Pyrexia & Sepsis in Labour – Obstetric guideline

NHS University Hospitals of Leicester NHS Trust

Trust ref: C21/2017

Contents

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 pregnant woman or person and their baby. This guideline aims to provide practical support to those working in Obstetrics, to ensure that pregnant women and people receive appropriate treatment for illness, whilst avoiding iatrogenic harm.

- This guideline is for the use of all staff involved in the management of pregnant women and people 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, updated 2024.

What's new?

- Updated UHL Trust Obstetric Sepsis screening tool added
    - To consider High risk flag sepsis if unwell or MEOWS ≥4 (previously MEOWS >3 or 3 in one parameter excluding hypertension).
- I.V Vancomycin (previously I.V clindamycin) in cases of severe penicillin allergy
- Consider clindamycin resistance if poor response when administering orally
- Hyperlinks to Neonatal Antibiotics for Early Onset Sepsis guideline added
- Added vancomycin prescription chart hyperlink

Related documents

Group B Streptococcus in Pregnancy and the Newborn UHL Obstetric Guideline Trust ref: C97/2008

Maternity Assessment Unit UHL Obstetric Guideline Trust ref: C29/2008

Intrapartum Care UHL Obstetric Guideline Trust ref: C60/2019

Unexplained Intra or Postpartum Collapse UHL Obstetric Guideline Trust ref: C44/2011

Maternity Early Obstetric Warning Scoring System UHL Obstetric Guideline Trust ref: C16/2018

Maternal Death UHL Obstetric Guideline Trust ref: C2/2007

Postnatal Care UHL Obstetric Guideline Trust ref: C119/2011

Resuscitation at Birth UHL Neonatal Guideline Trust ref: B35/2008

Cardiopulmonary Resuscitation Policy UHL LLR Alliance LPT Trust ref: E4/2015

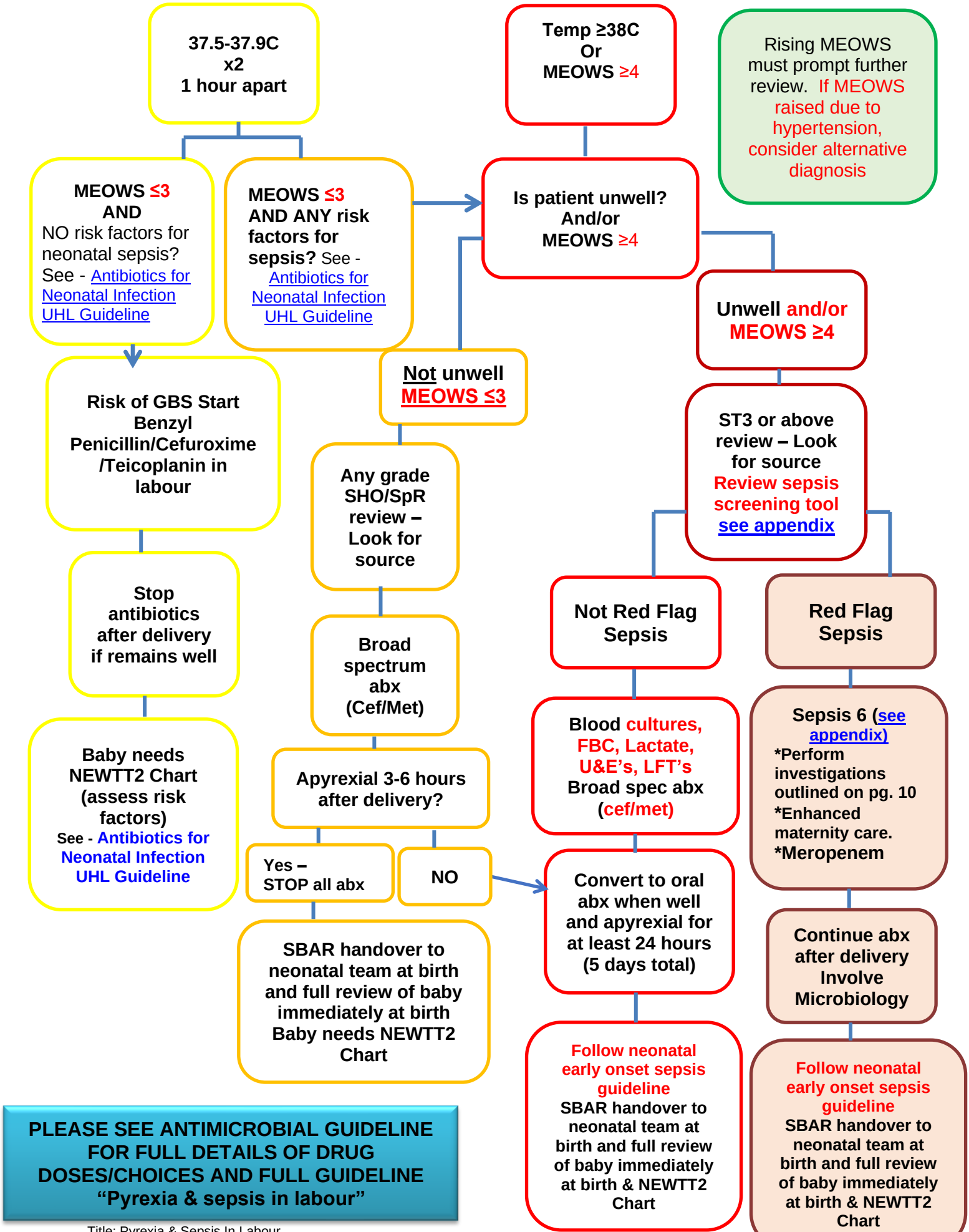
Fetal Monitoring in Labour UHL Obstetric Guideline Trust ref: C23/2021

