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| Reference Number:UHBOBS124 Version Number: 5 | Date of Next Review: 18 th May 2025 Previous Trust/LHB Reference Number: N/A |
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Infection and Sepsis in Pregnancy

Introduction and Aim

To provide guidance on care for pregnant individuals with suspected infection and sepsis.

Objectives

- To provide guidance on care for infection and sepsis in pregnancy.
- To provide guidance on the screening for and treatment of urinary tract infection in pregnancy and the intrapartum period.

Scope

This procedure applies to all our staff in all locations including those with honorary contracts.

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|--------------------------------------------|-----------------------------------------------------------------------------------------------|
| Equality Health Impact Assessment | An Equality Health Impact Assessment (EHIA) has not been completed. |
| Documents to read alongside this Procedure | |
| Approved by | Maternity Professional Forum Quality and Safety, Directorate of Obstetrics and Gynaecology |

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| Accountable Executive or Clinical Board Director | Ruth Walker |
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| Disclaimer | |

If the review date of this document has passed, please ensure that the version you are using is the most up to date either by contacting the document author or the [Governance Directorate](#).

| Summary of reviews/amendments | | | |
|-------------------------------|-------------------------|----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Version Number | Date of Review Approved | Date Published | Summary of Amendments |
| 1 | Dec 2005 | Dec 2005 | New Document 'Infection in Maternity Services' |
| 2 | Dec 2008 | Dec 2008 | Reviewed and amended by Julia Sanders |
| 3 | Dec 2011 | Jan 2012 | Reviewed and amended by Pina Amin |
| 4 | 6/9/2019 | 9/9/2019 | Re-written as 'Sepsis in Maternity Services' by Simran Sharma |
| 5 | MAY 2022 | July 2022 | Rewritten as 'Infection and Sepsis in Pregnancy'. Inclusion of: Management of positive nitrites on urine dip in labour; screening for asymptomatic bacteruria; management of suspected UTI in the antenatal period. |

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|--|----------|----------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | Nov 2025 | Nov 2025 | Amended guidance on Booking appointment and Antenatal Appointments - routine MSU not to be sent at Booking. Urinalysis to be done at all appointments but only send MSU if nitrates present or symptomatic |
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2 Introduction

2.1 Definitions

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|--------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Maternal Infection | Infection occurring during pregnancy or immediately postnatal. Examples include urinary tract infection, respiratory tract infection, chorioamnionitis. This may or may not progress to maternal sepsis, which may involve the fetus. |
| Maternal Sepsis | A life-threatening condition defined as organ dysfunction resulting from infection during pregnancy, childbirth, postabortion, or postpartum period. |
| Septic Shock | Sepsis associated with hypoperfusion (persistent hypotension requiring vasopressors to maintain mean arterial pressure > 65mmHg and lactate > 2mmol/L), despite adequate fluid resuscitation. |

Table 1 Definitions of Infection and Sepsis

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2.2 Why is Sepsis Important?

Sepsis is an important cause of maternal mortality in the UK. It was the leading direct cause of maternal death between 2006 and 2008. Improvements have been seen following campaigns such as ‘Surviving Sepsis Campaign’; with the mortality rate of direct sepsis dropping from 26 per 100,000 maternities in 2006-2008 to 0.44 per 100,000 maternities in 2015-2017.

However, in the recent 2019 MMBRACE report, sepsis still accounts for 10% of the total maternal mortality in the UK [1].

Diagnosis of maternal sepsis is challenging, and continued effort is required in early recognition and prompt management of sepsis in maternity services.

In addition, pregnant women are presenting with increasingly complex preexisting comorbidities such as diabetes, post-transplant patients, patients with HIV. They are at higher risk of infection and can be challenging to manage.

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2.3 Risk Factors

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| Risk Factors for Maternal Sepsis [3] |
| Pre-existing Conditions |
| Obesity |
| Impaired glucose tolerance/ diabetes |
| Impaired immunity/ immunosuppressant medication |
| Anaemia |
| History of pelvic infection |
| Black or minority ethnic group origin |
| Antenatal/Intrapartum Events |
| Amniocentesis and/or other invasive procedures such as cervical cerclage |
| Continued vaginal bleeding or offensive vaginal discharge |
| Prolonged Spontaneous Rupture of Membranes |
| Vaginal Trauma |
| Caesarean Section [7] |
| Wound haematoma |
| Retained products of conception |
| Acquisition or carriage of Group A Streptococcus (GAS) infection, or GAS in close contacts/family members. |

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3 Sepsis in

Pregnancy

All healthcare professionals caring for pregnant women should maintain a low threshold of suspicion for sepsis. If there is any suspicion of sepsis, the sepsis proforma (Section 3.2) should be started EARLY.

