NHS North West

NORTH WEST GUIDELINE

Maternal Sepsis

NHS North West

Document Control:

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Title	
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1.	NG 255: Suspected sepsis in pregnant or recently pregnant people: recognition, diagnosis and early management
2.	
3.	

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All members of the guideline development group should consider whether there are any conflicts of interest and declare them here.

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1 Summary / Introduction

Maternal sepsis is a life-threatening condition defined as organ dysfunction resulting from infection during pregnancy, childbirth, post-abortion, or postpartum period (World Health Organisation 2017).

In 2020-22, there were 275 women who died during pregnancy or up to six weeks after the end of pregnancy from direct and indirect causes. Among those, sepsis (pregnancy-related infections) remains a significant direct cause. (MBRRACE-UK - Maternal State of the Nation

Report 2024)

For this reason, the Royal College of Physicians, the UK Sepsis Trust and NHS England are leading an ongoing national ambition to reduce the rate(s) of morbidity and mortality from sepsis. The emphasis is on early recognition and prompt escalation to senior medical staff and multi-speciality involvement when patients with suspected sepsis are not responding to initial treatments. All NHS trusts in England are contractually obliged to fully comply with the recommendations from these organisations and this guidance, which applies to pregnant women and up to 4 weeks postnatal within the obstetric division, summarises these recommendations.

2 Purpose

This guideline stipulates the mandatory arrangements for prevention and management of suspected maternal sepsis in Obstetrics. Those women who fit criteria for transfer to intensive care unit will be managed in conjunction with the Critical Care team.

Implementation of the guideline will lead to a:

- Consistent evidenced based approach to management of these women

3 Scope

This guideline defines the practice for clinical staff for the standard of care of the all pregnant women in order to recognise any deterioration of maternal wellbeing using the national Maternity Early Warning Score (MEWS) or a locally agreed Maternity Observation Tool and appropriate escalation.
It ensures a minimum standard for vital signs recordings and provides a process for evaluating the minimum frequency of vital signs observations, based upon individual patient requirements.

4 Responsibilities

This guideline is for midwives, obstetricians and other professionals providing care for pregnant women.

5 Process/procedure/guidance etc. (main body)

5.1 Definitions and Risk Factors

Maternal sepsis is a life-threatening condition defined as organ dysfunction resulting from infection during pregnancy, childbirth, post-abortion, or postpartum period (World Health Organisation 2017).

Infection Inflammatory response to the presence of a microorganism

Sepsis Organ Dysfunction due to dysregulation of host in response to infection

Septic Shock Subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to increase mortality.

Persisting hypotension requiring vasopressors to maintain MAP ≥65 mm Hg and having a serum lactate level >2 mmol/L (18 mg/dL) despite adequate volume resuscitation.

Maternal Sepsis Occurs through the duration of pregnancy and 4 weeks postpartum

Risk Factors for Sepsis in Maternity Patients. Table 2 (Ref 1,2,3,4,5,6,7,8)

Maternal	**Obstetric**
Obesity	Prolonged rupture of membranes
Diabetes/ Impaired glucose tolerance	Diabetes in pregnancy
Ethnicity: Non-white Caucasian (including the requirement of an interpreter)	Caesarean Section (emergency > elective)
Anaemia	Operative delivery
Maternal age >35	Vaginal trauma (incl episiotomy)
Impaired immunity/ immunosuppressant medication	Amniocentesis and other invasive procedures
Renal/cardiac/liver disease	Retained pregnancy tissue
History of pelvic infection	Multiple gestation
Contact with Group A Streptococcus (GAS)	Cervical cerclage
Intravenous drug use / alcohol misuse	Manual removal of placenta
History of Group B Streptococcal infection	Indwelling devices
Systemic disorders (eg Lupus, HIV)	
Continued vaginal bleeding or offensive vaginal discharge	
Socioeconomic deprivation – learning disabilities, cognitive impairment	
Indwelling catheters	

Neutropenic sepsis – received systemic anticancer treatment within the last 30 days.	
Repeated antibiotic use	
Breach of skin integrity	

*This list not exhaustive please consider holistic considerations (including uncommon organisms)

Please Note –

Suspect neutropenic sepsis in people who become unwell and:

- are having or have had systemic anticancer treatment within the last 30 days
- are receiving or have received immunosuppressant treatment for reasons unrelated to cancer. Use clinical judgement (based on the person's specific condition, medical history, or both, and on the treatment they received) to determine whether any past treatment may still be likely to cause neutropenia.

Refer people with suspected neutropenic sepsis immediately for assessment in secondary or tertiary care. [This recommendation is from NICE's guideline on neutropenic sepsis in people with cancer

Treat people with neutropenic sepsis, regardless of cause, in line with NICE's guideline on neutropenic sepsis in people with cancer.

5.2 Chapter: Recognition of Maternal Sepsis

Introduction

Pregnant women are particularly vulnerable to rapid deterioration due to infection making early identification key to management. Early presentations of sepsis can be non-specific and atypical making this challenging. An additional challenge is that typically pregnant women can physiologically compensate well initially, and this may mask the severity of disease. Labour may also distract from systemic evaluation. Therefore, healthcare providers must maintain a high index of suspicion.

Early recognition and management of maternal sepsis relies upon vigilance, structured assessment tools, clear communication and prompt escalation. As sepsis in pregnancy may present subtly combining the national Maternity Early Warning Score (MEWS), clinical judgement and validated screening pathways ensures optimal maternal and fetal outcomes.

Involving the wider multidisciplinary clinical team—including obstetricians, midwives, anaesthetists, microbiologists and critical care specialists—is essential to ensure timely intervention, coordinated care and the best possible outcomes for both mother and baby. Collaborative decision-making and shared situational awareness can significantly enhance early detection and treatment efficacy.

5.3 Recognising Suspected Maternal infection AND/OR Sepsis

5.3.1 Risk Factors and Non-Specific Presentations

- Be alert to atypical symptoms: general malaise, fatigue, behavioural changes, reduced GCS and focal signs of infection.

- Recognise limitations in communication and act cautiously with those unable to provide complete histories. Examples include language barriers, learning disabilities, or altered mental status.

- High-risk groups – see table 2

5.3.2 Early Warning Signs

Be vigilant for signs of infection and systemic deterioration:

- **S**lurred speech or confusion
- **E**xtreme shivering or muscle pain
- **P**assing no urine (in a day)
- **S**evere breathlessness
- **I**t feels like you're going to die
- **S**kin mottled or discoloured.