Sepsis and Septic Shock (Includes UHL and Kettering Sepsis Pathway) UHL Guideline Trust ref: B11/2014

Antibiotics for Neonatal Infection UHL Guideline Trust ref: C54/2019

Antimicrobial Summary UHL Womens Guideline Trust ref: C4/2018

Maternal pyrexia in labour – summary of guideline



PLEASE SEE ANTIMICROBIAL GUIDELINE FOR FULL DETAILS OF DRUG DOSES/CHOICES AND FULL GUIDELINE "Pyrexia & sepsis in labour"

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.

Risk factors for Sepsis/chorioamnionitis include;

- prolonged labour,
- membrane rupture >24 hours before labour (18 hours if pre-term)
- multiple digital vaginal examinations (especially with ruptured membranes)
- exposure to a fetal scalp electrode.
- immunocompromised patient

Please note, the use of epidural analgesia is important since it is associated with intrapartum pyrexia.

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.

Maternal 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.

Obstetric Assessment (looking for a source):
The physical examination should include

- auscultation of the lungs
- assessment of fundal tenderness
- abdominal tenderness
- character of amniotic fluid (e.g. odour)
- Assess risk factors for Sepsis, Chorioamnionitis)
- MEOWS with specific reference to respiratory rate and pulse

Further investigations should be guided by the findings of the assessment. **It is vital to note that sepsis can occur with or without pyrexia and that careful assessment of the birthing woman or person and their baby should be carried out (including noting risk factors for sepsis), whenever there is either a worsening of MEOWs observations (score 4 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°C - 37.9°C No risk factors for neonatal sepsis? (See - Antibiotics for Neonatal Infection UHL Neonatal Guideline)

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

For most birthing women and people, 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 must be performed.

Medical assessment MUST be performed (see page 4)

- **Where there are no risk factors for sepsis and MEOWS is ≤3, 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 person.

Antibiotics administered for intrapartum prophylaxis for prevention of GBS infection in the newborn only, can be stopped immediately following birth.

