Document No: 333970

TITLE: Group B Streptococcus

Contents

1. Purpose

To prevent, or minimise the risk of, early-onset neonatal Group B Streptococcus (GBS) infection through safe and evidence-based care of women/people requiring GBS prophylaxis. Consideration of the care of the baby/pēpi post birth are also included.

This guideline has been adapted from the New Zealand Group B Streptococcal Consensus Guideline (2014) and the Royal Australia and New Zealand College of Obstetricians and Gynaecologists (RANZCOG) statement (2019) (see References).

2. Scope

All Heath NZ Lakes medical, midwifery, nursing staff and LMC Access Agreement Holders providing care to pregnant women/wahine/people and their babies/pēpi in Health NZ Lakes Maternity Units.

3. Background

GBS is a recognised cause of bacterial infection in neonates and a significant cause of neonatal morbidity and mortality. Neonates acquire the bacteria as a result of vertical transmission from the maternal genital tract to the infant, in utero or at delivery.

GBS is common, normal bacteria that may colonise in the vagina and gastrointestinal tract of 10-30% of healthy pregnant women/people. It tends to be present intermittently, is usually harmless however it cannot be eradicated by antibiotics.

The administration of prophylactic intravenous antibiotics to well women/people in labour who have risk factors for GBS transmission, aims to reduce the risk of early-onset Group B Streptococcus infection in the neonate.

Neonatal GBS Infection	
Onset	• Early (80%) – within first 7 days - 70% symptomatic at birth 95% symptomatic at 24 hours • Late (20%) – Day 8 – 3 months
Incidence	1-2 / 1000 - without antibiotic prophylaxis 0.5 / 1000 – with antibiotic prophylaxis
Mortality Rate	5-10% – mostly in preterm babies

There are two main strategies for minimising risk of early onset neonatal GBS infection;

1. Universal screening and treatment – practiced in USA and Canada
2. Risk factor based approach to treatment – practiced in the UK and New Zealand.

It is important to recognise that different populations have different carriage rates and different antibiotic sensitivities for GBS, and therefore the outcome of a particular strategy in one country cannot easily be transferred to another.

A risk factor based GBS strategy is recommended in New Zealand.

4. Risk Factors for Neonatal GBS

Assess for antenatal and intrapartum risk factors;

Antenatal	Intrapartum
• Previous baby with GBS disease. • GBS found in urine at any time during current pregnancy. • Incidental finding of positive GBS on vaginal swab at 35 – 37 weeks. • Incidental finding of positive GBS on vaginal swab at any time during pregnancy (if no negative repeat swab specifically to detect GBS between 35-37 weeks).	• Maternal fever ≥ 38°C • Prolonged rupture of membranes ≥ 18 hours • Preterm labour < 37 weeks gestation

All women/people with risk factors for Early Onset Neonatal GBS Infection should be offered treatment in labour with intravenous Intrapartum Antibiotic Prophylaxis (IAP) (see Appendix 1. for algorithm and Appendix 2. for antibiotic regime).

5. Antenatal Management

5.1 Incidental Finding of GBS on Vaginal Swab

- An incidental finding of GBS in pregnancy greater than 5 weeks before labour is unreliable and may result in unnecessary intervention in labour.

- If GBS colonisation is found on vaginal and/or rectal swab during pregnancy, antibiotics antenatally are not required, as GBS cannot be eliminated. A repeat swab is recommended, see point 5.2 below.

5.2 Repeat Swab After Positive GBS Finding

If the woman/person, with a positive swab result this pregnancy, has had a previous GBS infected baby or GBS bacteriuria in the current pregnancy, offer intrapartum antibiotic prophylaxis.

In other cases, it is recommended **a repeat swab is taken at 35-37 weeks** gestation using the following technique:

- Low vaginal and rectal swab: - Use same swab for both (swab vagina first).
  - Clinician or the patient can collect this.
- The request form must clearly state *'GBS Screen'* and *'use selective broth process'*.

The result of this test informs whether Intrapartum Antibiotic Prophylaxis is required in labour.

If this swab returns with no evidence of GBS colonisation, ***Intrapartum Antibiotic Prophylaxis is not required*** (however, if intrapartum fever occurs there should be assessment for chorioamnionitis).[1,4]

5.3 GBS Bacteriuria or GBS Urine Infection in Pregnancy

If GBS bacteriuria, of any count, is confirmed on urine culture at any stage in pregnancy, a short course of an appropriate antibiotic regimen is recommended to treat the urinary tract infection (UTI) according to the sensitivities reported by the laboratory. E.g.

