The Isle of Wight NHS Trust Integrated Sepsis Recognition and Response Policy

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### DOCUMENT HISTORY

(Procedural document version numbering convention will follow the following format. Whole numbers for approved versions, e.g. 1.0, 2.0, 3.0 etc. With decimals being used to represent the current working draft version, e.g. 1.1, 1.2, 1.3, 1.4 etc. For example, when writing a procedural document for the first time – the initial draft will be version 0.1)

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NB This policy relates to the Isle of Wight NHS Trust hereafter referred to as the Trust.
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1 Executive Summary

This Isle of Wight NHS Trust Integrated Sepsis Recognition and Response Policy outline the actions needed to be taken for patients with suspected or confirmed sepsis. The policy is evidence based, around specific interventions that have been shown to improve patients’ clinical outcome, patients must receive these interventions promptly once sepsis is suspected or confirmed. This policy will facilitate a standardised approach, as to how the organisation screens, recognises and responds to sepsis. This approach will have a positive impact on improving patient morbidity and mortality related to sepsis - regardless of source.

2 Introduction

Sepsis occurs when infection causes an inflammatory cascade which will, if left untreated lead rapidly to multi-organ failure, septic shock and death. Severe sepsis is extremely common, killing an estimated 37,000 people in the UK every year\(^1\) and in 2015 this number rose to 44,000 people – more than lung cancer or breast and bowel cancer combined\(^2\). Incidence of sepsis ranges from 1 to 3 per 1000 population, increasing in rate over the last two decades\(^3\). Severe sepsis patients experience mortality six times higher than those with acute myocardial infarction and five times higher than for stroke\(^4\). Septic shock has a rapidly progressing mortality with the chance of death increasing by 7.6% for every one hour delay in the administration of antibiotics\(^5\).

Delivering a simple bundle of early interventions can improve survival by 16%\(^6\) making this much more effective than thrombolysis for STEMI or stroke\(^7\). Clear, internationally validated care bundles are in place\(^8,\,9\) (see Box 1), the “Sepsis 6”. Using the Sepsis 6 as early goal directed therapy is a well validated treatment bundle for sepsis designed to rapidly stratify risk, identify causative pathogens, ensure oxygenation, tackle infection, support circulation, prevent organ system failure and ensure, if necessary, appropriate escalation to critical care\(^7,\,8\). Mortality is significantly reduced if these measures are started as early as possible\(^7,\,8,\,10,\,\text{and} 12\). The pre-hospital phase clearly represents the earliest opportunity for diagnosis and initiation of treatment.

In July 2016 the National Institute for Health and Care Excellence (NICE) published national guidelines for sepsis (NG51) outlining the way forward with regard to the recognition, diagnosis and early management of sepsis\(^10\). This policy is based on the evidence base and recommendations from these guidelines on sepsis.
The Sepsis 6

- Administer high flow oxygen (if indicated)
- Take blood cultures
- Measure serum lactate and haemoglobin
- Give broad spectrum antibiotics
- Give intravenous fluid challenges
- Measure accurate hourly urine output

Box 1 – Sepsis 6

3 Definitions and Abbreviations

ACCP  Advanced Critical Care Practitioner
AP    Advanced Practitioner
AXR   Abdominal X-ray
BP    Blood pressure
CCOS  Critical Care Outreach Service
CXR   Chest X-ray
ED    Emergency Department
FBC   Full Blood Count
GP    General Practitioner
HDU   High Dependency Unit
HVS   High vaginal swab
ITU   Intensive Treatment Unit
LFT   Liver function test
MAP   Mean arterial pressure
MEWS  Modified early warning system
MEOWS Maternity Early Observation Warning System
MSU   Midstream urine
PGD   Patient Group Direction
RR    Respiratory rate
SIRS  Systemic inflammatory response
U&E   Urea and electrolytes
VTE   Venous thromboembolism
WBC   White blood count

4 Scope

This policy applies to all healthcare professionals who care for patients with suspected or confirmed sepsis. It applies to all healthcare settings in
the Organisation. It covers the principles of screening / recognition and treatment of sepsis for all patients regardless of age based on NICE NG51 recommendations.

5 Purpose

5.1 The main purpose of this policy is to reduce sepsis associated mortality in the organisation to below the national average of 7%.

5.2 The purpose of this policy is to put in place to create standardised approach to clinical care for patients with suspected or confirmed sepsis presenting to the Organisation or are already inpatients within the organisations wards, maximising appropriate clinical outcomes.

5.3 This will be achieved by using a simple screening tool for adults and paediatrics on admission to hospital and a screening tool established for in-patients to support early detection of suspected sepsis. This will be followed by a standardised approach to treating sepsis using the principles of sepsis 6 and sepsis liaison.

6 Roles and Responsibilities

Executive Medical Director and Executive Director of Nursing & Workforce
- Will ensure the Trust has an evidence based policy in place to support early screening, recognition and response to all patients with potential or actual sepsis.

Clinical Directors and Heads of Nursing and Quality:
- Will ensure the policy is fully implemented within their Clinical Business Unit and will receive the annual compliance report via the established audit plan for sepsis.

