Pyrexia & Sepsis in Labour – Obstetric guideline

University Hospitals of Leicester NHS Trust

Trust ref: C21/2017

"Currently UHL utilises the terms 'woman' and 'women' within their obstetric and maternity guidelines but these recommendations will also apply to people who do not identify as women but are pregnant or have given birth."

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1. Introduction and Who Guideline applies to

- A rise in temperature can be a normal physiological response to labour as well as a sign of current or impending serious illness. It can be difficult to work out what action is appropriate for both the woman and her baby. This guideline aims to provide practical support to those working in Obstetrics, to ensure that women receive appropriate treatment for illness, whilst avoiding iatrogenic harm.
- This guideline is for the use of all staff involved in the management of women with a raised temperature during labour and the initial postpartum period. This includes midwifery, obstetric, anaesthetic, microbiology and imaging staff.
- The updated final part of the guideline covers the specific management of sepsis within obstetrics which has been based on the UHL Adult Sepsis and Septic Shock guideline 2020.

What's new?

- A change in the assessment and antibiotic recommendations for women with temperatures of 37.8-37.9C to 37.5 or above on two consecutive occasions one hour apart.
- Tiecoplanin administration amended to include weight related dose adjustment

Risk management

- A clinical incident reporting form must be completed for all obstetric emergencies. Please refer to the Maternity Service Risk Management Strategy for details.

Related documents

Group B Streptococcus in Pregnancy and the Newborn UHL Obstetric Guideline

Maternity Assessment Unit UHL Obstetric Guideline

Intrapartum Care UHL Obstetric Guideline

Unexplained Intra or Postpartum Collapse UHL Obstetric Guideline

Maternity Early Obstetric Warning Scoring System UHL Obstetric Guideline

Maternal Death UHL Obstetric Guideline

Postnatal Care UHL Obstetric Guideline

Resuscitation at Birth UHL Neonatal Guideline

Cardiopulmonary Resuscitation Policy UHL LLR Alliance LPT

Fetal Monitoring in Labour UHL Obstetric Guideline

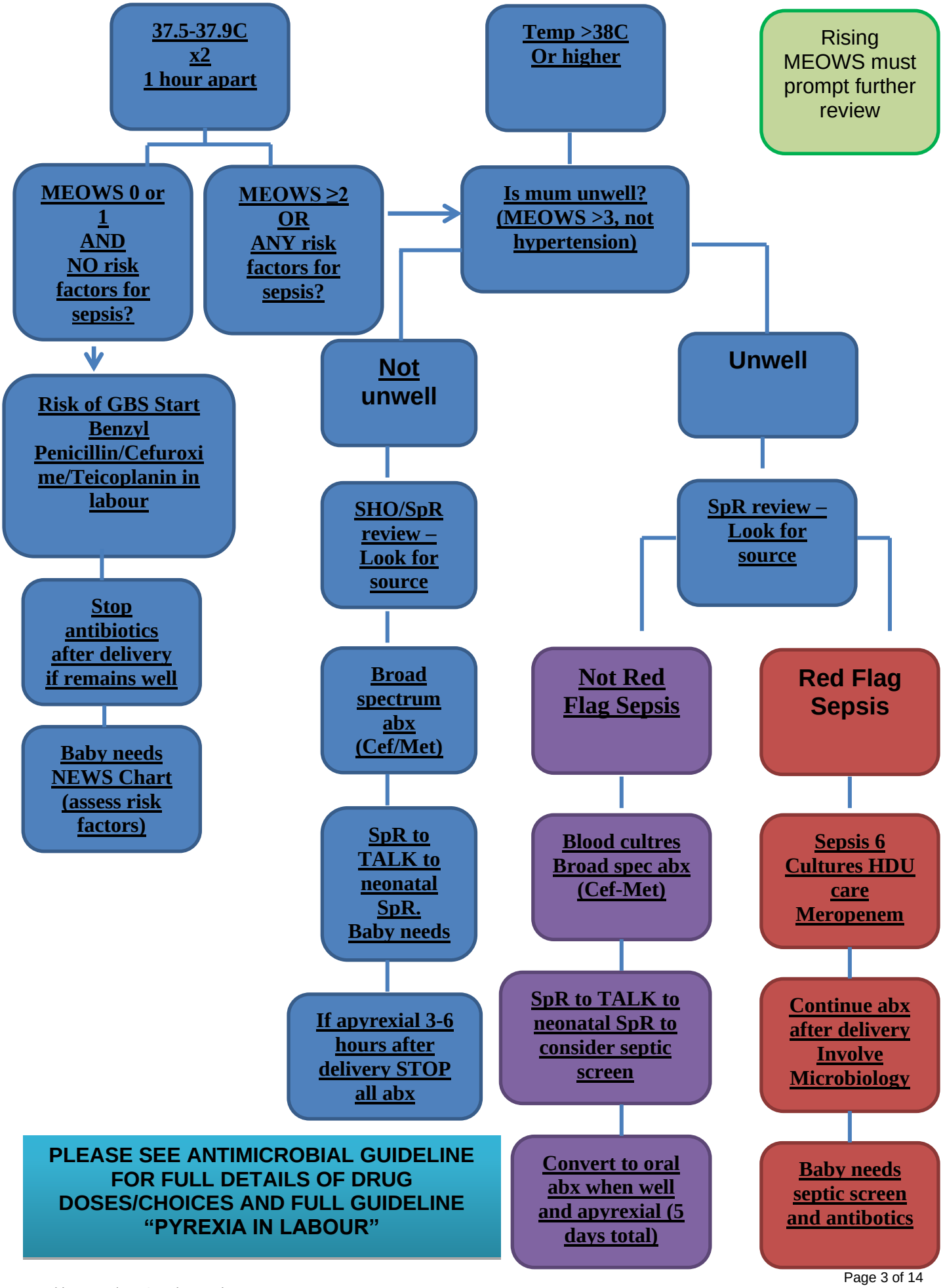
Sepsis and Septic Shock (Includes UHL and Kettering Sepsis Pathway) UHL Guideline

