.

- Induction of labour method should not vary according to GBS carrier status.
- If membranes are intact, there is no contraindication for sweeps.
- IAP will be commenced as soon as possible after the onset of established labour and at least 4 hours before delivery.
- If chorioamnionitis is suspected a broad-spectrum antibiotic that is also active against GBS will be used.
- IAP will be administered IV in accordance with local trust policy.
- The IAP can be supplied under PGD refer to Intranet -> Clinical Services and Departments/Pharmacy/Patient Group Directions
- GBS alone is NOT an indication for continuous fetal monitoring in labour.

Benzylpenicillin 3g in 100ml saline over 30 minutes & then **1.5g four hourly** until delivery.

Penicillin allergy
Non-severe – Cefuroxime **1.5g loading** then **750mg 8 hourly** (1.5g if >100kg)
Severe – Vancomycin **1g every 12 hours**

NOTE: Ladies requiring Vancomycin will need to receive care on delivery suite.

5.8 Post labour management of the neonate

Refer to the following SaTH neonatal guideline for further management, Neonatal Infection including GBS (093) and maternity guideline Neo-NEWS

6.0 Training

Refer to the SATH Training Needs Analysis

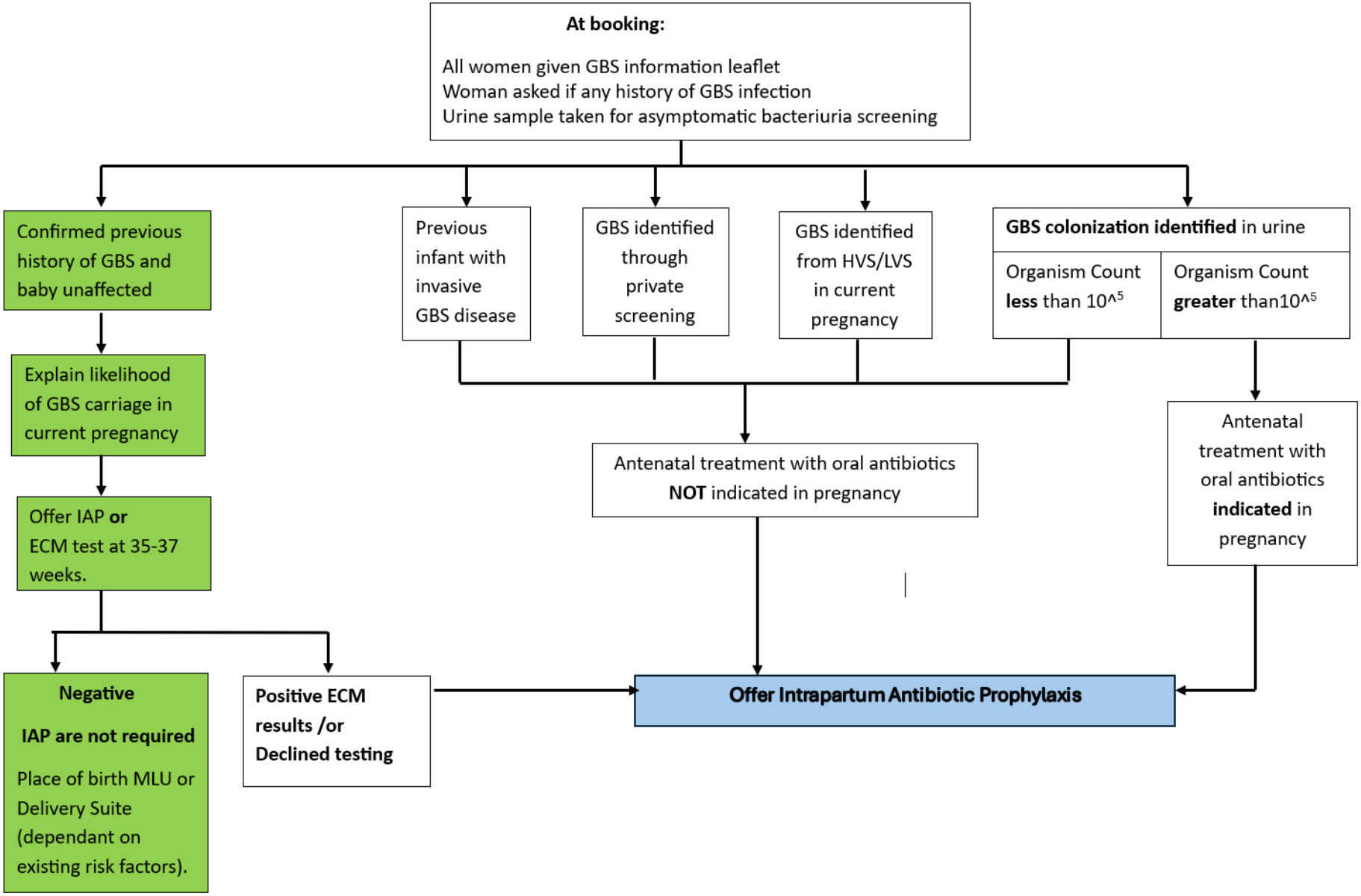
7.0 Monitoring

Compliance with this guideline / SOP will be audited as part of the Shrewsbury and Telford Hospital NHS Trust's five-year rolling programme of NICE and local guideline audits, unless circumstances require an earlier or more frequent audit. The audit will be carried out against the auditable standards and the results of the audit will be reported and acted on in accordance with the Trust Clinical Audit Policy (CG25).

8.0 References

[1]**.** Antenatal care. Routine care for the healthy pregnant woman. NICE 2008
[2]. The Prevention of Early-onset Neonatal Group B Streptococcal Disease in UK Obstetric Units. An Audit commissioned by the National Screening Committee. 2007
[3]. The Prevention of Early- onset Neonatal Group B Streptococcal Disease. Green top Guideline No 36 RCOG September 2017
[4]. Antenatal Screening for Group B Streptococcal Carriage – Policy Position Statement. UK National Screening Committee. 13th November 2012
[5]. GBS and Pregnancy. Group B Strep Support 2004

Appendix 1. - Antenatal management of GBS / Women with GBS Risk Identified.



Appendix 2- Auditable Standards

The Prevention of Early Onset Neonatal Group B Streptococcal Disease

5.1 Informed Choice

