National Sepsis Team

Adult and Maternity* Sepsis screening form Frequently Asked Questions (FAQs).

Document to support the use of the Adult and Maternity Sepsis screening forms in the Acute Hospitals.

This document has been developed in line with the Rapid update to the National Clinical Guideline No.26, Sepsis Management

*** All maternity specific information is highlighted using purple text**

Adult & Maternity Sepsis screening form

Frequently Asked Questions (FAQs)

SEPSIS SCREENING – PAGE 1

Q. Which healthcare professionals (HCP) should start and complete the form?

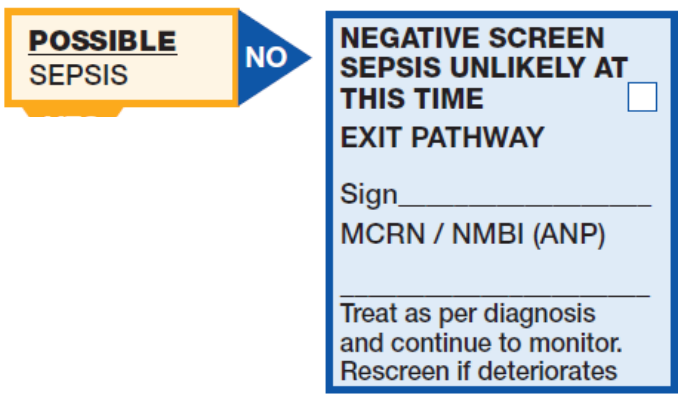
A. It is the responsibility of any HCP (Nurse / Midwife, Doctor, HSCP) to start the sepsis screening tool for any patient when ≥ 1 trigger for sepsis is identified in the presence of confirmed or suspected infection. This warrants a sepsis risk assessment screen to be completed immediately and escalation to a medical team or registered ANP / AMP (if relevant) as per local escalation and response protocol.

The time at which triggers are identified in the presence of suspected or confirmed infection, is known as TIME ZERO. This should be documented on the sepsis screening tool (24hr clock) by the attending nurse/doctor along with their name, grade, **NMBI or MCRN and date of sepsis risk assessment screen.**

The Red / Amber flag risk assessment screen should be completed by either a nurse, midwife, doctor or HSCP. The presence or absence of red or amber flags should be included in the ISBAR medical escalation handover if completed by the nurse.

If the sepsis screen is negative which indicates that sepsis is unlikely at this time, and there is no ongoing clinical concern for sepsis following medical or ANP / AMP (if relevant) review, the sepsis pathway should be exited. The blue exit box on the sepsis screening tool should be signed and the MCRN / NMBI documented. Additionally, if the patient has a current End of Life Care Pathway in place where the sepsis 6 is deemed not clinically appropriate, this should also be documented and signed by the attending doctor.

In the event that the patient is SIRS-positive with a comorbidity, yet following clinical review infection is deemed unlikely as the precipitant, the pathway can be exited, and treatment should continue according to the likely diagnosis.



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Q. What is the importance of the triggers highlighted in the trigger box?

A. If the patient meets one or more of the triggers listed, start the sepsis screen.

- Patient looks sick – Use your clinical judgement to ascertain whether the patient looks sick or if they are disimproving. Even if the Early Warning System in use does not trigger use your **clinical judgement to assess the likelihood that the patient may deteriorate** or has a level of illness not corresponding with physiological variables.
- Manchester Triage System (MTS) Category 2 applies only to the Emergency Department (ED) patients who have confirmed or suspected infection.
- GP / Ambulance personnel queries sepsis – check if there has been any documentation of sepsis in the patient's Ambulance Patient Care Report (PCR) or GP referral letter.
- Emergency Medicine Early Warning System (EMEWS) applies to the ED only and, like INEWS is a colour-coded track and trigger tool for recording observations in ED. INEWS is used in all in-patient areas and in the ED at 'decision to admit'
- Elevated IMEWS ≥2 yellows or ≥1 pink. If concerned about a woman, escalate care regardless of vital signs.
- Patient/Family/Carer/Clinician concern – if present and the patient has confirmed or suspected infection then screen for red or amber flags.