Additional symptoms which might affect people during or after pregnancy due to the possibility of infection include:

- Fever and chills
- Dizziness
- Lower abdominal pain
- Foul-smelling vaginal discharge
- Vaginal bleeding
- Increased heart rate
- Discomfort or illness

5.3.3 Pregnancy-Specific Considerations

Consider the following:

- **Obstetric Factors**: Pregnant women face a higher chance of sepsis due to obstetric factors such as: naturally occurring immunological changes, prolonged rupture of membranes, retained products of conception, fetal death in utero (FDIU), Post partum haemorrhage, spinal / epidural, procedures or surgery including caesarean birth or perineal wound/repair.

- **Infectious Risks**: The most common source of bacterial infection leading to sepsis in pregnant women is chorioamnionitis. Maternal sepsis can also be caused by a urinary, respiratory, endometritis and breast infection.

- **Systemic Indicators**: Include elevated white blood cell count (WCC), persistent fever, abnormal vital signs, elevated lactate levels or acid base disturbance.

5.4 Interpreting findings

5.5 Temperature in suspected sepsis

Do not rely on fever or hypothermia alone to rule sepsis either in or out.

Take into account that some groups of people with sepsis may not develop a raised temperature. These include:

- people living with chronic illnesses, disabilities, or complex care needs

- people having treatment for cancer

- people severely ill with sepsis
- people with a spinal cord injury

Take into account that a rise in temperature can be a physiological response, for example after surgery or trauma

5.6 Heart rate in suspected sepsis

Interpret the heart rate of a person with suspected sepsis in context, taking into account that:

- baseline heart rate may be lower in young people and adults who are fit
- baseline heart rate in pregnancy is 10 to 15 beats per minute more than normal
- heart rate response may be affected by medicines such as beta-blockers.

5.7 Blood pressure in suspected sepsis

Interpret blood pressure in the context of a person's previous blood pressure, if known. Be aware that the presence of normal blood pressure does not exclude sepsis in young people.

5.8 Confusion, mental state and cognitive state in suspected sepsis

Interpret a person's mental state in the context of their normal function and treat changes as being significant.

Be aware that changes in cognitive function may be subtle and assessment should include history from the person and their family or carers.

Take into account that changes in cognitive function may present as changes in behaviour or irritability in people with a learning disability.

5.9 Oxygen saturation in suspected sepsis

Take into account that if peripheral oxygen saturation is difficult to measure in a person with suspected sepsis, this may indicate poor peripheral circulation because of shock. [2016]

5.10 Assessment Tools

5.10.1 National Maternity Early Warning Score (MEWS)

Utilise MEWS or a locally agreed Maternity Observation Tool to monitor vital signs and detect early signs of deterioration. Any deviation must be escalated according to the National MEWS algorithm or other locally agreed Maternity Observation tool. Document escalation actions clearly in the clinical record. Consider a multidisciplinary review when MEWS is elevated but diagnosis is unclear.

5.11 Sepsis Screening Tool – Appendix 1a or 1b

Tools developed by the UK Sepsis Trust or NICE must be used when the National MEWS or locally agreed Maternity Observation Tool triggers or if there is clinical concern to identify red and amber flags. These include:

- Sepsis Screening Tool Acute Assessment / NICE Suspected sepsis - Evaluation
- Sepsis screening Tool – The Sepsis Six / NICE Suspected sepsis – Management

5.12 Screening for sepsis

Repeat assessments are essential—maternal condition can deteriorate rapidly. Perform observation using National MEWS algorithum or other locally agreed Maternity Observation tool:

- At the point of initial assessment in triage, antenatal, intrapartum or postnatal settings
- On admission to hospital, including maternity day units and emergency departments
- At any time maternal observations are abnormal, or clinical concerns are raised by professionals or by the woman herself
- Repeatedly in women with ongoing risk factors

Refer to Appendix 1a or 1b for the Screening tools or see the same pathway detailed below.

Start the chart if the patient looks unwell or physiology is abnormal e.g. MEWS

Could this be due to an infection?
Likely source:

- Respiratory
- Urine
- Infected caesarean / perineal wound
- Breast abscess
- Abdominal pain / distension
- Chorioamnionitis / endometritis

If infection is unlikely to be the cause for abnormal observations and/or clinical concern, consider non-infectious causes of abnormal physiology (e.g. pulmonary embolism, haemorrhage, pre-eclampsia etc). The patient should be escalated using the National MEWS algorithum or other locally agreed Observation tool.

5.12.1 1 or more high risk criteria / red flags present?

- Objective evidence of new or altered mental state
- Systolic BP ≤ 90 mmHg (or drop of >40 from normal)
- Heart rate >130 per minute
- Respiratory rate ≥ 25 per minute

- New need for O2 (40% or more) to keep SpO2 > 92% (>88% COPD)
- Non-blanching rash / mottled / ashen / cyanotic
- Lactate ≥ 2 mmol/l (lactate may be raised in & immediately after birth)
- Not passed urine in 18 hours (<0.5ml/kg/hr if catheterised)

If a person has any of these symptoms, the sepsis pathway should be commenced immediately and actions completed **within 1 hour**. Arrange for the senior clinical decision maker to immediately assess the person's condition and discuss with a consultant.

Please note:

A 'senior clinical decision maker' for people under 18 is an obstetrician of grade ST4 or above or equivalent.

A 'senior clinical decision maker' for people aged 18 years or over is an obstetrician of grade ST3 or above or equivalent.

Refer to ' Sepsis Six Pathway (Appendix 2a) ' OR ' NICE Suspected sepsis - Management (Appendix 2b)

If there are no high-risk criterion / red flags identified, assess the patient against the moderate risk factors / amber flags.

5.12.2 2 or more moderate to high risk criteria / amber flags identified?

- Acute deterioration in functional ability
- Family report mental status change
- Respiratory rate 21-24
- Heart rate 100-130 or new – onset arrhythmia
- **Systolic BP 91-100 mmHg**
- Has had invasive procedure in last 6 weeks (e.g. CS, forceps birth, ERPC, cerclage, CVS, miscarriage, termination)
- Temperature < 36°C
- Has diabetes or impaired immunity
- Close contact with GAS
- Prolonged rupture of membranes
- Wound infection
- Offensive vaginal discharge
- Not passed urine in 12-18 hr (<0.5ml/kg/hr if catheterised)

If a person has 2 or more moderate to high risk criteria / amber flags identified, arrange for a clinician to review and take the following blood test **within 1 hour**.

