



Physiological observations and prevention of deterioration in the acutely ill adult

This APD supersedes: PAT/T 33 v3 - Physiological observations and prevention of deterioration in the acutely ill adult



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Amendment Form

Please record brief details of the changes made alongside the next version number. If the procedural document has been reviewed **without change**, this information will still need to be recorded although the version number will remain the same.

Version	Date Issued	Brief Summary of Changes	Author
Version 4	21 Nov 2019	Change to NEWS2 (national early warning score v2) including new IPOC & Reference to Nervecentre eObservations. Link to Sepsis care pathway. Training for prevention of deterioration.	Lee Cutler
Version 3	27 March 2014	Major changes have been made throughout and it is recommended that you read this document in full.	Lee Cutler
Version 2	January 20	Major changes have been made throughout and it is recommended that you read this document in full.	Lee Cutler

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1 INTRODUCTION

Recording physiological observations, **recognising** deterioration using the National Early Warning Score V2 (NEWS2) and **responding** by assessing and treating are fundamental in detecting and preventing deterioration. (NICE, 2007a; NPSA 2007a; 2007b).

2 PURPOSE

- To articulate the standards expected of clinical staff within the Trust.

3 DUTIES AND RESPONSIBILITIES

3.1 Clinical staff must:

Ensure that they are **competent** and undertake the role expected of them in relation to physiological monitoring and deterioration. All members of the clinical team are expected to act in a way that ensures patients are monitored appropriately, that deterioration is recognised and that escalation takes place. The key roles with the clinical team are those of: recorder, recogniser and responder.

Recording physiological observations is the responsibility of Registered Nurses who may delegate and provide supervision to health care assistants (HCA), assistant practitioners, associate practitioners and student nurses.

Recognition of deterioration or of physiological abnormalities causing concern using the NEWS2 system is the responsibility of the Registered Nurse. The Nurse must escalate to a responder (Doctor or advanced clinical practitioner and critical care outreach team) according to the expected clinical response pathway (IPOC 1569 or Nervecentre eObs system).

Response to deterioration or physiological abnormalities causing concern by the doctor, advanced clinical practitioner or critical care outreach team must take place according to the expected clinical response pathway (IPOC 1569 or Nervecentre eObs system).

Clinical staff must **maintain contemporaneous records** pertaining to observations and escalation.

In situations where there is chronic abnormal physiology or expected ongoing 'triggering' of the NEWS2 – staff recognising these triggers (Registered Nurses) should collaborate with staff who would be expected to respond to the triggers (e.g. doctors, ACPs and critical care outreach) to agree and document an appropriate modified observations and escalation plan (see page 1 of IPOC 1569 or clinical notes section in Nervecentre).

Ensure that a plan for monitoring observations and escalating is in place in situations where it is not appropriate to follow the NEWS2 IPOC (1569).

3.2 The senior nurse in charge of the clinical area must:

Ensure that all staff are competent to undertake their role in relation to physiological observations, national early warning scoring and escalation, documentation using paper IPOC and use of Nervecentre eObs application.

Ensure staff can access suitable, functioning equipment for physiological monitoring.

Ensure that there is a 'status-at-a-glance board' within the ward so that patients triggering the NEWS2 can be easily identified by all staff present on the ward (Francis, 2013).

In collaboration with the matron and other relevant professionals, must investigate all adverse clinical incidents in relation to physiological observations, and escalation and undertake service improvement to prevent their future occurrence.

3.3 The Consultant Medical Practitioner, or Specialist Registrar in their absence, must:

Ensure that any deviation from this policy is documented in the clinical notes (e.g. if the NEWS2 algorithm is not appropriate because of expected ongoing physiological abnormalities and chronic disease – see point 4.6). This must include a plan for physiological monitoring, acceptable parameters and criteria for requesting medical review (see Appendix 1).

PATIENTS LACKING CAPACITY

Sometimes it will be necessary to provide care and treatment to patients who lack the capacity to make decisions related to the content of this policy. In these instances staff must treat the patient in accordance with the Mental Capacity Act 2005 (MCA 2005).

- A person lacking capacity should not be treated in a manner which can be seen as discriminatory.
- Any act done for, or any decision made on behalf of a patient who lacks capacity must be done, or made, in the persons Best Interest.
- Further information can be found in the MCA policy, and the Code of Practice, both available on the intranet.

There is no single definition of Best Interest. Best Interest is *determined on an individual basis. All factors relevant to the decision must be taken into account, family and friends should be consulted, and the decision should be in the Best interest of the individual. Please see S5 of the MCA code of practice for further information.*

4 OBSERVATIONS, EARLY WARNING SCORE AND ESCALATION

4.1 'Routine monitoring' includes the following parameters:

- **Conscious Level** (AVPU scale: whether the patient is Alert & awake [aware of surroundings, eyes open], only responds [eyes open/verbalizes] to Voice, only responds [eyes open/verbalises] to Pain, or is Unresponsive [eyes closed/not verbalising]. Also any new Confusion)
- **Respiratory Rate** (Breaths per minute)
- **Oxygen Saturation** (Percent - %)
- **Inspired Oxygen** (Delivery device & flow / % - depending on device)
- **Pulse (Heart rate)** (Beats per minute. Counted manually by finger palpation over 1 Min)
- **Blood pressure** (Millimeters of Mercury – mmHg)
- **Temperature** (Degrees Centigrade – °C)
- **Calculated National Early Warning Score.**
- **Pain score** (on movement: 0 – 3)
- **Urine output** (mls) (Patients with urinary catheters, IV fluids, sepsis)

(NICE, 2007a).

