**Royal Hospital for Women (RHW)**

**BUSINESS RULE**

**COVER SHEET**

NSW GOVERNMENT | Health South Eastern Sydney Local Health District

**REF: 24/53015**

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| **NAME OF DOCUMENT** | Group B Streptococcus (GBS) Sepsis – Monitoring and Management of a Neonate |
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| **EXECUTIVE SPONSOR** | Medical Co-Director of Maternity Services<br>Medical Co- Director of Neonatal Services |
| **AUTHOR** | T Menzel (Registered Midwife)<br>Dr T Schindler (Neonatologist) |
| **SUMMARY** | An estimated 0.4% of neonates born to colonised mothers develop Early Onset Group B Streptococcus (EOGBS) sepsis. Detection, prevention, and prompt treatment can help decrease neonate morbidity and mortality |
| **KEY WORDS** | Neonatal, early onset group B streptococcus, Sepsis |

# Group B Streptococcus (GBS) Monitoring and Management of a Neonate

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*Within this document we will use the term woman, this is not to exclude those who give birth and do not identify as female. It is crucial to use the preferred language and terminology as described and guided by each individual person when providing care.*

## 1 BACKGROUND

The aim of this CBR is to prevent, recognise and promptly treat Early Onset Group B Streptococcus (EOGBS) sepsis in a neonate.

Approximately 10-30% of pregnant women are colonised with GBS in the vagina or rectum[1]. 0.4% (1:250) of neonates born to these mothers will develop EOGBS sepsis [2]

## 2 RESPONSIBILITIES

**2.1 Medical, Midwifery and Nursing Staff** - Screen, assess, counsel, treat and manage both maternal and neonates at risk

## 3 PROCEDURE

### 3.1 Clinical Practice (see Appendix 1 for flow chart)

- Consider neonate at risk of EOGBS sepsis[1,3, 4] and monitor closely if:
  - Mother with GBS colonisation (positive culture or GBS bacteriuria) in current pregnancy
    - Declining prophylactic antibiotics
    - Incomplete prophylactic antibiotic cover
  - Previous sibling with GBS sepsis
  - Preterm labour (spontaneous or induced)
  - Mother febrile in labour (≥ 38°C )
  - Prolonged rupture of membranes (PROM) ≥ 18 hours
  - Other twin with current EOGBS sepsis
  - Clinical diagnosis of chorioamnionitis
- Treat neonate depending on condition as below

#### 3.1.1 Unwell neonate

- Recognise clinical signs and symptoms of concern, deterioration or sepsis at any stage regardless of maternal GBS status
- Escalate as per Management of the Deteriorating Neonate. Consider NCC admission

**3.1.2 Well neonate with previously effected sibling of EOGBS sepsis**

- Advise paediatric review for:
    - Blood culture, and
    - FBC (at birth and/or 6-12 hours following birth)
- Recommend Intravenous (IV) antibiotic therapy (Benzylpenicillin)
    - review cultures at 24 hours
    - cease antibiotics at 36 hours if neonate clinically well and cultures negative
- Observe neonate on Standard Newborn Observation Chart (SNOC) 4 hourly for 48 hours

**3.1.3 Well neonate whose mother has one of the following risk factors:- Suspected chorioamnionitis, maternal fever ≥38oC, Rupture Of Membranes (ROM) > 18 hours or gestation <37 weeks**

- Transfer neonate to hospital if born at home for review and monitoring
- Observe neonate on SNOC 4 hourly for 48 hours (No investigation or treatment required if neonate well and no signs/symptoms EOGBS)
- Review of neonate by paediatric team to consider:
    - Blood cultures
    - FBC (at birth and/or 6-12 hours following birth)
    - Intravenous (IV) antibiotics in line with antimicrobial guidelines in newborn care centre
- Ensure follow up plan confirmed prior to discharge

**3.1.4 Well neonate and adequate Maternal GBS chemoprophylaxis given ≥ 4 hours before birth**

- Advise routine neonatal observations and clinical care
- Escalate as per Clinical Emergency Response System (CERS) – Management of the deteriorating patient CBR