Oral amoxicillin 500 mg TDS for 5 days or Oral nitrofurantoin 50 mg QDS for 5 days.

Refer to the MicroGuide App. A follow-up mid-stream urine (MSU), 2-4 weeks after treatment is recommended to confirm eradication of GBS from the bladder.

Intrapartum antibiotic prophylaxis is recommended.

5.4 Pre-term Pre-Labour Rupture of Membranes

In the event of pre-term pre-labour rupture of membranes, refer to the related guideline Pre-Labour Rupture of Membranes (EDMS 43549).

5.5 Pre-Labour Caesarean Section

Women/people with risk factors for GBS who have intact membranes and no signs of infection and require pre-labour elective or emergency caesarean section **do not require** prophylaxis for early onset GBS infection.

5.6 Pre-Labour Rupture of Membranes at Term

- No GBS Risk Factors

  Refer to the Pre-Labour Rupture of Membranes guideline (EDMS 43549)

- With GBS Risk Factors

  There is a higher risk of these women/people having a baby affected by Early Onset Neonatal GBS Infection.

  It is recommended they are offered an induction of labour as soon as practicable, with Intrapartum Antibiotic Prophylaxis ***at commencement of the induction*** (see Appendix 1).

  Women/people with:

  - **A previous baby affected by GBS infection, and/or**
  - **GBS urine infection in this pregnancy, and/or**
  - **GBS colonisation in this pregnancy** (unless a subsequent negative 'GBS swab' result is available: taken 35-37 weeks, combined vaginal-rectal swab, and the laboratory requested to use 'selective broth' process[4]) and/or
  - **Prolonged ROM (≥ 24 hours)**
    - Women/people who do not establish in labour by 24 hours after ROM are to be offered an induction of labour at this time, or as soon as practicable after it, AND offered prophylactic antibiotics at the time of intervention.
    - Those in spontaneous labour, who do not give birth before 24 hours after ROM require the offer of prophylactic antibiotics at 24 hours post ROM.
    - Women/people with negative GBS swab result from GBS swab (as detailed above) do not require Intrapartum Antibiotic Prophylaxis, even if they have prolonged ROM >24 hours[1,4,5], although they may choose to have it.
  - **Signs of infection in association with pre-labour ROM at term**
    - These women/people require careful assessment and the immediate offer of intravenous Broad Spectrum Antibiotic Therapy – refer to the MicroGuide App.

      Use the Maternal Sepsis Pathway (EDMS 2996708) and refer to the Management of Adult with Sepsis Policy (EDMS 1366217).
    - If vaginal birth is appropriate it is recommended that they are offered an induction of labour as soon as possible.

6. Intrapartum Management

IAP is recommended to be offered to all women with GBS risk factors in active labour, or at the commencement of intervention (e.g. within 2 hours of the first dose of Misoprostol or with the start of oxytocin) and not delayed until labour is established. This is whether or not they have ROM.

See Appendix 1. for algorithm and Appendix 2. for appropriate antibiotic regime.

In the event of pre-term labour before 37 completed weeks gestation, refer to the Preterm Labour Guideline (EDMS 2396208).

Ideally prophylaxis is started at least four hours before birth. GBS antibiotic prophylaxis may be effective even if given one hour before birth, so administer even if birth seems imminent.

6.1 Primary Birthing Unit

GBS risk factors are not necessarily a contraindication for a woman/person to birth in a primary unit. If the LMC is confident to give IV antibiotics within their own scope of practice (or if antibiotics are declined by the woman/person), then discussions can take place with the woman/person and the primary unit Clinical Midwife Manager regarding appropriate place of birth.

It is recommended that LMC's consult the obstetric team prior to commencing IV antibiotics in a primary unit. Only well women, at term and in active labour with GBS risk factors should be considered for primary unit birth.

It is not appropriate for women in preterm labour or with any signs of maternal or fetal infection to be at a primary unit. It is recommended that they are admitted to Rotorua Maternity Unit.

The primary unit staff will need to ensure they have appropriate training and equipment in place to deal with the unlikely event of anaphylaxis.

7. Maternal Fever and Suspected Chorioamnionitis

Maternal fever is a special risk category that requires consideration of Broad Spectrum Antibiotic Therapy and additional monitoring, including fetal monitoring. (Do not give GBS antibiotic prophylaxis regime).

