
Clinical Practice Guideline	Group B Streptococcus & Chorioamnionitis
Department	Women's Health

Purpose

To provide guidance on the screening for and management of Group B Streptococcus in pregnant women. Most of this guideline is taken directly from the Safer Care Victoria Maternity eHandbook guideline: [Group B Streptococcus \(GBS\) – Screening and Management](#).

Abbreviations

BOS	Birth Outcomes System
EOS	Early onset (neonatal) sepsis
GBS	Group B Streptococcus
LOS	Late onset sepsis
IAP	Intrapartum antibiotic prophylaxis
SROM	Spontaneous rupture of membranes
VMR	Victorian Medical Records

Background

- GBS is a transient bacterium that is commonly found in the gastrointestinal tract, vagina and urethra in 15-25% of pregnant women (asymptomatic carriers of GBS).
- GBS is transmitted to the baby during birth in approximately 1–2 per 1000 live births and can lead to serious infection in the baby.
- EOS may result in neonatal morbidity, including respiratory symptoms, pneumonia and sepsis. It can result in death of the baby if not detected and treated early.
- IAP can prevent EOS in up to 89 per cent of babies of colonised women (Lin et al. 2001; Schrag et al. 2002).
- A pregnant woman who tests positive for GBS and gets IAP has a one in 4000 chance of delivering a baby who will develop EOS, compared to a one in 200 chance if she does not have IAP (Centers for Disease Control and Prevention 2018).
- IAP does not prevent late onset sepsis (LOS).
- The decision to give antibiotic treatment in labour can be determined through:
 - consistent identification of clinical risk factors during pregnancy and labour or
 - taking a combined vaginal-rectal swab at 35-37 weeks' gestation.
- Preterm babies are four times more likely to develop EOS than term babies (Kurz and Davis 2015).

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Risk Factors for GBS Sepsis

Preterm labour <37+0 weeks (spontaneous or induced)
Rupture of membranes (ROM) ≥18 hours prior to birth
Maternal temperature ≥38 degrees intrapartum or within 24 hours of giving birth
GBS colonisation in current pregnancy
GBS bacteriuria in current pregnancy (any colony count)
Previous baby with invasive GBS infection

Practice Point Regarding Risk Factors

- If any of the above risk factors are identified, IAP is recommended once active labour is identified.
- Aim for ≥4 hours of IAP coverage prior to birth.
- Antibiotic prophylaxis is not recommended prior to the onset of labour.
- SCV recommends IAP for women with risk factors even if antenatal screening for GBS was negative.
- A persistent pyrexia in labour may associated with sepsis and requires broader spectrum antibiotic management (see section on sepsis below)

Antenatal Management

- Maternity services across Australia use either a clinical risk-based or universal culture-based screening approach to reduce EOS in the baby. The majority of units in Victoria practice universal screening.
- There is a lack of international consensus and limited high quality evidence regarding a preferred approach.
- GBS, EOS and IAP should be discussed with the woman during the antenatal period in a manner that supports informed decision making.
- Routine practice at Peninsula Health is to offer antenatal GBS screening, acknowledging the woman's right to decline. Women who decline screening should be offered risk based management. This discussion and decision making should be documented in BOS and the Victorian Maternity Records (VMR).
- Clinicians must remain vigilant for signs of EOS as this can occur in a baby of culture-screened GBS negative women.

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Risk Based Management

- Discuss and document risk factors at booking.
- If the woman had a previous baby with invasive EOS, discuss and document the recommendation for IAP.
- If tests at any point in pregnancy show GBS vaginal colonisation or bacteriuria:
 - discuss results with the woman and document her status as GBS positive
 - discuss and document the recommendation for IAP
- if GBS colonisation or bacteriuria is found incidentally or by intentional testing earlier in pregnancy, do not repeat investigation in later pregnancy.
- GBS bacteriuria requires antibiotic treatment at the time of diagnosis as well as IAP
- If other risk factors arise (see above), IAP is recommended once active labour is identified.

