Worcestershire Acute Hospitals NHS Trust

Guideline for the prevention of early-onset neonatal group B streptococcal (EOGBS) disease

Key Document code:	WAHT-TP- 094	
Key Documents Owner/Lead:	Miss L Veal/ Dr M Rasheed	Consultant Obstetrician/Clinical Fellow
Approved by:	Maternity Governance Meeting/ Medicines Safety Committee	
Date of Approval:	24th October 2025	
Date of review:	24th October 2028	

Key Amendments

Date	Amendments	Approved by
24th October	Document reviewed and approved with no changes	Maternity Governance Meeting

Introduction

Group B Streptococcal Infection (GBS) is the most frequent cause of severe early-onset neonatal infection (less than 7 days of age), and can result in sepsis, pneumonia and meningitis. Infection is predominantly caused by exposure to maternal GBS during child birth, but the risk is increased if women have one or more of the following risk factors:

- previous baby with early- or late-onset GBS disease
- discovery of maternal GBS carriage through bacteriological investigation during pregnancy (e.g.
- MSU or HVS)
- prolonged rupture of membranes
- preterm birth
- maternal pyrexia ≥ 38ºC in labour
- suspected maternal intrapartum infection, including chorioamnionitis.

The transmission of GBS from mother to baby can be reduced with the use of intrapartum antibiotic prophylaxis (IAP) at least 4 hours prior to delivery. 90% of cases of EOGBS disease present by 12 hours of age.

These guidelines are designed to be used in conjunction with WAHT-NEO-001 Guidelines for reducing risk of neonatal group B streptococcal (GBS) infection.

Antenatal screening

- **All pregnant women should be provided with an appropriate information leaflet.**
    - e.g. RCOG patient information leaflet *Group B streptococcus (GBS) infection in newborn babies.*
    - See appendix 1 for information for counselling women and local statistics.
- **Routine screening of all women in pregnancy for GBS is not offered in the UK or at WAHT.**
- **If GBS was detected in a previous pregnancy, likelihood of maternal GBS in current pregnancy is 50%.**
    - Discuss options of:
        - IAP or
        - Bacteriological testing in late pregnancy (35-37 weeks or 3-5 weeks prior to anticipated delivery (for e.g. 32-34 weeks for women with twins) and offer IAP if still positive.

If a woman opts to have intrapartum antibiotics please ensure a GBS critical alert is created on Badgernet and displayed on the pregnancy summary page so that other healthcare professionals are aware of the reason and indication for antibiotics in labour

- **IAP should be offered to women with a previous baby with early- or late-onset GBS disease.**

Bacteriological considerations

Public Health England has published a standard for the detection of GBS carriage.

- When testing for GBS carrier status, a swab should be taken from the lower vagina and the anorectum. A single swab (vagina then anorectum) or two different swabs can be used.

- Specimens should be transported and processed as soon as possible. If processing is delayed, specimens should be refrigerated.

- Enriched culture medium tests are recommended. The clinician should indicate that the swab is being taken for GBS. Please tick the relevant ICE request.

Antenatal care

- **GBS bacteriuria**
    - Offer IAP to women with GBS bacteriuria identified during current pregnancy
    - Women with GBS UTI (growth greater then 10^5cfu/ml) should receive appropriate treatment at the time of diagnosis as well as IAP:
        - Treat with PO amoxicillin 500mg TDS for 5 days
        - If *penicillin allergic* – consider cefalexin/seek advice from microbiologist (NB. 10% penicillin allergic patients are allergic to cephalosporins)
        - Repeat MSU 1 week after course of antibiotics completed.
        - Record UTI and GBS carrier status on Badgernet by raising an alert
- **GBS on vaginal swab**
    - Offer IAP to women with GBS detected on vaginal swab during current pregnancy.
    - Antenatal treatment at the time of diagnosis is not recommended.
    - Record GBS carrier status on Badgernet by raising an alert
- **IAP is not required for women undergoing planned caesarean section (regardless of gestation) in the absence of labour and with intact membranes.**

Management of term labour (≥ 37^{+0} weeks)