- **Where there are one or more risk factors for maternal sepsis and MEOWs score is ≤ 3 (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:

IV Vancomycin PLUS Ciprofloxacin orally 500 mg BD PLUS Metronidazole orally 400mg TDS
Vancomycin dose/frequency/monitoring as per UHL Vancomycin prescription chart on microguide. (Booking weight to be used for dose calculations)

- Where the temperature has returned to 37.4°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).
- Where the temperature does not return to 37.4°C or below within 6 hours, continue antibiotics. When the temperature has normalised for at least 24 hours, 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

Due to local resistance rates, if patient fails to respond to oral clindamycin, suspect clindamycin resistance, discuss alternatives with Microbiology

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 birthing woman or person is known to carry GBS, this is an independent risk factor for neonatal GBS sepsis. Please see the Group B Streptococcus in Pregnancy and the Newborn UHL Obstetric Guideline.pdf for further information including details of other risk factors, timing and drug dosages. [8]

For initial neonatal management, please refer to recommendation 4 below.

2.3 Maternal temperature 37.5°C - 37.9°C With risk factors for neonatal sepsis and not unwell?
&
Temperature of 38°C and above & MEOWS≤3 (excluding hypertension) & not unwell

A temperature of ≥38°C should prompt medical assessment.

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 ≥4, 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 birthing woman or birthing person, it is reasonable to ask a more junior doctor to commence assessing and treating, with the doctor who is ST3 or above providing input as soon as possible.

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

Medical assessment MUST be performed (see page 4)

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 birthing woman or person is not unwell, blood cultures or other blood investigations do not have to be routinely 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 birthing women or people 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:

IV Vancomycin PLUS Ciprofloxacin orally 500 mg BD PLUS Metronidazole orally 400mg TDS

Vancomycin dose/frequency/monitoring as per UHL Vancomycin prescription chart on microguide. (Booking weight to be used for dose calculations)

Where the birthing woman or person's temperature has returned to 37.4°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).

- Where the temperature does not return to 37.4°C within six hours, continue antibiotics. When the temperature has normalised for at least 24 hours, 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

Due to local resistance rates. If patient fails to respond to oral clindamycin, suspect clindamycin resistance and discuss with Microbiology for alternatives

For initial neonatal management, please refer to recommendation 4 below.

2.4 38°C & feeling unwell and/or MEOWS ≥4 (excluding hypertension)

If temperature is ≥38°C and the patient feels unwell and/or MEOWS is ≥4 (excluding hypertension), the birthing woman or person must be assessed by ST3 or above for symptoms and signs of illness, a source should be sought. The sepsis screening tool must be reviewed to assess if this is 'high risk sepsis' (see appendix). **If MEOWS is ≥ 4 section 3 should be followed as this could be 'high risk sepsis'.**

If it is identified as NOT 'high risk sepsis'; blood cultures, FBC, Lactate, U&E's and LFT's should be taken. 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).

Broad spectrum IV antibiotics should be started.

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 birthing women or people 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:

IV Vancomycin PLUS Ciprofloxacin orally 500 mg BD PLUS Metronidazole orally 400mg TDS

Vancomycin dose/frequency/monitoring as per UHL Vancomycin prescription chart on microguide. (Booking weight to be used for dose calculations)

- After delivery, once the birthing woman or person 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:

Due to local resistance rates. If patient fails to respond to oral clindamycin, suspect clindamycin resistance and consider restarting the IV regime above.

Note: Where the birthing woman or person is not improving, or has not been afebrile for 24 hours, conversion to oral antibiotics should be delayed. If they are deteriorating, further advice from Microbiology should be sought.

The Adult Sepsis Screening and Immediate Action Tool (found on NerveCentre) should be completed. 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 4.

2.5 SEPSIS

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

Rarely, a birthing woman or person may develop sepsis in the absence of pyrexia. This is very rare in fit and healthy birthing women or people without other underlying health conditions. The immunosuppressed, 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.

3. 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 2024 guidance and NICE guidance NG121. The first section covers the investigation and management of all birthing women or people 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 38°C & OR MEOWS PARAMETER IS ≥4 (EXCLUDING HYPERTENSION)

If temperature is 38°C and over and/OR MEOWS is ≥4 (excluding hypertension) the patient should be assessed for high risk sepsis and the Trust guidance should be followed (see appendix). Birthing women or people in labour with sepsis are at higher risk of severe illness or death. (NICE NG121)

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 birthing woman or person.

The Adult Sepsis Screening and Immediate Action Tool (found on NerveCentre and in the MEOWS booklet) should be completed and the sepsis six interventions should be completed and 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 'high risk sepsis' being made.