Lead Clinicians: (Medical and Non Medical)
- Will ensure all their clinical teams and members have read this policy and understand their role, actions and responsibility if they have a patient with potential or actual sepsis.
- To champion this policy in practice
Undertake or delegate the annual compliance audit for your section of the policy and feed this into the central annual sepsis report.

Matrons:
- Will ensure the ward Sister/Charge Nurse has set up a system to disseminate this policy to all ward and department teams and Registered Nurses.
- Will ensure the ward Sister/Charge Nurse are clear what actions they need to take in the scope of this policy.
- Will ensure their areas are complaint with the actions in this policy that relate to their services.

Ward and Departmental Managers:
- Will ensure all Registered and non Registered staff have read this policy and understand their role, actions and responsibility if they have a patient with potential or actual sepsis.
- Will ensure staff follow the actions required of them within this policy.

All Doctors:
- Will read and understand this policy and ensure that the process is followed correctly in the practice setting when treating patients with suspected or confirmed sepsis.
- Will complete all relevant medical documentation to evidence care delivery and decisions made about the patients care.
- Will escalate deteriorating patients to the senior member of the medical team and seek expert help i.e. Critical Care.

Registered Nurses:
- Will have read and understood this policy and ensure that the process is followed correctly in the practice setting for all patients with suspected or confirmed sepsis.
- Will complete all relevant nursing documentation to evidence care delivery and decisions made about the patients care.
- Will escalate deteriorating patients to the senior member of the medical team (Consultant and/or Registrar) without undue delay and/or seek expert help – i.e. Critical Care Outreach.
Paramedics:
- Will have read and understood this policy and ensure that the process is followed correctly in the practice setting for all patients with suspected or confirmed sepsis as per the patient group direction.
- Complete all relevant documentation to evidence care delivery and decisions made about the patients care.

Critical Care Outreach Service:
- Consultant Nurse/ACCP for critical Care will oversee the development and regular review of relevant policy, systems and audit that support early detection and response to sepsis in the organisation.
- CCOS will receive referrals from all services for sepsis liaison.
- Will maintain a live database of all sepsis liaison referrals documenting actions taken.
- Will undertake a monthly audit of patient outcomes for all referred patients that require sepsis liaison.

Pharmacy:
- Will be aware of this policy and ensure that the process is followed correctly in the practice setting for all patients with suspected or confirmed sepsis.
- Will Champion good practice in antibiotic prescribing.

Mircobiology:
- Will be aware of this policy and ensure that the process is followed correctly in the practice setting for all patients with suspected or confirmed sepsis.
- Will prioritise sepsis related microbial screening and ensure timely feedback in cases of confirmed or suspected sepsis.
- Will Champion good practice in antibiotic prescribing and facilitate evidence based antibiotic stewardship.

7 Policy detail/Course of Action

7.1 Recognition of Sepsis and Septic Shock:

The sepsis definitions used within this policy are taken from the publication of Sepsis – 3, the third international consensus on sepsis and septic shock\textsuperscript{11}. The organisation will not be adapting the SOFA score to determine sepsis in patients they will be
adapting existing early warning scoring systems in specialties and recommendations from the NICE 2016 guidelines on sepsis.

This policy will outline the process for screening / recognition of sepsis and response/treatment to sepsis for the following areas:

- Adult patients pre hospital
- Adult patients that present to the Emergency Department
- Adult in-patient admission pathway
- Adult in-patients – patients that have been on a ward in the hospital more than 24 hours
- Paediatric Patients that present to the Emergency Department
- Paediatric in-patient admission pathway
- Paediatric in-patients – patients that have been on the ward more than 24 hours
- Adult Maternity Patients
- Neutropenic patients

**Sepsis Definition:**

Sepsis is defined as life threatening organ dysfunction caused by a deregulated host response to infection\(^\text{11}\). In lay terms, sepsis is a life threatening condition that arises when the body’s response to an infection causes injury to its own tissues and organs.

**Septic Shock:**

Septic shock is a subset of sepsis in which underlying circulatory and cellular/metabolic abnormalities are profound enough to substantially increase mortality.

Patients with septic shock can be identified with a clinical construct of sepsis with persisting hypotension requiring vasopressors to maintain MAP above 65mm Hg and having a serum lactate level above 2mmol/L despite adequate volume resuscitation with these criteria, hospital mortality is in excess of 40%\(^\text{11}\).

**The screening for adult patients in summary will be:**

1) Are you confident the patient does not have sepsis?

2) Does the patient have a MEWS score greater than 4 and/or new objective change in mental state?

3) Does the patient have any of the following signs of infection and or risk factors;
   - Dysuria /retention
   - Cough/sputum production
   - Abdominal pain /distension / diarrhoea
• Signs of line infection/indwelling device present
• Signs of skin infection /cellulitis
• Malignancy being actively treated
• Chemotherapy in the last 6 weeks
• Impaired immunity due to illness or drugs
• Recent trauma or surgery or invasive procedure (within the last 6 weeks)

If the screen is positive suspect sepsis as a diagnosis or a differential diagnosis.

