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Trust Guideline for the Management of: Group B Streptococcus in Pregnancy

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V7.0	August 2023	Practice Development Midwife	Transfer to New Template. Changes to facilitate implementation of Neonatal Sepsis Risk Calculator
V6.4	December 2021	Clare Astbury, Speciality Registrar NNUHFT	Minor Changes

Previous Titles for this Document:

Previous Title/Amalgamated Titles	Date Revised
None	Not applicable

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Distribution Control

Printed copies of this document should be considered out of date. The most up to date version is available from the Trust Intranet.

Consultation

The following were consulted during the development of this document:
Charles Bircher, Consultant Obstetrician (NNUHFT)

Monitoring and Review of Procedural Document

The document owner is responsible for monitoring and reviewing the effectiveness of this Procedural Document. This review is continuous however as a minimum will be achieved at the point this procedural document requires a review e.g., changes in legislation, findings from incidents or document expiry.

Relationship of this document to other procedural documents

This document is a clinical guideline applicable to the Norfolk and Norwich University Hospital Foundation Trust; please refer to local Trust's procedural documents for further guidance, as noted in Section 4.

Guidance Note

This guideline has been written as an aid to the diagnosis and management of relevant patients and clinical circumstances. Not every patient or situation fits neatly into a standard guideline scenario and the guideline must be interpreted and applied in practice in the light of prevailing clinical circumstances, the diagnostic and treatment options available and the professional judgement, knowledge, and expertise of relevant clinicians. It is advised that the rationale for any departure from relevant guidance should be documented in the patient's case notes.

The Trust's guidelines are made publicly available as part of the collective endeavour to continuously improve the quality of healthcare through sharing medical experience and knowledge. The Trust accepts no responsibility for any misunderstanding or misapplication of this document.

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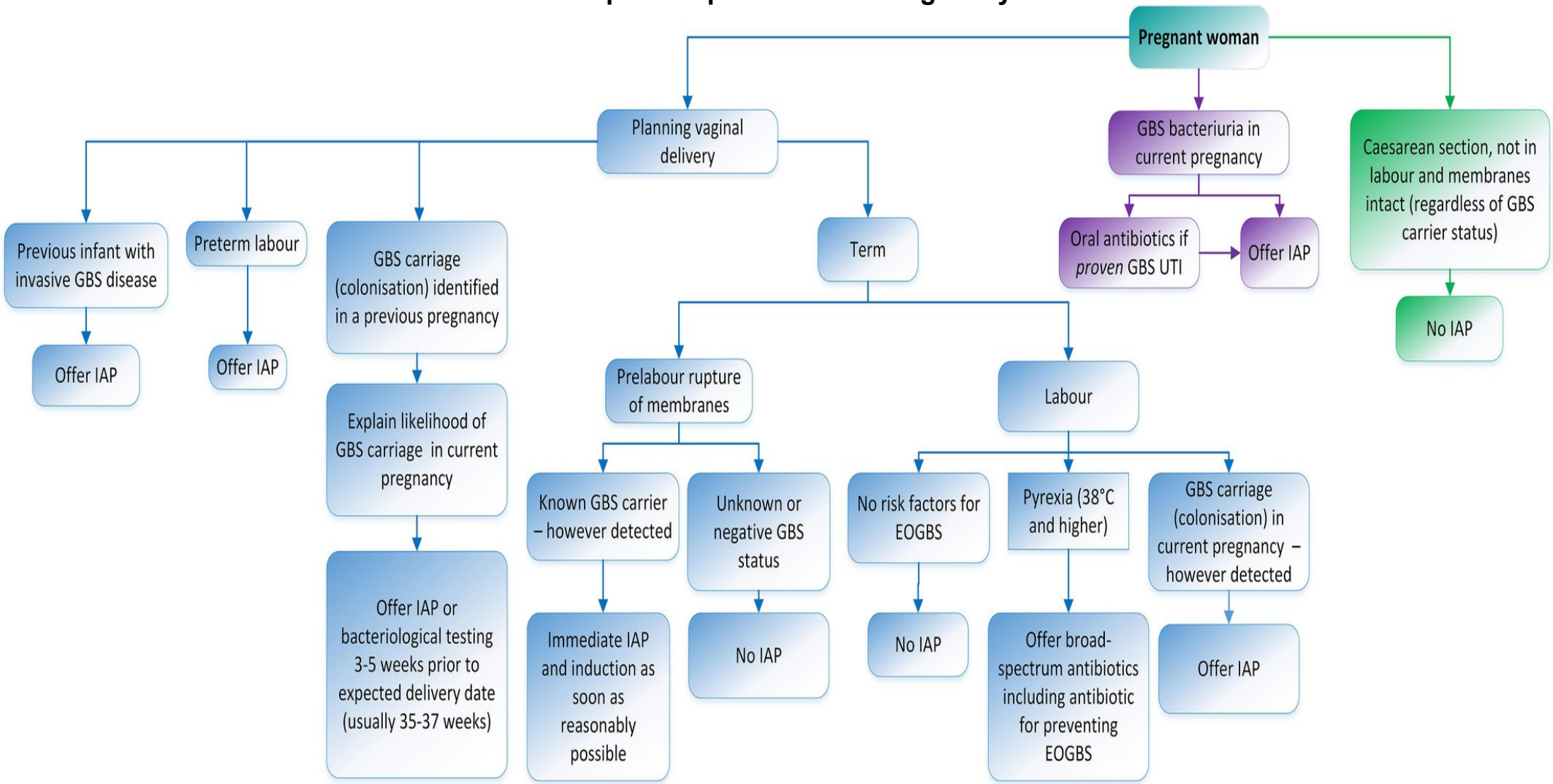

