

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

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1. Purpose of guideline

The purpose of this guideline is to prevent early onset neonatal GBS infection, through safe and evidence based care of women requiring Group B Streptococcal (GBS) prophylaxis within Auckland District Health Board (Auckland DHB). Considerations of the care of the baby post-birth, are also included.

It is important that informed discussion takes place that avoids confusion for the woman and family around the rationale of prophylaxis antibiotics. Namely that they provide prophylaxis cover for the baby not for the mother – a common misconception. Documented informed consent, or otherwise, is essential.

These guidelines have been adapted from the NZ GBS Consensus Guidelines (see [Supporting evidence](#), Darlow et al, 2015).

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 0.26/1000 live births (1:4,000 babies) in a NZ surveillance study from 2009-2011.

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

Auckland DHB continues to follow the recommendations of the expert multidisciplinary NZ GBS Consensus Working Party. Their 2015 Consensus Guideline recommends that a *risk-based* prevention strategy continues to be recommended for NZ, as it is the most clinically appropriate and cost-effective strategy for the NZ context. The national guideline further states that routine universal screening is not recommended.

3. Identification of a baby at risk of GBS

Assess for antenatal and intrapartum risk factors and offer a recommendation for GBS prophylaxis accordingly.

Risk Factors for recommending GBS prophylaxis (also refer to [Table 1](#) for guidance):

Antenatal Risk Factors

- Previous baby with GBS disease (**Note**, this does not mean GBS found in the mother in a previous pregnancy, only if a baby is affected with GBS disease)
- GBS found in urine at any time during pregnancy
- Incidental finding of positive GBS on vaginal swab at 35 – 37 weeks (screening not recommended)
- Incidental finding of positive GBS on vaginal swab at any time of pregnancy (if not followed up by a negative repeat swab done specifically to detect GBS between 35-37 weeks' gestation)

Intrapartum Risk Factors

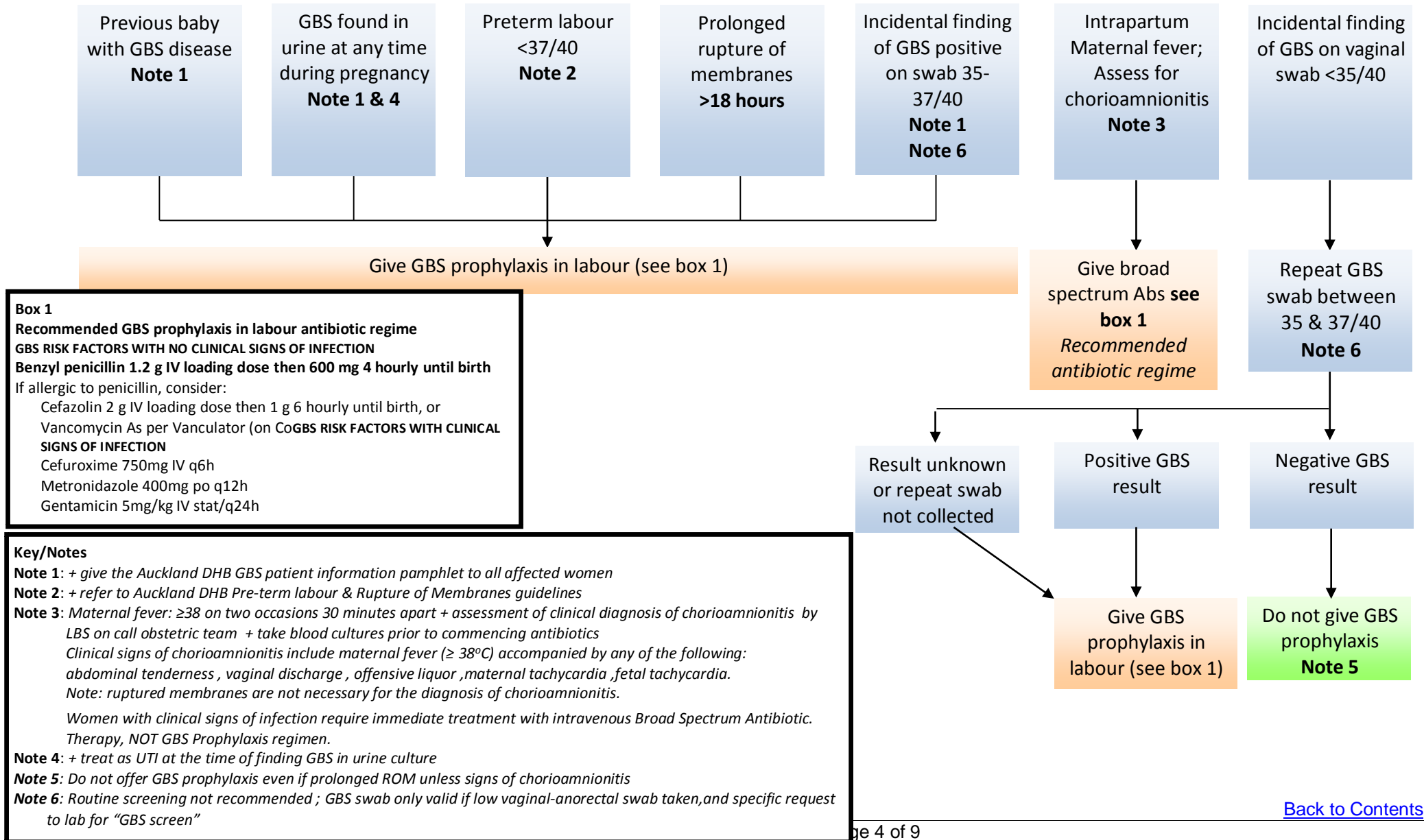
- Pre-term labour <37 weeks' gestation
- Prolonged rupture of membranes (PROM) >18 hours
- Maternal Fever ($\geq 38^{\circ}\text{C}$ on two occasions 30 minutes apart). Assessment and diagnosis of chorioamnionitis in collaboration with LBS on call obstetric team