- VBG with lactate and glucose
- Peripheral blood cultures
- Full blood count (FBC)
- C-Reactive Protein (CRP)
- Renal function (Urea & Electrolytes)

- Creatinine
- Liver Function Tests (LFT)
- Clotting screen

A clinician should review lactate results within 1 hour. If lactate is more than 2 mmol/L **or** evidence of acute kidney injury treat as **high risk criteria / red flags present** and commence sepsis pathway

Refer to ' Sepsis Six Pathway (Appendix 2a) ' OR ' NICE Suspected sepsis - Management (Appendix 2b) '.

Please note:

A 'clinician' should be a medically qualified practitioner or equivalent who has antibiotic prescribing responsibilities

- Repeat structured assessment at least hourly
- Ensure a senior clinical decision maker reviews the person's condition and need for antibiotics within 3 hours of meeting 2 or more moderate to high risk criteria / amber flags.

5.13 Management of sepsis

5.13.1 Initial Assessment

The emphasis of the initial assessment and management should be focused on a multidisciplinary approach that encompasses the following cares:

1. Care of the pregnant or postnatal woman presenting with sepsis
2. Care for and assessment of the unborn baby/babies including CTG monitoring, and planning for the delivery.
3. Management of analgesia in labour for the expectant mother.
4. Support for the mother and family in caring for their baby whilst the mother is unwell.

A primary triage of the patient should take place on admission to hospital by the receiving midwifery team in line with National MEWS tool or locally agreed Maternity Observation tool.

As per National MEWS - If one or more of the additional concerns are present, consider raising Escalation and medical review:

- Healthcare professional concerned
- Woman/ family concerned
- Significant additional therapies
- Increase pain
- Significant vaginal bleeding
- Reduced urine output
- Decreased level of consciousness/ responsiveness.

For a locally agreed Maternity Observation Tool, clinical judgement must take precedence over scoring systems when the clinical picture suggests deterioration.

The patient should be transferred to a location that can facilitate the observation frequency required by the National MEWS or other locally agreed Maternity Observation tool policy and upon diagnosis of sepsis, initiate the sepsis pathway (Appendix 2a or 2b) and monitor the effects of ongoing treatment. A systematic ABCDE review should be performed by the admitting obstetric team (ST3 or above) within 30 minutes and later the anaesthetist (if not immediately available) and a structured management plan implemented.

5.13.2 Lactate measurements

- Lactate is a measure of lactic acid, which increases when tissues are not receiving sufficient oxygen to maintain aerobic respiration

Lactate: More than 4mmol/L or systolic under 90mmHg	Lactate: Between 2 to 4mmol/L	Lactate: Less than 2 mmol/L
↓	↓	↓
Give IV fluids Within 1 hour Review by senior clinical decisions maker and Refer to critical care	Give IV fluids Within 1 hour Review by senior clinical decisions maker	Consider IV fluids Within 1 hour

- If point of care testing (POCT) for lactate via venous or arterial blood gas, is not available, a formal laboratory sample should be sent urgently with results received within the hour’

5.13.3 Antibiotic / Antiviral therapy

- Please refer to Trust Adult Antimicrobial guidance
- All antibiotic / antiviral therapy should be reviewed every 24 hours and consider microbiologist consultation to ensure appropriate antimicrobial therapy.
- Therapy may need to be modified depending on culture sensitivities and the patient’s condition.
- If clinical deterioration occurs then a full senior (consultant grade) multidisciplinary team (MDT) review must take place, and microbiologists should be consulted on appropriate antimicrobial therapy as soon as possible.

5.13.4 Urine Output Monitoring

- Urine output is a good indicator of renal function and circulating volume.
- Urine output should be monitored (consider catheter / urometer) and documented accurately to enable fluid balance to be calculated in line with local policy.
- Any concerns of inadequate urine output (<0.5ml/kg/hr) should be escalated for prompt senior medical review

5.13.5 Intravenous (IV) Fluid Administration

Ensure there are no contraindications to IV fluid bolus (pre-eclampsia, risk of fluid overload, already in significantly positive fluid balance).

IV fluid should be given if hypotensive, if poor urine output, if raised lactate or to improve cardiac output. Systolic BP ≤ 90 mmHg (or drop of >40 from normal)

An initial fluid challenge given rapidly in under 15 minutes, followed by further challenges guided by the repeated sampling of lactate, is recommended for patients with a high lactate or hypotension. ~~Refer to local guidance~~

- If people up to 16 years who are or have recently been pregnant need intravenous fluid resuscitation, use glucose-free crystalloids that contain sodium in the range 130 to 154 mmol/litre, with a bolus of 10 ml/kg over less than 10 minutes. Take into account pre-existing conditions (for example, pre-elcampsia, cardiac disease or kidney disease), because smaller fluid volumes may be needed.

- If people aged 16 or over who are or have recently been pregnant need intravenous fluid resuscitation, use crystalloids that contain sodium in the range 130 to 154 mmol/litre with a bolus of 500 ml over less than 15 minutes.

- Reassess the person after completion of the intravenous fluid bolus, and if there is no improvement give a second bolus. If there is no improvement after a second bolus, alert a consultant to attend in person

5.14 Investigations

All women **meeting the criteria for** suspected sepsis MUST have the following investigations performed within the 1st hour of assessment:

- VBG with lactate and glucose
- Peripheral blood cultures
- Full blood count (FBC)
- C-Reactive Protein (CRP)
- Renal function (Urea & Electrolytes)
- Creatinine
- Liver Function Tests (LFT)
- Clotting screen

If point of care testing (POCT) for lactate via venous or arterial blood gas, is not available, a formal laboratory sample should be sent urgently with results received within the hour’

Relevant investigations to Identify the Source

Specific investigations which may be of diagnostic value will be individualised and dependent on the clinical presentation, but may include the following:

Microscopy, culture and sensitivity (microbiology and virology)

- Urine (Mid-Stream Sample (MSSU) or Catheter Specimen (CSU) upon insertion).
- Sputum
- Vaginal swab
- Throat swab (viral and bacterial)
- Placental swab
- Cerebral spinal fluid (only if clinically indicated)

Imaging
Consider depending on clinical findings

- Chest x-ray (with foetal shielding)
- Abdominal / pelvic ultrasound scan
- CT abdomen / pelvis (only if clinically indicated)
- Ct Head/MRI Spine (if a history of epidural/spinal anaesthesia is present)

For any atypical history or where the source is unclear, but the patient is clinically unwell/has a history of recent foreign travel specific screening tests should be discussed in conjunction with **medical and/or infectious disease teams.**

Women who have been started on this care pathway should be cared for in delivery unit/labour ward, however implementation of the pathway should not be delayed if an HDU room is unavailable.