- 4.2 **Minimum standard:** all adult in-patients in acute beds within the Trust, must have at least 'routine monitoring' recorded on initial assessment and at least 12 hourly thereafter (NICE, 2007a). (NB: See also section 5. monitoring in specific clinical situations).
- 4.3 **The frequency of monitoring** must be increased when observations are abnormal (i.e. NEWS2 >0). The trigger for increasing frequency must be **clinical concern** or as per Clinical **NEWS2** pathway (IPOC 1569 – see Appendix 1) (NICE, 2007a).
- 4.4 **The purpose of the NEWS2** is to initiate **escalation** leading to medical review of a patient with abnormal physiology. At every review medical staff must consider whether the NEWS2 algorithm must be adhered to or whether an individualised plan for observations and escalation is more appropriate (See point 4.6)
- 4.5 **Escalation** must take place following the recording of an elevated NEWS2 to ensure patients receive appropriate medical care and do not deteriorate untreated. It is responsibility of all clinical staff to ensure appropriate escalation takes place.
- 4.6 **Deviation from 'Routine monitoring' and the NEWS2 clinical response pathway** may be necessary to avoid false triggers (e.g. when the patient is expected to have ongoing abnormal physiology which is not due to acute deterioration). In this case an individualised monitoring and escalation plan must be documented on IPOC 1569 or the Clinical Notes section of the Nervecentre eObs application.
- 4.7 **Informed verbal consent** must be obtained from the patient to undertake observations. When a patient refuses, staff must give clear explanations of the importance of observations and why they are necessary. Always document refused consent and refer to Trust Mental Capacity Act policy (PAT/PA 19). Repeat attempts to undertake observations at frequencies stipulated in this policy.

- 4.8 Recording of observations** must take place immediately after measurement (contemporaneously) on the NEWS2 IPOC 1569 or Nervecentre eObs application.
- 4.9 Sepsis screening** is integral to observations. The NEWS2 system is the trigger for sepsis screening and initial sepsis management. Within Nervecentre eObs automatic sepsis screening and escalation are in-built. The NEWS2 IPOC indicates when sepsis screening should be undertaken, when to commence the Sepsis IPOC. The sepsis IPOC indicates how to initially assess the patient, grade sepsis severity, commence initial treatment of sepsis, and evaluate responses to treatment.
- 4.10 Status at a glance** wards must have a board/screen that displays NEWS2 scores, patients causing concern and when observations are next due (Francis, 2013).

5 MONITORING IN SPECIFIC CLINICAL SITUATIONS

Situation	Observations frequency	Additional parameters to monitor
Irregular pulse	As per NEWS2 IPOC	Blood pressure must be recorded manually – by anaeroid sphygmomanometer
Patients receiving oxygen	4 hourly as per NEWS2 IPOC/eObs	Delivery device & flow rate (BTS, 2008)
Unplanned admission to Hospital	4 hourly for 24 hours	
Hydration by intravenous infusion	As per NEWS2 IPOC/eObs	Fluid intake & output in mls at the same frequency as physiological observations
Urinary catheter	As per NEWS2 IPOC/eObs	Fluid intake & output in mls at the same frequency as physiological observations
Transfer between in-patient areas	Within 4 hours before transfer and within 1 hour of arriving in new location	
Surgery, general or spinal anaesthesia	Hourly for 4 hours, then if stable within normal parameters 4 hourly for 24 hours	
Discharge from critical care	4 hourly for 24 hours	
<i>Non-invasive ventilation (NIV) (Also referred to as Biphasic positive airway pressure (BIPAP))</i>	After commencement: Every 15 minutes for the first hour; then hourly until arterial pH normalises; then at least 4 hourly.	Inspired Oxygen concentration (Percent - % if monitored by Oxygen analyser or Litres per minute if Oxygen is entrained and percentage not measurable). IPAP (inspiratory positive airway pressure) in cmH ₂ O. EPAP (expiratory positive airway pressure) in cmH ₂ O (BTS, 2002)
<i>Continuous positive airway pressure (CPAP) or Airvo (nasal high flow)</i>	After commencement: Every 15 minutes for the first hour; then hourly for 4 hours; then at least 4 hourly.	CPAP (continuous positive airway pressure) in cmH ₂ O. (BTS, 2002)
Underwater seal chest drain insertion	Hourly for 4 hours after insertion, then 4 hourly until removed	Additional parameters as per Trust Chest drain observations chart (WPR 25721).
Tracheostomy	4 hourly until 24 hours after decannulation	See also tracheostomy IPOC & Policy PAT/T 20
Patients in acute pain - score 6 or more	4 hourly	Pain score 30 minutes after analgesia administration
Commencing opiate analgesia or dose or route change	4 hourly for 12 hours then 12 hourly	Nausea score
PCA (patient controlled analgesia)	Hourly for 4 hours; then 4 hourly until 24 hours after discontinued	Nausea score & Volumes used & remaining in syringe (in mls) (See Policy PAT/MM7)
Epidural analgesia	½ hourly for first 2 hours after return to ward. Then hourly for 10 hours. Then 4 hourly unless NEWS2 indicates more frequently until 24 hours after discontinued.	Nausea score, sensory & motor block levels
Acute head/brain injury (including in-patient falls if head injury cannot be excluded (unwitnessed falls))	Immediately then; ½ hourly until GCS = 15; then ½ hourly for 2 hours; then hourly for 4 hours; then 2 hourly thereafter	Neurological observations as per Trust neurological observations chart (NICE, 2007b)
Pregnancy & up to 42 days post partum	As per NEWS2 IPOC/eObs until Drs order otherwise	Use MOEWS (modified obstetric early warning score) until Drs order otherwise

6 LEARNING & SUPPORT

Learning activity / Staff - roles	Newly registered nurses / AHPs who act in the role of recorder and recogniser	Newly appointed nurses or AHPs who act in the role of recorder and recogniser	Unregistered staff who act as recorders of observations (e.g. HCA)	Doctors, senior and specialist nurses and advanced clinical practitioners who act in the role of responder
Attend the preceptorship session on the deteriorating patient	✓	✗	✗	✗
Undertake competence-based learning (face-to-face or elearning) on the Nervecentre eObs application and have an awareness of how to use the NEWS2 IPOC in the event of eObs system failure.	✓	✓	✓	✓
Receive training and be assessed as competent to perform observation	✗	✗	✓	✗

The eLearning and competency framework for eObs, including Glasgow Coma Scale, is available on the Hive: <https://extranet.dbth.nhs.uk/dbth-digital-transformation/eobservations/>

Education and training on the deteriorating patient is essential for all clinical staff caring for acutely ill in-patients. This is delivered appropriate to role detailed in the learning pathway (overleaf).