Women with pre-labour rupture of membranes and known to have an antenatal risk factor where GBS prophylaxis would be recommended should be advised to come to WAU for an assessment as soon as possible - refer to Rupture of Membranes in Pregnancy.

Women having a Caesarean Section prior to labour with intact membranes do not need GBS prophylaxis.

Women having a Caesarean Section in labour who are receiving GBS prophylaxis will additionally need surgical site infection prophylaxis bundle.

Table 1: Auckland DHB risk-based approach to GBS prophylaxis



4. GBS prophylaxis

Start GBS prophylaxis when the woman is in active/established labour. In the setting of induction of labour, start GBS prophylaxis either at start of IV oxytocin or once woman is in active labour, whichever is the sooner. Factors to consider with timing of starting GBS prophylaxis include previous labour duration, parity, anticipated time to birth, and number of GBS risk factors.

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 four hourly until birth
- If allergic to penicillin, consider
 - Cefazolin 2 g IV loading dose then 1 g six hourly until birth, or
 - Vancomycin as per Vanculator (on Concerto)

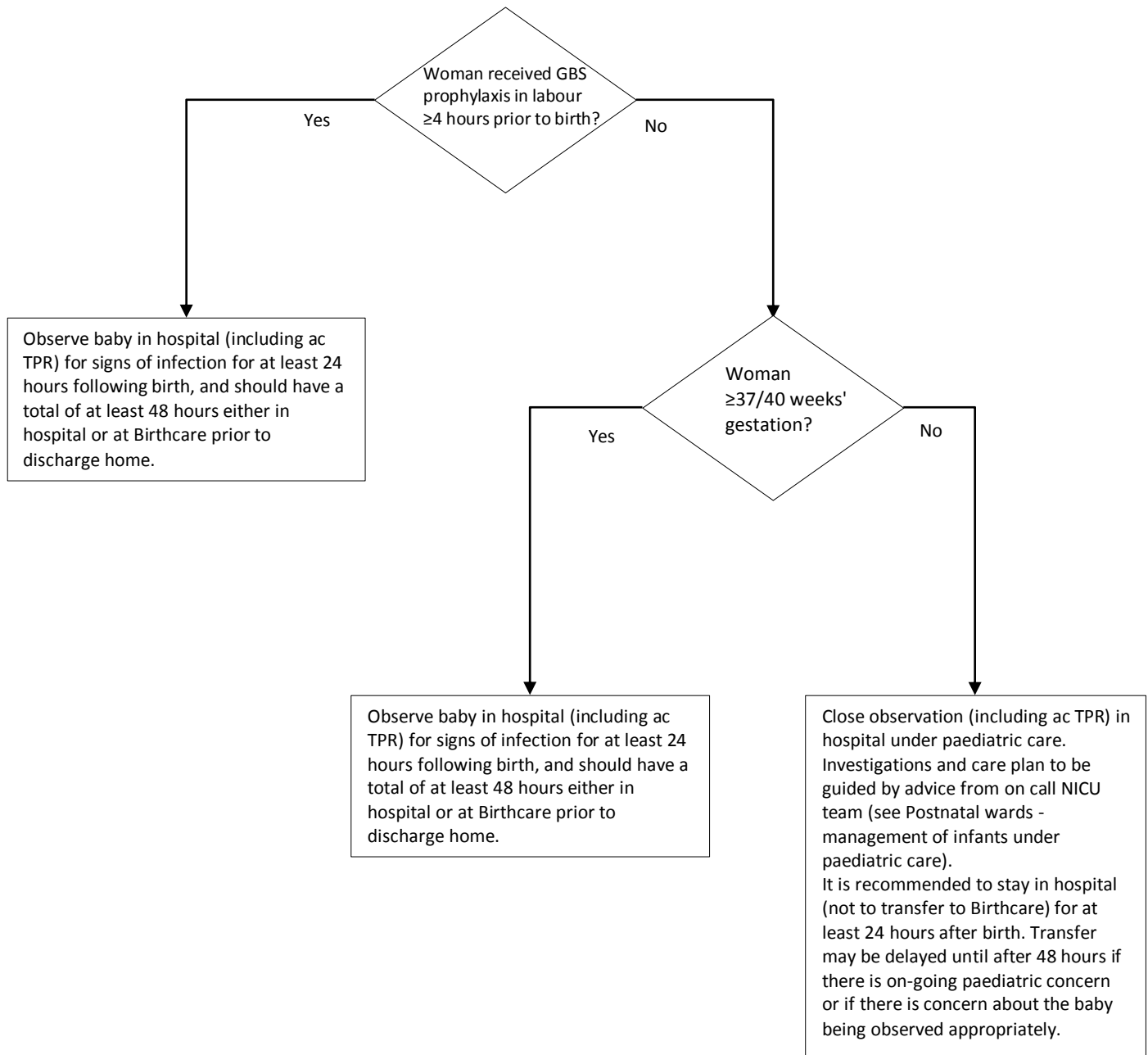
5. Neonatal management

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

Any baby showing signs of sepsis requires urgent paediatric review.

The mother and her family/whānau need to know the signs of infection to look for in their baby, which may be non-specific such as respiratory distress (with audible “grunting”, and/or rapid breathing), poor feeding or just looking “unwell.”

Neonatal Management Flow Chart



Key: ac TPR: pre-feed observations (temperature, pulse/heart rate and respiratory rate)