Trust Guideline for the Management of: Group B Streptococcus in Pregnancy

1. Introduction

1.1. Rationale

Group B Streptococcus (GBS) is recognised as the most frequent cause of severe early-onset (<7 days age) infection in new-born infants.

GBS is present in 20-40% of adults (so called 'colonisation'), with highest rate in people of black African ancestry and lowest in people of South Asian ancestry. Spread is trans-perineal so that rectal and low vaginal swabs have a higher yield than high vaginal and cervical swab. It is also found in urine in case of GBS bacteriuria, which is associated with a higher risk of neonatal disease. When detected antenatally up to 50% of pregnant carriers may be culture negative at the time of labour.

The incidence of early-onset GBS in the UK and the Republic of Ireland is 0.57/1000 births, which is equivalent to approximately 517 babies per annum. However, in the presence of one or more of the major risk factors below the risk is increased substantially and may be as high as 40 per 1000.

- 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.

Approximately 60% of UK early-onset GBS cases have one or more of the above risk factors.

Of those neonates affected, approximately two-thirds will present within 7 days of birth (early onset disease), while the remaining one-third present after the first week (late onset disease). The overall mortality rate is 9.4% (6% term, 18% preterm).

1.2. Objective

To ensure a standardised approach for midwives and the obstetric team to manage the colonisation of Group B Streptococcus in pregnancy.

1.3. Scope

Universal bacteriological antenatal GBS screening is NOT recommended. For detailed guidance of specific processes to be followed as per clinical situation see Section 3 and relevant subsections.

Risk of GBS disease in preterm deliveries is 2.3 per 1000. Mortality rate from infection is increased (20-30% vs 2-3% at term).
Antibiotics to start when active labour is confirmed (i.e., >4cm dilated) and not when only suspecting preterm labour.

1.4. Glossary

The following terms and abbreviations have been used within this document:

Term	Definition
NNUHFT	Norfolk and Norwich University Hospital Foundation Trust
CGAP	Clinical Guidelines Assessment Panel
GBS	Group B Streptococcus
PDM	Practice Development Midwife
IAP	Intrapartum Antibiotic Prophylaxis
MSU	Mid-Stream Urinalysis – sample of urine which is tested under laboratory conditions to confirm whether urinary infection is present.
TDS	Three Times a Day
HVS	High Vaginal Swab
IOL	Induction of labour.

2. Responsibilities

All maternity and obstetric staff providing maternity care in all settings.

3. Processes to be followed.

The following provide processes to be followed for each clinical situation.
If a woman has been GBS positive in a PREVIOUS pregnancy, offer bacteriological testing at 35-37 weeks or 3-5 weeks prior to anticipated delivery date if earlier. This should be in the form of a lower vaginal AND anorectal swab. This can be done at their community midwifery appointment at 36 weeks. These women can also be given empirical treatment for GBS instead of screening.

3.1. Bacteriological screening and criteria to treat.

- **Women with a previous baby with early or late onset GBS disease.**
- **ALL women in confirmed pre-term labour (Less than 37 weeks.)** - Risk of GBS disease in preterm deliveries is 2.3 per 1000. Mortality rate from infection is increased (20-30% vs 2-3% at term). Antibiotics to start when active labour is confirmed (i.e., >4cm dilated) and not when only suspecting preterm labour.
- **Women with positive GBS bacteriology in CURRENT pregnancy**. – No antenatal antibiotic treatment is necessary for asymptomatic women who are identified as GBS carriers on vaginal swabs taken during the pregnancy. (See Intrapartum Care section for treatment in labour). A positive antenatal MSU should be treated, irrespective of any symptoms. The treatment should include Amoxicillin 500 milligrams TDS for 7 days (unless allergy).

