
Clinical Practice Guideline	Group B Streptococcus Screening and Treatment
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 can be transmitted to the baby during birth and in an unscreened population, leads to serious infection in the baby in approximately 1–2 per 1000 live births (Sheehy, 2013)
- 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

*suspected chorioamnionitis requires broader spectrum triple antibiotics

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.
- Safer Care Victoria (SCV) recommends IAP for women with risk factors even if antenatal screening for GBS was negative.
- A persistent pyrexia in labour may associated with chorioamnionitis or sepsis and requires broader spectrum antibiotic management (see Chorioamnionitis, Diagnosis and Treatment)

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).**

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Universal Screening (Recommended)

- 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 (risk based management – see below)
- 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.
- 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 still lead to IAP being recommended.

Benefits, Risks and Alternatives

- + Identifies carriers of GBS. Reduced chance GBS negative carriers needing antibiotics. Likely to be twice as effective as the risk factor approach. EOS rates reduced from 1-2:1000 (background popn) to around 0.25 in 1000.
- Intrusive vaginal/anal swab. May not pick up all GBS carriers. 20-30% of women receive antibiotics in labour. Induction is advised if ruptured membranes.
- Alternatives: Risk factor based management (see below)

Risk Factor Based Management

- Discuss and document risk factors at booking and review in labour.
- If the woman had a previous baby with 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

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Intrapartum Management

If risk factors (above) or carriage of GBS are identified on admission or at any point during labour:

- Discuss the recommendation for prophylaxis 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 should be given within an hour of confirmation of ruptured membranes in GBS +ve women.
- Women who are GBS +ve with ruptured membranes should be offered induction as soon is feasible.
- Antibiotic prophylaxis is not recommended prior to the onset of active labour when membranes are intact.
- Adequate prophylaxis should ideally 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 in water, as long as antibiotic prophylaxis occurs.

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 Vancomycin 1 g every 12 hours until birth (if sensitivity is unknown or GBS isolate is resistant to Clindamycin) or:
- IV Clindamycin 900 mg if sensitivity is known, every eight hours until birth.

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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.

Postnatal Maternal Care

- Postnatal antibiotics are not required for women who have received antibiotics for GBS prophylaxis in the absence of signs of infection.
- Routine postnatal observations should be performed

Neonatal Care

- GBS is the most frequent cause of early onset neonatal sepsis in developed countries.
- EOS as this can occur in a baby of a culture-screened GBS negative woman.
- 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.
- Assess all unwell babies for suspected sepsis, irrespective of maternal GBS status or adequate IAP.
- There have been no identified adverse neonatal or childhood outcomes relating to maternal antibiotics in labour ([Steer, 2020](#)). Steer also indicated that intrapartum antibiotics may cause a short term change in the neonatal microbiome but bacterial levels have normalised between 4 to 6 weeks.

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).

- Documentation on the form should state 'Vaginal swab, GBS screen, pregnant'.
- If penicillin allergic, document "Penicillin allergic, confirm sensitivities" on the request form.

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

References

- Safer Care Victoria Maternity eHandbook. [Group B Streptococcus \(GBS\) – Screening and Management.](#)

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