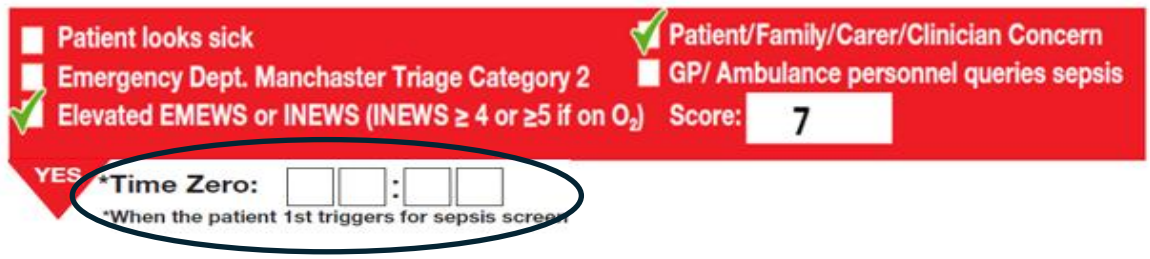
Q. Patient looks sick, what does that mean?

A. This is your clinical judgement or may be a "gut feeling" that the patient just doesn't look right regardless of EWS score.

Q. What is Time Zero?

A. Time zero is the time at which a healthcare professional first recognises that a patient with suspected / confirmed infection has **≥1 trigger(s)** in the trigger box to indicate that sepsis screening should commence**.** If there is a positive trigger, screen for sepsis.

<u>Trigger box - Adult</u>



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Trigger box - Maternity

Q. Why is time zero now (after trigger below) and not later in the form

A. Sepsis is a time-dependant medical emergency and early recognition is key to the timely management of sepsis.

Q. When does time zero commence if a GP / Ambulance personnel suspects sepsis?

A. Time Zero is the time that the Manchester Triage System (MTS) is completed in the Emergency Dept. or as per trigger in AMAU.

Q. Example 1 of time zero in ED: A patient presents with suspicion of infection to ED at 12.40 and triage is completed at 12.55. The patient is designated MTS cat 2. **Time zero is 12.55.**

Example 2 of time zero in ED: Post triage Cat 3 with suspicion of infection. Patient looks sick or EMEWS triggering @ 13.55hrs, **this is now Time Zero** and patient is re-categorised as Cat 2.

Example of time zero in ward: A patient was admitted with a diagnosis of pneumonia. Day 2, INEWS of 7 is recorded at 16.45 with concern for deterioration. **Time zero is recorded as 16.45**.

Q. When is a medical review requested?

A. Immediately when one or more of the sepsis triggers are ticked.

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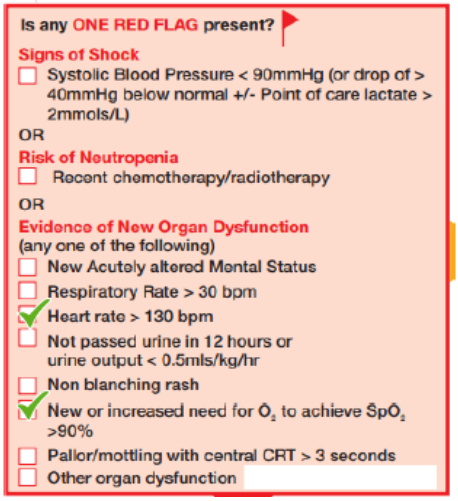
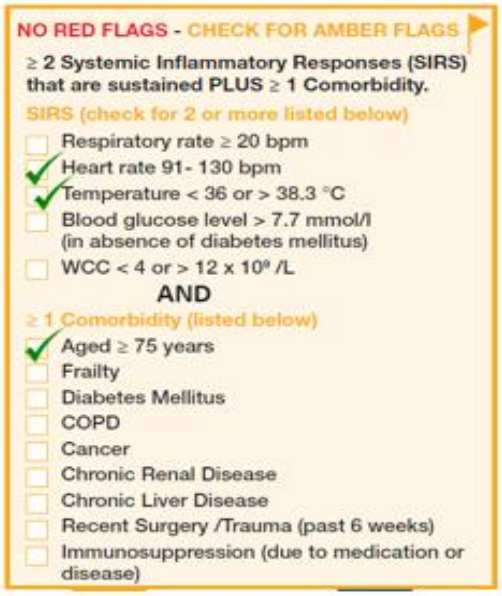
Q. How do I identify adult patients at risk?





