

Document Details		
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3	V3 14/02/2019	Extensive review and updating to NEWS 2 and incorporating PEWS and Sepsis recognition and screening with widening of scope to all services
4	Sep2021	Updated with RCUK 2021 guidance, trust confusion assessment tool, and local PEWS tools
5	V4 March2	Review, updated consultation., PEWS tools updated and minor amendments

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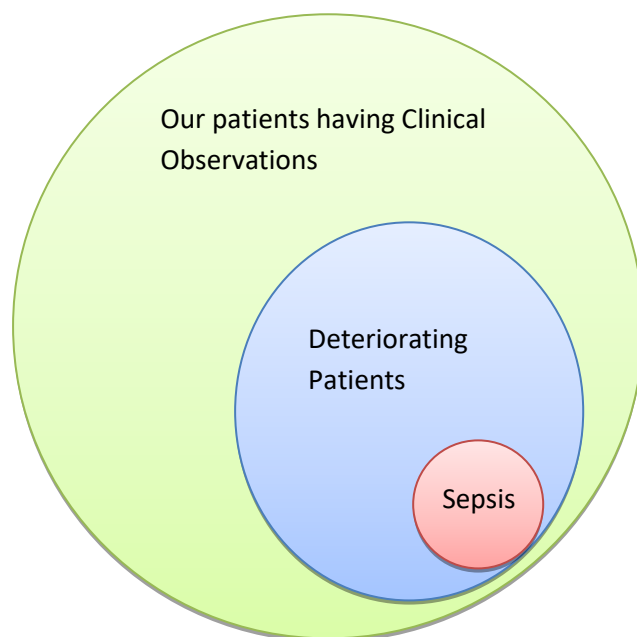
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1.0 Introduction

Clinical observations allow healthcare professionals to be aware of the health status of patients and allow tracking of patients health status. Patients within all healthcare and community settings may be at risk of physiological deterioration and not all patient deterioration can be predicted- so all patients (with the exception of some patients at the end of their life) require observation which includes the taking and recording of vital signs. Patients who are becoming unwell may have abnormalities that are detectable by clinical observations well in advance and although deterioration can be recognised through vital signs, these are not always regularly recorded or acted upon by the healthcare community.

Early detection, timeliness and competency of response to changes in clinical observations are important determinants of clinical outcome in people with acute illness. 'Track and trigger' tools such as Early Warning Scores assist clinicians in spotting deteriorating patients.

One important cause of deterioration in a patients condition is Sepsis - a time-critical medical emergency which can occur as part of the body's response to infection. Unless treated quickly sepsis can progress to severe sepsis, multi-organ failure, septic shock and ultimately death. The successful management of sepsis requires early recognition and use of Early Warning Scores (EWS) together with clinical judgment to trigger use of sepsis screening tools to determine which patients need urgent treatment and transfer to an acute trust setting.



Inadequate verbal or written communication is recognised as being a serious cause of clinical errors and patient harm and can cause delays in the assessment of a deteriorating patient. The SBAR tool is an easy to remember structured way of communicating information that requires a response from the receiver, or to facilitate efficient handover of patients between clinicians and clinical teams.

The following clinical tools have been chosen for use in our trust:

- **NEWS2** – National Early Warning Score- NHS England and NHS Improvement approved tool as the recommended early warning scoring in adults
- **PEWS**- Paediatric Early Warning Score- locally agreed paediatric early warning scores (in the absence of nationally agreed scores) to ensure safe and consistent assessment of unwell children living in Shropshire
- **Sepsis Trust Screening Tools**- NHS Improvement approved tools for screening deteriorating patients in different settings for possible sepsis
- **SBAR**- Situation, Background, Assessment, Recommendation- can be used effectively to escalate a clinical problem that requires immediate attention in conjunction with the Early Warning Score

2.0 Purpose

The purpose of this policy is to ensure a standardised Trust wide approach to:

- the recording of clinical observations and
- the actions which should be triggered in the case of abnormality and
- using agreed tools to recognise a deteriorating patient and
- manage deteriorating patients appropriately in community healthcare settings and
- using agreed tools to detect possible sepsis and
- using agreed tools for the effective sharing of clinical information

3.0 Duties

3.1 The Chief Executive

The Chief Executive Officer has overall responsibility for maintaining staff and patient safety and is responsible for the governance and patient safety programmes within the organisation.

3.2 Directors

Directors of Services are responsible for ensuring the safe and effective delivery of services they manage; this includes securing and directing resources to support the implementation of this policy. They are also responsible for ensuring a process is in place to effectively manage patient safety and that the organisation is compliant with the Care Quality Commission (CQC).

3.3 Ward Managers/ Team Leaders

Ward Managers/ Team Leaders will ensure that all staff carry out patient observations using the EWS and SBAR tools, and that adequate staff training is undertaken within their area including annual mandatory resuscitation training.

3.4 Staff

All staff members must ensure that they understand the relevant EWS and SBAR and the implications of their use and are up to date with their mandatory resuscitation training.