- **GBS positive bacteriology in PREVIOUS pregnancy** – The likelihood of maternal GBS carriage in this pregnancy is 50%. Offer options of screening as above OR Intrapartum Antibiotic Prophylaxis (IAP). Inform the woman that risk is 2-2.5 times higher than general population of early onset GBS disease in her baby, incidence of 1 affected infant in 700-800 deliveries where the mother had a positive swab in previous pregnancy.
- **Elective caesarean section** – Women undergoing planned caesarean section in the absence of labour or membrane rupture **DO NOT** require GBS antibiotic prophylaxis, irrespective of their GBS status, since the risk of neonatal GBS disease is extremely low.
- **Rupture of Membranes (term and pre-term)** – Women known to be colonised with GBS with spontaneous rupture of membranes at term should be offered immediate IAP and induction of labour as soon as reasonably possible. In women colonised with GBS in this or a previous pregnancy, with preterm rupture of membranes before 34 weeks, the perinatal risks of preterm delivery likely outweigh the benefits unless there are other clinical reasons for delivery. After 34^{+0} weeks it may be beneficial to expedite delivery. This should be a consultant decision.

3.2. Intrapartum Care.

- **NO ALLERGY TO PENICILLIN**

  3g IV Benzylpenicillin stat after onset of labour, followed by 1.5g IV Benzylpenicillin 4hourly until delivery (RCOG, 2017).

- **ALLERGY TO PENICILLIN – NOT ANAPHYLAXIS**

  If history suggests an allergy to penicillins, but one that is not severe (i.e. no anaphylaxis, angioedema, respiratory distress or urticaria), then administer Cefuroxime 1.5g IV stat after onset of labour, followed by 750mg IV 8hourly until delivery (RCOG, 2017).

- **SEVERE PENICILLIN ALERGY**

  1g IV Vancomycin every 12hours (refer to Vancomycin and Teicoplanin in Adults Trustdocs Id: 1192 if patient has renal impairment) (RCOG, 2017).

3.3. Adequate intrapartum GBS coverage

Please note that the doses and frequency of GBS antibiotic administration will determine whether a baby has had adequate or inadequate coverage. These parameters are different for each antibiotic and are as follows:

Benzylpenicillin

Adequate:

- The baby must be born >4 hours after the loading (first) dose of Benzylpenicillin for coverage to be considered adequate (RCOG, 2017). Any maintenance doses must be administered every four hours, and the baby should be born within 4 hours of the last maintenance dose.

Inadequate:

- If a baby is born within 4 hours of the loading (first) dose or if a dose is missed and the baby is born >4 hours prior to the last maintenance dose this will be considered inadequate antibiotic coverage.

Vancomycin

Adequate:

- The mother must have had at least one dose of Vancomycin and the baby must be born > 4 hours after the first dose for antibiotic coverage to be considered adequate.
- Any subsequent doses should be administered every 12 hours, and the baby should be born within 12 hours of the last dose administered.

Inadequate:

- If a dose is missed and the baby is born >12 hours prior to the last dose, or if a baby is born within 4 hours of the first dose this will be considered inadequate antibiotic coverage.

Cefuroxime

Adequate:

- The baby must be born >4 hours after the loading (first) dose of cefuroxime for coverage to be considered adequate.
- Any maintenance doses must be administered every 8 hours, and the baby should be born within 8 hours of the last maintenance dose.

Inadequate:

- If a dose is missed and the baby is born >8 hours prior to the last dose, or if a baby is born within 4 hours of the first dose this will be considered inadequate antibiotic coverage.

Working Example

A lady who is GBS positive and is in established labour had a 3g loading dose of Benzylpenicillin administered at 12:00 and a further 1.5g maintenance dose administered at 16:00pm. The next dose of Benzylpenicillin is due at 20:00pm, however the lady is pushing so the next dose is not administered and the baby is born at 21:00pm. Because the time between the last dose of benzylpenicillin and

birth is 5 hours, this is not within the 4 hour time frame, and therefore this baby has had inadequate antibiotic coverage.

3.4. Other Situations

3.4.1. Chorioamnionitis

If chorioamnionitis is suspected, a broad-spectrum antibiotic therapy that includes an agent active against GBS should replace GBS-specific antibiotic prophylaxis. If no penicillin allergy, this is usually Cefuroxime and Metronidazole. Please see Management of Peripartum Pyrexia and Sepsis Guideline 855.

