

## **GROUP B STREPTOCOCCUS – MONITORING AND MANAGEMENT OF AT RISK NEONATE**

*This Local Operating Procedure is developed to guide safe clinical practice at The Royal Hospital for Women. It has been developed in partnership with the Infectious Diseases team at Sydney Children's Hospital and the Royal Hospital for Women Newborn Care Centre. Individual patient circumstances may mean that practice diverges from this Local Operating Procedure.*

### **1. AIM**

- Secondary prevention of early-onset group B streptococcus (EOGBS) sepsis in neonate

### **2. PATIENT**

- Neonate

### **3. STAFF**

- Medical, nursing and midwifery Staff
- Student Midwife

### **4. EQUIPMENT**

- Stethoscope
- Thermometer

### **5. CLINICAL PRACTICE**

(See Appendix 1 for flow chart summarising below)

**Unwell neonate i.e. clinical signs/symptoms of sepsis, deterioration in condition, or concern at any stage, regardless of maternal GBS status:**

- Contact neonatal team for urgent review as per newborn sepsis pathway
- Escalate as per Clinical Emergency Response System (CERS) protocol
- Consider Newborn Care Centre admission

**Well neonate with previously affected sibling with proven EOGBS sepsis**

- Arrange paediatric review for:
  - Blood culture
  - Full Blood Count (FBC)
- Commence intravenous (IV) antibiotic therapy (benzylpenicillin)
- Review cultures at 36 hours. Cease antibiotics if cultures negative and neonate remains clinically well
- Observe neonate using Standard Neonatal Observation Chart (SNOC) four hourly for 48 hours

**Well neonate whose mother has suspected chorioamnionitis, maternal fever  $\geq 38^{\circ}\text{C}$ , ruptured membranes > 18 hours, or if gestation <37 weeks**

- Transfer neonate born at home to hospital for assessment
- Arrange paediatric medical review to consider:
  - Blood culture
  - FBC
  - IV antibiotic therapy (benzylpenicillin and gentamicin)
- Be aware investigation and treatment is not required for a neonate with a single risk factor, provided neonate is clinically well

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- Observe neonate for 48 hours. This should be in hospital on SNOC four hourly for at least 24 hours
- Consider further assessments from 24-48 hours either:
  - in hospital – using SNOC four hourly
  - at home with midwifery in the home follow-up using the neonatal observation sheet (appendix 2).

### **Well neonate with unknown maternal GBS status or known maternal GBS with inadequate GBS chemoprophylaxis given born in hospital**

- Observe neonate for 48 hours. This should be in hospital on SNOC four hourly for at least 24 hours
- Consider further assessments from 24-48 hours either:
  - in hospital – using SNOC four hourly
  - at home with midwifery in the home follow-up using the neonatal observation sheet (appendix 2).

### **Well neonate with unknown maternal GBS status or known maternal GBS with inadequate GBS chemoprophylaxis given born at home**

- Perform neonatal observations 4 hourly for 48 hours using the neonatal observation sheet (appendix 2) with midwifery in the home follow-up

### **Well infant and adequate GBS chemoprophylaxis given $\geq$ four hours before birth**

- Provide routine neonatal observations and clinical care

## 6. DOCUMENTATION

- Medical record

## 7. EDUCATIONAL NOTES

- Approximately 10-30% of pregnant women are colonised with GBS in the vagina or rectum. This results in a 40-50% neonatal colonisation rate<sup>1,2</sup>
- An estimated 0.4% of neonates born to colonised mothers develop EOGBS sepsis<sup>1</sup>
- The EOGBS associated mortality rate is 4% to 6% for term infants and up to 20% for preterm<sup>1,3</sup>. Preterm neonates are more likely to develop symptoms soon after delivery (within 6 hours), and have increased severity of sepsis
- The following neonates are at risk of EOGBS sepsis<sup>2,4,5</sup>
  - mother with GBS colonisation (positive culture or GBS bacteriuria) in current pregnancy
  - previous sibling with GBS sepsis
  - preterm labour (spontaneous or induced) at < 37 weeks gestation
  - mother febrile in labour (38°C or more)
  - prolonged rupture of membranes (PROM)  $\geq$  18 hours
  - other twin with current EOGBS sepsis
  - clinical diagnosis of chorioamnionitis
- 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. GBS can be aspirated into the fetal lungs, which in turn can lead to bacteremia<sup>2</sup>
- 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<sup>6</sup>