4.0 Glossary

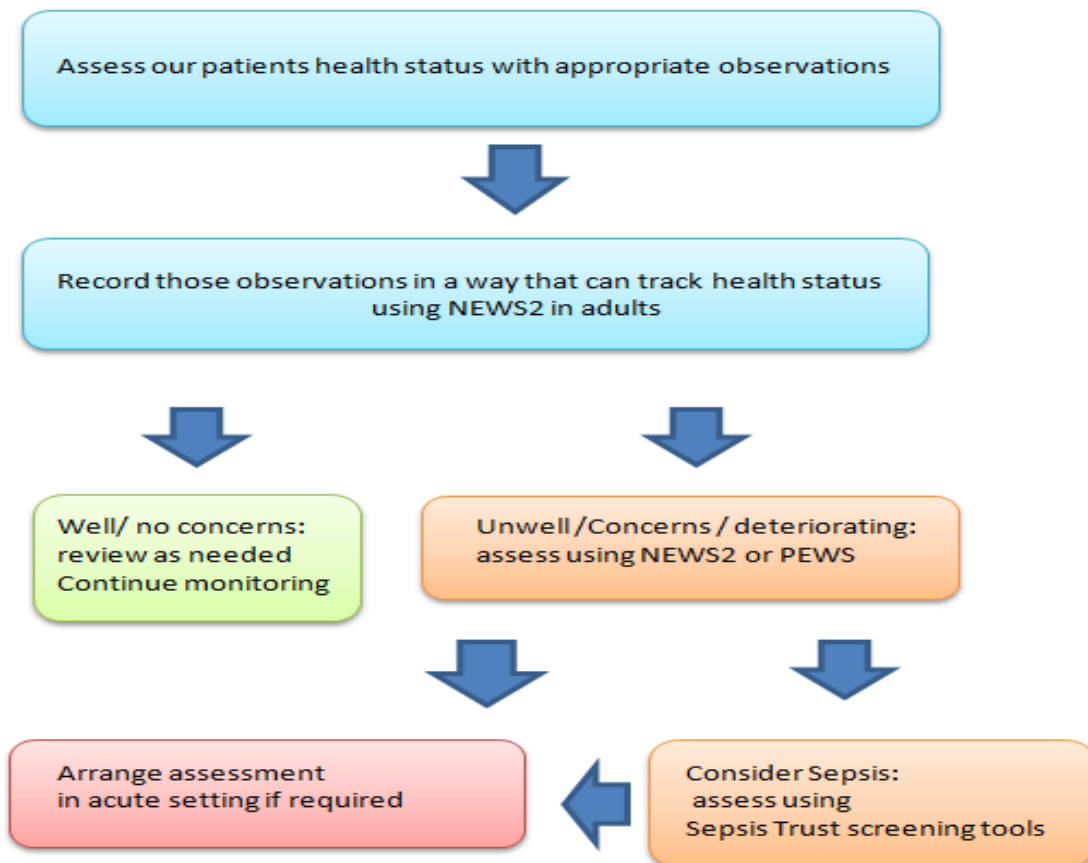
Acronym	Term / Definition
ACVPU	Alert, Confusion, Pain, Verbal, Unresponsive
CAM tool	Confusion Assessment Method Tool (CH055)
ECG	Electro cardiogram
EWS	Early Warning Score- includes NEWS2 and PEWS
GCS	Glasgow Coma Score
GLUC	Glucose
IV	Intra-venous
SCHT	Shropshire Community Health Trust
NEWS/ NEWS2	National Early Warning Score
NICE	National Institute for Clinical Excellence
NPSA	National Patient Safety Agency
RCP	Royal College of Physicians
SP0²	Oxygen Saturation
WBC	White Blood Count
PEWS	Paediatric Early Warning Score
SBAR	Situation, Background, Assessment, Recommendation
MDT	Multi-Disciplinary Team
Sepsis	Sepsis is characterised by a life-threatening organ dysfunction due to a dysregulated host response to infection.
Septic shock	Septic shock is a subset of sepsis where particularly profound circulatory, cellular and metabolic abnormalities substantially increase mortality
Uncomplicated Infection	Viral and bacterial infections where there is no evidence of organ dysfunction or tissue hypo-perfusion that accompanies sepsis or septic shock

5.0 Measurement of Clinical Observations

Observations must be taken on all adult patients at initial assessment and then at regular intervals dependent on need.

Clinical observations are taken on children seen in community setting when appropriate and children presenting with acute illness or deterioration will require assessment and observations dependent on clinical need - see Section 7.

Adult patients observations will be recorded using a NEWS2 observation record and acute paediatric observations will be recorded using a PEWS observation record.



Adult observations should be recorded in on the NEWS2 observation record with the time and date clearly documented. Patient observations must be measured by an appropriately trained and competent member of staff.

A full set of observations should always include:

- **Respiration rate**
- **Oxygen saturation**
- **Systolic blood pressure**
- **Pulse rate**
- **Level of consciousness**
- **Temperature**

All adult patients with acute presentations should have a NEW score attributed to every set of observations.

Some patients may have pre-existing conditions and the scoring may need to be interpreted accordingly, e.g. hypercapnoeic failure due to COPD- scoring is outlined within the guidance.

The NEW Score should be used to inform the frequency of clinical monitoring within

in-patient areas.

All in-patients should have their weight recorded on initial assessment.

All in-patients should have their clinical observations recorded at least every 12 hours (Routine Monitoring).

If an observation is unrecordable or undetectable this must be escalated to senior clinical staff to assess the patient. An unrecordable observation should always be given a score of 3, unless assessed otherwise by senior clinical staff.

In non-inpatient settings clinical observations will be recorded at initial assessment to establish a baseline and again at any further contact where the patients clinical condition is of concern or if they are at risk of deterioration.

Deviation from Routine Monitoring

For all patients within in-patient areas clinical observations should be recorded at least every 12 hours and any alteration from this requires a senior clinical staff or MDT decision and the rationale must be detailed in the clinical notes by a senior clinician. Until such time as this has taken place observations must continue 12 hourly.

Exclusion from Routine Monitoring

For patients who have been commenced on an 'End of Life' care plan and/ or are subject to a DNACPR order it may not be appropriate to continue routine clinical observations where deterioration will not result in active treatment.

However it is important to understand that some palliative treatments will still require some vital signs to be monitored and recorded. In these circumstances a documented note detailing what parameters should be monitored to facilitate safe treatment and the range of acceptable results is required along with any escalation actions required if results are outside of these ranges.

Patient consent

Informed verbal consent should always be obtained from the patient to undertake observations.

In circumstances where observations are indicated and patient refuses consent it is important to give a clear explanation of the need to perform observations and to explore the reason for refusal, and document in the clinical record and inform senior clinical staff.