5.15 Escalation of care to Critical Care

Appropriate and early escalation of care to Critical Care is essential to reduce the risk of mortality caused by sepsis. This should be led by the MDT obstetric team and include a consultant obstetrician and consultant obstetric anaesthetist and may also include input from the Critical Care Outreach team.

The following are guides to parameters whereby discussion with critical care teams may be required:

- Lactate not reducing or ≥2 mmol/l after adequate fluid resuscitation
- Has persistent SBP < 90 mmHg (or Mean Arterial Pressure (MAP) <65 despite fluid resuscitation.
- Respiratory rate > 22 or an uncompensated Metabolic Acidosis (pH <7.3 on an Arterial Blood Gas)
- Has a persisting oxygen need to maintain an SPo2 >94%
- Deteriorating renal function- determined by urine output < 0.5mls/kg (booking weight) /hr despite fluid resuscitation in the absence of a problem with the catheter or a rising serum creatinine and/or urea.
- Any alteration in the level of consciousness- confusion, agitation or drowsiness despite resuscitation
- **Or if patient is clearly critically ill at any time**

5.16 Fetal monitoring and planning delivery

- The risk of neonatal encephalopathy and cerebral palsy is increased in the presence of intrauterine infection. In a critically ill mother, birth of the baby may be considered if it would be beneficial to the mother or the baby or to both.
- Decisions on timing and mode of delivery should be undertaken with a consultant obstetrician after discussion with the mother if her condition allows.
- During the intrapartum period continuous electronic fetal monitoring is recommended. Changes in the CTG such as; changes to baseline rate, variability and/or new onset decelerations may indicate fetal hypoxia or acidaemia. Objective evidence of intrauterine infection is associated with abnormal fetal heart monitoring, however, electronic fetal monitoring is not a sensitive predictor of early onset neonatal sepsis.
- Attempting delivery before maternal stabilisation increases both maternal and fetal mortality rates; **unless** the source is intrauterine sepsis/chorioamnionitis where emptying the uterus as quickly as possible is likely to be beneficial.
- All decisions regarding timing and mode of delivery should be individualised and consider the severity of maternal illness, duration of labour, gestational age and viability. They should be made by a consultant obstetrician and the woman if her clinical condition allows. The mode of anaesthesia should also be discussed with a consultant anaesthetist.
- The neonatal team should be alerted and informed at the time of decision to deliver.

5.17 Pre term optimisation

If preterm birth is anticipated please refer to the North West Pre Term Birth Guideline

- The use of antenatal cortico-steroids for fetal lung maturity in the woman with sepsis can be considered.
- The use of magnesium sulphate is not contraindicated in sepsis, but additional monitoring is advised as hypotension may be exacerbated. It should be used for fetal neuroprotection if preterm birth is planned within 24 hours, or the woman is in preterm labour.
- This decision should be made after discussion with the mother by a senior obstetrician (ST5 or above). It is essential that delivery is not delayed to administer corticosteroids if clinically indicated, thus steroids should be given and delivery expedited before the steroids are fully effective.

5.18 Documentation and clinical coding

Accurate documentation is essential in women presenting with suspected or confirmed sepsis. If there is any delay in achieving these then this must be escalated to either the obstetric / anaesthetic registrar(s) or consultant(s).

There must be accurate diagnostic documentation and it is important to differentiate between women with an infection and women with sepsis. Please refer to the earlier definitions of each on section 5 and ensure that this is clear.

For both clinical management and coding purposes it is imperative to correctly differentiate between infection and sepsis.

Term	'Official' meaning
Infection	Invasion of body tissues by disease-causing microorganisms.
Sepsis	Life-threatening organ dysunction caused by a dysregulated host response to infection. Clinically characterised by a change in SOFA score ≥2 points

(Sepsis Trust 2024)

6 Monitoring / Audit

This guideline has been peer reviewed by the Regional Guidelines Group. Audit frequency should be agreed locally and led by the appropriate Clinical Lead. Services should aim to achieve a compliance threshold of 90% with the identification and management of maternal sepsis. Audit findings should be reported through established local clinical governance and assurance processes. An example audit proforma is provided in Appendix 5.

Audit activity should include review of cases where women are admitted to Intensive Care or readmitted in the postnatal period, to determine whether sepsis was a contributory factor.

7 Details of attachments (e.g. list of appendices)

Appendix 1a – Sepsis Screening Tool Acute Assessment

SEPSIS SCREENING TOOL ACUTE ASSESSMENT

PREGNANT OR UP TO 4 WEEKS POST-PREGNANCY

PATIENT DETAILS:

DATE: **TIME:**
NAME:
DESIGNATION:
SIGNATURE:

01 START THIS CHART IF THE PATIENT LOOKS UNWELL OR PHYSIOLOGY IS ABNORMAL e.g. MEWS

RISK FACTORS FOR SEPSIS INCLUDE:

- ☐ Recent trauma / surgery / invasive procedure
- ☐ Indwelling lines / IVDU / broken skin
- ☐ Impaired immunity (e.g. diabetes, steriods, chemotherapy)

YES

02 COULD THIS BE DUE TO AN INFECTION?

LIKELY SOURCE:

- ☐ Respiratory
- ☐ Urine
- ☐ Infected caesarean / perineal wound
- ☐ Breast abscess
- ☐ Abdominal pain / distension
- ☐ Chorioamnionitis / endometritis