Guideline development methodology

Extensive literature searches were undertaken of the Cochrane, CINAHL, MEDLINE, and Embase databases. The most helpful summaries of all of the current literature have already been produced by the Royal College of Obstetrics and Gynaecology and NICE. Up to Date have also produced a recent review of all of the current literature and have produced an evidence based guideline. Although these have minor contradictions in parts, this guideline summarises the key parts of the following guidelines:

Intrapartum Fever – Up to Date guideline pub Sept 2016 (reviewed monthly)
Bacterial Sepsis in Pregnancy - RCOG Green Top Guideline 64a
Sepsis: Recognition, Diagnosis and Early Management – NICE guideline 51. 2016 (updated Sept 2017)
The prevention of early onset Group B Streptococcal Disease – RCOG Green Top Guideline No. 36
Antibiotics for the prevention of (early onset) neonatal infection – NICE guideline (ng195 2021)

Maternal pyrexia in labour – summary of guideline



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NB: Paper copies of this document may not be most recent version. The definitive version is held on InSite in the Policies and Guidelines Library

2. Intrapartum pyrexia

Intrapartum pyrexia can be caused by infectious and non infectious means and it can be very difficult to work out the cause. Nulliparity, prolonged labour, induction of labour and premature rupture of membranes are some of the risk factors for intrapartum pyrexia. These are risk factors for receiving an epidural – the most common cause of a raised temperature in labour. [1] These are also risk factors for chorioamnionitis and thus most women will receive broad spectrum antibiotics to cover this possibility.

Matermal pyrexia is a well-recognised side-effect of misoprostol regimes. Consider other risk factors for Intrapartum pyrexia, but pyrexia associated with misoprostol alone **does not indicate the presence of infection.** Appropriate treatment is the provision of fluids and the regular administration of paracetamol as an anti-pyretic.

It is vital to note that sepsis can occur with or without pyrexia and that careful assessment of the woman and her baby should be carried out (including noting risk factors for sepsis), whenever there is either a worsening of MEOWs observations (score 3 or more) or a new development of pyrexia.

Please see the Flowchart (Above) for a practical summary of the guideline

2.1 Maternal temperature 37.5 -37.9

A temperature of 37.5 - 37.9°C is a potential risk factor for GBS sepsis in the neonate and the woman should be assessed to decide appropriate antibiotic treatment

Tympanic temperature measurement is widely used in the Trust but has limitations in how it corresponds to core body temperature.