7.2 Adult patients pre hospital

Overview:

Patients presenting as potentially septic will be identified by the 111 or 999 systems utilising the pathways triage system and the clinical assessment by clinicians via the Clinical Support Desk. On recognising the patient is potentially septic, an ambulance response team will be dispatched as soon as possible. In times of high demand and depending on patient condition, it may be in the patient’s best interests to attend ED via an alternative route if this means a more rapid ED attendance.

Screening:

On arrival at the patient’s side, the ambulance crew will utilise the ‘screen and treat’ tool and if appropriate move to the prepip protocol for administration of antibiotics to identify patients eligible for prepip treatment, referenced against the piperacillin/tazobactim patient group direction. (Please refer to separate Ambulance Service suite of PGDs)

Treatment:

Treatment delivered will be in line with the screen and treat tool and the PGD. Patients who do not fit the criteria for prepip but are identified as septic should still be conveyed to hospital.

Ongoing management:

Patients identified as septic will be brought into the ED department. The patient may also require a pre alert depending on the clinical judgement of the attending paramedic. The paramedic will provide the ED department with a full handover detailing their findings and treatment to date. The paramedic will make this information available to the ED department by completion of the electronic patient report form, which ED will print off and include in the patients notes. If the electronic patient report is not functioning the paramedic will provide a paper copy of their findings and treatment to date.
7.3 Adult patients that present to the Emergency Department:

Overview:
Septic patients present to the Emergency Department (ED) via the ambulance service, by direct admission from reception, the urgent care centre or as medically or surgically expected patients from community GPs.

Sepsis will usually be recognised either by the ambulance service or the nurse taking the initial observations. If the ambulance service identifies sepsis, they will pre-alert the department or handover to the receiving nurse/doctor that the patient is potentially septic.

Screening:

As part of pre triage and triage all patients admitted into the ‘Majors’ stream of the Emergency Department will be screened for sepsis and documented on the current electronic symphony system. Until this is place this will be undertaken using an adult sepsis screening sticker (See Appendix A).

If the patient has had pre hospital screening and IV antibiotics – THEY DO NOT NEED A REPEAT SCREEN.

The screening tool is as follows;

4) Are you confident the patient does not have sepsis?

5) Does the patient have a MEWS score greater than 4 and/or new objective change in mental state?

6) Does the patient have any of the following signs of infection and or risk factors;
   - Dysuria /retention
   - Cough/sputum production
   - Abdominal pain /distension / diarrhoea
   - Signs of line infection/indwelling device present
   - Signs of skin infection /cellulitis
   - Malignancy being actively treated
   - Chemotherapy in the last 6 weeks
   - Impaired immunity due to illness or drugs
   - Recent trauma or surgery or invasive procedure (within the last 6 weeks)

If the screen is positive in the above 2 areas consider/suspect sepsis as a diagnosis

Treatment:
• If the clinical diagnosis or a differential diagnosis is sepsis – Start to treat with SEPSIS 6 (See Appendix B).
• Apply a sepsis 6 sticker to the Emergency Department continuation sheet and ensure each action is completed, dated, timed and signed.

Ongoing Management:
• Ensure rationalisation of antibiotics occur within 72 hours.
• Ensure patient has had a senior Doctor review within 12 hours of hospital admission.
• Ensure the patient has an escalation plan documented in the medical notes.
• Ensure the patient is being followed up by the CCOS sepsis liaison.
• Ensure early discussion with Critical Care Consultant if clinically indicated.

7.4 Adult emergency in-patient admission pathway

Overview:
All adult emergency admission pathways will have a sepsis screening page included which will support the identification of patients that need to be screened for sepsis only if indicated.

Screening:
On admission to a ward area the admitting clinician will review the sepsis screening page to determine if the patient needs a full sepsis screen or not. (See Appendix C)

Treatment:
• If the clinical diagnosis or a differential diagnosis is sepsis – Start to treat with SEPSIS 6 (See Appendix B).
• Apply a sepsis 6 sticker to the medical records and ensure each action is completed, dated, timed and signed.

Ongoing Management:
• Review antibiotics and antibiotic rationalisation within 72 hours
• Ensure patient has had a senior Doctor review within 12 hours of hospital admission
• Ensure the patient has an escalation plan documented in the medical notes
• Ensure the patient is being followed up by the CCOS sepsis liaison
• Ensure early discussion with Critical Care Consultant if clinically indicated

7.5 Adult in-patients – patients that have been on a ward in the hospital more than 24 hours

Overview:
Patients that are already established as in-patients are at high risk of developing new infections and sepsis. In view of this risk we need to ensure when patients
deteriorate that we consider and screen for sepsis and treat appropriately. In order to manage deterioration and recognition of sepsis effectively the new process will support this through to practice.

Screening:

If a patient has a MEWS score of 5 or above then undertake a deterioration patient assessment using the recognised assessment sticker (See Appendix D).

Treatment:

- If the clinical diagnosis or a differential diagnosis is sepsis –Start to treat with SEPSIS 6 (See Appendix B).
- Apply a sepsis 6 sticker to the medical records and ensure each action is completed, dated, timed and signed.