If a woman presents in the community with symptoms or signs of infection, the Screening Tool +/- Risk Assessment of the Sepsis Proforma should be completed, and management guided by this pathway. Early referral to hospital should be considered.

3.1 Clinical Features

A full history and examination, including full systems examination, should be completed.

Suspect sepsis if any of the following are present:

| System | Features | Comment |
|--------|----------|---------|
|--------|----------|---------|

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|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Observations</p> <p>NB: These should be recorded on a maternity early warning score (MEWS) chart. Observations should be repeated at minimum 2 hourly in any woman suspected of sepsis.</p> | <p>Pyrexia or hypothermia Tachycardia Tachypnoea Hypoxia Hypotension Impaired consciousness Reduced urine output</p> | <p>Pyrexia is frequently observed in sepsis, but a normal temperature does not exclude sepsis. Paracetamol or other analgesics may mask pyrexia.</p> <p>Hypothermia is a significant finding that may indicate severe infection.</p> <p>A swinging pyrexia or failure to respond to broad-spectrum intravenous antibiotics is suggestive of a persistent focus of infection or abscess.</p> <p>Persistent tachycardia > 100bpm Tachypnoea >20 BPM Oxygen saturation <94% on air Systolic BP <100mmHg</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

| | | |
|--------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Respiratory</p> | <p>Cough Shortness of Breath Sore throat Loss of smell</p> | <p>If suspecting COVID-19 or other infections including TB/influenza, commence isolation and liaise with microbiology and Infection Prevention and Control (IPC) for advice.</p> |
|--------------------|------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|---------------|-------------------------------------------------------------------------------------------------------------------------------|--|
| Abdomen | Pain and tenderness Urinary symptoms (dysuria, frequency, urgency, suprapubic pain) Diarrhoea, nausea or vomiting | |
| Urinary Tract | Dysuria Frequency Urgency Suprapubic pain | |
| Skin | Rash Cellulitis | |
| Neurological | Headache/neck stiffness/photophobia | |
| Fetus | Fetal tachycardia (indicated as a baseline increase of 15% or fetal heart rate >160bpm) Abnormal antenatal/intrapartum CTG | |
| Obstetric | Tender uterus (suspect chorioamnionitis) Prolonged rupture of membranes | |

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| | <p>Offensive vaginal discharge (smelly suggests anaerobes; serosanguinous suggests streptococcal infection) Breast tenderness/changes</p> | |
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Proforma

3.2 Sepsis

Starts on next page.

This is also available on [Hospital Microguide](#).

Copies are available on all Maternity Wards and should be used in any pregnant or recently pregnant woman with suspected sepsis, regardless of where she is being managed.

Recent departmental audit looking at the compliance of sepsis proforma between June – July 2020 showed good compliance in using the proforma in guiding investigation and management of suspected septic patients. The data showed 95% completion rate for the ‘screening tool’ section, 94.7% completed ‘risk assessment’ section, 96.9% completed ‘high risk assessment section’ and 88% completed ‘sepsis six’ section.

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Initial Management

| Performed by | Time | Initial |
|-----------------------------------------------------------------------------------------------------------------------------|------|---------|
| Record Patient MEOWS | | |
| IV Access | | |
| Take Bloods - Blood Cultures - Point of care: venous lactate - Laboratory: FBC, U&E, CRP, LFT, Coag, TCOVID bloods | | |
| Monitor CTG (if antenatal) | | |
| Alert Midwife in Charge & Highlight on Handover Board | | |