If there are concerns about the risks and implications of not undertaking observations for a patient that may lack capacity then Mental Capacity must be formally assessed where there is any doubt.

5.1 Adults: NEWS Scoring Clinical Observations

5.1.2 Respiratory rate

An elevated respiration rate is a powerful sign of acute illness and distress in all patients. The respiration rate may be elevated as a consequence of generalised pain and distress, sepsis remote from the lungs, central nervous system (CNS) disturbance and metabolic disturbances such as metabolic acidosis.

A reduced respiration rate is an important indicator of CNS depression and narcosis. Respiratory rate should be recorded for 60 seconds to account for variations in respiratory rate and pattern.

A respiratory rate of <9 or >20 is significant and will generate an alert, this will be form part of the aggregated score and trigger a clinical response.

Depth, symmetry and pattern of respiration should also be note and recorded if abnormal together with any associate sounds e.g. wheeze, cough and should form part of any assessment.

5.1.3 Oxygen saturation (SpO₂)

Oxygen saturation is a powerful tool for the integrated assessment of pulmonary and cardiac function. Oxygen saturation and any supplemental oxygen and delivery device should be recorded. For most patients a target oxygen saturation should be 94% or above on air and recorded on the SpO₂ Scale 1.

Oxygen is a drug and for all but emergency life saving administration requires a written prescription and rationale for use recorded in the patient record.

A saturation \leq 91%, with or without supplemental oxygen needs to be reviewed urgently. If used the device, flow rate, cylinder or wall outlet should all be checked to ensure optimum oxygenation.

The **SpO₂ Scale 2** should be used for patients with confirmed hypercapnic respiratory failure (usually patients with moderate or severe chronic obstructive pulmonary disease, severe chest wall or spinal disease, neuromuscular disease or severe obesity) with the NEWS score adjusted to reflect the lower recommended oxygen saturation range (88–92%). This should be a confirmed diagnosis- such as documentation on the patients Summary Care Record, or GP summary, or Acute Trust Discharge letter, or the admitting doctors medical assessment.

Oxygen saturations may be affected by many variables:

- Hypoperfusion conditions eg anaemia, atrial fibrillation or hypothermia, carbon monoxide exposure, oedema, jaundice and vasoconstriction
- Nail Varnish and artificial nails
- Bright or fluorescent room lighting
- Poorly positioned probe
- Movement e.g. shivers, rigors

5.1.4 Blood Pressure

Blood Pressure (BP) is routinely measure using electronic devices, however if the pulse is irregular or the BP very low (<80mmHg) the accuracy of electronic BP measuring devices may not be accurate and manual recording of blood pressure must be undertaken.

The Systolic BP only is scored on the NEWS2 chart. Diastolic blood pressure does not form part of the scoring system for acute-illness severity because it does not add value in this context however it should be routinely recorded.

Hypotension may indicate circulatory compromise due to sepsis or volume depletion, cardiac failure or cardiac rhythm disturbance, CNS depression, hypoadrenalism and/or the effect of blood pressure-lowering medications.

It is important to note that some people have a naturally low systolic blood pressure (<100 mmHg) and this might be suspected if the patient is well and all other physiological parameters are normal, or confirmed by reference to previous records of blood pressure.

5.1.5 Pulse Rate

The measurement of heart rate is an important indicator of a patient's clinical condition. Tachycardia (high heart rate) may be indicative of circulatory compromise due to sepsis or volume depletion, cardiac failure or arrhythmia, pyrexia, metabolic disturbance, drug intoxication or pain and general distress. Bradycardia (low heart rate) may be normal with physical conditioning or as a consequence of medication, eg with beta blockers, or it may also be an important indicator of hypothermia, CNS depression, hypothyroidism or heart block.

A manual pulse **MUST** be taken with every set of observations to assess the pulse properties.

The normal resting pulse rate is between 51 and 90 bpm and rate and regularity should be recorded.

If the pulse is irregular, or the patient is known to be in atrial fibrillation, then the apex beat should be used to assess the patient's heart rate.

Patients receiving a rate limiting medication i.e. beta blocker will not be able to increase their heart rate to compensate for hypoperfusion conditions and therefore other abnormal signs (high respiratory rate and low urine output) will have extra significance.

A 12 lead ECG should be performed on any patient who has a new irregular pulse noted, or any other concerns with their pulse.

5.1.6 Level of Consciousness (ACVPU)

Deterioration in conscious level can be caused by many factors, and a more comprehensive physical assessment should be undertaken by a competent practitioner.

New confusion is a significant indicator of deteriorating physiology and is recorded on the NEWS2 chart scoring a 3.

The trust short Confusion Assessment Method Tool should be used for inpatients ([CH055](#) in the clinical document library).

A	Alert	A fully awake patient. Such patients will have spontaneous opening of the eyes, will respond to voice and will have motor function.
C	New confusion	A patient may be alert but confused or disorientated. It is not always possible to determine whether the confusion is 'new' when a patient presents acutely ill and should always be considered to be 'new' until confirmed to be otherwise.
V	Voice	The patient makes some kind of response when you talk to them, which could be in any of the three component measures of eyes, voice or motor
P	Pain	The patient makes a response to a pain stimulus
U	Unresponsive	This is also commonly referred to as 'unconscious'. This outcome is recorded if the patient does not give any eye, voice or motor response to voice or pain.

5.1.7 Temperature

Extremes of temperature- both pyrexia and hypothermia- are sensitive markers of acute-illness severity, sepsis and physiological disturbance.

Tympanic thermometers are known to become less reliable below 34°C and alternative systems should be used.

5.2 Calculation of the Adult National Early Warning Score - NEWS2

5.2.1 RECORD:

Each of the six physiological NEWS parameters are allocated a score according to the magnitude of disturbance to each parameter and are recorded on the NEWS2 chart (or Electronic Patient Record when available).