Ongoing Management:

- Review antibiotics and antibiotic rationalisation within 72 hours
- Ensure patient has had a senior Doctor review within 12 hours of hospital admission
- Ensure the patient has an escalation plan documented in the medical notes
- Ensure the patient is being followed up by the CCOS sepsis liaison
- Ensure early discussion with Critical Care Consultant if clinically indicated

7.6 Paediatric patients that present to the Emergency Department

Screening:

As part of pre triage and triage all paediatric patients APART from head injury and trauma cases will be screened for sepsis and documented on the current electronic symphony system. Until this is place this will be undertaken using a sepsis screening sticker (See Appendix E).

Treatment:

- If the clinical diagnosis or a differential diagnosis is sepsis –Start to treat with SEPSIS 6 which is on the sepsis screen sticker (See Appendix E).

Ongoing Management:

- Ensure antibiotic rationalisation within 72 hours
- Ensure patient has had a senior Doctor review within 12 hours of hospital admission
- Ensure the patient has an escalation plan documented in the medical notes
- Ensure early discussion with Critical Care Consultant if clinically indicated
7.7 Paediatric in-patient admission pathway and established in-patients

Screening:
On admission to the paediatric ward patients will be screened for sepsis using the tool in Appendix E and established in-patients that deteriorate will be screened for sepsis using the same tool.

**Paediatric Oncology patients with febrile neutropenia** will be admitted directly to the Children’s Ward and treated according to the Paediatric Oncology Shared Care guidelines available on the PIER website: [http://www.pier.uhs.nhs.uk/Media/Documents/Febrile-neutropenia-flowchart.pdf](http://www.pier.uhs.nhs.uk/Media/Documents/Febrile-neutropenia-flowchart.pdf). A hard copy of these guidelines are also available on the ward.

Treatment:
- If the clinical diagnosis or a differential diagnosis is sepsis – Start to treat with SEPSIS 6 which is on the sepsis screen sticker (See Appendix E).

Ongoing Management:
- Review antibiotics and antibiotic rationalisation within 72 hours
- Ensure patient has had a senior Doctor review within 12 hours of hospital admission
- Ensure the patient has an escalation plan documented in the medical notes
- Ensure early discussion with Critical Care Consultant if clinically indicated

7.8 Adult Maternity patients:

Screening:
Admissions will be screened using the admission pathway tool (See Appendix C) modified for maternity use using MEOWS.

Treatment:
- If the clinical diagnosis or a differential diagnosis is sepsis – Start to treat with SEPSIS 6 (See Appendix B).
- Apply a sepsis 6 sticker to the medical records and ensure each action is completed, dated, timed and signed.

Ongoing Management:
- Review antibiotics and antibiotic rationalisation within 72 hours
• Ensure patient has had a senior Doctor review within 12 hours of hospital admission
• Ensure the patient has an escalation plan documented in the medical notes
• Ensure the patient is being followed up by the CCOS sepsis liaison
• Ensure early discussion with Critical Care Consultant if clinically indicated

7.9 Neutropenic Patients:

Screening:
Screening will be undertaken as per the process for presentation to the Emergency Department or the in-patient admissions process.

Treatment:
• If the clinical diagnosis or a differential diagnosis is sepsis –Start to treat with SEPSIS 6 (See Appendix B).
• Apply a sepsis 6 sticker to the medical records and ensure each action is completed, dated, timed and signed.

Paediatric Oncology patients with febrile neutropaenia will be admitted directly to the Children’s Ward and treated according to the Paediatric Oncology Shared Care guidelines available on the PIER website: http://www.pier.uhs.nhs.uk/Media/Documents/Febrile-neutropaenia-flowchart.pdf. A hard copy of these guidelines are also available on the ward.”

Ongoing Management:
• Review antibiotics and antibiotic rationalisation within 72 hours
• Ensure patient has had a senior Doctor review within 12 hours of hospital admission
• Ensure the patient has an escalation plan documented in the medical notes
• Ensure the patient is being followed up by the CCOS sepsis liaison
• Please refer to the “Guidelines for the management of infection (or suspected infection) in potentially neutropenic adult cancer patients receiving chemotherapy” which can be found on the intranet website.

• Ensure early discussion with Critical Care Consultant if clinically indicated
• The acute oncology team will follow up all septic patients receiving chemotherapy (in the last 6 weeks) on a daily basis (Monday to Friday). NB This includes patients under the haematologists.
• The acute oncology team will liaise with the site specific oncologist and communicate with the appropriate medical / surgical team that is looking after the patient.
• Treatment options will be tailored to the specific needs of the patient, but with close discussion between Consultant Oncologist, Consultant Microbiologist and the acute oncology team.
• If a patient is undergoing chemotherapy (from an Oncologist or a Haematologist) and is not to be neutropenic, the acute oncology team will
continue to review them whilst in hospital using the services of referral to CCOS as necessary depending on their status as: septic, severely septic or with SIRS.

7.10 Mental Health In-patient wards:

Screening:

On admission to a mental health in-patient ward area the admitting clinician will review the sepsis screening page to determine if the patient needs a full sepsis screen or not. (See Appendix C)

Treatment:

- If the clinical diagnosis or a differential diagnosis is sepsis – Start to treat with SEPSIS 6 and refer to (See Appendix B).
- Apply a sepsis 6 sticker to the medical records and ensure each action is completed, dated, timed and signed.