Completed by: _____ (Please print) Date: _____ Time: _____ Location: _____

HIGH Risk Assessment - Review and circle all applicable Assessment Criteria

| Observations - Record ALL Actual Values | Triggers | Yes | No |
|------------------------------------------------------------|-----------------------------|-----|----|
| Altered Mental State (Only responds to voice or pain) | Yes | | |
| Unresponsive | Yes | | |
| Non-blanching rash / mottled / cyanotic | Yes | | |
| Low Urine Output last two hour UO ml = _____ | <0.5ml/Kg/hr | Yes | |
| Venous Lactate* | ≥ 2.0 mmol/L | Yes | |
| SpO ₂ without Oxygen | < 94% | Yes | |
| Respiratory Rate | ≥ 25 /min | Yes | |
| Heart Rate | > 130 bpm | Yes | |
| Systolic Blood Pressure | < 90 mmHg | Yes | |
| Temperature | 92-100 mmHg | Yes | |
| Fetal Heart Rate (baseline) | < 36 or > 38.5 °C | Yes | |
| Urine Output – abnormally low for 12-18 hours | > 150 bpm or > 15% increase | Yes | |
| Abnormal CTG | Yes | | |
| Prolonged rupture of membranes (> 24hrs) | Yes | | |
| Recent invasive procedure (in last 6 weeks) | Yes | | |
| Bleeding / wound infection / vaginal discharge / abdo pain | Yes | | |
| Close contact with Group A Strep (eg sore throat) | Yes | | |
| Concern (inc. relatives) about mental / functional status | Yes | | |
| Diabetes / gestational diabetes / immunosuppression | Yes | | |
| BMI > 40 | Yes | | |

If ONE RED criterion:
Immediate MDT review
Consider 2222 Emergency call
and commence SEPSIS SIX⁺

If ONE ORANGE criterion:
Request immediate Obstetric Review (ST3+)
Reviewed by: _____ time arrived: _____
and commence SEPSIS SIX⁺

If TWO YELLOW criteria:
(or ONE with concern)
Request Obstetric Review (ST3+) within 2 hour
Reviewed by: _____ time arrived: _____
Consider starting SEPSIS SIX⁺

If ongoing clinical concern
If Creat > 64mmol/L

If ≤ 1 YELLOW criterion is present:
Document clinical Impression

Other Relevant Blood Results

Antimicrobials Reviewed Yes / No
Frequency of MEOWS _____ hourly
Next clinical review Date / / Time _____

Completed by: _____ (Please print) Date: _____ Time: _____ Location: _____

*NB: Lactate measurement may be transiently elevated during and immediately after labour and birth. If unsure or concerned then repeat sample
Page 2

SEPSIS SIX⁺ Complete ALL Actions within ONE hour TIME ZERO _____

Commence Maternal Critical Care Chart (Complete patient observations every 15mins for first hour)

CALL FOR HELP

Time arrived: _____ Other staff: _____ Time arrived: _____

MW in charge Name: _____ time: _____ Name: _____ Designation: _____ time: _____
 Obstetrician Name: _____ time: _____ Name: _____ Designation: _____ time: _____
 Anaesthetist Name: _____ time: _____ Name: _____ Designation: _____ time: _____
 HCA Name: _____ time: _____

| Performed by | Time | Initial |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------|---------|
| 1. Administer 100% OXYGEN • Initial 15L/min via non-rebreather mask • Aim for SpO ₂ ≥ 94%. If SpO ₂ < 94% inform anaesthetist | | |
| 2. Ensure BLOOD CULTURES taken • Do not delay administering antibiotics • Take other cultures (sputum / high vaginal swab / throat swab / breast milk / stool sample / wound swab / placental swabs or tissue etc.) | | |
| 3. Give IV ANTIBIOTICS • Review known drug allergies • IV, broad spectrum agent(s) as per Local Microbiology Protocol | | |
| 4. Give IV FLUIDS • If hypotensive give 500ml Crystalloid Bolus • Caution in PET – ensure discussion with anaesthetic & obstetric team | | |
| 5. Measure URINE OUTPUT • Consider urinary catheter • Strict measurement of hourly fluid balance | | |
| 6. Review LACTATE | | |
| If venous lactate ≥ 2 mmol/L 1. If remains hypotensive give 500ml Crystalloid Bolus 2. Repeat blood gas after 10ml/kg fluid given | | |
| If venous lactate ≥ 4 mmol/L 1. Give additional 500ml Crystalloid Boluses Up to 30ml/kg (Approx 2L for 70kg woman) 2. Inform consultant obstetrician 3. Inform consultant anaesthetist 4. Repeat blood gas after every 10ml/kg fluid given | | |

Repeat Blood Gas Results Recorded by: _____ (Please print) Date: _____ Time: _____

Lactate = _____

Review Suspected Source of Infection (Be aware there may be >1) (circle all suspected)
Chorioamnionitis/Vaginal/Urinary Tract/Chest (inc. influenza)/Intraabdominal/Skin/Breast/CNS/Other _____

Remove Source of Infection – eg. Retained products, Expedited delivery, Radiological drainage

Review DVT/PE prophylaxis

Completed by: _____ (Please print) Date: _____ Time: _____ Location: _____

If after SEPSIS SIX⁺ Resp Rate > 25, Systolic BP < 90mmHg, Altered Consciousness, Lactate still high - Refer to Critical Care

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3.3 Investigations

Please refer to Section 3.2– maternal infection and sepsis proforma ‘initial management’ for blood tests to request.