The patient should have hourly EMC observations 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 'high risk sepsis' in maternity and may need to attend 'out of hours' if there is a delay achieving review of the birthing woman or person, depending on the clinical condition of the patient.

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

For initial neonatal management, please refer to recommendation 4 below.

3.2 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 (excluding severe hypertension.

3.3 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 de-escalate if not in the best interests of the patient.
- Give supplementary oxygen (if required) aiming for target saturation of >92% (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 a drop of > 40 from normal) or has neutropenic sepsis (outside a haem-oncology ward) then maximum dose broad spectrum antibiotics 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 above) or serum lactate >2.0 mmol/L should receive 500ml (Hartmann's or 0.9% NaCl) over 15 minutes and monitored for response. Caution in pre-eclampsia – consider appropriateness of fluid bolus. 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 a suspicion 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 bleep 5293 LRI, 3457 LGH) will attend patients triggering for a suspicion of sepsis, alerted by Nervecentre.

3.4 Escalation

Patients who do not improve with immediate treatment should be reviewed by a ST3 and above 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.

3.5 Review

For antenatal pregnant women and pregnant people, 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 ≥ 4 excluding hypertension), should be cared for on the labour ward. For postnatal women and people who have been treated for sepsis, they should be reviewed initially by the Consultant if their MEOWS are 3 or more in one parameter or 4 or more in the previous 24 hours, on the postnatal ward with on-going review as clinically indicated.

REVIEW FOR WOMEN & PREGNANT PEOPLE IN LABOUR WITH <u>SUSPECTED</u> SEPSIS

For women and pregnant people in labour with suspected sepsis, ensure on-going 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 & PREGNANT PEOPLE IN LABOUR WITH SEPSIS

For women and pregnant people in labour with sepsis, ensure on-going 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 person 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 50% oxygen to maintain oxygen saturation above 92%
- tympanic temperature of less than 36°C.

3.6 Planning intrapartum care for women and pregnant people with sepsis or suspected sepsis

For women and pregnant people with sepsis or suspected sepsis in the intrapartum period:

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

Involve the woman or pregnant person with sepsis or suspected sepsis and their birth companion(s) in shared decision making about their 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 or pregnant person with sepsis or suspected sepsis, take into account their 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.

3.7 Fetal monitoring for women and pregnant people in labour with sepsis or suspected sepsis

Advise continuous cardiotocography during labour for:

- suspected sepsis

and

- confirmed sepsis

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

Be aware that for women and pregnant people 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 and pregnant people 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/person’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.

3.8 Initial postnatal Care for women and people with sepsis or suspected sepsis

For postnatal women or people with sepsis or suspected sepsis, ensure that there is on-going 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 or person to feed their baby as they choose (including keeping the birth parent and baby together wherever possible and maintaining skin-to-skin contact)
- additional support for the woman or person and their family
- Administration of enoxaparin

Please see Antibiotics for Neonatal Infection UHL Guideline

3.9 Anaesthesia and analgesia for birthing women or people in labour with sepsis or suspected sepsis.

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

If a birthing woman or person 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 birthing women or people in labour with sepsis or suspected sepsis

For birthing women or people 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 birthing women or people 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 birthing women or people in labour who need antibiotics for suspected sepsis (see the https://www.nice.org.uk guidance ng51 suspected-sepsis-recognition-diagnosis-and-early-management-pdf), start the antibiotics before inserting the needle for regional analgesia.
For birthing women or people 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 birthing woman or person's choice of regional analgesia, this should be discussed with the consultant obstetric anaesthetist.

4. Neonatal assessment

Babies born to birthing women or people with pyrexia in labour, should be assessed for all risk factors for sepsis and will need NEWTT2 observations. Babies born to significantly unwell birthing women or people will require a septic screen and IV antibiotics.