**3.1.5 Well neonate and inadequate Maternal GBS chemoprophylaxis given, chemoprophylaxis declined or GBS status unknown**

- Observe neonate on SNOC 4 hourly for 48 hours
- Consider frequency of further assessments during the subsequent 24 hours, either in hospital or at home with Midwifery Group Practice (MGP), Midwifery Support Program (MSP) or Maternity Antenatal Postnatal Service (MAPS) follow up using the neonatal observation sheet (Appendix 2), give Group B Streptococcus going home Parent and Carer Information handout

- Recommend neonatal observations 4 hourly for 48 hours using neonatal observations sheet (Appendix 2), give Group B Streptococcus going home Parent and Carer Information handout and MGP, MSP or MAPS follow up if:
  - woman wanting discharge from place of birth and baby well
  - baby born at home and well
- Carry out no investigation or treatment required if neonate well and no signs/symptoms EOGBS

### 3.2 Documentation

- Medical Record

### 3.3 Education Notes

- The EOGBS associated mortality rate is 4% to 6% for term infants and up to 20% for preterm.[2,3] Preterm neonates are more likely to develop symptoms soon after birth (within 6 hours), and have increased severity of sepsis
- Early-onset infections are acquired vertically through exposure to GBS from the ano-genital tract of a colonised woman. Neonatal infection occurs primarily when GBS ascends from the vagina to the amniotic fluid after onset of labour or rupture of membranes, although GBS can also be transmitted through intact membranes[8]. GBS can be aspirated into the fetal lungs, which in turn can lead to bacteremia.[4] Neonates who are exposed to the organism through labour and vaginal birth can become colonised at mucus membrane sites in the gastrointestinal or respiratory tracts, but most colonised neonates are unaffected [2]
- Neonates with EOGBS sepsis generally present with respiratory signs (grunting, tachypnea, chest recession, cyanosis, and apnoea) in more than 80% of cases. Other signs of sepsis include tachycardia, lethargy, poor feeding, peripheral vascular compromise (shock), and less frequently meningitis [2, 4]
- Intrapartum chemoprophylaxis is the best option to minimise the risk of EOGBS sepsis in the neonate[1,2]
- Adequate intrapartum chemoprophylaxis is defined as administering IV antibiotics to mother ≥4 hours prior to birth[1,2,3]
- Approximately 90- 95% of neonates with EOGBS sepsis, irrespective of whether mother received intrapartum chemoprophylaxis or not, manifest within the first 24 hours of life[1,2,4,3]
- About 5% of cases may manifest within the following 24 hours and rarely, up to 6 days of life[1,2,4,3]
- 40-50% of the neonates born to GBS positive mothers will be colonised, but may not be unwell

### 3.4 Implementation, communication and education plan

This revised CBR will be distributed to all medical, nursing and midwifery staff via @health email. The CBR will be discussed at ward meetings, education and patient quality and safety meetings. Education will occur through in-services, open forum and

local ward implementation strategies to address changes to practice. The CBR will be uploaded to the CBR tab on the intranet and staff are informed how to access

### 3.5 Related Policies/procedures

- Neonatal Observations outside of Newborn Care Centre
- Group B Streptococcus (GBS) screening and prophylaxis
- Homebirth Transfer to Hospital
- Maternity – Maternal Group B Streptococcus (GBS) and minimisation of neonatal early-onset GBS sepsis MoH GL2017_002