Consider sources of infection and send swabs/ cultures as appropriate:

- Blood cultures
- MSU
- Vaginal swab (High vaginal swab preferable if indicated)
- Throat swab (MC&S, COVID swab and Respiratory virus screen)
- Wound swab
- Placental swab
- Placental histology (please see placental guideline) – if suspicion of chorioamnionitis.

Consider chest X-ray if suspecting chest infection/Covid-19 symptoms.

Consider abdominal ultrasound or CT abdomen/pelvis if suspecting other intra-abdominal pathology or potential abscess.

Any radiology investigations should be discussed with the woman prior to requesting, including discussion of the risks of radiation to the woman and fetus, if relevant. This discussion should be clearly documented in the maternity record.

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3.4 Management

Please refer to Section 3.2 – Maternal infection and sepsis proforma for Sepsis Six management.

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In case of septic shock, inform on call consultant anaesthetist and obstetrician.

Once commenced on sepsis pathway, an obstetric review (ST3 and above) should take place within the first hour.

Once commenced on the 'sepsis six' obstetric review of response to treatment should take place within an hour.

All women who were on the sepsis pathway during labour should be discussed with the obstetric consultant on the postnatal ward round to assess the need to carry on antibiotics and review investigation results before discharge.

Thromboprophylaxis screening should be carried out considering sepsis, dehydration, PPH (postpartum haemorrhage) and any operative procedures. See [VTE risk assessment](#).

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3.4.1 Antenatal

If the source of infection is unknown, broad-spectrum antibiotics should be given. Please refer to [Hospital Microguide](#) for antibiotic choice.

Where a specific source of infection is suspected, appropriate antibiotics should be given according to [Hospital Microguide](#).

If there is maternal clinical deterioration or fetal concern (antenatally or peripartum), expedited delivery should be considered after discussion with a senior obstetrician. In case of intrauterine death, the safest and quickest way of delivery should be chosen. The decision is made jointly by the on-call senior obstetrician and anaesthetist.

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3.4.2 Peripartum

A full review of the woman should take place as triggered by the sepsis proforma. The most likely source of sepsis should be considered (often chorioamnionitis for women in labour) and appropriate antibiotics should be started according to [Hospital Microguide](#).

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4 Suspected Labour

4.1 Chorioamnionitis

Infection of the fetal membranes and amniotic cavity (chorioamnionitis) occurs in 1-5% of all term pregnancies and many will present with pyrexia in labour. The incidence of chorioamnionitis is 30% in preterm prelabour rupture of membranes (PPROM). [8]

Chorioamnionitis can increase the risk of operative intervention, dehydration, sepsis and PPH for the mother. It can also increase the risk of neonatal GBS, pneumonia and cerebral palsy.

Fetal tachycardia can be associated with chorioamnionitis, hence its inclusion in the maternal sepsis risk assessment. If fetal tachycardia (increase of 15% of HR baseline or HR >160bpm) is identified in the antenatal or intrapartum period, the Screening Tool and Risk Assessment of the Sepsis Proforma should be completed.

Please refer to the 'peripartum' section of [Hospital Microguide](#) for the choice of antibiotics if meeting criteria. When suspecting sepsis in labour, it is important to try and locate the source of infection so targeted antibiotic treatment can be started.

Discussion and/or postnatal review should be carried out on the postnatal ward round to aid stepping down of IV antibiotics or stopping antibiotics if appropriate, and to reduce the risk of antibiotic resistant organisms.

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4.1.1 Risk factors for chorioamnionitis: [7,9]

- Prolonged rupture of membranes (including PPRM)

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labour

- Prolonged
- Group B Streptococcus
- Multiple digital examinations
- Internal monitoring
- Meconium stained amniotic fluid
- Tobacco or alcohol use

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4.1.2 Implications:

| Maternal implications | Neonatal Implications |
|------------------------------------------------|------------------------------|
| Increased risk of Caesarean Section (2-3 fold) | Asphyxia |
| Endometritis | Pneumonia |
| Pelvic Abscess | Early onset sepsis |
| Post-partum Haemorrhage | Intraventricular haemorrhage |
| Wound Infection | Perinatal death |
| Bacteraemia | |
| Sepsis, DIC, ARDS, Death (rare) | |

Table 2 Implications of Chorioamnionitis. DIC - Disseminated Intervascular Coagulopathy; ARDS - Acute Respiratory Distress Syndrome.