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- 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<sup>2</sup>
- Intrapartum chemoprophylaxis is the best option to minimise the risk of EOGBS sepsis in the neonate<sup>2,4</sup>
- Adequate intrapartum chemoprophylaxis is defined as administering IV antibiotics to mother  $\geq 4$  hours prior to birth<sup>1,4,5</sup>
- 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<sup>1,2,4,5</sup>
- About 5% of cases may manifest within the following 24 hours and rarely, up to 6 days of life<sup>1,2,4,5</sup>

### 8. RELATED POLICIES/PROCEDURES/CLINICAL PRACTICE LOP

- NSW Health Guideline GL2017\_002 – Maternity - Maternal Group B Streptococcus (GBS) and minimisation of neonatal early-onset GBS sepsis
- RHW Antenatal Pregnancy Care LOP – Group B Streptococcus (GBS) screening and prophylaxis
- RHW Newborn Care LOP – Neonatal Observations outside Newborn Care Centre

### 9. RISK RATING

- High

### 10. NATIONAL STANDARD

- Standard 1 Clinical Governance
- Standard 2 Partnering with Consumers
- Standard 3 Preventing and Controlling Healthcare-Associated Infections
- Standard 4 Medication Safety
- Standard 5 Comprehensive Care
- Standard 6 Communicating for Safety
- Standard 8 Recognising and Responding to Acute Deterioration

### 11. REFERENCES

1. RANZCOG College Statement: Maternal Group B Streptococcus in pregnancy: screening and management C-Obs19 July 2019 [https://ranzocog.edu.au/RANZCOG\\_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/Maternal-Group-B-Streptococcus-in-pregnancy-screening-and-management-\(C-Obs-19\).pdf?ext=.pdf](https://ranzocog.edu.au/RANZCOG_SITE/media/RANZCOG-MEDIA/Women%27s%20Health/Statement%20and%20guidelines/Clinical-Obstetrics/Maternal-Group-B-Streptococcus-in-pregnancy-screening-and-management-(C-Obs-19).pdf?ext=.pdf) accessed June 2020
2. Queensland Clinical Guidelines Steering Committee and Statewide Maternal and Neonatal Clinical Network (Queensland) (2016) Early onset Group B Streptococcal Disease. At [http://www.health.qld.gov.au/\\_data/assets/pdf\\_file/0026/626732/g-gbs.pdf](http://www.health.qld.gov.au/_data/assets/pdf_file/0026/626732/g-gbs.pdf) (Accessed 18 May 2018)
3. Centers for Disease Control (CDC) and Prevention. Prevention of Perinatal Group B Streptococcal Disease: Revised Guidelines from CDC 2010. MMWR Vol 59 No RR-10 Nov 19. URL: [www.cdc.gov/groupbstrep/index.html](http://www.cdc.gov/groupbstrep/index.html) Accessed 18 May 2018
4. NSW Health Guideline Maternity - Maternal Group B Streptococcus (GBS) and minimisation of neonatal early-onset GBS sepsis [https://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2017\\_002.pdf](https://www1.health.nsw.gov.au/pds/ActivePDSDocuments/GL2017_002.pdf)