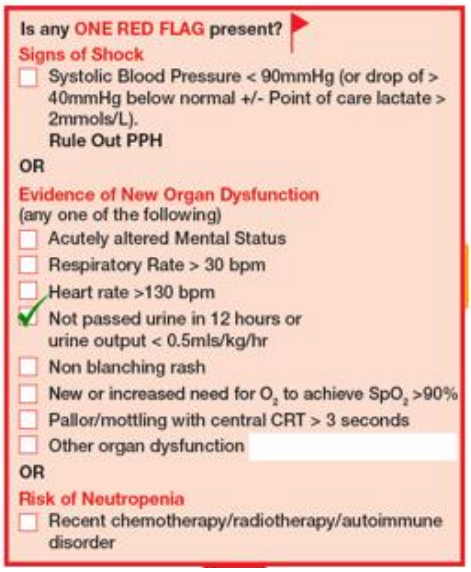
A . Once Time zero has commenced, the patient should be assessed for red / amber flags and escalated to the medical team. When escalating, include the identified flags, clinical concern for patient and any change (if applicable) to the Early Warning System (EWS) and that **Time Zero has now commenced.**

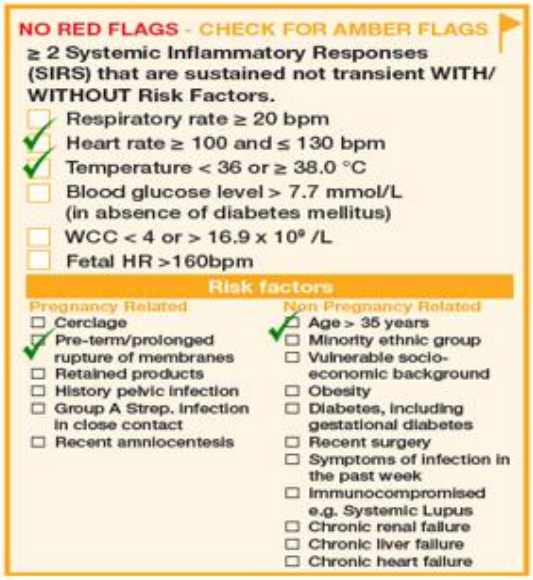
Q. Has the rapid update changed the management of pyrexia in labour?

A. Recommendations from the National Sepsis Programme re pyrexia in labour are unchanged in that sites should still follow local and national NWIHP guidance on this.

Q. How do I identify maternity patients at risk?

A.





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A . Once Time zero has commenced, the patient should be assessed for red / amber flags and escalated to the medical team. When escalating, include the identified flags, clinical concern for patient and any change to the Early Warning System (EWS) and that **Time Zero has now commenced.** **If the patient is shocked, rule out PPH.**

Q. What is meant by signs of shock on presentation?

A. Patients with septic shock can be identified clinically by the presence of hypotension (refer to sepsis form) +/- increased lactate levels > 2mmol/L.

For a patient who presents in shock where no information is available to rule in or out infection, this needs to be treated as possible septic shock and needs antimicrobials within 1 hour (follow the red flag pathway).

Q. Why is "Rule out (PPH)" included for maternity red flags?

A. PPH (Post-Partum Haemorrhage) may also be a cause of shock although hypovolaemic in nature and it is important to consider other time critical, common diagnoses.

Q. What does newly altered mental state include?

A. New confusion, agitation, aggression, unco-operative, hyperactive / hypoactive state of delirium or any alteration from the patient's established baseline (changes to patient's normal behaviour) including change to ACVPU on INEWS. Consult with family/carer to establish baseline for patients with dementia / intellectual disability etc.

Q. 'Not passed urine in 12 hours or urine output < 0.5mls/kg/hour' – how do I establish this information?

A. Establish when the patient last passed urine. This should include volume, odour, colour of urine and any dysuria. If unsure of output in the last 12 hours assume no urine output. Start fluid balance chart.