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4.1.3 Diagnosis [7,9]

Whenever suspicion of chorioamnionitis arises, especially in the presence of risk factors, a clinical review is indicated, considering the following:

- Maternal pyrexia
- Maternal tachycardia
- Fetal tachycardia
- Uterine tenderness
- Colour of liquor
- Offensive vaginal discharge

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4.1.4 Management

Chorioamnionitis is an indication to expedite delivery. Maternal resuscitative measures have minimal effect on fetal wellbeing therefore early delivery may be protective for the neonate.

Please refer to the 'sepsis proforma' for investigations. If sepsis is highly suspected, start the sepsis six. If blood results are delayed, please chase up with the lab and escalate if needed, considering the clinical picture for decision making.

Please refer to [Hospital Microguide](#). '**chorioamnionitis**' for broad spectrum antibiotics use.

After delivery, placental swabs need to be taken and sent for microbiology. Consider sending the placenta for histology if there is a suspicion of chorioamnionitis and especially if the delivery is less than 37 weeks gestation, or if the baby is admitted to the Neonatal Unit (NNU) with fetal acidosis. (Please see Placental Examination Guideline 2020).

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5 Urinary Tract Infection (UTI) in Pregnancy and Labour

5.1 Urinary Tract Infection in Labour

Pregnancy increases the risk of having a urinary tract infection due to the physiological and anatomical changes of pregnancy, chorioamnionitis, anaemia, low birth weight, perinatal mortality, and developmental delay. Therefore, urinary tract infection should be treated aggressively in pregnancy. The most common organism is E. Coli (80-90%), but gram-negative organisms can also be present such as Proteus Mirabilis, and Klebsiella Pneumoniae [2].

During labour, urinary tract infection can coexist with rupture of membrane; this increases the risk of ascending chorioamnionitis and sepsis. Clinical suspicion of sepsis associated with UTI should prompt use of the sepsis proforma and treatment with IV antibiotics.

The presence of nitrites in the urine of **symptomatic** women is strongly suggestive of significant bacteriuria [2], provided the sample collected is of adequate volume (minimum 0.7mls) and collected using aseptic technique. If a sample is less than 0.7 mls or contaminated, repeat the sample with a clean catch/ aseptic technique. This may require an in/out catheter.

Positive nitrites on urine dipstick (from an adequate sample) in women admitted in labour with **symptoms** of UTI should prompt obstetric review and consideration of IV antibiotic treatment. A sample (minimum 0.7 mls in a boric acid container) should always be sent for MSU as per the urine dipstick flowchart below. Reagent strip analysis lacks the sensitivity to be used for asymptomatic bacteriuria screening.

However, asymptomatic bacteriuria can happen with a single positive nitrite on urinalysis in a well mother, in which case consideration should be given to oral antibiotics with verbal information to the mother with signs of systemic infection. Women presenting to the MLU with no symptoms but a single urinalysis positive for nitrites do not need to be transferred to the Obstetric Led Unit (OLU). If not in labour these women could go home with verbal information as above. If the woman becomes symptomatic of UTI or develops systemic signs of infection there should be transfer to the OLU. **Please use the sepsis proforma 'Screening tool' section to guide management.**