For most women, this level of temperature is a physiological response to labour, pushing and / or epidural analgesia. However, it can be considered a risk factor to the neonate for developing early onset Group B Streptococcal (GBS) septicaemia. In view of this, where a temperature of 37.5 - 37.9°C is recorded, it should be re-measured 1 hour later (sooner, if there are concerns about maternal or fetal wellbeing).

If the temperature persists between 37.5 and 37.9°C, continuous CTG monitoring should be commenced and medical assessment should be performed.

Medical assessment MUST look at the following:

Risk factors for Sepsis (including but not limited to: ruptured membranes > 24 hours, multiple VEs due to prolonged labour or latent phase, immunocompromised patient)
MEOWS with specific reference to respiratory rate and pulse

- Where there are no risk factors for sepsis and MEOWS is 0 or 1, prophylaxis for GBS should be commenced. This should comprise of one of the following antibiotics:

No Penicillin allergy:
Benzyl penicillin (3g IV loading dose, followed by 1.5g every four hours until delivery)
Mild Penicillin allergy:
Cefuroxime (1.5g IV every 8 hours until delivery)
Severe Penicillin allergy:
Teicoplanin 400mg if <100kg booking weight, 600mg if ≥100kg booking weight IV every 12 hours until delivery
There is no indication for blood to be taken including for cultures in an otherwise well woman.

Antibiotics can be stopped immediately following birth.

- Where there are one or more risk factors for sepsis and / or MEOWs score is 2 or more (excluding score for hypertension), broad spectrum antibiotics should be started. This should comprise of:

No / Mild penicillin allergy:

Cefuroxime 1.5g TDS IV and Metronidazole 500mg TDS IV

Severe penicillin allergy:

Clindamycin IV 900 mg every 8 hours PLUS Ciprofloxacin orally 500 mg every 12 hours

- Where the woman's temperature has returned to 37.5°C or below (and observations have normalised) within 3-6 hours of delivery, **stop all antibiotics** (unless there are other indications e.g. third degree tear prophylaxis). For women where the temperature does not return to 37.5°C within six hours, after the temperature has normalised, the antibiotics can be converted to oral route and a 5 day course should be completed:

No / Mild Penicillin allergy:

Cefalexin PO 500 mg every 8 hours PLUS metronidazole PO 400 mg every 8 hours to complete 5 days

Severe Penicillin allergy

Clindamycin PO 300 mg every 6 hours PLUS Ciprofloxacin PO 500 mg every 12 hours to complete 5 days

NOTE: As there is no screening for GBS in the UK, we do not know the GBS status of the majority of our parturients. Therefore, it does not matter whether the woman is known to carry GBS, this is an independent risk factor for neonatal GBS sepsis. Please see the Trust guideline on GBS for further information including details of other risk factors, timing and drug dosages. [8]

For initial neonatal management, please refer to recommendation six below.

2.2 Temperature of 38°C and above

38°C & MEOWS<3 (EXCLUDING HYPERTENSION)

A temperature of 38°C and over for 30 minutes should prompt medical assessment of the woman. MEOWS score should be totalled, excluding values caused by hypertension. (This is because hypertension is not a feature of septic illness, nor is it a risk factor for chorioamnionitis).

Where MEOWS score (excluding hypertension) is <3, it is appropriate for this review to be carried out by a doctor of any grade.

Where MEOWS score (excluding hypertension) is ≥3, this review should be carried out by a doctor who is ST3 (or equivalent) or above. If there will be a delay of over 30 minutes in achieving review of the woman, it is reasonable to ask a more junior doctor to commence assessing and treating the woman, with the doctor who is ST3 or above providing input as soon as possible.

NOTE: Pyrexia associated with misoprostol alone, does not indicate the presence of infection but consider other risk factors for sepsis to decide on treatment or prophylaxis with broad spectrum antibiotics.

IF TEMPERATURE IS 38°C AND OVER AND MEOWS IS <3, A SOURCE SHOULD BE SOUGHT AND BROAD SPECTRUM ANTIBIOTICS SHOULD BE STARTED. THESE CAN BE DISCONTINUED AFTER DELIVERY IF THE PATIENT IS AFEBRILE.