The critical care outreach team, and the policy author can be consulted and will advise on any issues relating to this policy, deterioration and escalation.

<u>Career / Professional Level</u>	<u>Outcome</u>	<u>Indicative content / focus of learning</u>	<u>Learning Methods / Opportunities</u>
Unregistered staff in the role of recorder. (Health care support worker, Assistant practitioner, Associate Nurse)	Acts primarily as recorder . Records and interprets physiological observations within the context of the NEWS2 (National Early Warning Score) system. Communicates with Registered staff when there is a NEWS trigger or clinical concern	Measuring and recording observations NEWS2 Fluid balance Sepsis screening Glasgow Coma Scale Teamwork & Non-technical skills Structured communication & escalation	Vital signs & NEWS training Clinical simulation Personal and directed study Work-based learning / supervised clinical practice
Pre-registration Nursing and Medical staff	Can act as recorder . Primarily in learning role with a focus on progression to recogniser . Monitoring the patients' condition; interpreting observations and adjusting the frequency of observations and level of monitoring. Communicates with registered staff when there is an NEWS trigger or clinical concern	Measuring and recording observations NEWS2 Fluid balance Sepsis screening Glasgow Coma Scale Teamwork & Non-technical skills Structured communication & escalation	Pre-registration curriculum Personal and directed study / supervised clinical practice
Registered Nurses and allied health professionals in preceptorship period	Can act as recorder . Acts primarily as recogniser . Monitoring the patients' condition; interpreting observations and adjusting the frequency of observations and level of monitoring. Recognises patient deterioration identified by the NEWS or other clinical indicators. Refers to more senior, skilled or specialist clinical professionals.	ABCDE assessment of the acutely ill patient Teamwork & Non-technical skills Structured communication & escalation Sepsis recognition & management AKI Glasgow Coma Scale	Preceptorship programme RAMSI course Skills and drills Intermediate Life Support (ILS) course Clinical simulation Personal and directed study Work-based learning / supervised clinical practice
Registered Nurses who take charge of wards / clinical areas Foundation 1 Doctors	Can act as recorder . Acts frequently as recogniser . Primarily in learning capacity with a focus on progression to Primary responder who will interpret NEWS and other clinical indicators. Initiates an investigation and clinical management plan. Revises monitoring plan to evaluate treatment. Seeks specialist / expert advice.	ABCDE Glasgow Coma Scale Teamwork & Non-technical skills Structured communication & escalation Sepsis recognition & management AKI Other common causes of acute deterioration Management of acute deterioration	Skills and drills RAMSI course Intermediate Life Support (ILS) course (NIC) Clinical simulation Foundation 1 teaching programme Personal and directed study Work-based learning Advanced Life Support (ALS) course (F1) Work-based learning / supervised clinical practice
Registered Nurses acting as 'Primary Responders' (e.g. Advanced Clinical Practitioners, Nurse Specialists, Critical Care Outreach nurses) Foundation 2 Doctors	Can act as recorder . Can act as recogniser . Acts primarily as a responder . Interprets NEWS and other clinical indicators. Initiates an investigation and clinical management plan. Revises monitoring plan to evaluate treatment. Seeks specialist / expert advice.	ABCDE Glasgow Coma Scale Teamwork & Non-technical skills Structured communication & escalation Sepsis recognition & management AKI Other common causes of acute deterioration Management of acute deterioration	Advanced Life Support (ALS) course Academic / Career Specialist Training Programmes Foundation 2 Competencies / training programme Clinical simulation Personal and directed study Work-based learning / supervised clinical practice

7 MONITORING AND COMPLIANCE WITH THE PROCEDURAL DOCUMENT

What is being Monitored	Who will carry out the Monitoring	How often	How Reviewed/ Where Reported to
Compliance with the NEWS2: On-time, comprehensively recorded observations, appropriate escalation and clinical review	Ward manager	Monthly	Via local clinical governance group if less than 90% compliance for more than 1 month This is included in ward quality data monitored within divisions and at executive board
Compliance with NEWS2 algorithm when a patient has suffered a cardiac arrest (IPOC 1569)	Resuscitation services / Consultants responsible for patient after cardiac arrest	Quarterly	Reported via adverse incident reporting system. Reported in Quarterly resuscitation services report.
Incidents – via the adverse incident reporting system (Datix)	Ward managers & Matrons	On individual incident basis	Local clinical governance group
Complaints – via the complaints procedure	Ward managers and Matrons	On individual complaint basis	Local clinical governance group

8 DEFINITIONS

Escalation: The timely, multidisciplinary review and treatment of a patient who is deteriorating. The urgency of the review and treatment, and the seniority of the staff involved, must escalate stepwise as the patient becomes more severely ill and unstable.

9 EQUALITY IMPACT ASSESSMENT

The Trust aims to design and implement services, policies and measures that meet the diverse needs of our service, population and workforce, ensuring that none are disadvantaged over others. Our objectives and responsibilities relating to equality and diversity are outlined within our equality schemes. When considering the needs and assessing the impact of a procedural document any discriminatory factors must be identified.