Figure 1: Neo natal management flow chart

6. Frequently asked questions

Question	Answer
<p>What do I do if the woman is found to have GBS on a urine culture at some point during the pregnancy?</p>	<ul style="list-style-type: none"> • 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 • Give woman the Auckland DHB GBS pamphlet
<p>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?</p>	<ul style="list-style-type: none"> • No, these women already have an antepartum risk factor and should be offered GBS prophylaxis in labour • This should be added to risksheet in Healthware if not already done so
<p>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 offer her GBS prophylaxis in labour even if she does not have ruptured membranes >18 hours?</p>	<ul style="list-style-type: none"> • Yes, these women already have an antepartum risk factor and should receive GBS prophylaxis in labour • This should be added to risksheet in Healthware if not already done so
<p>What if a woman had GBS detected vaginally in a previous pregnancy, do I need to offer her GBS prophylaxis?</p>	<ul style="list-style-type: none"> • No. Vaginal carriage of GBS is normal and does not require antibiotic treatment. Vaginal carriage of GBS in a previous pregnancy does not imply GBS carriage at the time of birth • However, if her baby was affected, then she should be offered GBS prophylaxis
<p>What do I do if the woman is found to have GBS as an incidental finding on a vaginal swab <35 weeks?</p>	<ul style="list-style-type: none"> • 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 • Recommend a follow up low vaginal-anorectal swab specifically requesting “for GBS screening” on the lab requisition at 35-37 weeks. Then follow the algorithm (see Table 1) based on the 35-37 week result • If GBS swab is not repeated at 35-37 weeks, or result is unknown, she should be offered GBS prophylaxis in labour
<p>What about universal screening for GBS?</p>	<ul style="list-style-type: none"> • Universal/Routine screening is not recommended, it is outside national and Auckland DHB guidelines. • Vaginal swabs have very poor predictive value for GBS in labour before 35-37 weeks and should never be done.

Question	Answer
	<ul style="list-style-type: none"> • After 35-37 weeks the predictive value is increased however a false negative rate of 10% and a false positive rate of 50% have been reported (Darlow et al, 2015). • Maximal detection is with low vaginal-anorectal swab. The swab can be clinician or patient collected. • The requisition should specifically state “for GBS screening”. If the woman has a penicillin allergy, request sensitivity testing
<p>If a woman undergoes routine screening at 35-37 weeks (which is outside guidelines) and is screen negative, and then goes on to have ruptured membranes >18 hours or goes into preterm labour, should I give her GBS prophylaxis?</p>	<ul style="list-style-type: none"> • No, she already has had universal screening which is negative
<p>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?</p>	<ul style="list-style-type: none"> • No, because GBS screening should also include anorectum and specifically have “GBS screening” stated on the requisition; this woman should undergo risk-based screening
<p>What if the woman has a caesarean not in labour with intact membranes?</p>	<ul style="list-style-type: none"> • No, she does not need GBS prophylaxis
<p>What if the woman is having GBS prophylaxis in labour and then needs an emergency caesarean, does she still need Cefazolin?</p>	<ul style="list-style-type: none"> • Yes, she still needs surgical site infection prophylaxis bundle
<p>What if the woman develops a fever in labour?</p>	<ul style="list-style-type: none"> • A woman with temperatures $\geq 38^{\circ}\text{C}$ 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

7. Supporting evidence

- Darlow, B., Campbell, N., Austin, N., Chin, A., Grigg, C., Skidmore, C., ... & Werno, A. (2015). The prevention of early-onset neonatal group B streptococcus infection: New Zealand Consensus Guidelines 2014. *New Zealand Medical Journal*, 128(1425):69-76.

- Royal College of Obstetricians & Gynaecologists (RCOG). (2017). *Prevention of early onset neonatal Group B Streptococcal Disease*. Green-top guideline No. 36.
- Royal Australian and New Zealand College of Obstetricians & Gynaecologists (RANZCOG). (2016). *Maternal Group B Streptococcus in pregnancy: screening and management*. Statement C-Obs 19.

8. Associated documents

- Rupture of Membranes in Pregnancy
- Preterm labour (PTL) - Management of Threatened and Active PTL
- Group B Streptococcus information pamphlet
- Postnatal Wards - management of infants under paediatric care
<https://www.starship.org.nz/for-health-professionals/newborn-services-clinical-guidelines/p/postnatal-wards-management-of-infants-under-paediatric-care/#Sepsis-risk-factors-at-delivery>

9. Disclaimer

No guideline can cover all variations required for specific circumstances. It is the responsibility of the health care practitioners using this Auckland DHB 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.

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 [Document Control](#) without delay.