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NEONATE cont'd**

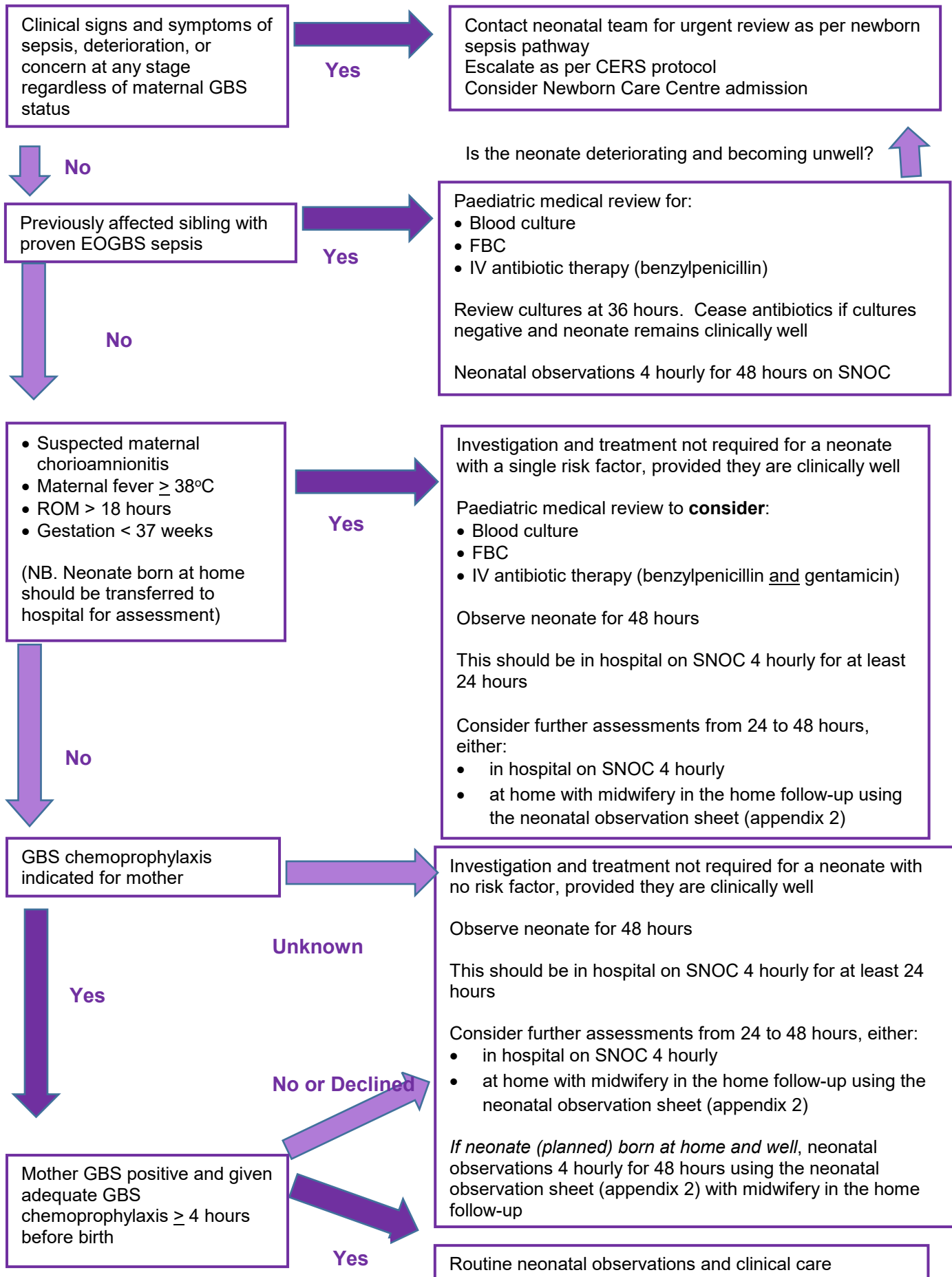
5. SA Maternal, Neonatal and Gynaecology Community of Practice (2017) Clinical Guideline: Early Onset Neonatal Sepsis.  
[http://www.sahealth.sa.gov.au/wps/wcm/connect/35cac4804ee510ca997f9dd150ce4f37/Early+Onset+Neonatal+Sepsis\\_PPG\\_v9\\_1.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-35cac4804ee510ca997f9dd150ce4f37-m1ST9mp](http://www.sahealth.sa.gov.au/wps/wcm/connect/35cac4804ee510ca997f9dd150ce4f37/Early+Onset+Neonatal+Sepsis_PPG_v9_1.pdf?MOD=AJPERES&CACHEID=ROOTWORKSPACE-35cac4804ee510ca997f9dd150ce4f37-m1ST9mp) Accessed 23 June 2020
6. Nandyal, R. (2008) Update on Group B Streptococcal Infections: Perinatal and Neonatal Periods, The Journal of Perinatal and Neonatal Nursing, Vol. 22, No.3, p.230-237 Accessed 18 May 2018A.