An Equality Impact Assessment (EIA) has been conducted on this procedural document in line with the principles of the Equality Analysis Policy (CORP/EMP 27) and the Fair Treatment For All Policy (CORP/EMP 4).

The purpose of the EIA is to minimise and if possible remove any disproportionate impact on employees on the grounds of race, sex, disability, age, sexual orientation or religious belief. No detriment was identified. (See Appendix 7).

10 ASSOCIATED TRUST PROCEDURAL DOCUMENTS CITED

Early Recognition of the severely ill Antenatal/ Postnatal Woman Using the Modified Obstetric Early Warning Score (MSG 166)

Chest Drains - Guidelines for the Insertion and Management in Adults - PAT/T 29

Mental Capacity Act 2005 -Policy and Guidance, including Deprivation of Liberty Safeguards (DoLS) - PAT/PA 19

Non Obstetric Emergency Care for Pregnant and Postpartum Women - PAT/T 37

Patient Controlled Analgesia (PCA) - PAT/MM7

Patient Falls - Prevention and Management Policy - PAT PS 11

Tracheostomy Adult Care Policy - PAT/T 20

Fair Treatment for All – CORP/EMP 4

Equality Analysis Policy – CORP/EMP 27

11 DATA PROTECTION

Any personal data processing associated with this policy will be carried out under 'Current data protection legislation' as in the Data Protection Act 2018 and the General Data Protection Regulation (GDPR) 2016.

For further information on data processing carried out by the trust, please refer to our Privacy Notices and other information which you can find on the trust website:

<https://www.dbth.nhs.uk/about-us/our-publications/uk-data-protection-legislation-eu-general-data-protection-regulation-gdpr/>

12 REFERENCES

British Thoracic Society Standards of Care Committee (2002) Non-invasive ventilation in acute respiratory failure. *Thorax* 57: 192-211.

British Thoracic Society (2008) Guideline for emergency Oxygen use in adult patients. British Thoracic Society, London.

Department of Constitutional Affairs Mental Capacity Act (2005): Code of Practice, 2007
https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/497253/Mental-capacity-act-code-of-practice.pdf

Francis R (2013) *Report of the Mid Staffordshire NHS Foundation Trust Public Inquiry*. The Stationary Office, London.

National Institute for Health and Clinical Excellence (2007a) *Acutely ill patients in hospital. Recognition of and response to acute illness in adults in hospital. Clinical Guideline 50*. National Institute for Health and Clinical Excellence, London.

National Institute for Health and Clinical Excellence (2007b) *Head injury: Triage, assessment, investigation and early management of head injury in infants, children and adults. Clinical Guideline 56*. NICE, London.


National Patient Safety Agency (2007a) *The fifth report from the Patient Safety Observatory: Safer Care for the acutely ill patient: learning from serious incidents. PSO/05*. The National Patient Safety Agency, London.

National Patient Safety Agency (2007b) *Recognising and responding appropriately to early signs of deterioration in hospitalised patients*. The National Patient Safety Agency, London.

National Patient Safety Agency (2011) *Essential care after an inpatient fall*. Rapid Response Report. NPSA/2011/RRR001.

Royal College of Physicians (2017) *National Early Warning Score (NEWS) 2*. Royal College of Physicians, London.

APPENDIX 1 – NEWS TRIGGER CATEGORIES & CLINICAL RESPONSE (NEWS IPOC PAGE 1)

 Doncaster and Bassetlaw Teaching Hospitals NHS Foundation Trust NEWS IPOC		<small>AFFIX LABEL HERE IF AVAILABLE</small> NHS Number: _____ District Number: _____ Surname: _____ Forename(s): _____ Address: _____ D.o.B.: _____
NEWS	Observations	Clinical Response
0	Minimum 12 hourly*	Continue NEWS monitoring with every set of observations *Minimum 4 hourly observations if: admission to hospital / transfer from critical care in last 24 hrs, acute brain injury, NIV, CPAP, Airvo, O ₂ therapy, chest drain, tracheostomy, epidural, PCA, opiates commenced, or dose or route change.
LOW Total 1-4	4 hourly Must score 0 for at least 12 hours before reducing frequency to 12 hourly	HCA: Refer to Registered Nurse using SBAR & document referral RN: Face-to-face assessment of the patient – then decide if increased frequency of observations and/or review by Dr / ACP is required. Acute rise in NEWS, clinical concern or new sepsis should all be reviewed by Dr / ACP. If in doubt whether to escalate repeat observations within 1 hour & review. Communicate using SBAR & record actions & decisions. Dr / ACP if attending: ABCDE assessment & investigations, formulate & document management & monitoring plan. Consider modifying observations & escalation for NEWS score in this category (below). THINK SEPSIS: If NEWS ≥ 3 & immunocompromised (neutropaenia, post chemotherapy) screen for sepsis & document risk level as per sepsis screening & action tool in this IPOC. If Moderate or High risk – proceed to complete the sepsis IPOC and start Sepsis6.
Modified observations & escalation instructions (eg target limits - please Date, Time & Sign) SpO ₂ <input type="checkbox"/> Scale 2 (88-92%)		
MEDIUM Total 5-6 or 3 in one parameter	Hourly or as documented monitoring plan by Dr / ACP	HCA: Refer to Registered Nurse & Nurse in charge using SBAR & document referral RN: Urgent face-to-face assessment of the patient. Contact ward doctor / ACP for urgent review within 30 minutes. Consider escalation to Critical Care Outreach if advice needed / patient is not improving. Recheck NEWS hourly until NEWS <5 & the patient is stable for at least 2 hours Dr / ACP: ABCDE assessment & investigations, formulate & document management & monitoring plan. Refer to Critical Care Outreach if advice needed / no improvement. If the patient does not improve within 60 minutes call for senior review. Senior Medical Review: Assess patient and implement appropriate management plan. Establish criteria for further review / senior review Review DNACPR status, treatment & escalation plan. Consider modifying observations & escalation for NEWS score in this category (below). THINK SEPSIS: If NEWS ≥ 5 & could be due to infection screen for sepsis & document risk level as per sepsis screening & action tool in this IPOC. If Moderate or High risk – proceed to complete the sepsis IPOC and start Sepsis6.
Modified observations & escalation instructions (eg target limits - please Date, Time & Sign)		
HIGH Total 7 or more	Every 30 minutes or as documented monitoring plan by Dr / ACP	HCA: Urgently refer to Registered Nurse & Nurse in charge of ward/department using SBAR & document referral. RN: Immediate face-to-face assessment of the patient. Escalate to senior doctor immediately. Inform Critical Care Outreach if advice needed / patient is not improving. Dr / ACP & Senior Medical Review: Immediate assessment and management. Senior Dr to assess response. Senior Dr to review DNACPR status, treatment & escalation plan. Refer Critical Care Consultant / Outreach / if advice needed / no improvement (SpR/ middle grade out of hours) or if admission to critical care is deemed necessary. Consider modifying observations & escalation for NEWS score in this category (below). THINK SEPSIS: If NEWS ≥ 5 & could be due to infection screen for sepsis & document risk level as per sepsis screening & action tool in this IPOC. If Moderate or High risk – proceed to complete the sepsis IPOC and start Sepsis6.
Modified observations & escalation instructions (eg target limits - please Date, Time & Sign)		