If temperature is 38°C and over and MEOWS is <3 (excluding values caused by hypertension), the woman should be assessed for symptoms and signs of illness and potential source of infection.

Risk factors for chorioamnionitis include prolonged labour, membrane rupture >24 hours, multiple digital vaginal examinations (especially with ruptured membranes), and exposure to a fetal scalp electrode. Urinary tract, respiratory, or gastrointestinal symptoms may suggest a bacterial or viral infection that may have started before labour, such as pyelonephritis or a virus associated with the common cold, or more rarely pneumonia. The use of epidural analgesia is important since it is associated with intrapartum fever. The physical examination should include auscultation of the lungs, and assessment of fundal tenderness, abdominal tenderness and the character of amniotic fluid (e.g., odour).

Further investigations should be guided by the findings of the assessment. (e.g. chest X-ray for suspected pneumonia, urine culture if nitrites are present on urine dip). Where temperature is 38°C and over (but <38.5°C) and MEOWS is <3 and the woman is not unwell, blood cultures or other blood investigations do not have to be performed. [7] Temperature and MEOWS should be repeated hourly and if there is significant deterioration, repeat medical assessment should be performed.

- Where a source of infection is apparent, antibiotic use should be guided by the Trust anti-microbial policy. In the absence of an obvious source of infection, cover for chorioamnionitis should be commenced (although most women presenting in this way will not have this diagnosis).

This should comprise of:

No / Mild penicillin allergy:
Cefuroxime 1.5g TDS IV and Metronidazole 500mg TDS IV
Severe penicillin allergy:
Clindamycin IV 900 mg every 8 hours PLUS Ciprofloxacin orally 500 mg every 12 hours

Where the woman's temperature has returned to 37.5°C or below (and observations have normalised) within 3-6 hours of delivery, **stop all antibiotics** (unless there are other indications e.g. third degree tear prophylaxis).

- For women where the temperature does not return to 37.5°C within six hours, after the temperature has normalised, the antibiotics can be converted to oral route and a 5 day course should be completed:

No / Mild Penicillin allergy:
Cefalexin PO 500 mg every 8 hours PLUS metronidazole PO 400 mg every 8 hours to complete 5 days
Severe Penicillin allergy
Clindamycin PO 300 mg every 6 hours PLUS Ciprofloxacin PO 500 mg every 12 hours to complete 5 days

For initial neonatal management, please refer to recommendation six below.

38°C & MEOWS≥3 (EXCLUDING HYPERTENSION)

IF TEMPERATURE IS 38°C AND OVER AND MEOWS IS ≥3 (EXCLUDING HYPERTENSION), A SOURCE SHOULD BE SOUGHT, BLOOD CULTURES TAKEN AND BROAD SPECTRUM IV ANTIBIOTICS SHOULD BE STARTED. THESE CAN BE CONVERTED TO ORAL ANTIBIOTICS AFTER DELIVERY AND A 5 DAY COURSE SHOULD BE COMPLETED.

If temperature is 38°C and over and MEOWS is ≥3 (excluding values caused by hypertension), the woman should be assessed for symptoms and signs of illness and potential source of infection. If an individual MEOWS parameter is ≥3, recommendation five should be followed instead as this is 'red flag sepsis'.

Risk factors for chorioamnionitis include prolonged labour, membrane rupture >24 hours, multiple digital vaginal examinations (especially with ruptured membranes), and exposure to a fetal scalp electrode. Urinary tract, respiratory, or gastrointestinal symptoms may suggest a bacterial or viral infection that may have started before labour, such as pyelonephritis or a virus associated with the common cold, or more rarely pneumonia. The use of epidural analgesia is important since it is associated with intrapartum fever. The physical examination should include auscultation of the lungs, and assessment of fundal tenderness, abdominal tenderness and the character of amniotic fluid (eg, odour).

Further investigations should be guided by the findings of the assessment. (e.g. chest X-ray for suspected pneumonia, urine culture if nitrites are present on urine dip).