Q. What is the new or increased need for oxygen?

A. Knowing the patient's baseline oxygen saturation (SpO_2) is important e.g. if a patient presents to ED with a SpO_2 of 88% without a history of respiratory disease and requires O_2, this would be considered a new requirement. Likewise, a patient on the ward requiring an increase in O_2 requirements from 2 litres to 4 litres to maintain SpO_2 levels above 94 - 96%, this would be considered an increased need for oxygen.

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If the patient has a chronic lung disease and their normal saturations are maintained between 88% and 92% $Sp0_2$ while on oxygen and they now have a new requirement to maintain their saturations between 88 and 92%, this is now an increased need for oxygen and a new organ dysfunction.

Q. Define probable sepsis

A. If the patient has suspected / confirmed infection and meets any one of the criteria within the red flag box, this indicates **probable sepsis** and immediate action is required. Start the Sepsis 6(+1) immediately and complete all elements (including IV antimicrobials) within one hour of documented Time Zero.

Q. Who is the senior decision-maker to be informed?

A. A registrar or consultant or both depending on the clinical status of the patient.

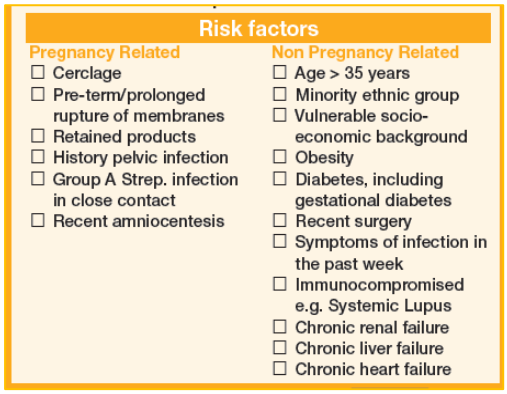
Q. When do I start the amber pathway?

A. If the patient does not meet any of the red flag criteria, proceed to check for amber flags.

Q. Why are risk factors added to the maternal sepsis form?

A. The MBRRACE (Mothers and Babies Reducing Risk through Audit and Confidential Enquiries) report (October 2024) identifies several groups of women who are at a higher risk of mortality from sepsis.

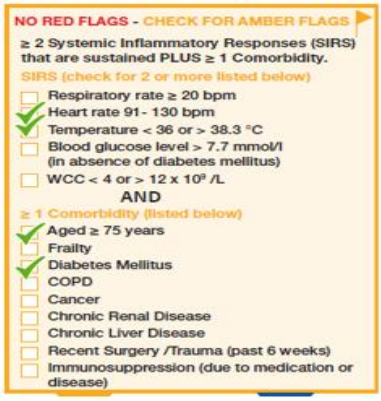
MBRRACE-UK Maternal MAIN Report 2024 V2.0 ONLINE.pdf



Recent surgery is within the last 6 weeks.

Q. What is an amber flag?

A. ≥ 2 SIRS criteria listed that are sustained (not a once-off reading) plus ≥1 comorbidity.



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Q. What treatment and / or medication may cause immunosuppression?

A. Chemotherapy / radiotherapy, high dose steroids / long-term steroids, immunotherapy or biologics.

Q. Can the patient exit the pathway with amber flags?

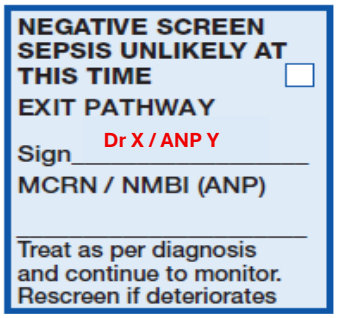
A. The patient may have amber flags but no clinical evidence of infection following clinical examination by the doctor who may then exit the pathway.

Q. What happens if the patient does not meet the amber flag criteria?

A. This is deemed a negative screen and sepsis is unlikely at this time. Exit the pathway and sign off following medical review.

The patient is treated as per diagnosis, which may be infection only, or other such diagnoses such as PE.