- **Ruptured membranes**
    - Women at term who are known GBS carriers should be offered immediate IAP and induction of labour as soon as reasonably possible.
    - Women who are known GBS carriers who are to be delivered by caesarean section after spontaneous rupture of membranes should be offered IAP and delivered by category 2 or 3 Caesarean section depending on other clinical findings.
- **Pyrexia (≥38°C)**
    - Women who are pyrexial in labour, irrespective of GBS status, are at risk of chorioamnionitis and EOGBS disease of the newborn. An infection screen should be undertaken, and IV fluids and antibiotics commenced. A broad-spectrum antibiotic regimen that covers GBS should replace GBS specific prophylaxis:

'For antibiotic choice please see guideline 'Management of suspected chorioamnioinits'

- **Water birth**
  - Birth in a pool is not contraindicated if the woman is a known GBS carrier provided she is offered appropriate IAP. Women who are otherwise low risk and are suitable to be treated with IV Penicillin can be signed off antenatally to birth in Meadow Birth Centre. Women can then be triaged on the birth centre and arrangements made for IAP there, once established labour has been confirmed.

Management of preterm labour

- **Confirmed preterm labour**
  - IAP is recommended for all women in confirmed preterm labour irrespective of GBS status.
- **Preterm rupture of membranes**
  - Bacteriological testing for GBS carriage is not recommended for women with preterm rupture of membranes.
  - IAP should be given once labour is confirmed or induced irrespective of GBS status.
  - Known GBS carrier:
    - If $<34^{+0}$ weeks, perinatal risks associated with preterm delivery are likely to outweigh the risk of perinatal infection, therefore, early delivery is not indicated unless overt signs of infection
    - If $>34^{+0}$ weeks, it may be beneficial to expedite delivery. Discuss with Consultant Obstetrician on call.

Intrapartum Antibiotic Prophylaxis Regimen

- For those women who have agreed to IAP and are not allergic to penicillin Benzylpenicillin should be given as soon as labour is confirmed.
  - 3 g intravenous Benzylpenicillin should be given as a loading dose followed by 1.5 g 4 hourly until delivery.

- For those women that are penicillin allergic but have not had a severe allergy (severe allergy defined as anaphylaxis, angioedema, respiratory distress or urticaria) a cephalosporin should be used.
  - Cefuroxime 1.5g loading dose followed by 750mg every 8 hours

- For those that have a severe penicillin allergy IV Vancomycin is recommended
  - Vancomycin 1g every 12 hours. The fastest recommended rate is 10mg/min (diluted in at least 200ml of sodium chloride 0.9% or glucose 5%) – so for a 1g dose this is 100mins although Medusa recommends 120 minutes (Any administration faster than this triggers histamine release and risk of red-man syndrome).

Reference: http://nww.worcsacute.nhs.uk/antibiotic-treatment-guidelines-adults/

Clindamycin can no longer be recommended as the current resistance rate in the UK is 16%.

- Ideally antibiotics should be commenced during labour AT LEAST 4 hours prior to delivery.
- Administer as soon as possible after the onset of labour or at time of ARM if undergoing induction of labour.
- Inform the woman of the potential adverse effects of IAP.

- A number of studies have shown an effect of IAP on neonatal bowel flora, for example, causing reductions in colonisation with lactobacilli or bifidobacterium, but these findings have not been consistent across all studies.
- Changes in the neonatal bowel microbiome have been linked to a number of later effects in the child, including allergy, and obesity and diabetes. However, these risks remain theoretical.
- Oxytocin and the IV antibiotic should not be 'Y-sited' as they should not be allowed to mix together.
- All babies should be referred to a Paediatrician following delivery for subsequent care plan.
- Women with known GBS who decline IAP should be advised that the baby should be very closely monitored for 12 hours after birth and discouraged from seeking early discharge. This should be documented in antenatal/intrapartum/postnatal notes.

Appendix 1

Information for counselling patients

RISK FACTORS	EOGBS cases/10000 untreated women with risk factors	EOGBS deaths/10000 untreated women with risk factors	NNT with IAP to prevent one case of EOGBS	NNT with IAP to prevent one death from EOGBS	EOGBS cases prevented/ year in UK	EOGBS deaths prevented /year in UK
Intrapartum fever ≥38°C	60	6.3	208	1984	52	5.5
Prematurity <37 weeks	25	4.6	500	2717	101	18.5
Prolonged ROM	21	1.2	595	10416	91	5.2

EOGBS (early onset GBS)
IAP (Intrapartum antibiotic prophylaxis)
NNT (Number needed to treat)