### 3.6 References

1 RANZCOG College Statement: Maternal Group B Streptococcus in pregnancy: screening and management C-Obs19 July. Accessed 1.3.2024
2 Queensland Clinical Guidelines Steering Committee and Statewide Maternal and Neonatal Clinical Network (Queensland) (2022) Early onset Group B Streptococcal Disease. Guideline: Early onset Group B Streptococcal Disease (health.qld.gov.au) Accessed 1 March 2024
3 SA Maternal, Neonatal and Gynaecology Community of Practice (2017) Clinical Guideline: Early Onset Neonatal Sepsis. Accessed 1 March 2024
4 NSW Health Guideline Maternity - Maternal Group B Streptococcus (GBS) and minimisation of neonatal early-onset GBS sepsis
5 Centers for Disease Control (CDC) and Prevention. Prevention of Perinatal Group B Streptococcal Disease: Revised Guidelines from CDC 2022. MMWR Vol 59 No RR-10 Nov 19. Accessed 29.2.2024
6 Canadian Paediatric Society. Position Statement (FN 2017-Jun 15): Management of term infant at increased risk for early onset bacterial sepsis. *Paediatr Child Health* 2017 22 (4): 223-228
7 Fleiss N, Schwabenbauer K, Randis TM, et al What's new in the management of neonatal early-onset sepsis? Archives of Disease in Childhood – Fetal and Neonatal Edition 2023; 108: 10-14
8 Heath P, Jardine L. (2010). Neonatal infections: group B streptococcus. Clinical evidence. 2010.
9 Dhudasia M, Flannery D, Pfeifer M and Puopolo K. Updated Guidance: Prevention and Management of Perinatal Group B Streptococcus Infection. Neoreviews (2021) 22 (3): e177–e188. https://doi.org/10.1542/neo.22-3-e177

## 4.0 ABORIGINAL HEALTH IMPACT STATEMENT DOCUMENTATION

- Considerations for culturally safe and appropriate care provision have been made in the development of this Business Rule and will be accounted for in its implementation.
- When clinical risks are identified for an Aboriginal and/or Torres Strait Islander woman or family, they may require additional supports. This may include Aboriginal health professionals such as Aboriginal liaison officers, health workers or other culturally specific services

## 5.0 CULTURAL SUPPORT

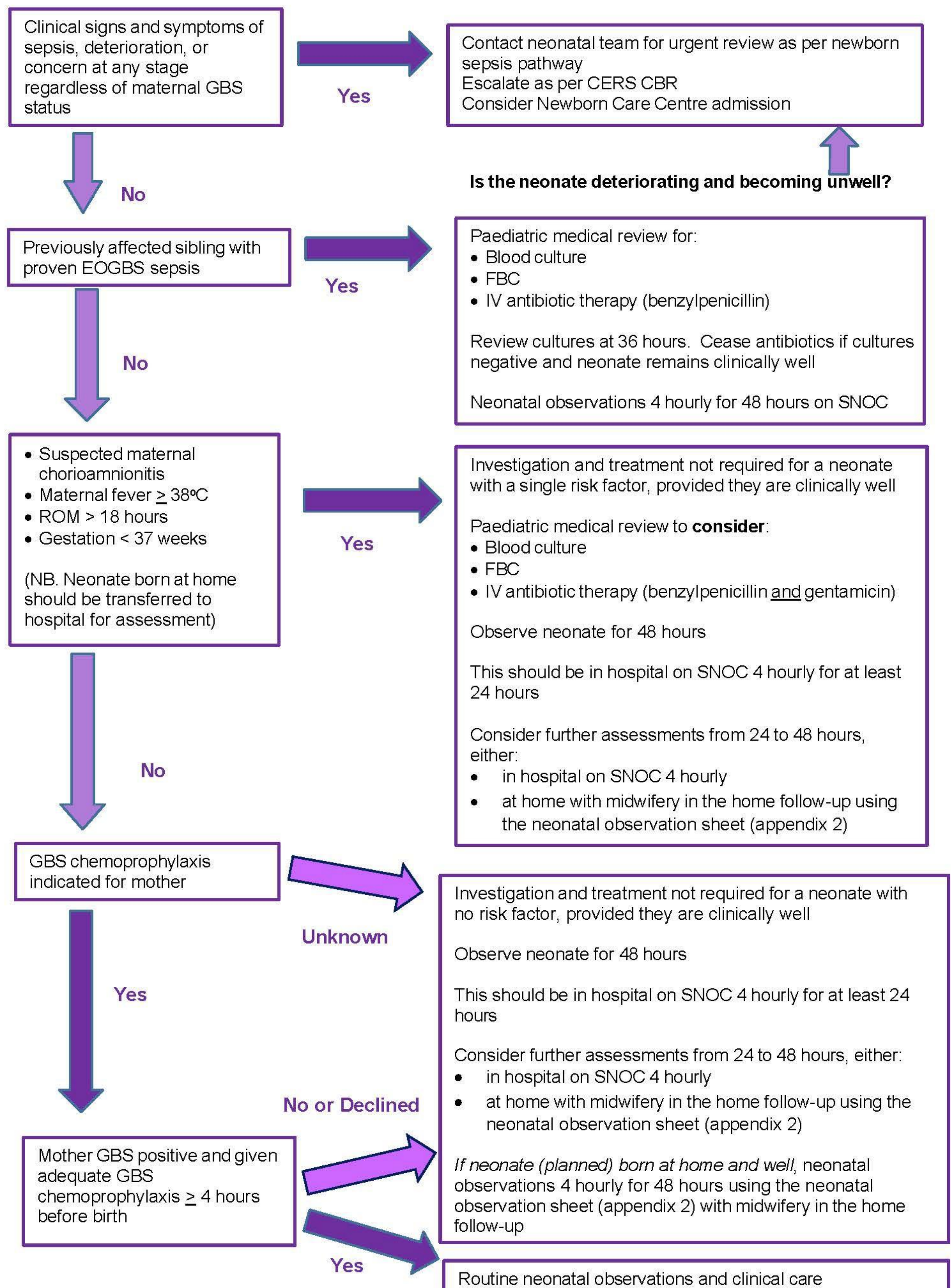
- For a Culturally and Linguistically Diverse CALD woman, notify the nominated cross-cultural health worker during Monday to Friday business hours