If the patient deteriorates, rescreen for sepsis using a new screening tool.



Q. Define possible sepsis?

A. If the patient has suspected / confirmed infection and meets any one of the criteria within the Amber flag box, this indicates **possible sepsis.** Sepsis 6 (+1) and other investigations (excluding IV antimicrobials) should be completed within 1 hour from Time Zero. Review test results to identify infectious versus non-infectious causes of acute illness. If infection is confirmed **administer IV antimicrobials within 3 hours**.

However, if infection with organ dysfunction is identified from test results, **IV antimicrobials should be administered immediately.**

Q. In what circumstances does a patient need to be rescreened?

A. A patient with amber flags (possible sepsis) can rapidly deteriorate and should be rescreened for red flags (probable sepsis / septic shock) using the same screening form.

Example 1: If the doctor reviews the patient with amber flags (possible sepsis) and there is clinical evidence of organ dysfunction, the patient should be rescreened for red flags using the same screening form. If red flags present administer antimicrobials immediately.

Example 2: If a patient with amber flags deteriorates before the test results are available, they should be rescreened for red flags. If red flags present administer antimicrobials immediately.

Q. What if the patient has no red or amber flags and HCP (or family) are concerned for deterioration?

A. If there is clinical concern and no red or amber flags identified, use clinical judgement and escalate care as per escalation protocol.

Q. If there is an End-of-Life Care (EOLC) pathway in place, what should happen?

A. Treatment may be appropriate even if there is an EOLC pathway in place. Check to see if there is a treatment escalation plan in place for the patient and what it entails (are ceilings of treatment clearly outlined). This should be discussed with the senior decision-maker and a decision made to exit the pathway if appropriate.

SEPSIS 6 BUNDLE – PAGE 2

Q. What is the timeframe for the delivery of sepsis 6 for probable sepsis (red flags) and possible sepsis (amber flags)?

A. Probable sepsis: All elements of sepsis 6 to be delivered within 1 hour of Time Zero.

A. Possible sepsis: All elements of sepsis 6 EXCEPT antimicrobials to be delivered within 1 hour of Time Zero. A decision on administration of antimicrobials will made on review of blood results, clinical data and other investigations within 3 hours maximum of time zero.

Q. Do we need to take 2 sets of blood cultures on every patient?

A. The likelihood of a truly positive blood culture result increases with the number of samples taken in a sterile manner and 2 sets of blood cultures (from the same site) with a minimum of 10mls per bottle is recommended. This is the standard set out in the National Clinical Guideline No. 26 (unchanged).

- **No central line** → 2 peripheral sets.
- **Central Line infection suspected** → 1 peripheral + 1 line set (consider each lumen if strongly suspected).

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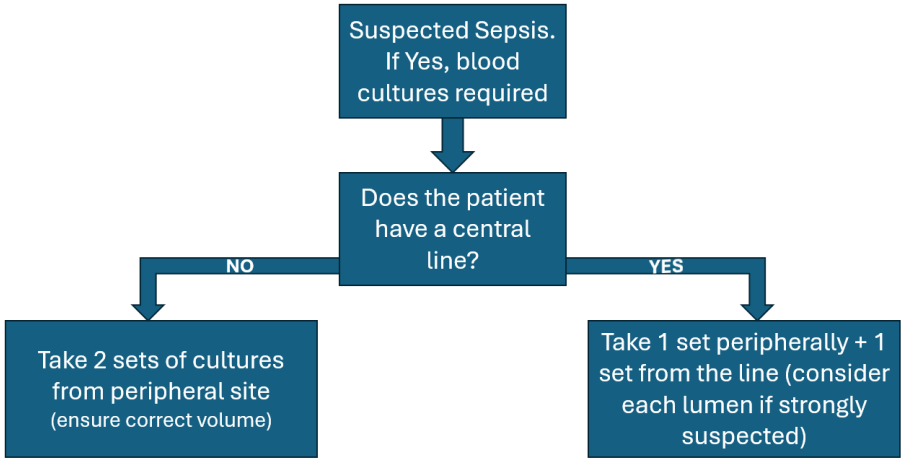

If the patient has a Central Venous Access Device (CVAD), including PICC line, a line culture should also be taken at the same time as the peripheral blood cultures as this will help to identify if the CVAD is the source of infection (NCG No.26).