- Where a source of infection is apparent, antibiotic use should be guided by the Trust antimicrobial guideline. In the absence of an obvious source of infection, cover for chorioamnionitis should be commenced (although most women presenting in this way will not have this diagnosis). This should comprise of:

No / Mild penicillin allergy:
Cefuroxime 1.5g TDS IV and Metronidazole 500mg TDS IV
Severe penicillin allergy:
Clindamycin IV 900 mg every 8 hours PLUS Ciprofloxacin orally 500 mg every 12 hours

- After delivery, once the woman has been afebrile for 24 hours and is clinically improved, the antibiotics can be converted to oral route and a 5 day course should be completed using the following antibiotics:

No / Mild Penicillin allergy:
Cefalexin PO 500 mg every 8 hours PLUS metronidazole PO 400 mg every 8 hours to complete 5 days
Severe Penicillin allergy
Clindamycin PO 300 mg every 6 hours PLUS Ciprofloxacin PO 500 mg every 12 hours to complete 5 days
Note: Where the woman is not improving, or has not been afebrile for 24 hours, conversion to oral antibiotics should be delayed. If she is deteriorating, further advice from Microbiology should be sought.

The Adult Sepsis Screening and Immediate Action Tool (found in the MEOWS booklet or on Nervecentre once launched) should be completed and but the sepsis six interventions only need to be carried out if there are concerns about the patient or if 'red flag sepsis' is present.

For initial neonatal management, please refer to recommendation six below.

38°C & INDIVIDUAL MEOWS PARAMETER IS ≥3 (EXCLUDING HYPERTENSION)

If temperature is 38°C and over and an individual MEOWS parameter is ≥3 (excluding hypertension), the patient should be treated as having red flag sepsis and the Trust guideline should be followed.Women in labour with sepsis are at higher risk of severe illness or death. (NICE NG121)

If temperature is 38°C and over and an individual MEOWS parameter is ≥3 (excluding hypertension), the patient should be treated as having red flag sepsis and the Trust guideline should be followed. It may be helpful to access the 'Sepsis Emergency Box' as this has the drugs and equipment present to facilitate timely investigation and treatment. The obstetric ST3+ and anaesthetic ST3+ should be involved in assessment and treatment of the woman.

The Adult Sepsis Screening and Immediate Action Tool (found in the MEOWS booklet) should be completed and the sepsis six interventions should be completed and the paperwork signed, timed and dated to indicate that this has occurred.

Where a source of infection is apparent, antibiotic use should be guided by the Trust antimicrobial guideline. In the absence of an obvious source of infection, Meropenem 1g IV should be given. A second dose can be given 12 hours later if eGFR >10. After this time, the patient should be discussed with microbiology as an antibiotic code would be needed to continue meropenem or alternative antibiotics may be judged to be more appropriate.

Antibiotics should be given within one hour of the diagnosis of 'red flag sepsis' being made. The patient should have hourly observations on an obstetric HDU chart including careful recording of fluid input and output. Serum lactate should be measured and this may need to be repeated depending on clinical course.

The Consultant Obstetrician and Consultant Anaesthetist should be informed of all cases of 'red flag sepsis' in maternity and may need to attend 'out of hours' if there is a delay achieving review of the woman and depending on the clinical condition of the patient.

Following delivery, a higher level of postnatal care will be needed and the woman should be cared for using an obstetric HDU chart to record observations and recording of fluid input and output. Observations should be hourly; unless the woman is improving and a doctor ST3 or above has documented that they can be less frequent. Where the woman is not improving, referral to critical care should be considered.

For initial neonatal management, please refer to recommendation 1.3 below.

2.3 Neonatal assessment

Babies born to women with pyrexia in labour, should be assessed for all risk factors for sepsis and will need NEWS observations. Babies born to significantly unwell mothers will require a septic screen and iv antibiotics.

Babies born to women with risk factors for GBS including temperatures between 37.5 and 37.9°C should be assessed within 2 hours of delivery as per the algorithm in appendix 1 of the Trust GBS guideline. For well, term babies, this will usually consist of NEWS observations for up to 48 hours.

Where mothers have developed a temperature 38°C or over, Obstetric ST3 or above should discuss the case directly with the Neonatal ST3 or above to clarify the level of concern about the woman and her risk of significant septic illness.