Clinical signs of chorioamnionitis include maternal fever (≥38^{o}C) with ≥ 2 of the following:

- abdominal/uterine tenderness
- purulent vaginal discharge
- offensive liquor
- maternal tachycardia
- fetal tachycardia.

Note: Ruptured membranes are not necessary for the diagnosis of chorioamnionitis.

Where there are clinical signs of infection or chorioamnionitis immediate screening, treatment and intervention for sepsis are required.

Use the Maternal Sepsis Pathway (EDMS 2996708) and refer to the Management of Adult with Sepsis Policy (EDMS 1366217).

8. Neonatal Management

Signs of GBS sepsis in the newborn may be non-specific and include respiratory distress, apnoea, temperature instability, tachycardia, lethargy, poor feeding, shock or appearing "unwell".

All newborn babies/pēpi require observations according to the Newborn Observation Chart (NOC) and Newborn Early Warning Score (NEWS) Chart, **regardless of whether the mother received appropriate GBS intrapartum antibiotic prophylaxis or not**.

- All babies born over 35 weeks gestation must have observations taken and documented at 1 and 4 hours after birth and thereafter at frequency appropriate for their clinical condition (at least 4 hourly for 24 hours).

- If the woman/person received GBS prophylaxis in labour less than four hours prior to birth, the baby/pēpi is required to;
    - stay in Rotorua Hospital for a minimum of six hours before transferring to a primary birthing unit and
    - have a NEWS score of 0 just prior to transfer.

- The baby/pēpi requires a total of 48 hours of observations in a healthcare facility prior to discharging home.

- Any baby/pēpi showing signs of sepsis requires urgent Paediatric team review, as per the relevant 'NEWS Escalation Pathway' on the Newborn Observation Chart (Rotorua or Taupo).

9. Associated Documents

- Early Warning System (EWS) – Maternity and Neonates - EDMS 2943826
- Management of Adult with Sepsis Policy – EDMS 1366217
- Maternal Sepsis Pathway (Pregnant or Recently Pregnant) – EDMS 2996708
- Maternal Vital Signs Monitoring – Rotorua Maternity – EDMS 2927371
- Maternal Vital Signs Monitoring – Taupo Maternity – EDMS 2927373
- Maternity Vital Signs Chart – Rotorua
- Maternity Vital Signs Chart - Taupo
- Newborn Observation Chart – Rotorua
- Newborn Observation Chart - Taupo
- Newborn Record – EDMS 3000381
- Pre-Labour Rupture of Membranes Guideline – EDMS 43549
- Preterm Labour (PTL): Prevention and Management of PTL – EDMS 2396208