- If the woman is from a non-English speaking background, call the interpreter service: NSW Ministry of Health Policy Directive PD2017_044-Interpreters Standard Procedures for Working with Health Care Interpreters.

## 6.0 REVISION AND APPROVAL HISTORY

| Date | Revision No. | Approval |
|---|---|---|
| Reviewed and endorsed Maternity Services LOPs August 2020<br>Approved Quality & Patient Safety Committee 21/6/12<br>Endorsed Neonatal Services Management Committee 16/5/12<br>Previous title: Group B Streptococcus Infection – Monitoring of Neonates at Risk Approved Quality Council 19/9/05 | | |
| 16/05/2024 | 1 | Maternity CBR committee + Neonatal CBR committee |
| 29 July 2024 | 1 | RHW BRGC |

# APPENDIX 1 SECONDARY PREVENTION OF EOGBS IN NEONATE



Appendix 2

## Newborn at home observation chart

### Observations for baby ________________ born at ______ on________

A normal temperature for a newborn baby when taken under the armpit is 36.5 - 37.5°C.

A normal breathing rate for a newborn baby is between 30-60 breaths per minute.

*Do not count breathing rate when your baby has just been crying.*

If you are unsure how to measure these in your baby, please seek advice from the midwife looking after you at the hospital before you go home.

| Date | Time Observation Taken | Temperature (alert if <36.0°C or >37.5°C) | Breathing (alert if <30 or >60 breaths per minute) | Are there any breathing difficulties? | Are there any skin colour changes? | Is baby difficult to wake or unusually drowsy? |
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Please call your midwife or the hospital straight away if you have any concerns at all.

**Contact numbers:**

### Midwifery Group Practice (MGP)

If you are receiving care from MGP, please call your designated midwife

### Midwifery Support Program (MSP)

Please refer to the phone numbers on MSP leaflet
**Maternity Antenatal Postnatal Services (MAPS)**
Please refer to phone numbers on MAPS leaflet
**Postnatal Ward numbers**

Paddington Ward 9382 6348

# In an emergency call 000