Where the woman has had a temperature 38°C or over, received IV antibiotics but is otherwise well (MEOWS <3), with a well, term baby without other risk factors for sepsis, the baby should have NEWS observations. Where there are additional risk factors or the woman is unwell (MEOWS ≥3 (excluding hypertension)), the baby should be reviewed and a septic screen and iv antibiotics are likely to be appropriate. For women with 'red flag sepsis', the baby should have a septic screen and IV antibiotics after delivery.

2.4 SEPSIS

Sepsis can occur in the absence of pyrexia, although this is rare. Where a woman is significantly unwell, particularly in the presence of hypothermia, the diagnosis should still be considered.

Rarely, a woman may develop sepsis in the absence of pyrexia. This is very rare in fit and healthy women without other underlying health conditions. Immunosuppressed women, particularly those with HIV with an unsuppressed viral load or who are on immunosuppressive medication are particularly at risk of not mounting a fever response. It is reasonable to consider broad spectrum antibiotic treatment at a lower threshold than the rest of this guideline suggests.

Where hypothermia is present, this is a risk factor for severe sepsis and early input from senior doctors regarding management and treatment is essential.

Part 3: Sepsis and Suspected Sepsis in Maternity

Introduction

The second part of this guideline summarises the relevant aspects of the UHL Sepsis and Septic Shock 2020 guidance and NICE guidance NG121. The first section covers the investigation and management of all women in maternity and this is followed by some specific advice for labour and after birth including MDT review, analgesia and anaesthesia, fetal monitoring and postnatal care.

3.1 Screening for sepsis

It is the responsibility of the attending clinical team (midwifery and medical) to initiate screening for suspicion of sepsis either in response to using the screening tool in the paper MEOWS booklet, electronic prompts (from the Nervecentre platform) or concern from clinical staff, the patient or patient's family.

A suspicion of sepsis will be confirmed if the following are present:

Clinical evidence suggestive of a new infection **AND**
Evidence of organ dysfunction of either MEOWS of >=4 or MEOWS of 3 in one parameter (excluding severe hypertension.

3.2 Sepsis Six Care Pathway

If a suspicion of sepsis is confirmed, staff must immediately initiate the "sepsis six" care pathway as follows:

- Review by a senior decision maker (ST3 or above) to confirm suspicion of sepsis and support initiation of treatment or deescalate if not in the best interests of the patient.
- Give supplementary oxygen (if required) aiming for target saturation of >94% (88-92% if COPD).
- Take blood tests: FBC, coagulation screen, CRP, urea & electrolytes, liver function tests, serum glucose, venous or arterial blood gas and venous blood culture. Microbiology samples of urine, sputum, wound swab and CSF should also be considered based on clinical picture. Investigations to identify source of infection should be initiated, such as chest x-ray, CT scan or surgical consult.
- Give intravenous antibiotics. This is to be done as soon as possible but after cultures as above. Choice of antibiotic depends on suspected source, allergies and guided by UHL antimicrobial policy. However, when source of infection is unclear or patient has hypotension (systolic BP <90mmHg or MAP <65mmHg) or has neutropenic sepsis (outside a haem-oncology ward) then meropenem 1g is to be given (unless patient has a history of specific meropenem allergy).
- Consider a fluid challenge. Patients with either hypotension (as defined in (iv) above) or serum lactate >2.0 mmol/L should receive 500ml (Hartmann's or 0.9% NaCl) over 15 minutes and monitored for response. This can be repeated once. Further fluid challenges should only be conducted after review by a senior decision maker and other causes of shock excluded. A maximum of 30ml/kg total fluid is recommended. Serum lactate should be rechecked to assess for response.

- Monitor the patient. Frequency of vital signs should be at least as often as recommended by MEOWS pathway, depending on patient score. Hourly fluid input/output balance to be initiated. Consider bladder catheterisation.
- The “sepsis six” should be completed within 1 hour of the patient triggering as having asuspicion of sepsis.

Prompts and guidance for staff completing the “sepsis six” will come from Nervecentre, which will also serve as an electronic record of treatment given. For times when Nervecentre is not available, staff will be provided with a paper version to file in the medical record.
All resuscitation trolleys in ward areas contain a “sepsis box” for use when a patient is suspected of having sepsis. These should be used wherever possible.
The deteriorating adult response team (DART) will attend patients triggering for a suspicion of sepsis, alerted by Nervecentre.