Ongoing Management:

- Review antibiotics and antibiotic rationalisation within 72 hours
- Ensure patient has had a senior Doctor review within 12 hours of hospital admission
- Ensure the patient has a escalation plan documented in the medical notes
- Ensure the patient is being followed up by the CCOS sepsis liaison
- Ensure early discussion with Critical Care Consultant if clinically indicated

7.11 Visual Aid to Identification of Sepsis Patients: The Light Blue Wrist Band

Patients with Sepsis: To highlight sepsis patients in a clear and visible way, to all healthcare practitioners, the Organisation has implemented a strategy that will allow easy recognition of patients for the duration of their sepsis episode, namely the “Light Blue wrist-band”. When a patient is identified as being potentially septic, potentially neutropenic sepsis, severe sepsis or septic shock, then a light blue wrist-band will be placed on the patient’s wrist; to act as a visual aid to all healthcare professionals caring for that patient, during that septic episode. The rationale for this is the elements of care and the documentation of care are critical to the optimal outcome for that patient. The light blue wrist-band will act as a visual prompt and will help ensure that the named nurse and doctor oversee the antibiotic course and other essential aspects of clinical management – but in particular that no antimicrobial doses are missed for any reason.
The removal of the Light Blue wrist-band: When the antimicrobial treatment for that septic episode has been completed then the blue band can be removed from the patient’s wrist.

8 Consultation

This policy has been developed by the Sepsis Working Group which is represented by leads from key areas that this policy covers. The group members were tasked with sharing the developing policy with their teams and gain comments and feedback.

This policy has been approved through all the recognized committees to gain approval and ratification.

9 Training

9.1 The Implementation of this policy will be supported through awareness sessions with all relevant Clinical Business Units and Corporate Teams.

9.2 This integrated sepsis recognition and response policy has a mandatory training requirement which is detailed in the Trusts mandatory training matrix and is reviewed on a yearly basis. This requires all relevant clinical staff to complete the sepsis eLearning module on employment into the Trust.

9.3 The following non mandatory training is recommended:
- Blood culture sampling competency training.
- Arterial blood gas training for relevant Medical and Nursing staff.

10 Monitoring Compliance and Effectiveness

10.1 Currently the compliance for this policy is covered by the national 2016-17 CQUIN for sepsis audit. The CQUIN requires 50 sets of notes to be audited each month for presentations to the Emergency Department to assess if patients are screened for sepsis appropriately and given antibiotics within 60 minutes if sepsis is suspected as a diagnosis. In addition to this another 50 sets of medical notes are reviewed each month on patients coded with sepsis while they are an inpatient to assess if they were screened correctly for sepsis and received antibiotics within 60-90 minutes of the diagnosis of suspected sepsis. This audit reports via the CQUIN monitoring for 2016-17. Post CQUIN period this audit will be undertaken annually via the Consultant Nurse/ACCP for Critical Care and reported into the SEE committee annually.
10.2 Sepsis also forms one of the Trusts quality goals for 2016-17 (compliance with the sepsis bundle (sepsis 6). Within this audit 30 sets of notes are reviewed monthly to assess the compliance with sepsis 6 once a diagnosis of sepsis is made by a clinician. The above audit outcomes and actions are reported into the SEE Committee via an assurance and mitigation report. Post this quality goal going forward this audit will be continued and overseen by the Consultant Nurse/ACCP for Critical Care. This will then be reported into the SEE committee annually.

10.3 Clinical Leads will undertake annual compliance and outcome audits for their clinical areas in relation to early recognition and response to sepsis and this will feed into the annual sepsis report that will be reported into the SEE committee from March 2017.

10.4 Annual compliance of the mandatory e-learning module for sepsis will be monitored via individual clinical business units.

11 Links to other Organisational Documents

- Antibiotic Guidelines:  
  http://www.iow.nhs.uk/uploads/Pharmacy/Antimicrobial/Antibiotic_guidelines.doc
- PGD for Pre-Pip  
  http://www.iow.nhs.uk/guidelines/PIPERACILLIN%20FINAL%20VERSIO
N%20PGD_update.pdf
- Neutropenic Guidelines  
  http://www.iow.nhs.uk/guidelines/Neutropenic%20guidelines%20Jul%201
0.pdf
- Maternity Guidelines for sepsis  
  http://www.iow.nhs.uk/guidelines/maternity%20sepsis%20v2.pdf
- Children Guidelines for sepsis  
  http://www.iow.nhs.uk/uploads/Pharmacy/Antimicrobial/Paeditric_guideli
nes_updated.pdf
- Blood Culture taking Policy

12 References

1. Daniels R Surviving the first hours in sepsis: getting the basics right (an intensivist’s perspective) (2011) J of antimicrobial Chemotherapy 66 (2):11-23