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Sept 2018
WHITE

APPENDIX 2 – NEWS OBSERVATION CHART (PAGES 2&3 OF NEWS IPOC)

NEWS key		Full name										Date of admission											
0 1 2 3		Date of birth										Date of admission											
		Date										Date											
		Time										Time											
A+B Respirations Breaths/min	≥25											3											≥25
	21-24											2											21-24
	18-20																						18-20
	15-17																						15-17
	12-14																						12-14
	9-11											1											9-11
	≤8											3											≤8
A+B SpO ₂ Scale 1 Oxygen saturation (%)	≥96											1											≥96
	94-95											2											94-95
	92-93											3											92-93
	≤91																						≤91
SpO₂ Scale 2* Oxygen saturation (%) Use scale 2 if target range is 88-92% eg in hypercapnic respiratory failure. * Use scale 2 ONLY under the direction of a qualified clinician.	≥97 _{onO₂}											3											≥97 _{onO₂}
	95-96 _{onO₂}											2											95-96 _{onO₂}
	93-94 _{onO₂}											1											93-94 _{onO₂}
	≥93 _{on air}																						≥93 _{on air}
	88-92																						88-92
	86-87											1											86-87
	84-85											2											84-85
≤83%											3											≤83%	
Oxygen and device	O ₂ L/%											2											O ₂ L/%
	Device																						Device
C Blood pressure mmHg Score uses systolic BP only	≥220											3											≥220
	201-219																						201-219
	181-200																						181-200
	161-180																						161-180
	141-160																						141-160
	121-140																						121-140
	111-120																						111-120
	101-110											1											101-110
	91-100											2											91-100
	81-90											3											81-90
	71-80											3											71-80
	61-70											3											61-70
	51-60											3											51-60
	≤50											3											≤50
C Pulse Beats/min	≥131											3											≥131
	121-130											2											121-130
	111-120											2											111-120
	101-110											1											101-110
	91-100											1											91-100
	81-90																						81-90
	71-80																						71-80
	61-70																						61-70
	51-60																						51-60
	41-50											1											41-50
	31-40											3											31-40
	≤30											3											≤30
D Consciousness	Alert																						Alert
	Confusion											3											Confusion
	V/P/U											3											V/P/U
E Temperature °C	≥39.1°											2											≥39.1°
	38.1-39.0°											1											38.1-39.0°
	37.1-38.0°																						37.1-38.0°
	36.1-37.0°																						36.1-37.0°
	35.1-36.0°											1											35.1-36.0°
≤35.0°											3												≤35.0°
TOTAL NEW SCORE																							TOTAL
Additional Parameters	Pain score on movement (0-3)																						Pain score
	Nausea Score																						Nausea Score
Monitoring frequency																							Monitoring
Escalation of Care Y/N																							Escalation
Initials																							Initials

O₂ device key: N = Nasal cannulae, M = Mask, B = BiPAP(NIV), C = CPAP, AV = Airvo, A = Air

APPENDIX 3 – RECORDING ESCALATION (NEWS IPOC – PAGE 4)

[illegible]

If necessary continue notes in patient records.

APPENDIX 4 – THE SBAR COMMUNICATION TOOL

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

APPENDIX 5 – MONITORING PREGNANT IN-PATIENTS IN NON-OBSTETRIC AREAS

Decision made to admit a patient who is:

- Pregnant, or
- Found to be pregnant during an in-patient stay, or
- <43 days post partum

Referral

Parent team must refer patient immediately to obstetricians (Gynaecology if <20 weeks gestation)

Monitoring

Commence physiological observations and document **NEWS2 AND MOEWS**

Deterioration

If the patient triggers the EWS, follow the NEWS2 model for observations frequency and medical review.

If the patient triggers the MOEWS notify Obstetrics (Gynaecology if <20 weeks gestation) using SBAR and request immediate review (Bleep 1120)

The parent team must collaborate with the Obstetricians / Gynaecologists & agree whether MOEWS is required and document a plan for monitoring and escalation. Until a plan is documented both parent team and Obstetricians / Gynaecologists must be contacted by nursing staff if deterioration / triggering of NEWS or MOEWS occurs.