3.2 Escalation

Patients who do not improve with immediate treatment should be reviewed by a consultant within 1 hour. Criteria for referral to the critical care team are:

- Oxygen requirement in excess of 50%
- Persisting hypotension after fluid resuscitation
- Serum lactate over 4.0 mmol/L after fluid resuscitation
- Any other clinically concerning respiratory, cardiovascular, CNS or renal organ dysfunction.

3.3 Review

For antenatal women, routine consultant review should confirm the diagnosis, source of infection, antibiotic (agent and route of administration), need for source control and if escalation of level of care is required.
Severely unwell patients (MEOWS >=3 excluding hypertension, should usually be cared for on the labour ward. For postnatal women who have been treated for sepsis, they should be reviewed initially by the Consultant (or Senior Registrar) on the postnatal ward with ongoing review as clinically indicated.

REVIEW FOR WOMEN IN LABOUR WITH SUSPECTED SEPSIS
For women in labour with suspected sepsis, ensure ongoing multidisciplinary review from a team with a named lead, including:

- a senior obstetrician
- a senior obstetric anaesthetist
- a senior midwife
- a labour ward coordinator.

REVIEW FOR WOMEN IN LABOUR WITH SEPSIS
For women in labour with sepsis, ensure ongoing multidisciplinary review from a team with a named lead, including:

- a senior obstetrician
- a senior obstetric anaesthetist
- a senior neonatologist (where appropriate)
- a senior microbiologist (via telephone discussion usually)
- a senior midwife
- a labour ward coordinator.

Include a senior intensivist (critical care specialist), if a woman in labour with sepsis has any of the following signs of organ dysfunction:

- altered consciousness
- hypotension (systolic blood pressure less than 90 mmHg)
- reduced urine output (less than 0.5 ml/kg per hour)
- need for 40% oxygen to maintain oxygen saturation above 92%
- tympanic temperature of less than 36°C.

3.4 Planning intrapartum care for women with sepsis or suspected sepsis

For women with sepsis or suspected sepsis in the intrapartum period:

- agree a clear multidisciplinary care plan with the woman
- document the agreed plan
- review the plan regularly, taking account of the whole clinical picture, including
- response to treatment.

Involve the woman with sepsis or suspected sepsis and her birth companion(s) in shared decision making about her care, including the following options:

- induction of labour
- continuing labour
- augmenting labour
- instrumental birth
- caesarean section.

When discussing timing and mode of birth with a woman with sepsis or suspected sepsis, take into account the woman's preferences, concerns and expectations, and the whole clinical picture, including:

- the source and severity of sepsis, if known
- weeks of pregnancy
- fetal wellbeing
- stage and progress of labour
- parity
- response to treatment.
- If the source of sepsis is thought to be the genital tract, expedite the birth.

3.5 Fetal monitoring for women in labour with sepsis or suspected sepsis

Advise continuous cardiotocography during labour for:

- women with suspected sepsis and
- women with confirmed sepsis

Explain to the woman and her birth companion(s) what fetal blood sampling involves and the uncertainty of the significance of the results, and support her decision to accept or decline testing.

Be aware that for women in labour with sepsis or suspected sepsis, fetal blood sample results may be falsely reassuring, and always discuss with a consultant obstetrician: whether fetal blood sampling is needed and the results of any fetal blood sampling carried out.

For women in labour with sepsis or suspected sepsis and an abnormal cardiotocograph trace, think about the whole clinical picture and take account of the following before performing any fetal blood sampling and when interpreting the results:

- the woman's preferences
- stage and progress of labour
- parity
- likelihood of chorioamnionitis.

If sepsis continues to be suspected, only repeat fetal blood sampling with caution and in discussion with a consultant obstetrician.