Example NEWS2 Chart: clinical documentation for use is available on [SharePoint](#)

5.2.2 SCORE:

The individual parameter scores should then be added up, along with a score of 2 for use of supplemental oxygen, to derive the aggregate NEWS score for the patient.

Example NEWS2 Scoring system: clinical documentation for use is available on [SharePoint](#)

Chart 1: The NEWS scoring system

Physiological parameter	Score						
	3	2	1	0	1	2	3
Respiration rate (per minute)	≤8		9–11	12–20		21–24	≥25
SpO ₂ Scale 1 (%)	≤91	92–93	94–95	≥96			
SpO ₂ Scale 2 (%)	≤83	84–85	86–87	88–92 ≥93 on air	93–94 on oxygen	95–96 on oxygen	≥97 on oxygen
Air or oxygen?		Oxygen		Air			
Systolic blood pressure (mmHg)	≤90	91–100	101–110	111–219			≥220
Pulse (per minute)	≤40		41–50	51–90	91–110	111–130	≥131
Consciousness				Alert			CVPU
Temperature (°C)	≤35.0		35.1–36.0	36.1–38.0	38.1–39.0	≥39.1	

5.2.3 ASSESS:

Assess whether the score needs any response: There are four trigger levels for a clinical alert requiring clinician assessment based on the NEWS:

- **LOW score:** an aggregate NEW score of 1–4
- **A single RED score:** an extreme variation in an individual physiological parameter (a score of 3 in any one parameter, which is colour-coded **RED** on the NEWS2 chart)
- **MEDIUM score:** an aggregate NEW score of 5 or 6. **A NEW score of 5 or more is a key threshold** and is indicative of potential serious acute clinical deterioration and the need for an urgent clinical response
- **HIGH score:** an aggregate NEW score of 7 or more

Example NEWS2 Thresholds and Triggers: clinical documentation for use is available on SharePoint

Chart 2: NEWS thresholds and triggers

NEW score	Clinical risk	Response
Aggregate score 0–4	Low	Ward-based response
Red score Score of 3 in any individual parameter	Low–medium	Urgent ward-based response*
Aggregate score 5–6	Medium	Key threshold for urgent response*
Aggregate score 7 or more	High	Urgent or emergency response**

* Response by a clinician or team with competence in the assessment and treatment of acutely ill patients and in recognising when the escalation of care to a critical care team is appropriate.

**The response team must also include staff with critical care skills, including airway management.

5.2.4 RESPONSE

These triggers should determine the urgency of the clinical response and the clinical competency of the responder, bearing in mind that physiological abnormalities due to long term conditions should be considered at admission.

- **A LOW score (NEW score 1–4)** should prompt assessment by a competent registered clinician who should decide if a change to frequency of clinical monitoring or an escalation of clinical care is required.
- **A MEDIUM score (i.e. NEW score of 5–6 or a RED score)** should prompt an **urgent (within 1 hour) review by a clinician** skilled with competencies in the assessment of acute illness which will be either the Senior Clinician with appropriate skills, GP responsible for the ward, Urgent Care Doctor, Nurse Practitioner or Specialist Paramedic Practitioner with relevant experience, who should consider whether escalation of care to an acute hospital is required. To ensure clinical cover 24/7, this role will be undertaken by an Out of Hours doctor, nurse or emergency care practitioner
- **A HIGH score (NEW score of 7 or more)** should prompt **emergency assessment (immediate) and/ or usually transfer of the patient to an acute care setting**. An urgent transfer (999) will be arranged by the senior clinician within the clinical area (where appropriate) using their clinical judgement and this should not be delayed to await a more senior assessment.

Example NEWS2 Clinical Response to NEWS Trigger Thresholds: clinical documentation for use is available on SharePoint

Chart 4: Clinical response to the NEWS trigger thresholds

NEW score	Frequency of monitoring	Clinical response
0	Minimum 12 hourly	<ul style="list-style-type: none"> Continue routine NEWS monitoring
Total 1–4	Minimum 4–6 hourly	<ul style="list-style-type: none"> Inform registered nurse, who must assess the patient Registered nurse decides whether increased frequency of monitoring and/or escalation of care is required
3 in single parameter	Minimum 1 hourly	<ul style="list-style-type: none"> Registered nurse to inform medical team caring for the patient, who will review and decide whether escalation of care is necessary
Total 5 or more Urgent response threshold	Minimum 1 hourly	<ul style="list-style-type: none"> Registered nurse to immediately inform the medical team caring for the patient Registered nurse to request urgent assessment by a clinician or team with core competencies in the care of acutely ill patients Provide clinical care in an environment with monitoring facilities
Total 7 or more Emergency response threshold	Continuous monitoring of vital signs	<ul style="list-style-type: none"> Registered nurse to immediately inform the medical team caring for the patient – this should be at least at specialist registrar level Emergency assessment by a team with critical care competencies, including practitioner(s) with advanced airway management skills Consider transfer of care to a level 2 or 3 clinical care facility, ie higher-dependency unit or ICU Clinical care in an environment with monitoring facilities

5.3 Other Physiological Parameters

Knowledge of other clinical observations are also important in assessing and monitoring patients health state.

5.3.1 Capillary Refill time (CRT)

A capillary refill time of 3 seconds or more is an important warning sign for serious illness and risk of death in children. CRT is widely recommended as part of the routine assessment of unwell children.

It is a simple test to measure the time taken for colour to return to an external capillary bed after pressure is applied, typically by pressing the end of a finger with the thumb and forefinger. Normal capillary refill time is usually 2 seconds or less.

Press on the finger for five seconds using moderate pressure at an ambient temperature of 20–25 degrees Celsius. A capillary refill time of three seconds or more should be considered abnormal.