- Babies born to birthing women or people with risk factors for GBS including temperatures between 37.5 and 37.9°C should be assessed **immediately at birth** as per the algorithm in appendix 1 of the Trust GBS guideline. For well, term babies, this will usually consist of NEWTT2 observations for a minimum of 12 hours.
- Where birthing women and people 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 birthing woman or person and their risk of significant septic illness.
- Where the birthing woman or person has had a temperature 38°C or over, received IV antibiotics but is otherwise well (MEOWS <3) **ALL babies should be assessed immediately at birth**.
- With a well, term baby without other risk factors for sepsis, the baby should have NEWTT2 observations.
- Where there are additional risk factors or the birthing woman or person is unwell (MEOWS ≥3 (excluding hypertension)), the baby should be reviewed and a septic screen and IV antibiotics are likely to be appropriate.
- For birthing women or people with 'high risk sepsis', the baby should have a septic screen and IV antibiotics after delivery.

5. Education and Training

None

6. Monitoring Compliance

None

7. Supporting References

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8. Key Words

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

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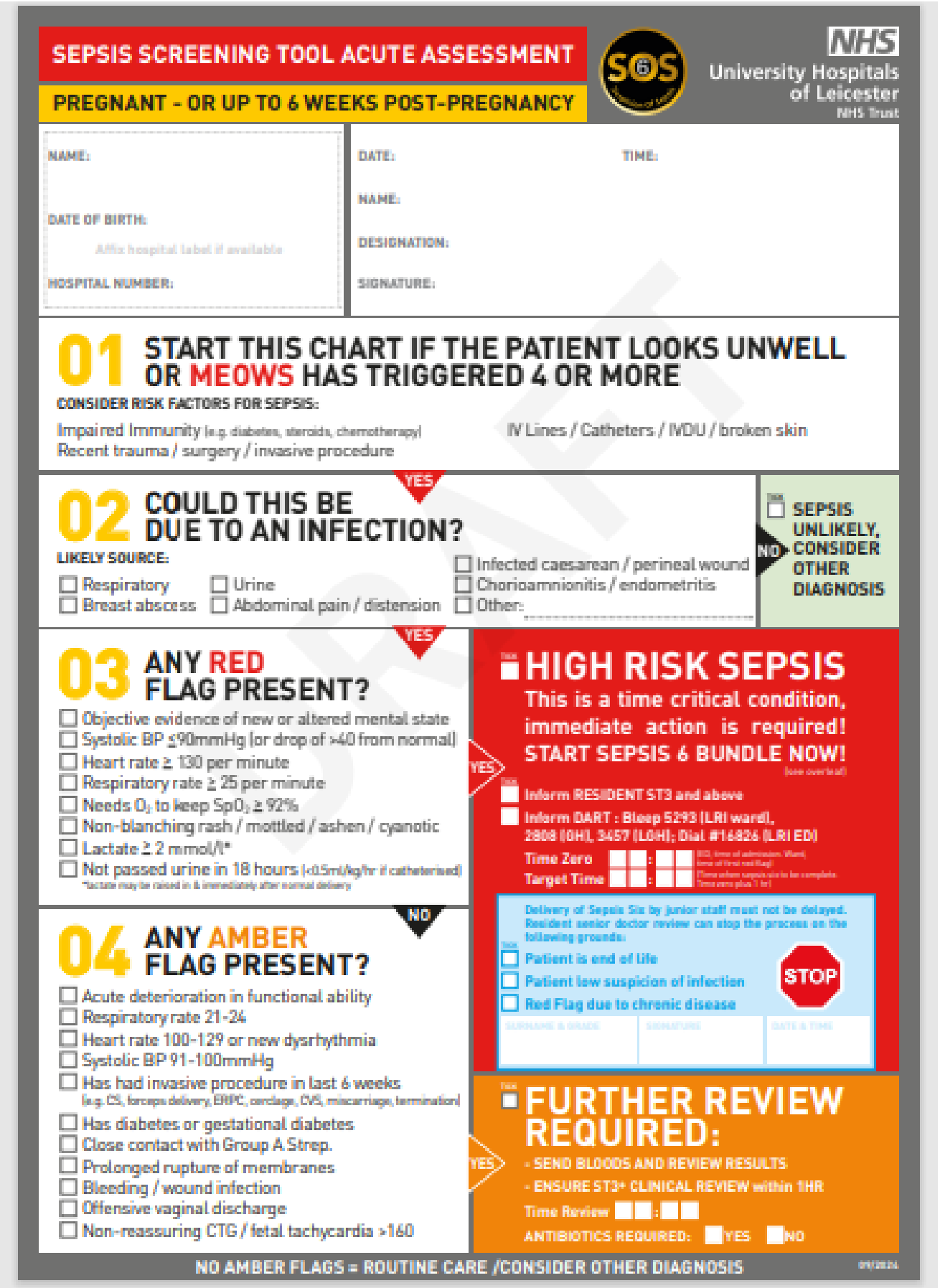
The Trust recognises the diversity of the local community it serves. Our aim therefore is to provide a safe environment free from discrimination and treat all individuals fairly with dignity and appropriately according to their needs.
As part of its development, this policy and its impact on equality 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
April – November 2024	5	S Agarwal	Added and amended in accordance with UHL sepsis screening tool Vancomycin in case of severe penicillin allergy. Consider clindamycin resistance if poor response to oral clindamycin Hyperlinks to Neonatal Antibiotics for Early Onset Sepsis guideline added Added vancomycin prescription chart hyperlink