13 Appendices

Appendix A Adult Sepsis Screening Tool for the Emergency Department

Appendix B Sepsis 6

Appendix C Adult Inpatient Admission Screening Document

Appendix D In-Patient Deterioration/Sepsis Screening Tool - Sticker

Appendix E Paediatric Sepsis Screening and Sepsis 6

Appendix F Financial and Resourcing impact Assessment on Policy Implementation

Appendix G Equality Impact Assessment (EIA) Screening Tool
Appendix A

Adult Sepsis Screening Tool for the Emergency Department

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<thead>
<tr>
<th>ADULT SEPSIS SCREEN</th>
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<td>Are you confident the patient does not have sepsis?</td>
<td>YES - NO</td>
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<td><strong>If no proceed to next question</strong></td>
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</tr>
<tr>
<td>Does the patient have a MEWS score greater than 4-5 and/or new objective altered mental state?</td>
<td>YES – NO</td>
</tr>
<tr>
<td><strong>If yes proceed to next question</strong></td>
<td></td>
</tr>
<tr>
<td>If you are suspecting sepsis and the MEWS score is greater than 4-5 and/or new objective altered mental state, does the patient have any signs of new infection or risk factors?</td>
<td>Please tick Relevant boxes</td>
</tr>
<tr>
<td>Dysuria /retention</td>
<td></td>
</tr>
<tr>
<td>Cough/sputum production</td>
<td></td>
</tr>
<tr>
<td>Abdominal pain /distension / diarrhoea</td>
<td></td>
</tr>
<tr>
<td>Signs of line infection/indwelling device present</td>
<td></td>
</tr>
<tr>
<td>Signs of skin infection /cellulitis</td>
<td></td>
</tr>
<tr>
<td>Malignancy being actively treated</td>
<td></td>
</tr>
<tr>
<td>Chemotherapy in the last 6 weeks</td>
<td></td>
</tr>
<tr>
<td>Impaired immunity due to illness or drugs</td>
<td></td>
</tr>
<tr>
<td>Recent trauma or surgery or invasive procedure (within the last 6 weeks)</td>
<td></td>
</tr>
<tr>
<td>If the MEWS score is greater than 4-5 and signs of new infection/high risk factors treat patient as suspected sepsis – APPLY SEPSIS 6 STICKER TO THE NOTES</td>
<td></td>
</tr>
</tbody>
</table>
Adult Inpatient Admission Screening Document

ALL ADMISSIONS SHOULD BE SCREENED FOR SEPSIS

SEPSIS SCREEN AND ASSESSMENT

A) Patient already screened in the Emergency Department in the last 12 hours as not having Sepsis and who therefore may not require Screening. **(GO NO FURTHER)**

B) Patient already screened in the Emergency Department in the last 12 hours who has already been defined as having Sepsis and who therefore may not require Screening. **Patient should already be on Sepsis 6 protocol … PLEASE CONFIRM AND GO NO FURTHER**

IF NEITHER OF THE ABOVE APPLY PLEASE NOW COMPLETE ADMISSION SEPSIS SCREEN

C) Part One:

- MEWS 3 or below and clinically you don’t suspect sepsis - PROCEED NO FURTHER
- MEWS score greater than 4 and/or objective evidence of a new altered mental state proceed to part 2

**Date:**

**Sign:**

**Designation:**

Part Two:

**CLINICAL ASSESSMENT OF PATIENTS WITH POSSIBLE SEPSIS** (to be completed by appropriate clinician)

1. Any history or signs of a new infection or risk factors for sepsis?

2) Any signs of organ dysfunction?

<table>
<thead>
<tr>
<th>AKI</th>
<th>New need for O2</th>
<th>Bilirubin &gt;34umol/L</th>
<th>Lactate &gt;2mmol/L (venous or arterial)</th>
<th>Urine &lt;0.5ml/kg/hr for 2 hours</th>
<th>INR &gt;1.5 and/or APTT &gt;60 s And/or platelets &lt;100 x10^9/L</th>
<th>WCC &gt;12x10^9/L or &lt;4x10^9/L</th>
</tr>
</thead>
</table>

Tick signs

Patients with history/signs of a new infection, signs of organ dysfunction MEWS 4-5 are likely to have sepsis

**OUTCOME OF SEPSIS ASSESSMENT** (please complete one or the other of the two options)

- Patient to be treated as having sepsis- follow SEPSIS SIX (complete sepsis 6 sticker apply to medical notes)
- Patient unlikely to have sepsis. Assessment complete

Name and signature of doctor:

Time & date of assessment:
Response to deteriorating patient with MEWS > 5 (or causing significant concern with MEWS < 5)

**Recorder** (Time: …………..)
Name: ...................................................

**Responder** (Time: …………..)
Name: ...................................................

**Primary Responder** (within 15 minutes)
(Time: …………..)
Name: ...................................................

(Must be minimum ward FY2 or CCOS and Nurse in Charge)

**Responder** (Time: …………..)
Name: ...................................................

**Secondary Responder** (Time: …………..)
Name: ...................................................

(Must be Registrar or above & CCOS)

**Patient is continuing to deteriorate despite current plan?**
Re-escala te back to Secondary responder & CCOS immediately

**Patient is improving?**
Continue management plan and observe as per policy but patient remains at risk

**ABCDE assessment** (document in notes)

- Resp rate: ………….. bpm
- Saturations: ………….. %
- Systolic BP: ………….. mmHg
- Heart Rate: ………….. bpm
- Temperature: …………..°c
- Consciousness: A V P U
- O2 therapy: Y N
- Total score: …………..