Universal Screening

- Counsel the woman regarding the process and implications of GBS screening
 - The rationale for screening
 - The method of screening
 - The implications of a positive test (antibiotics in labour, early induction if SROM)
 - Alternative options if screening is not performed
- Undertake GBS culture based-screening, using combined vaginal-rectal swab at 35–37 weeks' gestation if no risk factors or colonisation has been identified prior to this.
- Inform all women of the testing procedure and implications of results.
- If testing is carried out, tell the woman her results and document in BOS and in the VMR. Ensure that a woman with a positive result understands the importance of relaying this information to the health professionals who care for her in labour.
- Where universal screening is used, risk factors are still relevant as EOS can occur in culture-screened GBS negative women, so:
 - discuss and document risk factors at booking and plan for care accordingly
 - continue to assess for risk factors, GBS colonisation or bacteriuria arising later in pregnancy.
- Inform all women that if their screening result is GBS negative, the presence of risk factors will lead to IAP being recommended.

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Specimen Collection

- Swabs may be collected by a clinician or collected by the woman.
- Use a standard bacterial culture swab (blue handle and clear culture medium)
- Use one single dry swab stick:
 - insert into the vaginal introitus
 - then insert into the anus.
- Place into standard bacterial transport medium.
- Label specimen clearly with 'GBS screening in pregnancy' (GBS screening outside of pregnancy is not covered by Medicare and the woman will be invoiced if this is not clear)
- Request sensitivity screening for women who are allergic to penicillin.

Intrapartum Management

- If risk factors (above) are identified on admission or at any point during labour:
- discuss the recommendation for IAP with the woman
- indicate the need for IAP on the partogram and on K2 when the woman is admitted in labour.
- Offer IAP to woman with risk factors irrespective of screening result.
- Recommend IAP to women with identified risk factors when active labour is identified: [Intrapartum antibiotic prophylaxis flowchart](#).
- Antibiotic prophylaxis is not recommended prior to the onset of active labour.
- Adequate prophylaxis is considered to be commenced at least four hours prior to birth.
- Benzylpenicillin is the antibiotic of choice – IV penicillin and ampicillin are equally effective against GBS, but penicillin is preferable due to its narrower spectrum of activity.
- A GBS positive screening result is not a preclusion to labour in the bath or pool, or birth through water, as long as antibiotic prophylaxis occurs.

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Antibiotics for Intrapartum Antibiotic Prophylaxis

- IV Benzylpenicillin 3 g loading dose
then
- IV Benzylpenicillin 1.8 g every four hours until birth.

If the woman has a penicillin hypersensitivity with no history of anaphylaxis

- IV Cephazolin 2 g loading dose
then
- IV Cephazolin 1 g every eight hours until birth.

If the woman has a penicillin allergy with history of anaphylaxis

- IV Clindamycin 900 mg every eight hours until birth.
- If sensitivity is unknown or GBS isolate is resistant to Clindamycin, administer IV Vancomycin 1 g every 12 hours until birth.

Cases where routine IAP is not required

- GBS carriage detected in a previous pregnancy (even if GBS status is unknown in the current pregnancy). Either repeat routine screening or use risk based management
- Elective caesarean section (no labour, no rupture of membranes) irrespective of GBS carriage or gestational age.
- For women where routine surgical antibiotic prophylaxis for CS is indicated.
- Threatened preterm labour with intact membranes, where the risk of imminent birth is low.

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Management of Suspected Chorioamnionitis

- Treatment of GBS is not sufficient for the management of suspected chorioamnionitis.
- Women with suspected chorioamnionitis should be treated according to the Australian Therapeutic Guidelines (eTG) – [Empirical Therapy for Intraamniotic Infection](#)
- The diagnosis of sepsis should be based on signs and symptoms below

Signs of Chorioamnionitis

- maternal fever >38 °c
- increased white cell count (>15 x 10⁹/L)
- maternal tachycardia (>100 bpm)
- fetal tachycardia (>160 bpm) – where infection is suspected as the likely cause
- uterine tenderness
- offensive smelling vaginal discharge
- C-reactive protein >40.

Gentamicin Dose in Pregnancy

The eTG recommends that optimal dosing of gentamicin is dependent on the severity of the sepsis and the BMI of the woman.