5.3.2 Supplemental Oxygen

Remember for oxygen therapy the prescription should be to achieve a specified minimum SpO₂ rather than the concentration or flow of gas. The method of delivery, device and flow rate therefore need to be recorded within the patients clinical record and the resulting SpO₂ reading obtained marked on the NEWS chart.

5.3.3 Pain

Pain is not recorded as part of NEWS however, pain and/or its cause will usually, but not always, generate physiological disturbances that will be captured by the scoring system. Pain should always be assessed, responded to and recorded.

5.3.4 Urine Output

In the majority of patients urine output does not need to be routinely measured, but should be considered in the following instances:

- Patients with other abnormal signs such as high fever.
- Patients with other abnormal fluid losses such as vomiting, drains, stomas or diarrhoea.
- Patients with primary urological or renal problems

Monitoring urine output will be necessary for some patients as dictated by their clinical condition. Urine output is generally assessed over a two hour period.

The optimum urine output is 1ml / kg / hr. In a 70kg adult this is equal to 70 mls/hr.

The minimum desired urine output is 0.5mls / kg / hr, which is equal to 35 mls/hr.

5.3.5 Fluid Balance Charts

The balance of fluids within the body is vitally important, many conditions and situations impact the bodies ability to manage fluids and in such circumstances measurement of input and output may be required. (NICE CG17410)

When a fluid balance chart is in use all measures of both input and output fluid quantities and times should be recorded.

- All patients receiving IV or SC fluid require a fluid chart
- All patients required to be "nil by mouth" for any period exceeding four hours require a fluid chart

Daily and cumulative balances should be entered onto the fluid chart.

Insensible losses are not normally recorded, but should be considered and accounted for in patients with fluid balance problems. Normal insensible loss is approximately 1L in 24 hours but can greatly increase when a patient has a high temperatures or rapid respiratory rate.

5.3.6 Head Injury

In patient falls where a head injury cannot be excluded e.g. un-witnessed falls, the patient should be considered at risk of deterioration and observed closely until clinically significant head injury has been excluded. (See also Prevention and Management of Falls Policy).

6.0 Assessing the adult patient with significant deterioration

Vital signs and the NEWS score will give an indication of the patients' condition. If the patient is deteriorating, a more comprehensive assessment is warranted to fully understand any life threatening presentations.

The **ABCDE** model of assessment is recommended as it gives a rapid, initial assessment of the patients' condition.

Concern about a patient's clinical condition should always override the NEWS if the attending healthcare professional considers it necessary to escalate care.

Sepsis should be considered in any patient with a known infection, signs or symptoms of infection, or in patients at high risk of infection, and a NEWS score of 5 or more – 'think sepsis'.

Patients with suspected infection and a NEWS score of 5 or more require urgent assessment and intervention by a clinical team competent in the management of sepsis and urgent transfer to hospital or transfer to a higher-dependency clinical area within hospitals for ongoing clinical care.

6.1 Suspect Sepsis

In deterioration of all patients with known or suspected infection full assessments **MUST** be undertaken with the view to **EXCLUDE THE POSSIBILITY** of sepsis.

- In a patient with a confirmed or suspected infection, or at risk of infection, a **NEWS score of 5 or more** should raise the suspicion of sepsis and prompt an urgent clinical response by a clinical team competent in the management of sepsis.
- **Sepsis screening using the Sepsis Trust tools should be performed.**
- Even where no current signs or symptoms are presently evident clear advice should be given regarding any signs of deterioration. This 'safety netting' process should be fully recorded detailing the information given to the patient if deterioration occurs or concern increases.

BE SUSPICIOUS, a significant number of patients with early stages of sepsis may 'look well', not all will show 'classic sepsis' symptoms and can present with high or low temperatures.


6.2 Assessment of Sepsis

Current Sepsis Trust Community screening tools for adults and children can be accessed online at the Sepsis Trust website. They are active PDF tools used to assess deteriorating patients for their risk of acute sepsis.

Once completed they can be printed off and uploaded to the patients clinical record:

<https://sepsistrust.org/professional-resources/clinical/>

Example SEPSIS Trust Community Nurse Screening Tool:

SEPSIS SCREENING TOOL COMMUNITY NURSING		AGE 12+
01 START THIS CHART IF THE PATIENT LOOKS UNWELL OR HAS ABNORMAL PHYSIOLOGY RISK FACTORS FOR SEPSIS INCLUDE: <input type="checkbox"/> Age > 75 <input type="checkbox"/> Impaired immunity (e.g. diabetes, steroids, chemotherapy) <input type="checkbox"/> Recent trauma / surgery / invasive procedure <input type="checkbox"/> Indwelling lines / IVDU / broken skin		
02 COULD THIS BE DUE TO AN INFECTION? LIKELY SOURCE: <input type="checkbox"/> Respiratory <input type="checkbox"/> Urine <input type="checkbox"/> Skin / joint / wound <input type="checkbox"/> Indwelling device <input type="checkbox"/> Brain <input type="checkbox"/> Surgical <input type="checkbox"/> Other		YES NO SEPSIS UNLIKELY, CONSIDER OTHER DIAGNOSIS
03 ANY RED FLAG PRESENT? <input type="checkbox"/> Objective evidence of new or altered mental state <input type="checkbox"/> Systolic BP \leq 90 mmHg (or drop of $>$ 40 from normal) <input type="checkbox"/> Heart rate \geq 130 per minute <input type="checkbox"/> Respiratory rate \geq 25 per minute <input type="checkbox"/> Needs O ₂ to keep SpO ₂ \geq 92% (88% in COPD) <input type="checkbox"/> Non-blanching rash / mottled / ashen / cyanotic <input type="checkbox"/> Recent chemotherapy <input type="checkbox"/> Not passed urine in 18 hours ($<$ 0.5ml/kg/hr if catheterised)		RED FLAG SEPSIS START BUNDLE YES
04 ANY AMBER FLAG PRESENT? IF UNDER 17 & IMMUNITY IMPAIRED TREAT AS RED FLAG SEPSIS <input type="checkbox"/> Relatives concerned about mental status <input type="checkbox"/> Acute deterioration in functional ability <input type="checkbox"/> Immunosuppressed <input type="checkbox"/> Trauma / surgery / procedure in last 8 weeks <input type="checkbox"/> Respiratory rate 21-24 <input type="checkbox"/> Systolic BP 91-100 mmHg <input type="checkbox"/> Heart rate 91-130 or new dysrhythmia <input type="checkbox"/> Temperature $<$ 36°C <input type="checkbox"/> Clinical signs of wound infection		NO YES 1 SAME DAY ASSESSMENT BY GP / TEAM LEADER 2 IS URGENT REFERRAL TO HOSPITAL REQUIRED? 3 AGREE AND DOCUMENT ONGOING MANAGEMENT PLAN (INCLUDING OBSERVATION FREQUENCY AND PLANNED SECOND REVIEW)
NO AMBER FLAGS = ROUTINE CARE / CONSIDER OTHER DIAGNOSIS		
COMMUNITY NURSING RED FLAG BUNDLE: THIS IS TIME-CRITICAL - IMMEDIATE ACTION REQUIRED! DIAL 999 AND ARRANGE BLUE LIGHT TRANSFER		
COMMUNICATION: Ensure communication of 'Red Flag Sepsis' to crew. Advise crew to pre-alert as 'Red Flag Sepsis'. Where possible a written handover is recommended including observations and antibiotic allergies.		
 <small>UKST 2020 CM1.3 PAGE 1 OF 1</small>		
<small>The controlled copy of this document is maintained by The UK Sepsis Trust. Any copies of this document held outside of this area, in whatever format (e.g. paper, email attachments) are considered to have passed out of control and should be checked for accuracy and validity. The UK Sepsis Trust registered charity number (England & Wales) 1108861 (Scotland) SC060277. Company registration number 8464298. Royal Emergency Ltd company number 1088335. VOT reg. number 391131408.</small>		

6.3 Arrange urgent admission for patients with RED FLAG SEPSIS

SEPSIS RED FLAGS

- R**esponds only to voice or pain / unresponsive
- A**cute confusional state
- S**ystolic B.P \leq 90 mmHg (or drop $>$ 40 from normal)
- H**eat rate $>$ 130 per minute
- R**espiratory rate \geq 25 per minute
- N**eeds oxygen to keep SpO₂ \geq 92%
- N**on-blanching rash, mottled / ashen / cyanotic
- N**ot passed urine in last 18 h / UO $<$ 0.5 ml / kg / hr
- L**actate \geq 2 mmol / l
- R**ecent chemotherapy

- A patient who looks unwell with presumed infection who displays at least ONE Red Flag Sepsis criterion has **Red Flag Sepsis** and transfer to an acute hospital should immediately be arranged and **The Sepsis Six** regimen commenced.

- Transfer should be by 'blue light' ambulance, with a Paramedic crew if immediately available.
- The call should include direct reference to the acuity of the condition, using the term '**Red Flag Sepsis**'.
- Where possible, a telephone referral to the receiving Emergency Department should be made, using the term '**Red Flag Sepsis**'.

Elements of treatment within The Sepsis Six may usefully be undertaken whilst transfer is awaited in a number of SCHAT locations.

There is strong evidence that expedient delivery of 'basic' aspects of care limits the maximum acuity of intervention required - early resuscitation can prevent the requirement for invasive monitoring and vasoactive support later in hospital.

Within SCHAT the range of treatments possible may be severely restricted by the scope of practice within differing services.

6.4 Immediate treatment for RED FLAG SEPSIS: The Sepsis Six

The key immediate interventions that increase survival from sepsis are described in a bundle termed the **Sepsis Six**. This bundle has been shown to be associated with significant mortality reductions when applied within the first hour.

The first 4 interventions may be practicable in the community setting and should be considered in our services **where it does not delay transfer to an acute setting.**

The Sepsis Six

1. Administer oxygen to maintain saturations >94%
2. Take blood cultures and consider infective source
3. Administer intravenous antibiotics
4. Consider intravenous fluid resuscitation
5. Check serial lactates
6. Commence hourly urine output measurement

Oxygen

Patients with sepsis are exempt from British Thoracic Society guidelines for the administration of oxygen to acutely ill adults, the pathophysiology of sepsis is such that organs become critically hypoxic. Hypoxia will kill before hypercapnia.

Oxygen should be given to maintain target saturations of 94% or higher.

Where patients are known to have moderate to severe pulmonary disease (and where available), the recommend that oxygen be administered remains, but to maintain a lower target oxygen saturations, above 88%. Oxygen will not cause sudden apnoea in such patients.

It must be remembered that to titrate oxygen delivery to maintain a specified saturation is provision of oxygen therapy that requires a prescription. High flow continuous oxygen delivery via non-rebreathing mask for the express purpose of life saving does not require prescription.

Antimicrobials

If transfer times to hospital are routinely in excess of one hour consideration of whether it is appropriate and feasible to administer intravenous (or intramuscular) antimicrobials needs to take place. . **It should not delay transfer to an acute setting.**

A delay of one hour in administering antimicrobials in septic shock is associated with an increase in mortality rates of 86%.

Some community facilities may have available the local formulary recommended antimicrobial agents for community-acquired pneumonia, urinary tract infection, skin and soft

tissue infection and intra-abdominal infection which together account for 90% of cases of sepsis.

Blood Cultures

If clinicians elect to administer antimicrobials, the feasibility of sampling blood for culture should be considered **where staff have been appropriately trained** and have access to appropriate equipment. **It should not delay transfer to an acute setting.**

While modern blood culture media are able to bind antimicrobials and thus increase the capture rate of organisms after antibiotic administration, this is not fully effective and capture rates remain higher if cultures are sampled first.