Local Statistics

i) Overall rate of EOGBS disease in West Midlands is 0.48/1000 live births.

ii) 15-20% of women are colonised within GBS (normal vaginal flora) – 50% of these women will have a colonised infant.

iii) Less than 1/250 GBS positive women will have a baby with EOGBS disease. The neonatal mortality of EOGBS disease is 6% i.e. the risk of GBS positive mothers having a baby that dies ofGBS disease is in 1/5000 (0.02%).

iv) In Worcestershire – for every 1000 live births

- 200 GBS +ve mothers
- 100 colonised infants
- 0.7 EOGBS disease
- 0.04 neonatal deaths (i.e. 1 neonatal death for every 23817 births)

Appendix 2

GBS GUIDANCE

Indications for intrapartum antibiotic prophylaxis:

- GBS in the urine in this pregnancy
- GBS on a vaginal swab in this pregnancy
- GBS in a previous pregnancy and the woman has:
  - Opted for intrapartum antibiotics
    or
  - Had a screening swab at 35-37 weeks which is positive for GBS
- Previous baby affected by early or late onset GBS

For all of these indications please generate a critical alert on Badgernet, which is shown on the pregnancy summary page, and clearly specify the reason for intrapartum antibiotics.

Intrapartum Antibiotic Prophylaxis Regimen

Antibiotics should be given as soon as labour is confirmed or at the time of ARM for those women being induced.

NO PENICILLIN ALLERGY

Benzylpenicillin 3 g intravenous should be given as a loading dose followed by 1.5 g 4 hourly until delivery.

PENICILLIN ALLERGY WHICH IS NON SEVERE (severe allergy is defined as anaphylaxis, angioedema, respiratory distress or urticaria)

Cefuroxime 1.5g loading dose followed by 750mg every 8 hours

SEVERE PENICILLIN ALLERGY

Vancomycin 1g every 12 hours.

The fastest recommended rate is 10mg/min (diluted in at least 200ml of sodium chloride 0.9% or glucose 5%) – so for a 1g dose this is 100mins although Medusa recommends 120 minutes (Any administration faster than this triggers histamine release and risk of red-man syndrome).

http://nww.worcsacute.nhs.uk/antibiotic-treatment-guidelines-adults/

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and included as an appendix to key document when submitted to the appropriate committee for consideration and approval.

Please complete assessment form on next page;

Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust	x	Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	**Laura Veal**

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Laura Veal	**Consultant O&G**	**lveal@nhs.net**
Date assessment completed	**26/7/2022**		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title:** Guideline for the prevention of early-onset neonatal group B streptococcal (EOGBS) disease			
What is the aim, purpose and/or intended outcomes of this Activity?	To screen and manage antenatal GBS infection appropriately To offer women with previous GBS infection wither IV antibiotics in labour or screening with swab at 36-37 weeks To use appropriate antibiotics in labour To manage pre-term birth with antibiotics for GBS coverage			
Who will be affected by the development & implementation of this activity?	❑ X ❑ ❑	Service User Patient Carers Visitors	x ❑ ❑ ❑	Staff Communities Other _____

Is this:	x Review of an existing activity ❑ New activity ❑ Planning to withdraw or reduce a service, activity or presence?
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic information for patients / services / staff groups affected, complaints etc.	NICE guidance/ROCG green top guideline
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	Liaised with consultant microbiologist Liaised with Lab regarding appropriate antenatal screening with rectovaginal swab using Enriched Culture Medium
Summary of relevant findings	Antibiotic choice changed in this guideline to stop the use of clindamycin which has a 16& resistance rate. Also introduced Enriched Culture Medium for screening in those who have previously carried GBS.

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age		x		
Disability		x		
Gender Reassignment		x		
Marriage & Civil Partnerships		x		
Pregnancy & Maternity	x			Will hopefully reduce the number of babies being admitted to NNU with sepsis and improve screening detection rate with the new Enriched Culture Medium.
Race including Traveling Communities		x		
Religion & Belief		x		
Sex		x		
Sexual		x		

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Orientation				
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic Nodeprivation, travelling communities etc.)		X		
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		X		

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
	N/A	.		
How will you monitor these actions?				
When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)				

Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	Laura Veal
Date signed	26/7/2022
Comments:	
Signature of person the Leader Person for this activity	Laura Veal
Date signed	26/7/2022
Comments:	