Take other cultures (source control) as indicated by history and examination e.g. sputum, MSU, wound swab, drain fluid, breast milk, high vaginal swab (HVS) etc.

Q. ≥ SIRS criteria present without temperature <36 or ≥38.3 (≥38) °C, should blood cultures be taken?

A. Yes, blood cultures must be taken if the patient has sufficient triggers for probable / possible sepsis. Absence of a fever does **NOT** rule out infection / sepsis.

Note: Immunosuppressed patients or older persons may not develop a pyrexia.

Q. What are the regular bloods that should be taken for each patient (red or amber pathway)?

A.

- Lactate - Point of Care
- FBC
- Renal and Liver profile
- CRP
- +/- Coagulation screen (all patients with septic shock or suspicion of coagulopathy should have a coagulation screen completed).
- Serial lactate measurements should be taken (if initial lactate > 2mmol/L) within 2 hours of starting sepsis 6.

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Q. How do I assess urine output?

A. A fluid balance chart must be commenced for patients with probable / possible sepsis and strict monitoring of urine output in millilitres.

Assess urine volume to ensure that the patient is passing > 0.5ml / kg / hour, (e.g., a 100kg man should put out 50 mls / hour versus a 50kg frail older person who should put out 25mls / hour).

Ask the patient when they last passed urine, how much i.e. same as normal or less, colour (dark / pale), odour and dysuria.

If hourly monitoring is required, it must be documented on the fluid balance chart whether the patient is catheterised or not.

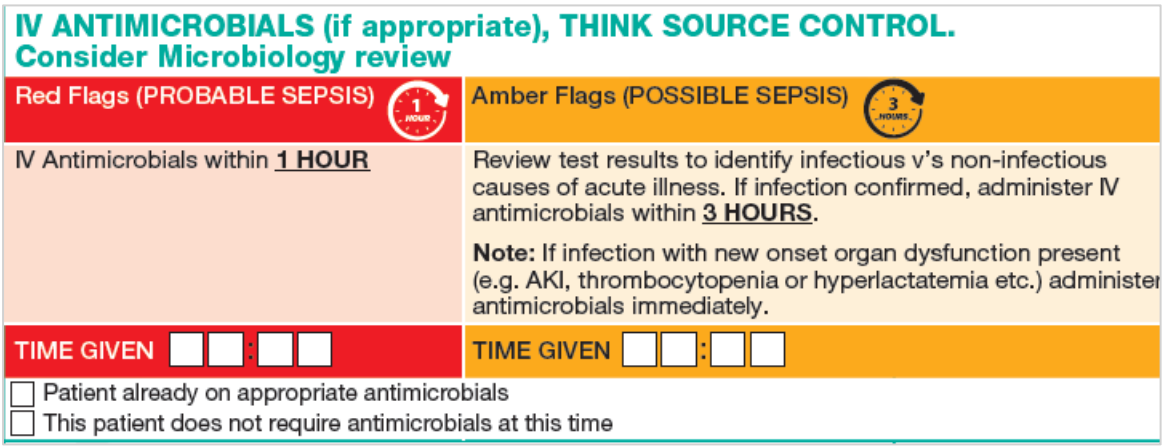
Weighing of incontinence pads to gain an accurate fluid balance in the incontinent patient is recommended.

Q. What are the timelines for giving IV antimicrobials?

A. If a patient has a red flag with evidence of shock, risk of neutropenia or evidence of new organ dysfunction, the patient should have the Sepsis 6 (+1) fully **completed in 1 hour from Time Zero, including antimicrobials**.

If a patient has an amber flag Sepsis 6 (+1) is completed in 1 hour, with the exception of antimicrobials. All test results must be reviewed when available and a decision made regarding antimicrobials within 3 hours as per amber flag instruction below.

However, if there is a delay in tests and investigations OR ongoing concerns, antimicrobials should be given without delay.