NO → **SEPSIS UNLIKELY, CONSIDER OTHER DIAGNOSIS**

YES

03 ANY RED FLAG PRESENT?

- ☐ Objective evidence of new or altered mental state
- ☐ Systolic BP ≤ 90 mmHg (or drop of >40 from normal)
- ☐ Heart rate >130 per minute
- ☐ Respiratory rate ≥ 25 per minute
- ☐ New need for O2 (40% or more) to keep SpO2 > 92% (>88% COPD)
- ☐ Non-blanching rash / mottled / ashen / cyanotic
- ☐ Lactate ≥ 2 mmol/l*
- ☐ Not passed urine in 18 hours (<0.5ml/kg/hr if catheterised)

*lactate may be raised in & immediately after normal delivery

YES → **RED FLAG SEPSIS**
START SEPSIS SIX
(PTO)

NO

04 ANY AMBER FLAG PRESENT?

- ☐ Acute deterioration in functional ability
- ☐ Family report mental status change
- ☐ Respiratory rate 21-24
- ☐ Heart rate 100-130 or new dysrhythmia
- ☐ Systolic BP 91-100 mmHg
- ☐ Has had invasive procedure in last 6 weeks (e.g. CS, forceps delivery, ERPC, cerclage, CVs, miscarriage, termination)
- ☐ Temperature < 36°C
- ☐ Has diabetes or impaired immunity
- ☐ Close contact with GAS
- ☐ Prolonged rupture of membranes
- ☐ Wound infection
- ☐ Offensive vaginal discharge
- ☐ Not passed urine in 12-18 hr (0.5 ml/kg/hr to 1 ml/kg/hr if catheterised)

YES →

SEND FULL SET OF BLOOD S INCLUDING VBG
IMMEDIATE REVIEW BY ST3 OR ABOVE

IF ANTIMICROBIALS ARE NEEDED, ADMINISTER AS SOON AS DECISION MADE BUT ALWAYS WITHIN 3 HOURS

I have prescribed antimicrobials ☐

This patient does not require antimicrobials as:

- I don't think this patient has an infection ☐
- Patient already on appropriate antimicrobials ☐
- Esculation is not appropriate ☐
- Other ________________________

NAME: ______ **GRADE:** ______
DATE: ______ **TIME:** ______

NO AMBER FLAGS = ROUTINE CARE / CONSIDER OTHER DIAGNOSIS
Interpret physiology in context of individual patient
ALWAYS REASSESS IF PATIENT DETERIORATES

THE UK SEPSIS TRUST

UKST 2024 1.0 PAGE 1 OF 2

Appendix 1b - NICE Suspected sepsis - Evaluation

Evaluation | Pregnancy

Suspected sepsis: evaluating risk of severe illness or death in all settings

High risk	Moderate to high risk
Heart rate (beats per minute)	
More than 130	91 to 130 (in pregnancy: 100 to 130)
Respiratory rate (breaths per minute)	
25 or more, **OR** new need for 40% oxygen or more to maintain saturation more than 92% (or more than 88% in known chronic obstructive pulmonary disease)	21 to 24
Temperature (°C)	
	Less than 36 (tympanic temperature)
Systolic blood pressure (mmHg)	
90 or less, **OR** more than 40 below usual	91 to 100
Behaviour	
• Objective evidence of altered mental state	• History from patient, friend or relative of new onset of altered behaviour/mental state • History of acute deterioration of functional ability

! Note: some pulse oximeters can underestimate or overestimate oxygen saturation levels, especially if the saturation level is borderline. Overestimation has been reported in people with dark skin. See also the NHS England Patient Safety Alert on the risk of harm from inappropriate placement of pulse oximeter probes.

Table continues over page

This diagram covers only part of the guideline content. For full details, see NG255 Suspected sepsis in pregnant or recently pregnant people: recognition, diagnosis and early management.

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NICE National Institute for Health and Care Excellence

Evaluation | Pregnancy

Suspected sepsis: evaluating risk of severe illness or death in all settings

High risk	Moderate to high risk
Other criteria	

• Not passed urine in previous 18 hours, or for catheterised patients passed less than 0.5 ml/kg of urine per hour
• Mottled or ashen appearance
• Cyanosis of skin, lips or tongue
• Non-blanching rash
	• Not passed urine in the past 12 to 18 hours, **OR** for catheterised patients passed 0.5 to 1 ml/kg of urine per hour
	• Impaired immune system (illness or drugs, including oral steroids)
	• Trauma, surgery or invasive procedures in last 6 weeks
	• New-onset arrhythmia
	• Signs of potential infection
	  ◦ redness
	  ◦ swelling or discharge at surgical site
	  ◦ breakdown of wound

Low risk

No **high risk** or **moderate to high risk** criteria met

Also see the visual summaries on:
[Managing risk of severe illness or death outside acute hospital settings]
[Managing risk of severe illness or death in acute hospital settings]

NICE National Institute for Health and Care Excellence

This diagram covers only part of the guideline content. For full details, see NG255 Suspected sepsis in pregnant or recently pregnant people: recognition, diagnosis and early management.
Last updated November 2025. ISBN 978-1-4731-7334-7.

Appendix 2a – Sepsis Six Pathway

SEPSIS SCREENING TOOL - THE SEPSIS SIX

PREGNANT
OR UP TO 4 WEEKS POST-PREGNANCY

PATIENT DETAILS:

DATE: TIME:
NAME:
DESIGNATION:
SIGNATURE:

COMPLETE ALL ACTIONS WITHIN ONE HOUR

01 ENSURE ST3+ ATTENDS, CALL CONSULTANT
NOT ALL PATIENTS WITH RED FLAGS WILL NEED THE 'SEPSIS 6' URGENTLY.
A SENIOR DECISION MAKER MAY SEEK ALTERNATIVE DIAGNOSES/ DE-ESCALATE CARE.
NAME: GRADE:
TIME

02 OXYGEN IF REQUIRED
START IF O2 SATURATIONS LESS THAN 92% - AIM FOR O2 SATURATIONS OF 94-98%
IF AT RISK OF HYPERCARBIA AIM FOR SATURATIONS OF 88-92%
TIME

03 SEND BLOODS INCLUDING CULTURES
BLOOD CULTURES, VBG, BLOOD GLUCOSE, LACTATE, FBC, U&Es, LFTs, CRP AND CLOTTING
LUMBAR PUNCTURE IF INDICATED, CONSIDER RAPID PATHOGEN ID
TIME