- If the current BMI is <30kg/m² use the woman's weight for the calculation
- If the current BMI is ≥30kg/m² use the adjusted body weight.

Weight Calculation

Adjusted body weight = ideal body weight + (0.4 x excess weight).

Excess weight = Actual body weight – Ideal bodyweight.

For the ideal body weight, use the eTG [on-line calculator](#), or the [eTG Table](#), see appendix 1

Dose

For the **first** dose - Gentmicin given IV over 3-5 minutes.

Adults with septic shock or requiring ICU without renal impairment	7	mg/kg
Adults with septic shock or requiring ICU with renal impairment	4-5	mg/kg
Adults without septic shock and not requiring ICU support	4-5	mg/kg

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Postnatal Maternal Care

- Postnatal antibiotics are not required for women who have received antibiotics for GBS prophylaxis in the absence of signs of infection.
- Women with chorioamnionitis who are clinically well, with no signs of sepsis after a **vaginal** birth, do not need to continue antibiotics.
- Women with chorioamnionitis who are clinically well, with no signs of sepsis and at **low risk of endometritis** after a **caesarean** birth, should have one further dose of antibiotics. This should include metronidazole 500mg IV if this was not used as part of the regime.
- Women with chorioamnionitis who are clinically well, with no signs of sepsis and at **high risk of endometritis** after a **caesarean** birth (obesity, prolonged labour or prolonged ruptured membranes) should have 24hrs of antibiotics. This should include metronidazole 500mg IV if this was not used as part of the regime.
- Further oral antibiotic therapy is not required.
- Routine postnatal observations should be performed

Neonatal Care

- GBS is the most frequent cause of early onset neonatal sepsis in developed countries.
- Signs of EOS are non-specific and can include respiratory distress, temperature instability, tachycardia, shock, or 'unwell' and most likely to arise within 24 hours of birth.
- Treat all unwell babies for suspected sepsis, irrespective of maternal GBS status or adequate IAP.

Neonatal Observation and management

- Observations as per [GBS: Neonatal management flowchart](#)
- Paediatricians should be immediately informed if any of the following are observed in the neonate:
 - Respiratory compromise
 - Unexpected need for resuscitation
 - Temperature instability
 - Poor feeding
 - Tachycardia
 - Lethargy
 - Apnoeic episodes
 - Seizures

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- Paediatricians should be informed if a women who is GBS positive or GBS unknown with risk factors has had inadequate GBS prophylaxis (ie a single dose of antibiotics <4hrs prior to birth)
- Minimum neonatal observations should include: a full set at birth, hourly for 3 hours, then 4 hourly for 24hrs.
- Record observations on the [ViCTOR birth suite/postnatal](#) observation chart.

Guidelines for Shared Care General Practitioners

Women having shared care should have the options for GBS screening and prophylaxis discussed with them and documented in the Victorian Maternity Record (VMR). If screening is performed at the GP's, it should involve a combined vaginal-rectal swab that is collected at 35–37 week's gestation. Swabs may be collected by a clinician or collected by the woman (see Specimen Collection above)

Women who have screening tests performed at the GP should have a copy of the report sent to Women's Services, Peninsula Health. The result should be discussed with the woman and documented in the VMR.

- A positive urine sample requires immediate treatment with antibiotics (see above) and a recommendation for antibiotics in labour.
- A positive vaginal swab does not require immediate treatment but requires antibiotics in labour (see above).

Relevant Documents

Peninsula Health Clinical Practice Guidelines:

[Preterm Prelabour Rupture of Membranes](#) – Women's Health CPG

[Induction of Labour – Indications and Booking Process](#) – Women's Health CPG

[Prelabour Rupture of Membranes at Term](#) – Women's health CPG

[Routine Pregnancy Care](#) – Women's Health CPG

[Risk Assessment for Model of Pregnancy Care](#) – Women's Health CPG

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Appendix 1 – Ideal Body Weight Table

Height		Ideal Weight (kg)
cm	inches	
155	61	48
160	63	53
165	65	57
170	67	62
175	69	66
180	71	71
185	73	75
190	75	80
195	77	84
200	79	89
205	81	93
210	83	98
215	85	102
220	87	107