3.6 Initial postnatal Care for women with sepsis or suspected sepsis

For women with sepsis or suspected sepsis, ensure that there is ongoing multidisciplinary review in the first 24 hours after the birth. This should include a discussion about the need for:

- microbiological specimens for culture
- antimicrobial treatment
- increased frequency of monitoring
- an enhanced level of care and monitoring
- further investigations such as imaging
- support to enable the woman to feed her baby as she chooses (including keeping the woman and baby together wherever possible and maintaining skin-to-skin contact)
- additional support for the woman and her family

3.7 Anaesthesia and analgesia for women in labour with sepsis or suspected sepsis

Anaesthesia for women in labour with sepsis and signs of organ dysfunction

If a woman in labour with sepsis and any signs of organ dysfunction requires an anaesthetic (i.e. severe sepsis), a consultant obstetric anaesthetist should be informed and ideally present.
Each individual case will require a risk/benefit discussion, but in general, regional anaesthesia is more risky in this group of patients and general anaesthesia is often used.
In appropriate cases selected for regional anaesthesia, broad spectrum or targeted antibiotics should be administered as soon as possible and ideally before proceeding.

Analgesia for women in labour with sepsis or suspected sepsis

For women in labour with sepsis and any signs of organ dysfunction, epidural labour analgesia carries increased risk and should only be used after advice from a consultant obstetric anaesthetist.
For women in labour with suspected sepsis where concern is insufficient for antibiotic treatment, consider the birthing pool as a form of analgesia only after discussion with a senior midwife and a senior obstetrician.
For women in labour who need antibiotics for suspected sepsis (see the NICE guideline on sepsis), start the antibiotics before inserting the needle for regional analgesia.
For women in labour with suspected sepsis, carry out a multidisciplinary review of options for pain relief at least every 4 hours.
If there are concerns about providing a woman's choice of regional analgesia, this should be discussed with the consultant obstetric anaesthetist.

4. Education and Training

None

4. Monitoring Compliance

None

5. Supporting References

1. Maayan-Metzger A, Mazkereth R, Shani A, Kuint J. Risk factors for maternal intrapartum fever and short-term neonatal outcome. Fetal Pediatr Pathol 2006; 25:169
2. BBraun Tympanic thermometer Pro6000 User manual
3. Royal College of Obstetricians and Gynaecologists (RCOG), 2017 Prevention of Early-onset Neonatal Group B Streptococcal Disease Green-top Guideline No. 36
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5. Neonatal infection: antibiotics for prevention and treatment; NICE guideline [NG195]Published: 20 April 2021
6. Sepsis: recognition, diagnosis and early management; NICE guideline [NG51]Published: 13 July 2016 Last updated: 13 September 2017
7. Chen KT. Intrapartum Fever. In: UpToDate, Waltham, MA (Accessed on 24/1/17)
8. Group B Streptococcus: Management in pregnancy and the newborn. 2016 University Hospitals Leicester Trust Guideline

6. Key Words

Antibiotics, Cefuroxime, Ciprofloxacin, Clindamycin, Intrapartum, MEOWS, Metronidazole, Penicillin, Sepsis, Teicoplanin, Temperature

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The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality have been reviewed and no detriment was identified.

DEVELOPMENT AND APPROVAL RECORD FOR THIS DOCUMENT	
Author / Lead Officer: C Roy - Consultant Obstetrician	**Executive Lead:** Chief medical officer

REVIEW RECORD			
Date	**Issue Number**	**Reviewed By**	**Description Of Changes (If Any)**
June 18	1	N Ling	Updated to match new GBS guideline
July 2019	2	N Ling	Updated in line with NICE guidance “Intrapartum care for women with existing medical conditions or obstetric

			complications and their babies" March 2019
December 2020	3	N Ling	Updated in response to HSIB report to make clearer need for in person review and to alter recommendation to broad spectrum antibiotics for women with raised MEOWS or risk factors Addition of section of general management of sepsis and suspected sepsis including Nervecentre prompts.
July 2021	3.1	N Ling	Antimicrobial advice re-inserted following AWP advice and links to Antimicrobial summary previously imbedded within the text removed.
October 2021	3.2	N Ling	Added advice regarding assessment of women who have had a temp of 38 or more, factors to be taken into account when considering conversion to oral antibiotics or when to seek micro advice.
May - Sept 2023	4	C Roy L Taylor	Updated Teicoplanin dosing in line with recommendations to - **400mg if <100kg booking weight, 600mg if ≥100kg booking weight** **Pyrexia parameters changed from persistent** 37.8 - 37.9°C 2 hours apart to 37.5 - 37.9°C 1 hour apart