Appendix 1: UHL Sepsis screening tool in pregnancy or up to 6 weeks post-pregnancy



SEPSIS SIX BUNDLE

Complete in ONE HOUR. Actions should be carried out simultaneously.

Use sepsis box / pack to support delivery of sepsis six

Sepsis
Frequently Asked Questions

THE UK SEPSIS TRUST

01 ENSURE SENIOR CLINICIAN ATTENDS

- Not all patients with RED FLAGS will need the 'SEPSIS 6' URGENTLY
- A senior decision maker may seek alternative diagnoses / De-escalate care
- Record decisions below

TIME REVIEWED | NAME | GRADE | REASON NOT REVIEWED

02 OXYGEN IF REQUIRED

- Start if O_2 saturations less than 92% -Aim for O_2 saturations of 94-98%
- If at risk of hypercarbia aim for saturations of 88-92%

TIME ADMINISTERED | NAME | REASON NOT ADMINISTERED

03 OBTAIN IV ACCESS, TAKE BLOODS

- Blood cultures, blood glucose, Lactate, FBC, U&Es, CRP and clotting
- Lumbar puncture if indicated

TIME OBTAINED | NAME | REASON NOT OBTAINED WITHIN 1 HOUR OF TIME ZERO

04 GIVE IV ANTIBIOTICS

- Maximum dose broad spectrum therapy
- Consider: Local policy / Allergy status / Antivirals

TIME GIVEN | NAME | REASON NOT GIVEN

05 GIVE IV FLUIDS

CAUTION: Pre-eclampsia -
Consider appropriateness of fluid bolus

- Give fluid bolus of 500ml
- Nice recommends using lactate to guide further fluid therapy

TIME ADMINISTERED | NAME | REASON NOT ADMINISTERED

06 MONITOR

- Use MEOWS
- Measure urinary output: This may require a urinary catheter. Repeat lactate at least once per hour if initial lactate elevated or if clinical conditions change

TIME STARTED | NAME | REASON NOT STARTED

ESCALATION — CRITICAL CARE MEDICAL TEAM refer if patient:

- SBP <90 and lactate >2 after fluid resuscitation
- Has High Risk Sepsis and lactate >4
- Has High Risk Sepsis and requires >50% O2 or NIV
- Has High Risk Sepsis and significant respiratory/ cardiovascular/ CNS or renal dysfunction.

TIME REFERRED | NAME OF REFERRER | NAME OF ICU DOCTOR | REASON NOT REFERRED

REVIEW — SEPSIS TIME OUT

Complete within 1 4hr of time zero, led by a consultant

Diagnosis? Has source of infection been confirmed? Alternative Diagnosis? Further investigation required?

- Antibiotic review. Continue? / change agent? / change route to oral? / Stop all antibiotics?
- Source control. Infected line needs removal? Need for urgent surgical review? Percutaneous drainage?
- Higher level of Care? DART / ICU medical review? Review ceiling of care, RESPECT? Patient transferred to ITU?

Appendix: Vancomycin dosing and administration

Vancomycin (microguide.global)