IV ANTIMICROBIALS (if appropriate), THINK SOURCE CONTROL. Consider Microbiology review

Red Flags (PROBABLE SEPSIS)	Amber Flags (POSSIBLE SEPSIS)
IV Antimicrobials within **1 HOUR**	Review test results to identify infectious v's non-infectious causes of acute illness. If infection confirmed, administer IV antimicrobials within **3 HOURS**. **Note:** If infection with new onset organ dysfunction present (e.g. AKI, thrombocytopenia or hyperlactatemia etc.) administer antimicrobials immediately.
TIME GIVEN ☐☐:☐☐	TIME GIVEN ☐☐:☐☐

☐ Patient already on appropriate antimicrobials
☐ This patient does not require antimicrobials at this time

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Frequently Asked Questions (FAQs)

Q. When should we consider source control?

A. If the source of infection is known or suspected e.g., abscess, line infection, retained products or wound infection, consider specialist review to include microbiology and surgical / radiological intervention to control the source of infection. This should be completed within 12 hours when possible. Consider sending sputum, MSU, drain fluid, wound swab, breast milk, HVS etc for culture.

Q. What is the recommended balanced crystalloid to be used?

A. Balanced crystalloid such as Hartmann's / Ringers lactate / plasmalyte is recommended. 0.9% NaCl can be used based on clinical assessment.

Q. What is the recommended fluid bolus to be given

A. Give a 500ml (250mls if clinically indicated) bolus over 15–30 minutes and assess the patient's response. A total volume of fluid resuscitation up to 30ml/kg (ideal body weight) within the first 3 hours can be given if clinically indicated. If fluid intolerant or the patient's clinical condition deteriorates, contact critical care for consideration of inotropes / vasopressors. Follow fluid algorithm. Caution in pre-eclampsia.

Q. When should a bolus of 250mls be given?

A. If there are concerns around fluid intolerance e.g. congestive cardiac failure, chronic renal disease or pre-eclampsia, a smaller volume of fluid may be given with continuous reassessment of response. Patient may require escalation to critical care for consideration of inotropes / vasopressors.

Q. Where do I find the fluid resuscitation algorithm?

A. It is available on the National Sepsis Programme website under clinical resources at https://www2.healthservice.hse.ie/organisation/sepsis/clinical-resources/

Q. What is ideal body weight?

A. If the patient has a high BMI, use ideal body weight to calculate fluid boluses. This principle also applies to maternity patients. The fluid calculation for pregnant is based on the booking weight. If the booking weight is within a high BMI category, the ideal body weight should be calculated.

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Q. If I tick 'this is likely to be sepsis' at this time, does this infer a diagnosis of sepsis?

A. No, a diagnosis of sepsis should be documented by the primary team in the clinical notes when all clinical and laboratory data confirms evidence of infection and new onset organ dysfunction following administration of the sepsis 6 (+1) bundle. The sepsis form is now a signpost for HIPE staff to look for a documented diagnosis of sepsis in the medical notes.

Q. When should the patient be reassessed following the Sepsis 6 bundle?

A. A patient should be reassessed within 2 hours of the sepsis 6 bundle to assess the patient's response to treatment and record if sepsis is **'likely**' or '**unlikely**' at this time.

Reassess vital signs at least every 30 minutes.
IF CONDITION WORSENING / NOT IMPROVING, ESCALATE TO CONSULTANT.
Consider SEPTIC SHOCK if MAP less than 65mmHg DESPITE FLUID RESUSCITATION and escalate to critical care.

If a diagnosis of sepsis has been made, half hourly observations should be recorded until the patient shows signs of improvement. Based on clinical judgement, if the patient is improving, frequency of observations should follow the EWS escalation and response protocol in use (EMEWS, INEWS, and IMEWS).

☐ Sepsis UNLIKELY at this time, treat as per working diagnosis, continue to monitor. Rescreen if deteriorates
☐ This is likely to be SEPSIS at this time
☐ Senior Clinician informed

Signature _____ MCRN / NMBI (ANP) _____
Print _____ Date: ___/____/_____ Time ☐☐:☐☐

Q. Where do I now document a sepsis diagnosis?

A. Sepsis / Septic Shock diagnosis must be documented in the patient's medical notes. The sepsis screening form will no longer be used to diagnose sepsis and the new form will sign-post back to the clinical notes where the diagnosis should be recorded. (This is important for all HIPE coders who code all charts on patient discharge).

