Group B Streptococcus (GBS) - Prevention of Early-Onset Neonatal Infection

Document Type	Guideline
Function	Clinical practice
Healthcare Service Group (HSG)	National Women's Health
Department(s) affected	Maternity
Patients affected (if applicable)	All antenatal women
Staff members affected	All clinicians in maternity including access holder lead maternity carers (LMCs)
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1. Purpose of guideline

The purpose of this guideline is to facilitate the safe and effective care of a woman requiring Group B Streptococcal (GBS) prophylaxis within Auckland District Health Board (ADHB).

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2. Background

Early-onset neonatal infection with GBS is a significant cause of morbidity and mortality. The incidence of early-onset neonatal sepsis with GBS was 0.2/1000 live births in a NZ surveillance study from 2009 - 2011.

Intravenous antibiotic chemoprophylaxis given in labour to a woman whose baby is at risk of neonatal infection from GBS in the first 7 days of life has been shown to significantly reduce this risk.

Routine screening has not been shown to reduce neonatal mortality, is not cost-effective in areas of low prevalence of disease, and has some potential risks (anaphylaxis, medicalisation of labour and neonatal care).

ADHB continues to follow the recommendations of the expert multidisciplinary NZ GBS Consensus Working Party. Their 2013 Consensus Guideline recommends that a risk-based GBS prevention strategy continues to be recommended for NZ, as it is the most clinically and cost-effective strategy for the NZ context. It further states that universal screening is not recommended.

There is no formal screening programme for GBS in New Zealand, therefore if practitioners choose to screen individual women there is no quality control programme.

Given that some women who give birth at ADHB have had a urogenital swab for GBS at 35 – 37 weeks, this guideline also provides clarification on management of these women.

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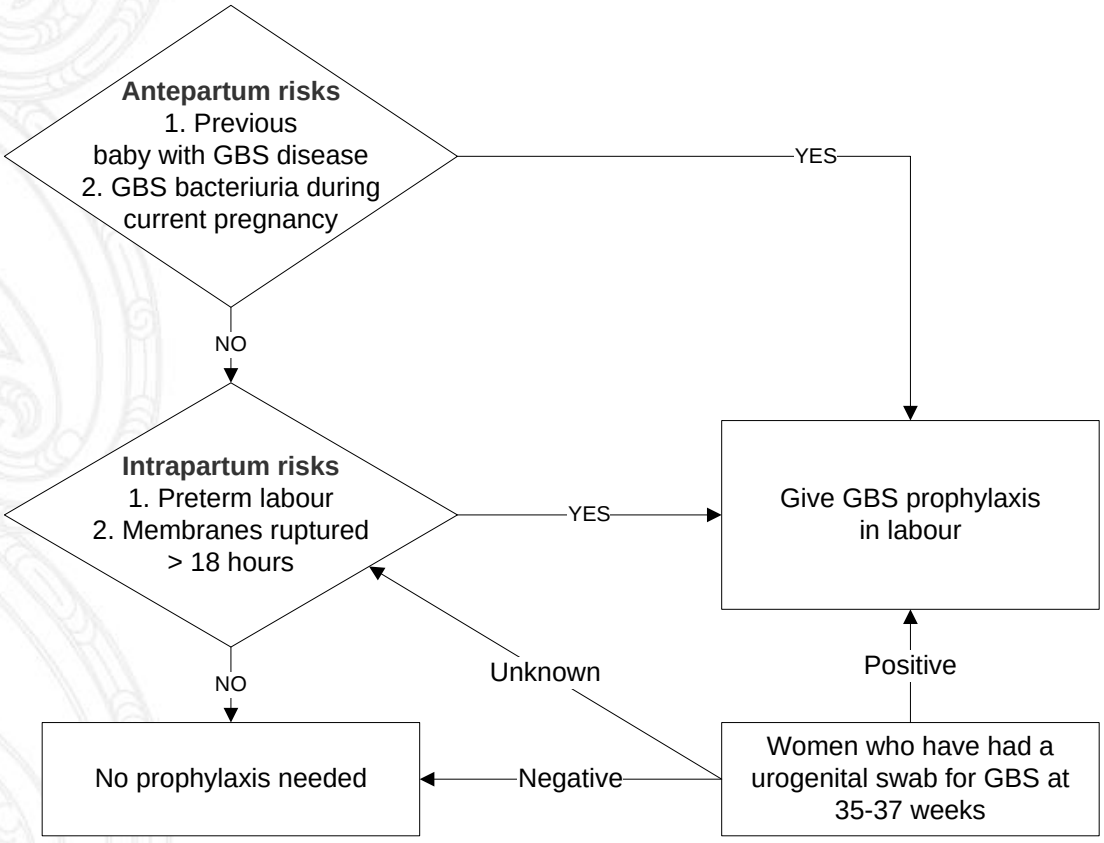
3. Identification of a woman who requires GBS prophylaxis