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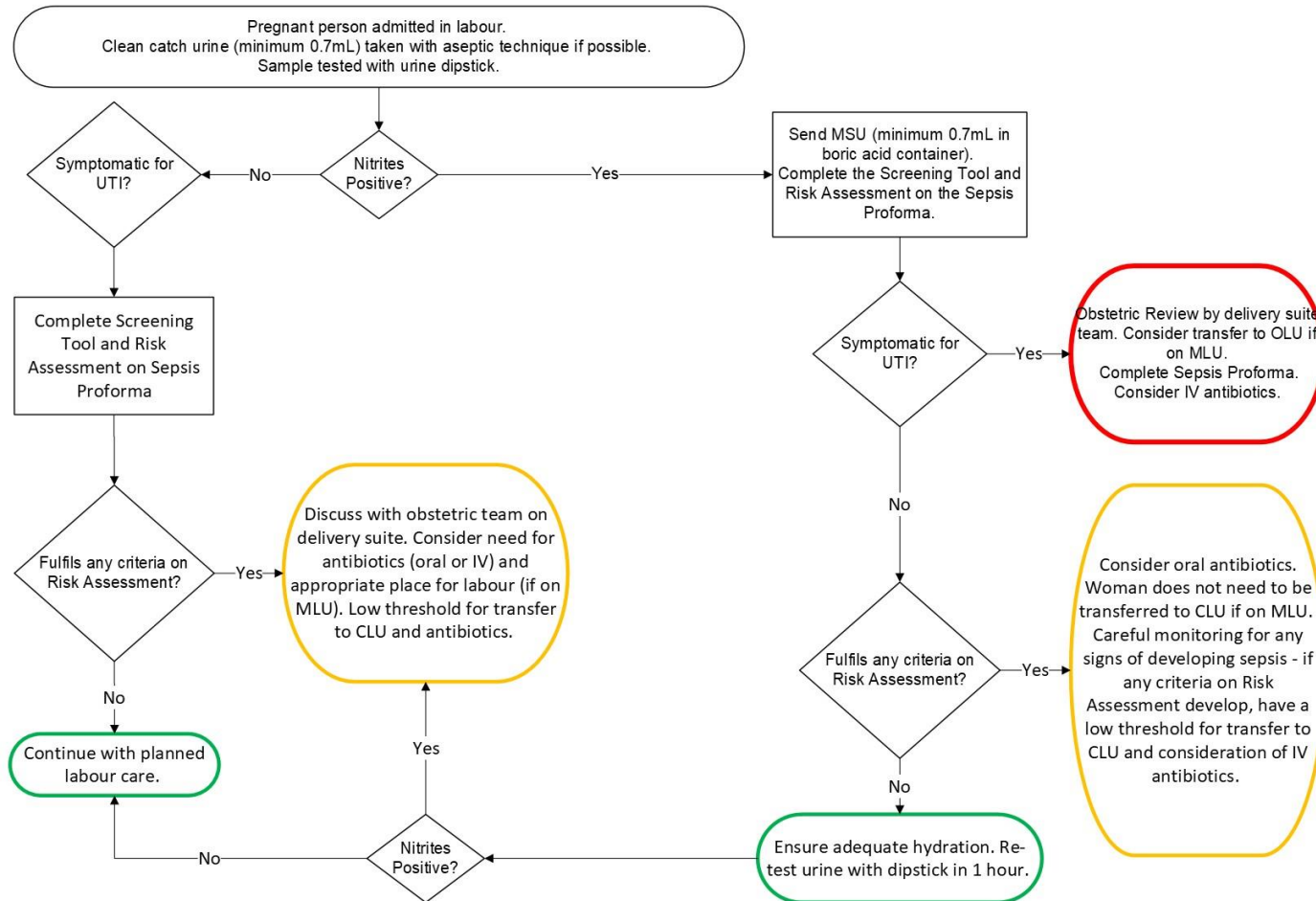
An audit undertaken in July 2020 to look at the outcome of positive nitrite urine dipstick in labour revealed that 33 nitrite positive women were identified in the month on delivery suite and the midwifery led unit. 7 (21%) of them were started on antibiotics (oral or IV), 4 (12.5%) had positive MSU, 3 (9%) were started on the sepsis pathway workup. Of the 4 ladies who had positive nitrites in the urine detected on MLU, 2 of them transferred to delivery suite.

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5.1.1 Flowchart for positive nitrites on urine dip for women admitted in labour.

the management of



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5.1.2 Post-natal Management of UTI Diagnosed in labour

Discussion of and/or review of the woman should occur by a senior obstetrician within 24 hours of delivery with results of the MSU. If MSU negative, and woman well, antibiotics can be stopped. If MSU positive, no evidence of pyelonephritis or other complications and a well woman, a 3 day course of oral antibiotics should be adequate.

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5.2 Urinary Tract Infection in the Antenatal Period

Women should be asked about symptoms of urinary tract infection at every antenatal contact. These symptoms include frequency of urine, dysuria and/or abdominal pain. Symptoms of UTI may be non-specific in pregnancy.

The UK National Screening Committee [3] does not recommend screening for asymptomatic bacteruria routinely in pregnancy. Asymptomatic bacteruria (ASB) is defined as a positive culture of the same uropathogen on two occasions in a patient without urinary symptoms [3].