APPENDIX 6 – MCQ (MULTIPLE CHOICE QUESTION) EXAM PAPER TO TEST KNOWLEDGE AND UNDERSTANDING OF THIS POLICY (INCLUDING ANSWER PAPER FOR SELF-ASSESSMENT).

**Physiological observations & prevention of deterioration in the acutely ill adult
(PAT/T33 v.4)**

MCQ Examination (v.4 September 2019)

Instructions

- This exam paper has been developed to test and improve your knowledge and skills in the areas of:
 - making and interpreting physiological observations
 - reporting and responding to detected physiological deterioration outlined in the policy
- As front-line staff dealing with acutely ill patients you must have a sound knowledge in this area in order to keep patients safe
- It is recommended that you complete the questions and then refer to the answer sheet at the end of the paper in order to mark your answers.
- You must then discuss your marks with your manager/supervisor/mentor at your appraisal
- If you have any queries regarding this or would like any further information please contact:
 - Lee Cutler, Consultant Nurse, Critical care
Lee.Cutler@nhs.net
Ext; 644422
Mob: 07786807187

Please mark whether the statements 'a' to 'd' for each question are true (T) or false (F)

1. Physiological observations, early warning scoring and escalation:		
a. Are fundamental in preventing deterioration	T	F
b. Are clearly described in IPOC 1569	T	F
c. Are most effective when the SBAR communication tool is used by staff	T	F
d. Must be undertaken, documented, interpreted and acted upon by professionals who are competent to do so	T	F

2. The SBAR communication tool		
a. S – stands for 'situation' (e.g. who you are, where you are and why you are calling)	T	F
b. B – stands for 'background' (e.g. reason for admission, medical history, trends of NEWS2 and observations)	T	F
c. A – stands for 'approximate problems' – your best guess about what is wrong	T	F
d. R – stands for recommendation (e.g. "The patient needs urgent review", "Is there anything I need to do in the meantime?")	T	F

3. As a minimum standard all adult in-patients in the acute hospitals within the Trust must have at least:		
a. 4 hourly observations	T	F
b. 12 hourly observations	T	F
c. Daily	T	F
d. Hourly observations	T	F

4. 'Routine monitoring' includes:		
a. Temperature, pulse, blood pressure, respiratory rate, blood glucose	T	F
b. Blood pressure, pulse, temperature, SpO ₂ , AVPU, Pain score, temperature, Urine output, calculation of NEWS2	T	F
c. AVPU, Pulse, Blood pressure, respiratory rate, temperature, SpO ₂ , inspired oxygen, calculation of NEWS2, Pain score	T	F
d. Blood pressure, pulse, Nausea score, temperature, SpO ₂ , Pain score, temperature, calculation of NEWS2	T	F

5. All patient who are classed as unplanned admissions to hospital or who have been discharged from critical care:		
a. Must have routine 12-hourly observations for 24 hours	T	F
b. Must have 4-hourly observations for one week	T	F
c. Must have at least 4-hourly observations for the first 24 hours	T	F
d. Must have 6-hourly observations for the first twenty-four-hours	T	F

6. The frequency of observations must increase when there are abnormalities according to NEWS2. This would mean:		
a. A patient with an NEWS2 of 0 must have at least 12-hourly observations	T	F
b. A patient with a total NEWS2 of 2 must have a minimum of four-hourly observations and more frequent observations may be necessary if there has been an acute rise in NEWS2	T	F
c. A patient with a total NEWS2 ≥ 5 must have at least hourly observations until the problem is resolved or medical plan states otherwise	T	F
d. A patient with an NEWS2 of 3 in one category must have observations repeated at least at 60 minute intervals until the problem is resolved or the medical plan states otherwise	T	F

7. A patient with a total NEWS2 ≥ 7 or where there is a medical emergency (excluding cardiac arrest):		
Must be reviewed immediately by a Registrar	T	F
Must have observations repeated at least at 30 minute intervals and there must be a constant nursing presence at bedside	T	F
Must not be seen reviewed urgently by the on-call anaesthetist if there is an airway problem	T	F
Must not be referred to the critical care outreach team or Clinical site manager (out of hours)	T	F

8. In relation to communication and medical review of patients triggering NEWS2:		
The SBAR must be used in verbal or written communication	T	F
It is essential that that all clinical staff (including HCA/HCSW) document referral to another healthcare professional regarding an NEWS2 >0	T	F
It is important to ensure that a patient triggering the NEWS2 is reviewed by an appropriate grade of doctor	T	F
If a doctor fails to review or is unable to review a patient (e.g. because of other priority patients) then the next most senior doctor must be contacted to review the patient.	T	F

9. Monitoring pregnant in-patients in non-obstetric areas:		
a. The MOEWS score must be used in addition to the NEWS2 until a monitoring plan has been documented by medical staff stating otherwise	T	F
b. MOEWS must be used in non-obstetric areas for all patients who are pregnant or <43 days post partum	T	F
c. If patient is <20 gestation they must be referred to orthopaedics when admitted and whenever they trigger the MOEWS	T	F
d. If patient is <20 gestation they must be referred to Gynaecology when admitted and whenever they trigger the MOEWS	T	F

10. Regarding NEWS2 triggers:		
a. When there is a score 5 or more but junior medical staff notified are too busy to attend nurses must not call a more senior doctor to review the patient	T	F
b. When there is a score 5 or more but medical staff notified are too busy to attend you must contact the next most senior doctor and carry on escalating in this way until the patient has been reviewed	T	F
c. Whenever you call a doctor, or any other member of staff, to review a patient with an NEWS2 of 1 or more you must record their name, position and time of the call in the patient record	T	F
d. When a healthcare assistant/support worker performs a set of observations and finds a score >0 they must tell a registered nurse and record this communication in the patient record	T	F