The woman should be assessed for antenatal and intrapartum risk factors and receive GBS prophylaxis accordingly.

Women who have had a urogenital swab for GBS at 35 - 37 weeks should receive GBS prophylaxis based on this result.

If a woman known to have an antenatal risk factor requiring GBS prophylaxis has pre-labour rupture of membranes, advise her to come to WAU for an assessment right away – refer to Rupture of Membranes in Pregnancy guideline (see associated ADHB documents section).



Notes:

- Women with fever at any point in labour should be assessed for chorioamnionitis by the L&BS team on call and antibiotic management broadened as appropriate
- Women having caesarean section prior to labour with intact membranes do not need GBS prophylaxis
- Women having GBS prophylaxis who have caesarean section in labour still need surgical site prophylaxis (cefazolin)

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4. Intrapartum GBS prophylaxis

Start GBS prophylaxis when the woman is in active/established labour. Ideally, prophylaxis is started at least four hours before birth.

GBS prophylaxis may still be effective if given even one hour before birth, so do start it even if delivery seems imminent.

Penicillin is preferred because of its narrow spectrum of activity and lack of microbial resistance:

- Benzyl penicillin 1.2 g IV loading dose then 600 mg 4 hourly until birth
- If allergic to penicillin, consider
  - Cefazolin 2 g IV loading dose then 1 g 6 hourly until birth, or
  - Vancomycin 1 g IV 12 hourly until birth

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5. Neonatal management

The baby of a mother who meets the criteria for receiving GBS prophylaxis in labour needs to be observed for signs of sepsis whether or not they received appropriate GBS prophylaxis.

The mother and her family/whānau need to know what signs to look for in their baby, which may be non-specific such as respiratory distress, temperature instability, tachycardia, shock or just looking "unwell."

The baby does not necessarily need to be observed in NICU. The decision about where to observe the baby, and for how long, should be a discussion between the midwife, the LMC, the mother and the paediatrician.

If the woman was identified as needing GBS prophylaxis in labour, but did not receive it at all or did not receive it for at least 4 hours prior to the birth:

a. If 37 weeks gestation or more, the baby needs close observation (TPR) in hospital, under paediatric care. Investigations such as a FBC depend on the individual clinical situation; blood cultures would not be routinely taken if the baby appears well. No transfer to Birthcare or home for 24 hours, and transfer may be delayed until after 48 hours if there is ongoing paediatric concern or if there is concern about the baby being observed appropriately;

b. If < 37 weeks, the baby needs close observation (TPR) for 48 hours in hospital, under paediatric care, and no transfer to Birthcare or home. Investigations such as FBC and blood cultures should be performed. The requirement for IV antibiotics depends on the presence of other risk factors and the degree of prematurity, and should be guided by the individual clinical situation and lab results.

If the woman has received appropriate GBS prophylaxis in labour (≥ 4 hours prior to birth):

- The baby needs close observation (TPR) for 24 - 48 hours in hospital or at Birthcare, and no discharge home.

Any baby showing signs of sepsis requires urgent paediatric review and work up. Empiric antibiotic therapy should be given for at least 48 hours whilst culture results are awaited. When feasible a lumbar puncture should be performed on all septic newborn babies as 10 - 15% of neonates with meningitis will have sterile blood cultures.

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6. Frequently asked questions

Q. What do I do if the woman is found to have GBS on a urine culture at some point during the pregnancy?

- Treat with oral antibiotics as per sensitivities, even if asymptomatic, in order to prevent pyelonephritis, sepsis and preterm labour
- Add GBS bacteriuria as a risk in HealthWare
- Advise the woman that she should receive GBS prophylaxis in labour to reduce risk of early-onset neonatal GBS sepsis, and document this advice

Q. If a woman has had GBS on a urine culture earlier in pregnancy, or a previous baby with GBS disease, would I offer her routine screening at 35 - 37 weeks?