MCAs conducting screening appointments should be advised to complete computerised urinalysis on all women, and ask all women about symptoms of UTI. They must be informed not to send an MSU unless there are nitrites in the urine or the woman is symptomatic.

A MSU should NOT be sent at the booking or screening appointments (or equivalent) unless

- a. There are nitrites on computerised urinalysis. All women should have urinalysis at EVERY antenatal contact, preferably computerised.

OR

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b. The woman is describing symptoms of UTI.

All women should have urinalysis at every antenatal contact and be routinely asked about symptoms of UTI such as frequency or dysuria.

NICE Antenatal Care guidelines recommend screening for pre-eclampsia at every antenatal contact, which includes urine dip for proteinuria. Our use of computerised urinalysis means that we simultaneously receive reports of leucocytes and nitrites in the urine. Leucocytes are non-specific and their presence is not diagnostic of UTI or bacteruria. Positive leucocytes with negative nitrites on urine dip does not require further investigation or treatment.

Positive nitrites in women with **symptoms** of UTI is strongly suggestive of bacteruria. Empirical antibiotic treatment should be started in line with [Hospital Microguide](#), and a urine culture sent. In **asymptomatic** women positive nitrites in the urine should prompt further investigation with a urine culture.

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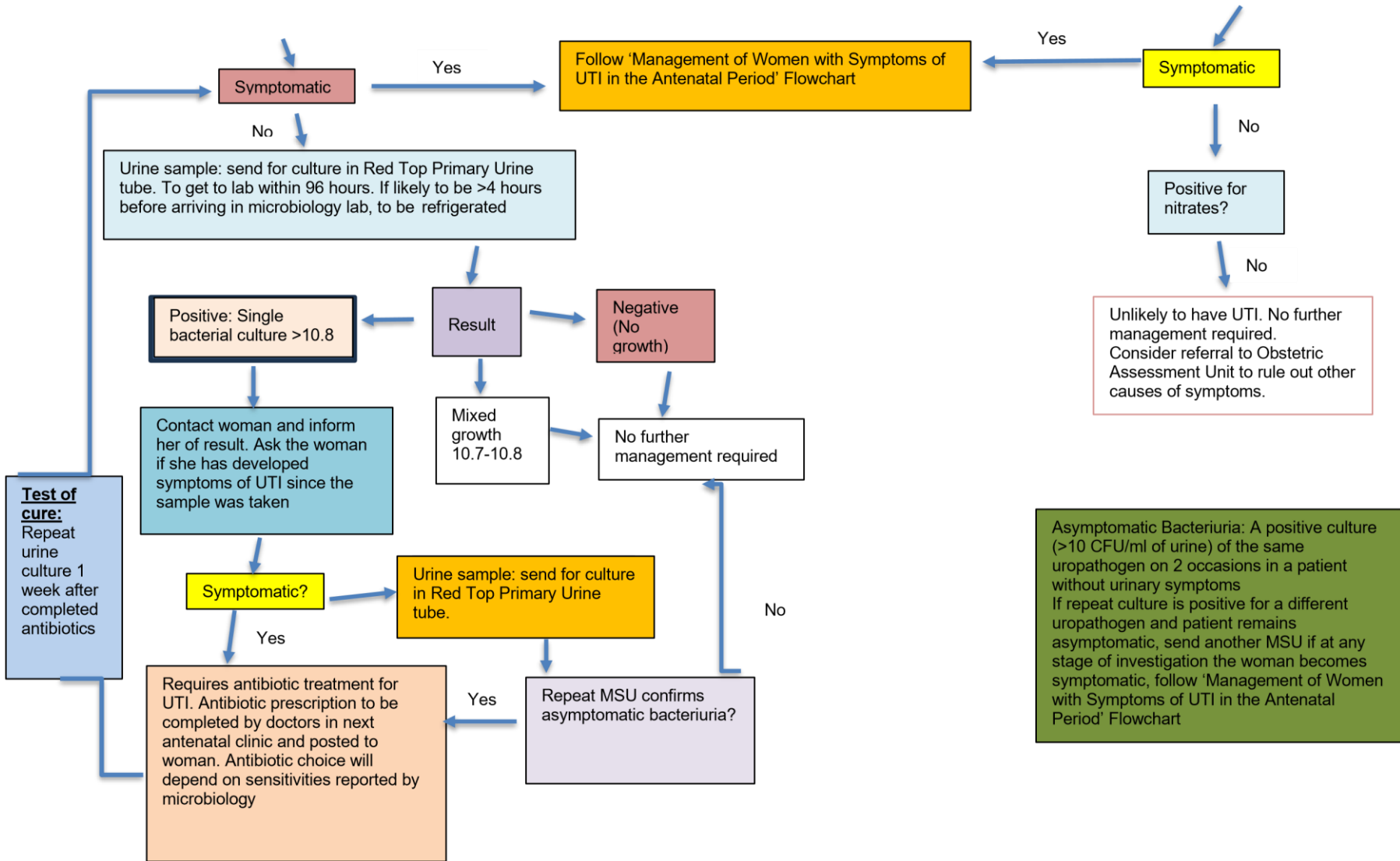
All other Antenatal Contacts – Ask woman about symptoms of UTI: frequency, dysuria, abdominal pain. Perform urinalysis