Intravenous Fluids

Bolus administration of IV Sodium Chloride (Normal Saline) can be administered to counter hypotension and should be considered **where staff have been appropriately trained** and have access to appropriate equipment. IV fluids require suitable venous access and it is recognised this may be difficult to achieve in patients with hypotension.

It should not delay transfer to an acute setting.

6.5 Management of AMBER FLAG SEPSIS

The presence of **Amber Flag Sepsis** criterion in the absence of Red Flags indicate the patient has sepsis, this may not have yet progressed to cause serious organ dysfunction but careful consideration of the potential need for acute hospital assessment is needed.

Treatment is still indicated for the sepsis, clinicians need to consider the appropriateness of the patient location together with the range of treatment options and skillsets of the staff available. Patients with as yet 'minor' sepsis can deteriorate rapidly.

Uncomplicated sepsis, where the patient does not have the suspected organ dysfunction or tissue hypo-perfusion that accompanies severe sepsis or septic shock may be safely managed without acute hospital admission.

However it is often difficult to determine patients that can be safely treated in the community and in circumstances where there is doubt transfer to an acute hospital is recommended. Additional 'higher risk' condition factors, patients who live alone with poor access to communication and transport difficulties all need to be taken into account.

Where clinical assessment is unable to identify a suspected source of infection, acute hospital assessment must also be very carefully considered and the rationale for decision making explained within the patient record.

For those in whom community-based care is deemed safe and appropriate, consideration should be given to providing a scheduled review appointment/visit, clear records should be made of the decision, rationale and the safety netting provided.

If transfer to acute hospital is considered necessary the call to the Ambulance Service should include direct reference to the acuity of the condition, using the terms 'Amber Flag Sepsis'. A brief, clear handover should accompany the patient to include observations, any relevant medical history and antibiotic history including allergies.

Where possible, a telephone referral to the receiving Emergency Department should be made, using the terms 'Amber Flag Sepsis' or 'sepsis' and SBAR communication method. The presence of any risk factors and the rationale for the clinical decision to refer for hospital assessment should be discussed.

6.6 Low risk patients

Patients who present with infections but without Red or Amber flags require appropriate safety netting advice and signposting to GP/111/999 route if deterioration occurs. Patients records need to reflect information was given to the patient.

7.0 Paediatric Early Warning Scores/ Systems (PEWS)

7.1 Clinical observations are not currently routinely taken on children seen in community settings however children presenting with acute illness or deterioration will require assessment and observations.

The Royal College of Nursing is currently working towards a nationally agreed paediatric early warning system, but until that time the trust is using the tool used by the local acute trust to assess unwell children seen in acute community settings, to ensure effective communication of assessment and risk.

Age specific tools for 0-12 months s, 1-5, years, 5-12 years, and 12+ years are used in acute assessment areas and available as printed copies with example links below.



PEWS 0 to 1yrs.pdf



PEWS 1 to 5yrs.pdf



PEWS 5-12 yrs.pdf



PEWS more than 12 years.pdf

Early recognition and intervention in deterioration can improve outcomes for infants and children with conditions that can lead to sepsis.

7.2 Assessment of Paediatric Sepsis

Due to the nature of childhood illnesses, a fever can be quite common. Screening for sepsis using agreed Sepsis trust screening tools should take place for infants and children who look unwell or are feverish, particularly with a temperature greater than 39°C, but remembering that in those infants younger than three months a temperature of just 38°C or more is a Red Flag.

A low temperature can be more concerning and is a Red Flag in all children and infants under 12 years.

ANY CHILD WHO:

- 1 Is breathing very fast
- 2 Has a 'fit' or convulsion
- 3 Looks mottled, bluish, or pale
- 4 Has a rash that does not fade when you press it
- 5 Is very lethargic or difficult to wake
- 6 Feels abnormally cold to touch

MIGHT HAVE SEPSIS
Call 999 and ask: could it be sepsis?

The UK Sepsis Trust registered charity number (England & Wales) 1158843

ANY CHILD UNDER 5 WHO:

- 1 Is not feeding
- 2 Is vomiting repeatedly
- 3 Hasn't had a wee or wet nappy for 12 hours

MIGHT HAVE SEPSIS
If you're worried they're deteriorating call 111 or see your GP

JUST ASK
"COULD IT BE SEPSIS?"
IT'S A SIMPLE QUESTION, BUT IT COULD SAVE A LIFE.

Current Sepsis Trust General Practice/ Community screening tools for children of all ages can be accessed online at the Sepsis Trust website. They are active PDF tools used to

assess deteriorating patients for their risk of acute sepsis. Once completed they can be printed off and uploaded to the patients clinical record:

<https://sepsistrust.org/professional-resources/clinical-tools/>

Example General Practice Paediatric <5yr Sepsis assessment tool:

SEPSIS SCREENING TOOL GENERAL PRACTICE
UNDER 5

01 START THIS CHART IF THE CHILD LOOKS UNWELL, HAS ABNORMAL PHYSIOLOGY OR IF THERE IS PARENTAL CONCERN

RISK FACTORS FOR SEPSIS INCLUDE:

Impaired immunity (e.g. diabetes, steroids, chemotherapy)
 Recent trauma / surgery / invasive procedure

Indwelling lines / IVDU / broken skin

02 COULD THIS BE DUE TO AN INFECTION?

LIKELY SOURCE:

Respiratory
 Brain

Urine
 Surgical

Skin / joint / wound
 Other

Indwelling device

SEPSIS UNLIKELY,
CONSIDER OTHER
DIAGNOSIS

03 ANY RED FLAG PRESENT?

- Doesn't wake when roused / won't stay awake
- Looks very unwell to healthcare professional
- Weak, high-pitched or continuous cry
- Severe tachypnoea (see chart)
- Severe tachycardia (see chart)
- Bradycardia (<60 bpm)
- Non-blanching rash / mottled / ashen / cyanotic
- Temperature <36°C
- If under 3 months, temperature 38°C+
- SpO₂ < 90% on air or increased O₂ requirements