- No, these women already have an antepartum risk factor and should receive GBS prophylaxis in labour

Q. If a woman has had GBS on a urine culture earlier in the pregnancy, or a previous baby with GBS disease, do I need to give her GBS prophylaxis in labour even if she does not have ruptured membranes > 18 hours?

- Yes, these women already have an antepartum risk factor and should receive GBS prophylaxis in labour

Q. What do I do if the woman is found to have GBS on a vaginal swab < 35 weeks?

- Vaginal carriage of GBS is normal and does not require antibiotic treatment. Vaginal carriage of GBS earlier in pregnancy does not imply GBS carriage at the time of birth, thus she does not necessarily require GBS prophylaxis in labour
- Recommend repeating GBS swab at 35 - 37 weeks and follow the algorithm based on the 35 - 37 week result

Q. If I choose to perform routine screening for GBS outside ADHB guidelines, when and how do I do this?

- Routine screening is performed at 35 - 37 weeks
- It should be a low vaginal-anorectal swab. The swab can be clinician or patient collected. The RANZCOG guideline has a good diagram
- The requisition should specifically state “for GBS screening.” If the woman has a penicillin allergy, request sensitivity testing

Q. If a woman undergoes routine screening at 35 - 37 weeks and is negative, and then goes on to have ruptured membranes > 18 hours or goes into preterm labour, should I give her GBS prophylaxis?

- No, she already has had routine screening which is negative

Q. If this was a low vaginal swab only and was done at 35 - 37 weeks for another reason, and there was no GBS reported, is this the same as a negative screen?

- No, because GBS screening should also include anorectum and specifically have "GBS screening" stated on the requisition; this woman should undergo risk-based screening

Q. What if the woman has a caesarean not in labour with intact membranes?

- No, she does not need GBS prophylaxis

Q. What if the woman is having GBS prophylaxis in labour and then needs an emergency caesarean, does she still need Cefazolin?

- Yes, she still needs surgical site infection prophylaxis in addition to GBS prophylaxis.

Q. What if the woman develops a fever in labour?

- A woman with temperatures >= 38 on two occasions 30 minutes apart should be reviewed by the DU team on call in order to assess for chorioamnionitis, to consider giving broad spectrum antibiotics and paracetamol, and to discuss optimal timing of delivery
- GBS prophylaxis is not adequate management of fever in labour and will not reduce the risk of postpartum endometritis nor neonatal sepsis

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7. Supporting evidence

- DRAFT Consensus Guideline 2013. The prevention of early-onset GBS infection. NZ GBS consensus working party (unpublished)
- Campbell N, Eddy A, Darlow BA, Stone P, Grimwood K. Prevention of early onset neonatal GBS infection: technical report from the NZ GBS Consensus Working Party. *NZMJ* 2004;117:1200
- Darlow BA, on behalf of Neonatal GBS Disease Investigators. Early onset neonatal GBS disease in NZ: results of a 2-year surveillance study. University of Otago. Presented as an abstract, 2012
- Ohlsson A, Shah VS. Intrapartum antibiotics for known maternal Group B streptococcal colonization. The Cochrane Database of Systematic reviews. 2009
- Prevention of early onset GBS disease in newborns. ACOG Committee Opinion No. 485, 2011
- Prevention of early onset neonatal GBS disease. RCOG Green-top guideline No. 36, 2012
- Prevention of early onset neonatal GBS disease. SOGC Clinical Practice Guideline No. 149, 2004
- Screening and treatment for GBS in pregnancy. RANZCOG Statement C-Obs 19, 2011

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8. Associated ADHB documents

- Caesarean Section (CS) - Pre, Peri & Post-Op Care
- Puerperal Sepsis
- Rupture of Membranes in Pregnancy

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9. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this ADHB guideline to adapt it for safe use within their own institution, recognise the need for specialist help, and call for it without delay, when an individual patient falls outside of the boundaries of this guideline.

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10. Corrections and amendments

The next scheduled review of this document is as per the document classification table (page 1). However, if the reader notices any errors or believes that the document should be reviewed ***before*** the scheduled date, they should contact the owner or the Clinical Policy Advisor without delay.

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