**Working diagnosis:** .................................................................

**Initiate management plan:**
- Increase observations
- Bloods / ABG
- IV fluids
- Fluid balance monitoring
- Catheter
- Chest Xray
- ECG / cardiac monitor

**Is this sepsis? – (MEWS 4 and/or altered mental state and/or signs of infection? If yes think sepsis, start sepsis 6?**

- Yes
- No

**For escalation:**
- Yes
- No

**Refer to CCOS**
Re-assess ABCDE and re-consider diagnosis

**Ensure CCOS aware**
If for full escalation, is ICU referral required [Yes No]
Why? .................................................................

If treatment limitations identified, complete escalation (purple) form

**Ensure patient is on continuous monitoring**

**Reconsider diagnosis AND Escalate to Secondary responder for immediate re-assessment**

**Is patient rapidly deteriorating OR no response from management plan within 1 HOUR of primary responder intervention?**

**Re-assess ABCDE and re-consider diagnosis**

**Ensure CCOS aware**
If for full escalation, is ICU referral required [Yes No]
Why? .................................................................

If treatment limitations identified, complete escalation (purple) form

**Ensure patient is on continuous monitoring**

**Version No. 3.0**
Paediatric Sepsis Screening Tool

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Location</th>
<th>Patient ID sticker</th>
</tr>
</thead>
</table>

### Recognise

<table>
<thead>
<tr>
<th>Could this child have an infection?</th>
<th>Could it be sepsis?</th>
<th>Yes/No</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Look for 2 of:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature &lt;36 or &gt;38.5°C</td>
<td></td>
<td>Y/N</td>
<td>°C</td>
</tr>
<tr>
<td>Tachycardia (&gt;90% Tachy)</td>
<td></td>
<td>Y/N</td>
<td>/min</td>
</tr>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;1yr</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-2yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-5yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&gt;5yrs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>RR</td>
<td>&gt;60</td>
<td>Y/N</td>
<td>/min</td>
</tr>
<tr>
<td>RR</td>
<td>&gt;50</td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td><strong>Plus 1 of:</strong></td>
<td></td>
<td>Y/N</td>
<td></td>
</tr>
<tr>
<td>Altered mental state. Sleepy, floppy, lethargic or irritable</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mottled skin OR prolonged capillary refill time OR ‘Russell’ capillary refill time</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clinical concern regarding possible sepsis – seek review if significant concern even if trigger criteria not met.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Are ≥2 criteria present?</td>
<td>Confirmed / Suspected</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Are ≥2 criteria present?</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If YES, THINK SEPSIS. THIS IS AN EMERGENCY</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Immediate Senior Clinician review (ST4+) and follow Sepsis 6 (see below)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If senior decision not to proceed to sepsis 6 immediately, document overcall</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>If NO: SEPSIS UNLIKELY: Document your clinical impression overcall</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Respond

<table>
<thead>
<tr>
<th>Time</th>
<th>Sign</th>
</tr>
</thead>
</table>

**Paediatric Sepsis 6: Achieve the following within 1 hr**

Refer to SORT sepsis pathway (www.sort.nhs.uk)

1. Give High Flow Oxygen
2. Record Blood Pressure and start urine collection (fresh nappy)
3. Obtain IV access
4. Take blood cultures, blood gas (include glucose & lactate)
5. Give iv Ceftriaxone 80mg/kg (or equivalent)
6. Fluid Resuscitation if required: 20ml/kg 0.9% Saline, reassess and repeat as required.

### Reassess

**Within 1 hour of treatment**

1. HR or RR still above age specific normal range or CRT >3 seconds
2. Venous (or arterial) Lactate >2
3. Signs of fluid overload (tachycardia, desaturations, capillaries)

If "YES" to ANY of above, Escalate Care to Consultant +/- ITU +/- SORT 02380 775562

If patient stabilised – Admit to ward / HDU, review at least hourly with documented observations for the first 4 hours.
Appendix F

Financial and Resourcing impact Assessment on Policy Implementation

*NB this form must be completed where the introduction of this policy will have either a positive or negative impact on resources. Therefore this form should not be completed where the resources are already deployed and the introduction of this policy will have no further resourcing impact.*

<table>
<thead>
<tr>
<th>Document title</th>
<th>The Isle of Wight NHS Trust Integrated Sepsis Recognition and Response Policy</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Totals</th>
<th>WTE</th>
<th>Recurring £</th>
<th>Non Recurring £</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manpower Costs</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Training Staff</td>
<td>None</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Equipment &amp; Provision of resources</td>
<td></td>
<td>£2k via CQUIN funding 2016-17</td>
<td></td>
</tr>
</tbody>
</table>

**Summary of Impact:** The initial cost of producing related products (posters/staff cards for lanyards, printing costs) will be supported by the CQUIN funding for 2016-17. Ongoing purchase of wrist bands and stickers are picked up at service level as needed.