04 GIVE IV ANTIBIOTICS, CONSIDER DELIVERY
MAX. DOSE BROAD SPECTRUM THERAPY (CONSIDER ESCALATION IF ALREADY ON ANTIBIOTICS)
CONSIDER: LOCAL POLICY / ALLERGY STATUS / ANTIVIRALS
EVALUATE NEED FOR IMAGING/ SPECIALIST REVIEW TO HELP IDENTIFY SOURCE IF SOURCE AMENABLE TO DRAINAGE ENSURE ACHIEVED ASAP BUT ALWAYS WITHIN 12H
TIME

05 GIVE IV FLUIDS
IF LACTATE > 2mmol/L OR SBP < 90 mmHg GIVE 500mL over 15 min AND CALL ITU REPEAT IF NO IMPROVEMENT.
TIME

06 MONITOR
USE EARLY WARNING SCORE e.g. MEWS. MEASURE URINARY OUTPUT: THIS MAY REQUIRE A URINARY CATHETER. REPEAT LACTATE HOURLY IF INITIAL LACTATE HIGH OR CLINICAL CONDITION CHANGES
TIME

RED FLAGS AFTER ONE HOUR - ESCALATE TO CONSULTANT NOW
Monitor at least every 30 mins using early warning score e.g. MEWS

RECORD ADDITIONAL NOTES HERE:

e.g. allergy status, arrival of specialist teams, de-escalation of care, delayed antimicrobial decision making, variance

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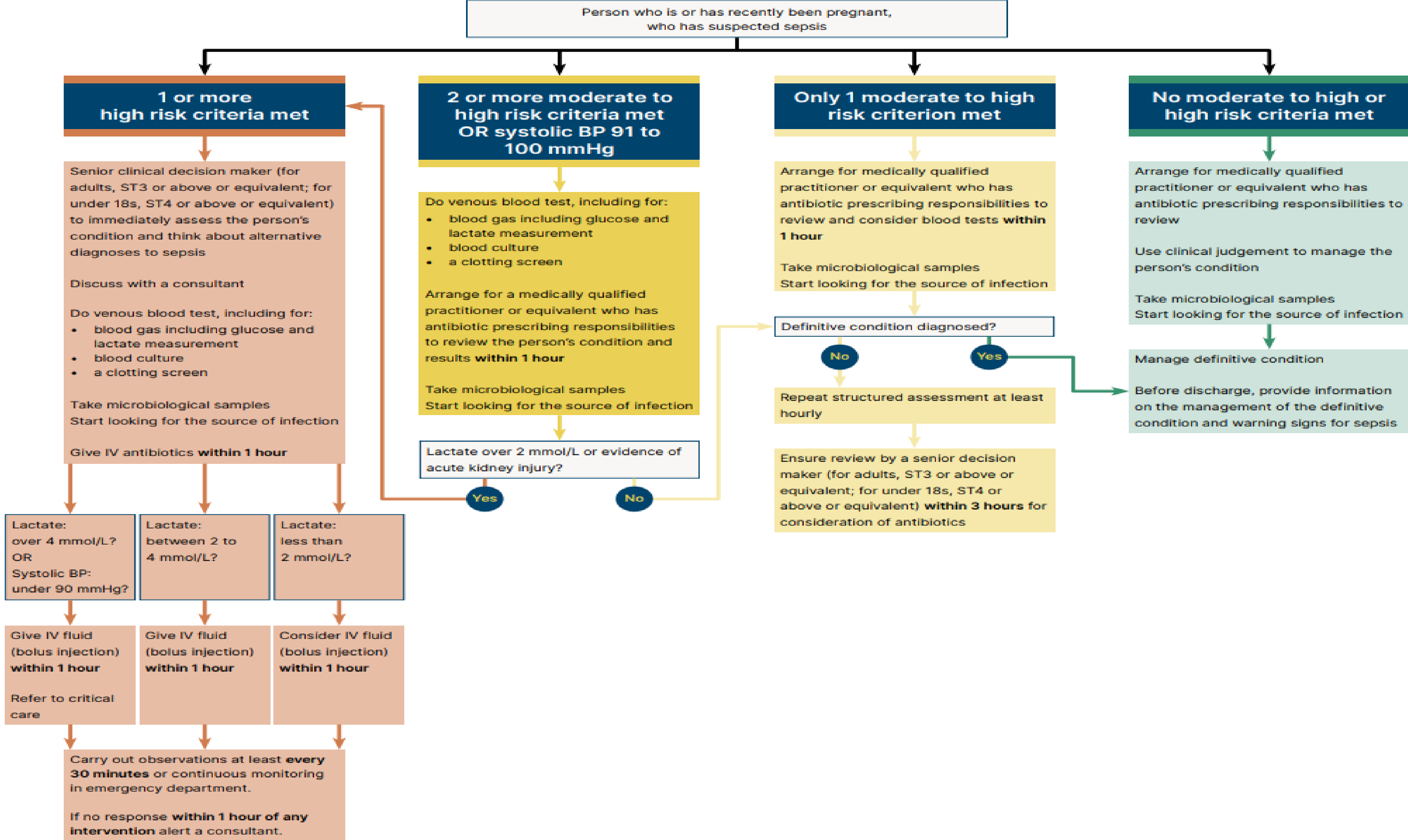
Appendix 2b - NICE Suspected sepsis – Management



Appendix 3 – Community Midwifery Sepsis Screening and Action Tool

SEPSIS SCREENING TOOL COMMUNITY CARE

PREGNANT
OR UP TO 4 WEEKS POST-PREGNANCY

01 START THIS CHART IF THE PATIENT LOOKS UNWELL, OR PHYSIOLOGY IS ABNORMAL

RISK FACTORS FOR SEPSIS INCLUDE:

- ☐ Impaired immunity (e.g. diabetes, steriods, chemotherapy)
- ☐ Indwelling lines / IVDU / broken skin
- ☐ Recent trauma / surgery / invasive procedure

YES

02 COULD THIS BE DUE TO AN INFECTION?

LIKELY SOURCE:

- ☐ Respiratory
- ☐ Urine
- ☐ Infected caesarean / perineal wound
- ☐ Breast abscess
- ☐ Abdominal pain / distension
- ☐ Chorioamnionitis / endometritis