11. Patients who are expected to have ongoing abnormal physiology (e.g. because of chronic disease):		
a. Can generate false triggers of the NEWS2 (i.e. not due to acute deterioration)	T	F
b. Require an individualised monitoring plan for physiological observations and NEWS2	T	F
c. Require an individualised escalation plan	T	F
d. At every review medical staff must consider whether the NEWS2 algorithm must be adhered to or whether an individualised plan for observations and escalation is more appropriate	T	F

12. Patient consent for their observations to be recorded:		
a. The reason for regular recording of observations must be explained to the patient	T	F
b. In patients who are conscious and competent to consent – verbal consent to record observations must be sought	T	F
c. If a patient refuses to have their observations recorded despite the importance and reason for observations being explained – it is acceptable to never return to the patient to attempt consent and observation recording	T	F
d. Refusal of consent and staff actions in response must not be documented in the patients records	T	F

13. Patients with an irregular pulse:		
a. Must have their blood pressure measured using an electronic sphygmomanometer	T	F
b. Must have their blood pressure measured using an aneroid sphygmomanometer	T	F
c. Must have their pulse counted by use of a pulse oximeter	T	F
d. Are different to other patients in that they must have their pulse counted manually by finger palpation over 15 seconds then multiplied by 4 to give pulse per minute	T	F

14. Following Surgery and/or general/spinal anaesthesia:		
a. Patients who are deemed to be at greatest risk of deterioration following surgery include those who have undergone major surgery: intra-abdominal, urological, orthopaedic, gynecological, major vascular and/or those who have multiple co-morbidities.	T	F
b. As a minimum standard patients at greatest risk must have 'routine monitoring' recorded: at least <u>hourly</u> for the first four hours after return to the ward, then at least <u>four hourly</u> for the first 24 hours thereafter	T	F
c. 'Routine monitoring' must commence <u>immediately</u> with a set of observations on return to the ward from theatre	T	F
d. In addition to the observations policy, local guidelines, approved by clinical governance groups, may also apply for specific procedures.	T	F

15. In relation to patients being transferred from one clinical area to another in the hospital:		
a. At least 'Routine monitoring' must always be undertaken within 4 hours prior to transfer	T	F
b. Any abnormalities in observations must prompt repetition of observations immediately prior to transfer to ensure the patient is fit to leave the ward/department	T	F
c. Acutely ill patients at risk of deterioration (triggering the NEWS2) must have additional monitoring during transfer (e.g. pulse oximetry for respiratory triggers)	T	F
d. Any patient who has been transferred into a ward or department must have 'routine monitoring' within 1 hour after they arrive in the receiving area	T	F

16. Supplemental Oxygen:		
a. In addition to 'routine monitoring' the delivery device and flow rate must always be recorded on the physiological observation chart	T	F
b. 60% oxygen by Venturi mask gives a score of 2 on the NEWS2	T	F
c. Oxygen via reservoir mask give a score of 1 on the NEWS2	T	F
d. Oxygen nasal cannula or simple facemask give a score of 0 in the NEWS2	T	F

17. Non-invasive ventilation (NIV), Biphase positive airway pressure (BIPAP) or Continuous positive airway pressure (CPAP):		
a. Observations must be undertaken hourly for the first four hours, and two-hourly thereafter.	T	F
b. It is not necessary to record hourly Oxygen saturations for the first 24-hours	T	F
c. Hourly Oxygen saturations (SpO2) must be recorded for the first 24 hr	T	F
d. Inspired Oxygen flow/concentration, IPAP, EPAP or CPAP pressure levels must be recorded with each set of observations and when changes to the prescribed settings are made	T	F

18. If an underwater seal chest drain is inserted:		
a. The patient is not at risk because a pneumothorax is never life-threatening	T	F
b. Hourly routine monitoring must be recorded for the first four hours after insertion	T	F
c. Observations must be recorded at least 4 hourly following the initial 4-hour period	T	F
d. Other observations that must be performed include: bubbling, oscillation, volume and drainage type, state of drain site, secure connections, suction level (kpa) or that if suction is not applied that suction tubing has been disconnected.	T	F

19. For patients with a tracheostomy insitu the minimum frequency of observations until 24-hours after decannulation is:		
a. Hourly	T	F
b. 4 hourly	T	F
c. 12 hourly	T	F
d. 2 hourly	T	F

20. Patients newly commenced on opiates, or after a dose or route change:		
a. All patients must receive at least <u>twelve hourly</u> 'routine monitoring' plus nausea score.	T	F
b. Observations are important in patients receiving opiates to detect side effects as well as to assess whether the pain is associated with other physiological abnormalities which may indicate serious health events or complications of treatment.	T	F
c. Patients receiving opiates do not need NEWS2 scores recording	T	F
d. If there is a change in drug, dose or route the frequency of 'routine monitoring' must be increased to at least <u>four hourly</u> for the next twelve hours.	T	F

21. PCA (patient controlled analgesia):		
a. All patients must have <u>hourly</u> 'routine monitoring' plus nausea score for the first four hours after PCA is commenced.	T	F
b. Then at least <u>four hourly</u> 'routine monitoring' whilst the PCA is in progress and for twenty-four-hours after discontinuation.	T	F
c. PCAs don't contain opiates and are not associated with complications	T	F
d. It is not necessary to record nausea scores for patients receiving PCA	T	F

22. Epidural analgesia:		
a. All patients must have 'routine monitoring' plus Nausea score, and sensory and motor block levels recorded every <u>30 minutes</u> for the first two hours after return to the ward from recovery/post anaesthetic care.	T	F
b. Thereafter these observations must be recorded <u>hourly</u> for the next ten hours if parameters are acceptable/normal.	T	F
c. Thereafter these observations must be recorded <u>four hourly</u> for the duration of the epidural and for twenty-four-hours after it is discontinued.	T	F
d. The frequency of monitoring must be increased if observations are abnormal or there is concern about the patient	T	F