**Risk Management Issues:** None

**Benefits / Savings to the organisation:**
This policy will ensure we have a consistent approach to sepsis recognition and response to sepsis across the whole Trust based on evidence.

**Equality Impact Assessment**

- Has this been appropriately carried out? YES
- Are there any reported equality issues? NO

If “YES” please specify:

**Use additional sheets if necessary.**

Please include all associated costs where an impact on implementing this policy has been considered. A checklist is included for guidance but is not comprehensive so please ensure you have thought through the impact on staffing, training and equipment carefully and that ALL aspects are covered.

<table>
<thead>
<tr>
<th>Manpower</th>
<th>WTE</th>
<th>Recurring £</th>
<th>Non-Recurring £</th>
</tr>
</thead>
</table>
### Operational running costs

<table>
<thead>
<tr>
<th>Staff Training Impact</th>
<th>Recurring £</th>
<th>Non-Recurring £</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

### Totals:

<table>
<thead>
<tr>
<th>Staff Training Impact</th>
<th>Recurring £</th>
<th>Non-Recurring £</th>
</tr>
</thead>
<tbody>
<tr>
<td>Totals:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Equipment and Provision of Resources</th>
<th>Recurring £</th>
<th>Non-Recurring £</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accommodation / facilities needed</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Building alterations (extensions/new)</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>IT Hardware / software / licences</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Medical equipment</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Stationery / publicity</td>
<td></td>
<td>£2k see above</td>
</tr>
<tr>
<td>Travel costs</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Utilities e.g. telephones</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Process change</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Rolling replacement of equipment</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Equipment maintenance</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Marketing – booklets/posters/handouts, etc</td>
<td>See above</td>
<td></td>
</tr>
</tbody>
</table>

### Totals:

- Capital implications £5,000 with life expectancy of more than one year.

<table>
<thead>
<tr>
<th>Funding / costs checked &amp; agreed by finance:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Signature &amp; date of financial accountant:</td>
<td></td>
</tr>
<tr>
<td>Funding / costs have been agreed and are in place:</td>
<td></td>
</tr>
<tr>
<td>Signature of appropriate Executive or Associate Director:</td>
<td></td>
</tr>
</tbody>
</table>
### Equality Impact Assessment (EIA) Screening Tool

<table>
<thead>
<tr>
<th>Document Title:</th>
<th>The isle of Wight NHS Trust, Integrated sepsis recognition and response policy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Purpose of document</td>
<td>Consistent approach to sepsis recognition and response</td>
</tr>
<tr>
<td>Target Audience</td>
<td>Staff and patients</td>
</tr>
<tr>
<td>Person or Committee undertaken the Equality Impact Assessment</td>
<td>Shane moody and sepsis working group</td>
</tr>
</tbody>
</table>

1. To be completed and attached to all procedural/policy documents created within individual services.

2. Does the document have, or have the potential to deliver differential outcomes or affect in an adverse way any of the groups listed below? **NO**

   If no confirm underneath in relevant section the data and/or research which provides evidence e.g. JSNA, Workforce Profile, Quality Improvement Framework, Commissioning Intentions, etc.

   If yes please detail underneath in relevant section and provide priority rating and determine if full EIA is required.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Positive Impact</th>
<th>Negative Impact</th>
<th>Reasons</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Men</strong></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Race</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Asian or Asian British People</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Black or Black British People</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>Chinese people</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>People of Mixed Race</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>White people (including Irish people)</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
<tr>
<td>People with Physical</td>
<td></td>
<td></td>
<td>N/A</td>
</tr>
</tbody>
</table>
Disabilities, Learning Disabilities or Mental Health Issues

Sexual Orientation
- Transgender: N/A
- Lesbian, Gay men and bisexual: N/A

Age
- Children: N/A
- Older People (60+): N/A
- Younger People (17 to 25 yrs): N/A

Faith Group: N/A

Pregnancy & Maternity: N/A

Equal Opportunities and/or improved relations: N/A

Notes:
Faith groups cover a wide range of groupings, the most common of which are Buddhist, Christian, Hindus, Jews, Muslims and Sikhs. Consider faith categories individually and collectively when considering positive and negative impacts.

The categories used in the race section refer to those used in the 2001 Census. Consideration should be given to the specific communities within the broad categories such as Bangladeshi people and the needs of other communities that do not appear as separate categories in the Census, for example, Polish.

3. Level of Impact

If you have indicated that there is a negative impact, is that impact: **No Impact expected**

<table>
<thead>
<tr>
<th>Legal (it is not discriminatory under anti-discriminatory law)</th>
<th>YES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intended</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If the negative impact is possibly discriminatory and not intended and/or of high impact then please complete a thorough assessment after completing the rest of this form.

3.1 Could you minimise or remove any negative impact that is of low significance? Explain how below:

N/A

3.2 Could you improve the strategy, function or policy positive impact? Explain how below:

N/A

3.3 If there is no evidence that this strategy, function or policy promotes equality of opportunity or improves relations – could it be adapted so it does? How? If not why not?

N/A

Scheduled for Full Impact Assessment: Date:

Name of persons/group completing the full assessment: Shane Moody