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Women who have had GBS in any previous pregnancy will be advised that there is a 50% chance they will be carrying GBS again in this pregnancy and will be offered an EC test at 35-37 weeks gestation.
Women will be given information about antibiotic therapy and the rare complications that are associated with antibiotic use.
Women who consent to IAP should be given the option to birth on the MLU in absence of other risk factors.
Women will be informed that IAP will reduce the risk of the baby developing early onset disease, but some babies may still acquire the infection.

5.2 Indications for IAP in labour

Women who have colonized GBS in their current pregnancy from either a urine or swab sample.
Women who have previously colonized GBS in pregnancy who chose not to have an ECM test.
Women who have previously colonized GBS in pregnancy and have a positive GBS culture on ECM testing in the current pregnancy.
Women in labour who have a clinical risk factor such as a pyrexia>38C.
Women with pre-labour rupture of membranes at 37+ weeks gestation or more, with a history of GBS colonization in the current pregnancy will be offered immediate IAP and IOL as soon as reasonably possible.
Women in confirmed preterm labour.
Women with preterm rupture of membranes once labour is established or induction of labour is commenced.

5.3 Women who have previously colonized GBS in pregnancy

At booking the midwife should explain to women that the likelihood of maternal GBS carriage in this pregnancy is 50%.
The midwife will discuss the options of IAP, or bacteriological testing in late pregnancy and the offer of IAP if still positive. The discussion should be documented in the woman's electronic patient record
Women will be advised that it is recommended following birth that their baby has additional observations (refer to Neo NEWS and Neonatal Infection guidelines).
Give the RCOG leaflet 'GBS in pregnancy and new-born babies.

5.7 Management in labour

IAP will be commenced as soon as possible after the onset of established labour and at least 4 hours before delivery.
If chorioamnionitis is suspected a broad-spectrum antibiotic that is also active against GBS will be used.
Benzylpenicillin 3g in 100ml saline over 30 minutes and then 1.5g four hourly until delivery.
Penicillin allergy
Non-severe – Cefuroxime 1.5g loading then 750mg 8 hourly (1.5g if >100kg)
Severe – Vancomycin 1g every 12 hours.
NOTE: Ladies requiring Vancomycin will need to receive care on delivery suite.