RED FLAG
SEPSIS
START GP BUNDLE

04 ANY AMBER FLAG PRESENT?

IF IMMUNITY IMPAIRED TREAT AS RED FLAG SEPSIS

- Not responding normally / no smile
- Reduced activity / very sleepy
- Moderate tachypnoea (see chart)
- Moderate tachycardia (see chart)
- SpO₂ < 92% or increased O₂ requirement
- Nasal flaring
- Capillary refill time ≥ 3 seconds
- Reduced urine output
- Leg pain or cold extremities
- Parental or carer concern

SEPSIS LIKELY

- TRANSFER TO DESIGNATED DESTINATION
- COMMUNICATE LIKELIHOOD OF SEPSIS AT HANDOVER

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

GP RED FLAG BUNDLE:

THIS IS TIME-CRITICAL – IMMEDIATE ACTION REQUIRED:

DIAL 999 AND ARRANGE BLUE LIGHT TRANSFER

Age (years)	Tachypnoea (breaths per minute)		Tachycardia (beats per minute)	
	Severe	Moderate	Severe	Moderate
<1	≥60	50-59	≥140	130-139
1-2	≥50	40-49	≥150	140-149
3-4	≥40	35-39	≥160	150-159

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Parents or carers of children at risk of sepsis can be helped to recognise the signs and symptoms using information leaflets produced by the Sepsis trust: a [detailed advice leaflet here](#), and a brief [reminder card here](#).

Clinical Observations and Recognition of the Deteriorating Patient Policy

Feb 22

19/23

8.0 Communication: SBAR Tool (Situation, Background, Assessment, Recommendation)

Structured handover systems such as SBAR show significant improvements both in the level of information transferred and the ability of clinicians to make appropriate treatment decisions in a timely manner and is the SCHO system of choice.

The system offers a sensible effective, timely communications tool that improves information transfer between individuals from differing clinical backgrounds and hierarchies.

SBAR is easy to remember and is used to ensure that communication is carried out in a structured way and that clinical problems that require immediate attention are escalated effectively.

S **Situation:**
I am (name), (X) nurse on ward (X)
I am calling about (patient X)
I am calling because I am concerned that...
(e.g. BP is low/high, pulse is XX, temperature is XX, Early Warning Score is XX)

B **Background:**
Patient (X) was admitted on (XX date) with...
(e.g. MI/chest infection)
They have had (X operation/procedure/investigation)
Patient (X)'s condition has changed in the last (XX mins)
Their last set of obs were (XX)
Patient (X)'s normal condition is...
(e.g. alert/drowsy/confused, pain free)

A **Assessment:**
I think the problem is (XXX)
And I have...
(e.g. given O₂/analgesia, stopped the infusion)
OR
I am not sure what the problem is but patient (X) is deteriorating
OR
I don't know what's wrong but I am really worried

R **Recommendation:**
I need you to...
Come to see the patient in the next (XX mins)
AND
Is there anything I need to do in the mean time?
(e.g. stop the fluid/repeat the obs)

Ask receiver to repeat key information to ensure understanding

The SBAR tool originated from the US Navy and was adapted for use in healthcare by Dr M Leonard and colleagues from Kaiser Permanente, Colorado, USA

9.0 Dissemination and Implementation

9.1 Dissemination

This policy will be circulated by DATIX and available to staff through the Trust website and discussed at local staff forums.

9.2 Implementation:

Staff will receive training as part of induction and then as determined by the Trust Clinical Competencies Training Policy.

All community trust staff will receive Sepsis awareness training at induction.

All clinical staff will be trained in the measurement of physiological observations, use of appropriate EWS and the SBAR tool, and Sepsis screening at agreed intervals as determined by the Trust Clinical Competencies Training Policy.

All clinical staff in high-risk areas will in addition be trained in the recognition of the acutely unwell patient, including management of Sepsis, by attending Immediate Life Support, defibrillator and anaphylaxis training at agreed intervals as determined by the Trust Clinical Competencies Training Policy.

Details regarding the requirements for individual staff groups will be specified, reviewed and monitored as defined by the as determined by the Trust Clinical Competencies Training Policy.

10.0 Monitoring Compliance

Compliance with this policy will be monitored through:

- ESR mandatory training compliance annually
- Significant events analyses
- Resuscitation Group input
- Learning form Deaths Group case reviews

11.0 Consultation

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12.0 References

- NEWS 2 Final Report, Standardising the assessment of acute-illness severity in the NHS, Royal College of Physicians 2017
- NICE CG 50: Acutely ill adults in hospital: recognising and responding to deterioration, July 2007
- [NICE CG 51: Sepsis: recognition, diagnosis and early management, July 2017](#)
- Resuscitation Guidelines (UK) 2021, Resuscitation Council
- [Sepsis Manual 2019, the Sepsis Trust](#)
- Sepsis guidance implementation advice for adults, NHS England, September 2017
- SBAR communication tool- situation, background, assessment, recommendation, ACT Academy, Online library of Quality Service Improvement and Redesign tools, NHS Improvement, January 2018
- [NICE CG103 Delirium: prevention, diagnosis and management March 2019](#)
- [Standards for Assessing, Measuring and Monitoring Vital Signs in Infants, Children and Young People](#)

13.0 Associated Documents

- Consent to Examination and Treatment Policy
- Information Governance Policy
- Clinical Record Keeping Policy
- Resuscitation Policy: CPR- DNACPR Policy
- Prevention and Management of Falls Policy
- [CH055 Short Confusion Assessment Method \(CAM\) Tool](#)

14.0 Appendices

Early Warning Scoring Flowchart- Prisons

Appendix 1

Early Warning Scoring Flow Chart – Prisons