**REVISION & APPROVAL HISTORY**

Reviewed and endorsed Maternity Services LOPs August 2020  
Approved Quality & Patient Safety Committee 21/6/12  
Endorsed Neonatal Services Management Committee 16/5/12  
Previous title: Group B Streptococcus Infection – Monitoring of Neonates at Risk  
Approved Quality Council 19/9/05

**FOR REVIEW: AUGUST 2022**

## SECONDARY PREVENTION OF EOGBS IN NEONATE





## **Discharge home of babies at risk of Early Onset Group B Streptococcus (EOGBS) infection**

Congratulations on your baby's arrival. The information below is for you or a relative who wants to know more about Group B Streptococcus (GBS) and what to expect in the next few days.

GBS is a bacterium which can invade the body and cause serious infection such as:

- Sepsis (infection of the blood)
- Pneumonia (infection of the lungs)
- Meningitis (infection around the brain)

Most Group B Streptococcus (or GBS) infections in babies are of early onset (showing within the first 6 days of life). That is why we recommend that you stay in hospital for 48 hours after your baby is born for observation. During this stay, midwives perform some additional observations on your baby to help pick up any early signs of infection. If you have decided to go home early, we recommend that you monitor your baby and contact the hospital immediately if you have any concerns.

### **Why is my baby more at risk?**

You may have tested positive for GBS in your pregnancy or you have one of many other potential risk factors. Talk to your midwife or doctor if you are not sure why your baby is at risk.

### **Why we recommend that you stay in hospital for 48 hours**

About 1 in 100 babies whose mother has tested positive to GBS in pregnancy will develop a serious infection. Antibiotic treatment given to you in labour will reduce but not eliminate this risk. An otherwise healthy baby with EOGBS infection can become very unwell within a matter of hours. A baby who develops EOGBS infection, usually does so in the first 12-24 hours after birth. However, some symptoms will not occur until 24-48 hours after birth, and very rarely up to six days.

### **How can I monitor my baby for signs of EOGBS infection?**

Parents are the best people to notice any changes in their baby. We recommend that you write the observations on the chart provided to help you become aware of any significant changes.

Knowing the typical signs of GBS infection in young babies is important, sometimes these can be subtle.

These are signs to look for in your baby:

- Noisy breathing, moaning, breathing very fast, working hard to breathe when you look at the chest or tummy, or not breathing at all
- Very sleepy and/or unresponsive
- Unusual crying
- Unusually floppy
- Not feeding well or not keeping milk down
- A high or low temperature and/or hot or cold to the touch
- Changes in their skin colour

For more information on EOGBS see:

Australia: <http://www.babycenter.com.au/pregnancy/antenatalhealth/physicalhealth/groupbstrep/>

UK: <https://gbss.org.uk/>

Endorsed June 2020. Reviewed by consumers in development stage June 2020. Should you wish to discuss any aspect of this information please send an email [RHWfeedback@health.nsw.gov.au](mailto:RHWfeedback@health.nsw.gov.au)

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?

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**

Oxford Ward 9382 6398 or Paddington Ward 9382 6348

**In an emergency call 000**