NO → **SEPSIS UNLIKELY, CONSIDER OTHER DIAGNOSIS**

YES

03 ANY RED FLAGS PRESENT?

- ☐ Objective evidence of new or altered mental state
- ☐ Systolic BP ≤ 90 mmHg (or drop of >40 from normal)
- ☐ Heart rate > 130 per minute
- ☐ Respiratory rate ≥ 25 per minute
- ☐ New need for O_2 (40% or more) to keep SpO_2 > 92% (>88%COPD)
- ☐ Non-blanching rash / mottled / ashen / cyanotic
- ☐ Not passed urine in 18 hours (<0.5ml/kg/hr if catheterised)

YES → **RED FLAG SEPSIS START BUNDLE**

NO

04 ANY AMBER FLAGS PRESENT?

- ☐ Acute deterioration in functional ability
- ☐ Family report mental status change
- ☐ Respiratory rate 21-24
- ☐ Heart rate 100-130 or new dysrhythmia
- ☐ Systolic BP 91-100 mmHg
- ☐ Has had invasive procedure in last 6 weeks
- ☐ Temperature < 36˚C
- ☐ Has diabetes or impaired immunity
- ☐ Close contact with GAS
- ☐ Prolonged rupture of membranes
- ☐ Offensive vaginal discharge
- ☐ Not passed urine in 12-18 h (0.5ml/kg/hr to 1ml/kg/hr if catheterised)
- ☐ Wound infection

YES →

1. SAME DAY ASSESSMENT BY GP / TEAM LEADER
2. IS URGENT REFERRAL TO HOSPITAL REQUIRED?
3. AGREE AND DOCUMENT ONGOING MANAGEMENT PLAN (INCLUDING OBSERVATION FREQUENCY AND PLANNED SECOND REVIEW)

NO AMBER FLAGS = ROUTINE CARE AND SAFETY-NETTING ADVICE:

CALL 111 IF CONDITION CHANGES OR DETERIORATES.
SIGNPOST TO AVAILABLE RESOURCES AS APPROPRIATE.

CALL 999 IF ANY OF:

- **S**lurred speech or confusion
- **E**xtreme shivering or muscle pain
- **P**assing no urine (in a day)
- **S**evere breathlessness
- **'I** feel I might die'
- **S**kin mottled, ashen, blue or very pale

RED FLAG BUNDLE:

DIAL 999 AND ARRANGE BLUE LIGHT TRANSFER IF PRESCRIBER AVAILABLE & TRANSIT TIME >1HR GIVE IV ANTIBIOTICS

Ensure communication of 'Red Flag Sepsis' to crew. Advise crew to pre-alert as 'Red Flag Sepsis'. Where possible a written handover is recommended including observations and antibiotic allergies.

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Appendix 4 – Sepsis Screening Tool Maternal Telephone Triage

SEPSIS SCREENING TOOL TELEPHONE TRIAGE

PREGNANT OR UP TO 4 WEEKS POST-PREGNANCY

01 ARE THERE CLUES THAT THE PATIENT IS SERIOUSLY UNWELL?

RISK FACTORS FOR SEPSIS INCLUDE:

- ☐ Recent trauma / surgery / invasive procedure
- ☐ Impaired immunity (e.g. diabetes, steroids, chemotherapy)
- ☐ Indwelling lines / IVDU / broken skin

YES ↓

02 COULD THIS BE DUE TO AN INFECTION?

LIKELY SOURCE:

- ☐ Respiratory
- ☐ Breast abscess
- ☐ Urine
- ☐ Abdominal pain / distension
- ☐ Infected caesarean / perineal wound
- ☐ Chorioamnionitis / endometritis

NO → **SEPSIS UNLIKELY, CONSIDER OTHER DIAGNOSIS**

YES ↓

03 ANY RED FLAG PRESENT?

- ☐ Objective evidence of new or altered mental state
- ☐ Unable to catch breath, barely able to speak
- ☐ Very fast breathing and struggling for breath
- ☐ Unable to stand / collapsed
- ☐ Skin that's very pale, mottled, ashen or blue
- ☐ Rash that doesn't fade when pressed firmly
- ☐ Not passed urine in last 18 hours

YES → **RED FLAG SEPSIS START BUNDLE**

NO ↓

04 ANY AMBER FLAG PRESENT?

- ☐ Behavioural / mental status change
- ☐ Acute deterioration in functional ability
- ☐ Patient reports breathing is harder work
- ☐ Has had invasive procedure in last 6 weeks (e.g. CS, forceps delivery, ERPC, cerclage, CVs, miscarriage, termination)
- ☐ Temperature < 36°C
- ☐ Has diabetes or gestational diabetes
- ☐ Close contact with GAS
- ☐ Prolonged rupture of membranes
- ☐ Bleeding / wound infection
- ☐ Offensive vaginal discharge
- ☐ Immunity impaired by drugs or illness

YES → **FURTHER INFORMATION AND REVIEW REQUIRED:**

- ARRANGE URGENT FACE-TO FACE ASSESSMENT USING CLINICAL JUDGEMENT TO DETERMINE APPROPRIATE CLINICAL ENVIRONMENT

NO AMBER FLAGS: ROUTINE CARE AND GIVES SAFTEY NETTING ADVICE

CALL 111 IF CONDITION CHANGES OR DETERIORATES.
SIGNPOST TO AVAILABLE RESOURCES AS APPROPRIATE

999 IF ANY OF:

- **S**lurred speech or confusion
- **E**xtreme shivering or muscle pain
- **P**assing no urine (in a day)
- **S**evere breathlessness
- '**I** feel I might die'
- **S**kin mottled, ashen, blue or very pale

NO AMBER FLAGS: GIVE SAFETY NETTING ADVICE CONSIDER OBSTETRIC ASSESSMENT

TELEPHONE TRIAGE BUNDLE:

THIS IS TIME-CRITICAL – IMMEDIATE ACTION REQUIRED: **DIAL 999 AND ARRANGE BLUE LIGHT TRANSFER**

COMMUNICATION: Ensure communication of 'Red Flag Sepsis' to crew. Advise crew to pre-alert as 'Red Flag Sepsis'.

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Appendix 5 – Proposed Audit Template

Audit activity should include review of cases where women are admitted to Intensive Care or readmitted in the postnatal period, to determine whether sepsis was a contributory factor.