Terms to avoid or clarify (as per ICD-10 AM 12th edition HIPE coding manual):

- Urosepsis — will only be coded as UTI
- Bacteraemia – not the same as sepsis – must document "sepsis"
- Biliary sepsis
- Respiratory sepsis
- Abdominal sepsis

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Documentation of a sepsis diagnosis should take the following format:

Sepsis

- ✓ Site of infection + sepsis (organ dysfunction)
  e.g. pneumonia with AKI should be documented as **sepsis with pneumonia** or **pneumonia and sepsis**

Septic shock

- ✓ Persistent hypotension despite adequate fluid resuscitation and requires vasopressors. Must be clearly written as "septic shock".

Q. How is sepsis diagnosed?

A. One or more new organ dysfunction due to infection. (See table below)

This is sepsis.

Lactate ≥2 mmol/L after 30mls/kg intravenous fluids
Cardiovascular – Systolic BP <90mmHg or mean arterial pressure (MAP) <65mmHg or systolic BP more than 40mmHg below patients normal
Respiratory – New or increased need for oxygen to achieve saturation >90% (note this is a definition not the target)
Renal - Creatinine >170 micromol/L or Urine output <0.5ml/kg for 2 hours – despite adequate fluid resuscitation **Renal** – Creatinine >170micromol/L or Urine output <500mls/24hrs – despite adequate fluid resuscitation
Liver – Bilirubin >32 micromol/L
Haematological – Platelets <100 x 10^9/L
Central Nervous System – Acutely altered mental status

Septic shock diagnosis is confirmed when the patient requires vasopressors to maintain a mean arterial pressure (MAP) ≥65 mmHg and a serum lactate > 2 mmol/Ls despite adequate fluid resuscitation.

Alternatively, as per the Third International Consensus Definitions for Sepsis and Septic Shock (Singer et al. 2016), an increase in the Sequential Organ Failure Assessment (SOFA) score of 2 points or more above baseline represents organ dysfunction when in response to infection.

A diagnosis of sepsis is made if there is evidence of new organ dysfunction after the **Sepsis 6 or Sepsis 6 +1** bundle. The diagnosis should be documented in the clinical notes as follows:

- UTI and sepsis
- LRTI and sepsis

- Pneumonia and sepsis
- Intra-abdominal infection and sepsis
- Chorioamnionitis and sepsis
- Mastitis and sepsis

If there is no evidence of new organ dysfunction, this is not sepsis and this should be documented in the clinical notes.

Q. Where else must a diagnosis of sepsis be written?

A. A sepsis diagnosis must also be documented on the patients discharge letter to inform the GP for several key clinical, safety and continuity of care reasons:

- Ongoing clinical monitoring
- Informed follow up care
- Risk of recurrence
- Medication management
- Medico-legal and clinical handover responsibility
- Vaccination and preventative care.
- In addition to documenting a sepsis diagnosis, patients must be informed of their sepsis diagnosis

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Q. How do I complete the mandatory sepsis training?

A. Sepsis training is compulsory for **all clinical** staff in acute hospitals. A newly introduced **KPI** targets acute hospitals, aligning with current guidance. This KPI ensures that clinical staff - including Consultants, NCHDs, Nurses, and Health and Social Care Professionals (HSCPs) - complete sepsis training every three-years.

This will be achieved through:

1. HSELanD eLearning (updated 2025)
   OR
2. In-person training (new 2025) – Based on HSELanD programme and delivered by locally nominated Trained Trainers.

In-person training at local hospital level will be agreed though local management and Sepsis / Deteriorating Patient governance.

An SOP has been developed to outline the procedures for delivering mandatory sepsis education every 3 years via a structured in-person training programme, ensuring

consistency with the online version and meeting HSE compliance and clinical standards.

A sepsis slide deck, based on the HSELanD programme, will be made available by the Sepsis ADONs to all hospitals and is also available on the Sepsis website. It is important that all trainers adhere to the National slide deck.