3.4.2. Management of Positive swab results.

When a history of GBS carriage is elicited in the present pregnancy (positive HVS and/or MSU), or where there has been a previously infected baby, it is important that the following steps are taken:

1. Attach a specific "GBS Alert" sticker to the blue obstetric consultation sheet in the multidisciplinary health care record and the maternal handheld notes.
2. Highlight the need for intrapartum antibiotic prophylaxis in the "Special instructions for labour" section of the maternal notes.
3. Ensure that the woman is fully informed, and has the Carriage of Group B Streptococcus information leaflet from the Royal College of Obstetricians and Gynaecologists
4. (https://www.rcog.org.uk/globalassets/documents/patients/patient-information-leaflets/pregnancy/pi-gbs-pregnancy-newborn.pdf).
5. Inform community midwife (and GP if positive urine culture as these women will need immediate oral antibiotics as above).

All positive microbiology results are phoned by the laboratory staff to the area from where the specimen originated (on delivery suite the result is documented in the group B strep result book). It is then the senior midwife's responsibility to ensure appropriate action taken.

3.4.3. Postnatal Care

All midwives must complete the postnatal new-born risk assessment in the neonatal Kardex to determine which observation pathway to follow. Please see "The Management of Neonatal Sepsis Risk and Observation Pathways in the Postnatal Period" for details Trust Doc ID 9998

4. Related Documents

The Management of Neonatal Sepsis Risk and Observation Pathways in the postnatal period.	Trust Doc ID 9998
Clinical Guideline on the management of pre-Labour Rupture of Membranes Over 37 weeks.	Trustdocs Id: 872
Clinical Guideline for the Diagnosis & Management	Trustdocs Id: 873

of pre-labour rupture of membranes (PPROM) (< 37 weeks gestation).	
Trust guideline for the use of Parenteral Vancomycin in Adults	Trustdocs Id: 1192

5. References

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7. Schuchat A. Group B streptococcus. Lancet 1999; 353: 51-56.
8. Schrag S, Gorwitz R, Fultz-Butts K, Schuchat A. Prevention of Perinatal Group B Streptococcus Disease. Revised guidelines from the CDC. August 16, 2002.
9. Royal College of Obstetricians and Gynaecologists. The prevention of early onset neonatal group B streptococcal disease in UK obstetric units: An audit of reported practice in England, Scotland, Wales and Northern Ireland. January 2007
10. Heath PT, Balfour G, Weisner AM et al, on behalf of the PHLS GBS Working Group. Group B streptococcal disease in UK and Irish infants younger than 90 days. Lancet 2004;263:292-294.

6. Audit of the process

Compliance with the process will be monitored through the following:

Key elements	Process for Monitoring	By Whom (Individual / group /committee)	Responsible Governance Committee /dept	Frequency of monitoring
Service Users meeting the agreed criteria should be offered intrapartum antibiotics.	Audit	Maternity Risk team	Maternity Clinical Governance	3 years
Service Users presenting in preterm labour should be offered intrapartum antibiotics for GBS.	Audit	Maternity Risk team	Maternity Clinical Governance	3 years
Service users known to be GBS positive with spontaneous membrane rupture at term should be offered immediate IOL.	Audit	Maternity Risk team	Maternity Clinical Governance	3 years
Service Users with known GBS or parents of a baby with GBS should be given the GBS info leaflet.	Audit	Maternity Risk team	Maternity Clinical Governance	3 years

The audit results are to be discussed at the Maternity Clinical Governance meetings to review the results and recommendations for further action. Maternity Clinical Governance will ensure that the actions and recommendations are suitable and sufficient.

7. Equality Impact Assessment (EIA)

Type of function or policy	Existing

Division	Women and Childrens	**Department**	Maternity
Name of person completing form	Joely Simeoni, Practice Development Midwife	**Date**	16/08/2023

Equality Area	Potential Negative Impact	Impact Positive Impact	Which groups are affected	Full Impact Assessment Required YES/NO
Race	No	No	n/a	No
Pregnancy & Maternity	No	No	n/a	No
Disability	No	No	n/a	No
Religion and beliefs	No	No	n/a	No
Sex	No	No	n/a	No
Gender reassignment	No	No	n/a	No
Sexual Orientation	No	No	n/a	No
Age	No	No	n/a	No
Marriage & Civil Partnership	No	No	n/a	No
EDS2 – How does this change impact the Equality and Diversity Strategic plan (contact HR or see EDS2 plan)?		No impact		

- **A full assessment will only be required if: The impact is potentially discriminatory under the general equality duty**
- **Any groups of patients/staff/visitors or communities could be potentially disadvantaged by the policy or function/service**
- **The policy or function/service is assessed to be of high significance**

IF IN DOUBT A FULL IMPACT ASSESSMENT FORM IS REQUIRED

The review of the existing policy re-affirms the rights of all groups and clarifies the individual, managerial and organisational responsibilities in line with statutory and best practice guidance.