1.	Was a senior clinical decision maker in attendance to immediately assess the person's condition?	**Yes** ☐ **No**☐
2a.	Has a discussion with the Consultant taken place?	**Yes** ☐ **No**☐
2b.	**If no to question 2a** – Has discussion with the Consultant been considered?	**Yes** ☐ **No**☐
3.	Has oxygen therapy been commenced, if required?	**Yes** ☐ **No**☐ **Not applicable**☐
4a.	Have appropriate bloods been sent, including blood cultures?	**Yes** ☐ **No**☐
4b.	Has a venous blood gas been sent?	**Yes** ☐ **No**☐
5.	Have IV antibiotics been administered within the appropriate time frame?	**Yes** ☐ **No**☐
6.	Have IV fluids been commenced if the lactate was >2?	**Yes** ☐ **No**☐ **Not applicable**☐
7.	Has a fluid balance chart been commenced?	**Yes** ☐ **No**☐
8.	Have maternal observations been completed in accordance with the local guideline?	**Yes** ☐ **No**☐
9.	If red / high-risk criterion is present after one hour, has there been immediate escalation to the Consultant?	**Yes** ☐ **No**☐

8 Details of other relevant or associated documents (including links)

NICE NG255: Overview | Suspected sepsis in pregnant or recently pregnant people: recognition, diagnosis and early management | Guidance | NICE
NICE NG148: Overview | Acute kidney injury: prevention, detection and management | Guidance | NICE
SEPSIS-Trust-Screening-Acute-Tool-Kits-Pregnant-2024.pdf
Sepsis-Manual-7th-Edition-2024-V1.0.pdf

9 Supporting references & national guidance

RCOG GREEN-TOP GUIDELINE Identification and Management of Maternal Sepsis During and Following Pregnancy Green-top Guideline No. 64
NICE Guideline Suspected sepsis: recognition, diagnosis and early management
Manchester University Foundation Trust Sepsis in pregnancy and puerperium…
University Hospitals Morecombe Bay – Maternal Sepsis
Lancashire Teaching Hospitals – Obstetric Sepsis
Mid-Cheshire Hospital NHS Foundation Trust – Sepsis in the…
TOG Maternal Sepsis Update: Current management and controversies
BJA Sepsis in Obstetrics
UK Sepsis Trust: Sepsis Screening Tools
North West NHS Trust Guidelines
NICE NG255: Overview | Suspected sepsis in pregnant or recently pregnant people: recognition, diagnosis and early management | Guidance | NICE
NICE NG51: Sepsis: recognition, diagnosis and early management
RCOG Green-top Guideline No. 64a: Bacterial Sepsis in Pregnancy
Local Trust MEWS and Sepsis Protocols
NICE NG148: Overview | Acute kidney injury: prevention, detection and management | Guidance | NICE

10 Definitions / glossary

Term	Definition
Sepsis	Sepsis is a life-threatening organ dysfunction due to a dysregulated host response to infection.
Suspected sepsis	Suspected sepsis is used to indicate people who might have sepsis and require face-to-face assessment and consideration of urgent intervention.
Recently pregnant	• in the 24 hours following a termination of pregnancy or miscarriage • for 4 weeks after giving birth.
Senior clinical decisions maker	• A 'senior clinical decision maker' for people under 18 is an obstetrician of grade ST4 or above or equivalent.

	• A 'senior clinical decision maker' for people aged 18 years or over is an obstetrician of grade ST3 or above or equivalent.
Clinician	A 'clinician' should be a medically qualified practitioner or equivalent who has antibiotic prescribing responsibilities
Critical care specialist or team	An intensive care outreach team, or a specialist in intensive care
Acute kidney injury	• a rise in serum creatinine of 26 micromol/litre or greater within 48 hours • a 50% or greater rise in serum creatinine known or presumed to have occurred within the past 7 days • a fall in urine output to less than 0.5 ml/kg/hour for more than 6 hours in adults

11 Consultation with Stakeholders

This version has been circulated to Maternity and Neonatal Voices Partnership for their comments.

12 Equality Impact Assessment

Section 1: Equality Impact Assessment (EIA) Form

The EIA process allows the group to identify where a policy or service may have a negative impact on an individual or particular group of people.

Information Category	Detailed Information
Name of the strategy / policy / proposal / service function to be assessed:	Full title and version number
Directorate and service area:	Department/Speciality and Care Group or Corporate Group
Is this a new or existing Policy?	New / Existing – delete as appropriate
Name of individual completing EIA (Should be completed by an individual with a good understanding of the Service/Policy):	Name and Job Title
Contact details:	Number in full, not extension only

Information Category	Detailed Information
1. Policy Aim - Who is the Policy aimed at? (The Policy is the Strategy, Policy, Proposal or Service Change to be assessed)	
2. Policy Objectives	
3. Policy Intended Outcomes	
4. How will you measure each outcome?	
5. Who is intended to benefit from the policy?	
6a. Who did you consult with? (Please select Yes or No for each category)	• Workforce: Choose an item. • Patients/ visitors: Choose an item. • Local groups/ system partners: Choose an item. • External organisations: Choose an item. • Other: Choose an item.
6b. Please list the individuals/groups who have been consulted about this policy.	**Please record specific names of individuals/ groups:**
6c. What was the outcome of the consultation?	
6d. Have you used any of the following to assist your assessment?	**National or local statistics, audits, activity reports, process maps, complaints, staff, or patient surveys:**

7. The Impact
Following consultation with key groups, has a negative impact been identified for any protected characteristic? Please note that a rationale is required for each one.

Where a negative impact is identified without rationale, the key groups will need to be consulted again.

Protected Characteristic	(Yes or No)	Rationale
Age	Choose.	
Sex (male or female)	Choose.	
Gender reassignment (Transgender, non-binary, gender fluid etc.)	Choose.	

Protected Characteristic	(Yes or No)	Rationale
Race	Choose.	
Disability (e.g. physical or cognitive impairment, mental health, long term conditions etc.)	Choose.	
Religion or belief	Choose.	
Marriage and civil partnership	Choose.	
Pregnancy and maternity	Choose.	
Sexual orientation (e.g. gay, straight, bisexual, lesbian etc.)	Choose.	

A robust rationale must be in place for all protected characteristics. If a negative impact has been identified, please complete section 2. If no negative impact has been identified and if this is not a major service change, you can end the assessment here.
I am confident that section 2 of this EIA does not need completing as there are no highlighted risks of negative impact occurring because of this policy. Name of person confirming result of initial impact assessment: Name to be included here. ....