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Booking appointment – First face to face booking appointment with Maternity Services. Ask woman about symptoms of UTI: frequency, dysuria, abdominal pain

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5.2.1 Flowchart: Urine Screening at Booking and Antenatal appointments



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6 Sepsis in the Puerperium

6.1 Introduction

Puerperal sepsis is infection of the genital tract occurring at any time between rupture of membranes or labour, and the 42nd day postpartum, in which two or more of the following are present.

- Feeling generally unwell
- Pelvic pain
- Fever/rigors
- Abnormal vaginal discharge/ abnormal smell of discharge
- Delay in reduction of size of uterus.

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6.2 Possible Pathogens

Possible pathogens causing sepsis in the puerperium are:

- GAS (Group A Streptococci), also known as streptococcus pyogenes
- Escherichia coli
- Staphylococcus Aureus
- Streptococcus pneumoniae
- Methicillin-resistant S. aureus (MRSA), Clostridium septicum and Morganella morganii

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6.3 Clinical Features and Possible Sources

This is not an exhaustive list of differential diagnoses or features.

| System | Features | Potential Source |
|-------------|-------------------------------------------------------------|----------------------------------------------------|
| Respiratory | Cough Shortness of breath Hypoxia | Pneumonia. COVID-19 or other respiratory virus. |
| Breast | Engorgement and tenderness. Skin induration. Abscess. | Mastitis |

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| Abdomen | Nausea/ vomiting/ diarrhoea. Abdominal pain. Acute abdomen. | Gastroenteritis. Abdominal/ pelvic abscess. Cholecystitis. Appendicitis. |
| Genital Tract | Increased bleeding/ clots. | Retained products of conception. |
| | Offensive and/or discoloured discharge. Increased lower abdominal pain. | Pelvic abscess. Endometritis. |
| Urinary Tract | Dysuria/ frequency. Renal angle pain/ tenderness. | Lower or upper UTI. |
| Skin and Soft tissue | Perineal wound breakdown. Discharge from wound (abdominal or perineal). Increased wound pain. | Wound infection (abdominal or perineal). |
| Lower limb | Inflamed/ red/ congested/ tender veins. | Thrombophlebitis |
| Anaesthetic | Back pain at site of spinal/epidural. | Spinal/ epidural site infection. |

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6.4 Management

Please refer to 'Maternal Infection and Sepsis Proforma' (Section 3.2) for initial investigation and management of postnatal women presenting with signs or symptoms of sepsis. Antibiotic choice should be in line with Hospital **Microguide**.

Maternal observations should be recorded on a **maternity** early warning score (MEWS) chart.

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If postnatal readmission is required, it is important to review the birth history. Intrapartum sepsis is an important finding and will have cultures and sensitivity results to aid antibiotic choice if the woman presents with sepsis postnatally.

All women requiring readmission in the postnatal period must be reviewed by a consultant obstetrician within the first 24 hours of admission.

During the postnatal period, it is important to reassess the need for thromboprophylaxis.

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7 Electronic discharge advice letters

All women experiencing sepsis in the intrapartum or postnatal period requiring antibiotic treatment and/or readmission must have an electronic postnatal discharge advice letter generated prior to discharge.

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8 Auditable Standards

- 1, Repeat audit on compliance of sepsis proforma (Standard: 100%)
2. Relevant bloods including lactate and blood cultures when started on sepsis pathway. (Standard: 100%)
3. Discussion with or review by a consultant on postnatal ward round regarding continuation/stopping antibiotics for women commenced on the sepsis pathway. (Standard: 100%)
4. Discharge summary for women on sepsis pathway in labour or women with postnatal readmission (Standard: 100%)

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