Patient Information

- Group B Streptococcus Information Leaflet

10. References

1. Centers for Disease control and prevention. Prevention of perinatal group B streptococcal disease, revised guidelines from CDC, 2010. MMWR 2010,59 (No. RR-10), pp14
2. Health NZ Auckland. Group B Streptococcus (GBS) – Prevention of Early-Onset Neonatal Infection. 2020.
Group B Streptococcus (GBS) - Prevention of Early-Onset Neonatal Infection (adhb.govt.nz)
3. Health NZ Canterbury. Group B Streptococcus – Management and Prophylactic Antibiotics in Labour Clinical Guideline. 2021
https://edu.cdhb.health.nz/Hospitals-Services/Health-Professionals/maternity-care-guidelines/Documents/GLM0032-Group-B-Streptococcus.pdf [Accessed 2nd October 2024].
4. Health NZ Waikato. Prevention of Neonatal Group B Streptococcus Infection (GBS) Clinical Guideline. 2024.
5. NZ Consensus Guideline 2014. The Prevention of Early-Onset Neonatal Group B Streptococcus Infection https://www.midwife.org.nz/wp-content/uploads/2019/06/GBS-FINAL-agreed-March-2014.pdf [Accessed 2nd October 2024].
6. Royal Australian and New Zealand College of Obstetricians & Gynaecologists (RANZCOG). (2019). Maternal Group B Streptococcus in pregnancy: screening and management. Statement.
https://ranzcog.edu.au/wp-content/uploads/Maternal-Group-B-Streptococcus-in-Pregnancy-Screening-Management.pdf [Accessed 2nd October 2024].
7. Royal College of Obstetricians & Gynaecologists (RCOG). (2017). Prevention of early onset neonatal Group B Streptococcal Disease. Green-top guideline No. 36.
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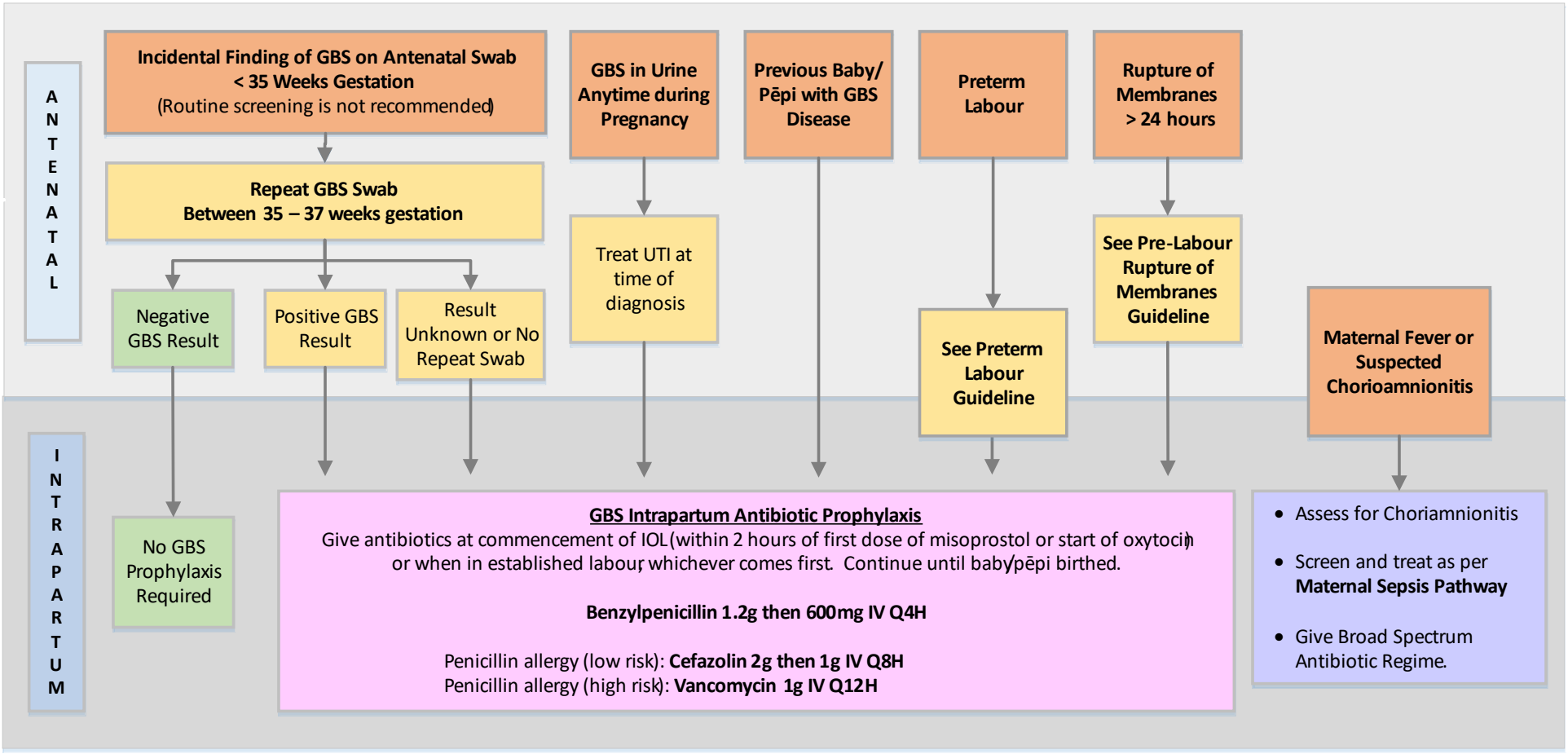
Authorised by: **Maternity Continuous Quality Improvement (CQI) Meeting**

11. Appendices

Appendix 1. Prevention of Neonatal Group B Streptococcus (GBS)



Appendix 2. Antibiotic Regime

- **GBS Risk Factors with <u>NO</u> Clinical Signs of Infection**

Antibiotic Prophylaxis			
IV Benzylpenicillin	Initial Dose	1.2g	Once only
	Subsequent Doses	600mg	4 hourly until birth

If Allergy to Penicillin			
Low Risk of Anaphylaxis			
IV Cephazolin	Initial Dose	2g	Once only
	Subsequent Doses	1g	8 hourly until birth
High Risk of Anaphylaxis			
IV Vancomycin	All Doses	1g	12 hourly until birth