23. IV Hydration & Urinary Catheters:		
a. Management of fluid status and hydration in hospitalised patients who are unable to hydrate themselves is complex and problems such as hypovolaemia, dehydration and fluid overload are common	T	F
b. All patients who are unable to hydrate themselves via the oral route must have their fluid intake and output recorded on a fluid intake and output chart	T	F
c. All patients with catheters must have their urine output monitored and recorded on a fluid intake and output chart	T	F
d. Urine volume measurements must be documented at the same frequencies as physiological observations – more frequently as the level of illness increases	T	F

24. Suspected Sepsis:		
a. Sepsis must be suspected when there is a temperature of $\geq 38.3^{\circ}\text{C}$ or an NEWS2 ≥ 3	T	F
b. Whenever sepsis is suspected staff must refer to the sepsis IPOC (WPR 44232) for guidance on screening, assessing and managing sepsis	T	F
c. Sepsis must not be treated as an urgent clinical problem	T	F
d. Appropriate monitoring, communication and escalation do not affect survival in sepsis	T	F

25. Acute head injury / brain injury (including in-patient falls where head injury cannot be excluded e.g. unwitnessed falls):		
a. Must be considered at risk of deterioration and observed closely.	T	F
b. If the fall was unwitnessed and head injury cannot be excluded the patient must be treated as being at risk of deterioration until clinically significant head injury has been excluded by medical staff.	T	F
c. Observations must be performed on a <u>half-hourly</u> basis until GCS = 15	T	F
d. When GCS = 15, minimum frequency of observations is: <u>half-hourly for 2 hours</u> <u>then 1-hourly for 4 hours</u> <u>then 2-hourly thereafter.</u>	T	F

See below for answers and guidance on further development

Observations Policy (PAT/T33)

MCQ exam: Answers sheet

Instructions

- Use the list below to mark your answers to the MCQs
- Use the colour-coded bands to discover what your marks mean and what action you must take

1	a T	b T	c T	d T
2	a T	b T	c F	d T
3	a F	b T	c F	d F
4	a F	b F	c T	d F
5	a F	b F	c T	d F
6	a T	b T	c T	d T
7	a T	b T	c F	d F
8	a T	b T	c T	d T
9	a T	b T	c F	d T
10	a F	b T	c T	d T
11	a T	b T	c T	d T
12	a T	b T	c F	d F
13	a F	b T	c F	d F
14	a T	b T	c T	d T
15	a T	b T	c T	d T
16	a T	b T	c F	d F
17	a T	b F	c T	d T
18	a F	b T	c T	d T
19	a F	b T	c F	d F
20	a T	b T	c F	d T
21	a T	b T	c F	d F
22	a T	b T	c T	d T
23	a T	b T	c T	d T
24	a T	b T	c F	d F
25	a T	b T	c T	d T

Green 90+%	Excellent – your knowledge is extremely good - let your manager know how well you did. Make sure that you use your knowledge to keep your patients safe by monitoring them effectively and responding to abnormalities that might mean they are deteriorating. If you got any questions wrong recheck your answers – the information you need can all be found in the Physiological observations policy (PAT/T33) on the intranet.
Amber 75-89%	Good - you got most of the questions correct - however there is a little work to do in some areas of your knowledge and understanding. Let you manager know you are working on this - the information you need can all be found in the Physiological observations policy (PAT/T33) on the intranet. Once you have worked through the questions you got wrong repeat the MCQ exam and see if you can improve your mark.
Red <75%	This is not so good – you have some work to do in order to improve your knowledge base and keep your patients safe. Let your manager know that you are working on this and set to work as a priority. The information you need can all be found in the Physiological observations policy (PAT/T33) on the intranet. Once you have worked through the questions you got wrong repeat the MCQ exam and see if you can improve your mark.

APPENDIX 7 – EQUALITY IMPACT ASSESSMENT - PART 1 INITIAL SCREENING

Service/Function/Policy/Project/ Strategy	Division	Assessor (s)	New or Existing Service or Policy?	Date of Assessment
Physiological observations – PAT/T 33 v.4	Trust-wide	Lee Cutler	Existing policy	12 November 2019
1) Who is responsible for this policy? Name of Division: Lee Cutler, Clinical Specialists Division				
2) Describe the purpose of the service / function / policy / project/ strategy? The policy promotes safe monitoring and escalation for acutely ill in-patients				
3) Are there any associated objectives? Legislation, targets national expectation, standards – Yes (NICE guideline) cited in the policy				
4) What factors contribute or detract from achieving intended outcomes? Staffing levels, skill and knowledge.				
5) Does the policy have an impact in terms of age, race, disability, gender, gender reassignment, sexual orientation, marriage/civil partnership, maternity/pregnancy and religion/belief? No				
<ul style="list-style-type: none"> If yes, please describe current or planned activities to address the impact [e.g. Monitoring, consultation] 				
6) Is there any scope for new measures which would promote equality? No				
7) Are any of the following groups adversely affected by the policy?				
Protected Characteristics	Affected?	Impact		
a) Age	No			
b) Disability	No			
c) Gender	No			
d) Gender Reassignment	No			
e) Marriage/Civil Partnership	No			
f) Maternity/Pregnancy	No			
g) Race	No			
h) Religion/Belief	No			
i) Sexual Orientation	No			
8) Provide the Equality Rating of the service / function /policy / project / strategy – tick (✓) outcome box				
Outcome 1 ✓	Outcome 2	Outcome 3	Outcome 4	
Date for next review: October 2022				
Checked by: Lee Cutler - (PSRG)			Date: November 2019	