

THE DETERIORATING PATIENT

1. Physical Observations in Inpatient Areas

All inpatient areas will use the National Early Warning Score (NEWS2). This will be documented on the physical observation chart. This document mirrors the parameters monitored by the acute hospitals deteriorating inpatients will be escalated too. This document will remain paper based until such a time that equipment allows for immediate handheld electronic access to the baseline and historical observations to ensure timely, appropriate and effective treatment, based on existing knowledge of the patient.

According to National Institute of Clinical Excellence (NICE) guideline [NG10] (2015) and Resuscitation Council Guidance (2015) staff who care for patients in any mental health inpatient setting must have competences in monitoring, measurement, and interpretation of vital signs. They must have the knowledge, which is appropriate to the level of care they are providing, to recognise patients' deteriorating health and respond effectively to acutely ill patients.

The NEWS 2 observation chart (including the neurological observation chart) should be kept in an observation file that includes information on communication of deteriorating patients, SEPSIS (Sepsis is a life-threatening organ dysfunction due to a dysregulated host response to infection NICE guideline NG51 2017) and the procedures to follow in such cases.

Any patient should have at least 3 months of charts in paper form any other charts can be scanned into the patient's electronic notes. On discharge all charts should be scanned into the electronic notes.

When carrying out routine observations, pulses should be taken manually rather than relying on readings from pulse oximeters or blood pressure monitors, this also gives both more accurate reading and clinical information. It is recognised that at certain times it is not possible /appropriate to do a manual pulse, for example, in restraint or seclusion.

2. Physical Observations in Community Settings

Within the community the NEWS 2 will be used to assess patients. This will be recorded within the patient's electronic record and no paper notes will be required. This will allow for direct communication with the Ambulance Service and GP's using the same reference tool and improve communication and patient journey.

3. Communication of the Deteriorating Patient

NEWS2 is an escalation tool designed to alert staff to a patient that requires escalation due to a physical health condition. When communicating information about this patient it is not enough to use the score itself. Particularly in cases where the discussion is over the telephone staff must ensure they use a

Situation Background Assessment Recommendation (SBAR) approach. In addition to this approach, it is essential to give the call taker a clear rationale for the call. Some examples may be

For calls to the Ambulance Service

- ***“This is RED flag SEPSIS”***
- This is a medical emergency; we cannot treat this patient in this environment
- The patient has deteriorating oxygen saturations and is not maintaining with 100% oxygen. This is a respiratory emergency
- This is a suspected stroke

For calls to the Doctor

- I am concerned about the patient because this is not their normal presentation
- I am concerned because these observations are different to their baseline
- I think the patient is showing signs of an infection

4. Observation Schedule/Normal Parameter Exception Care Plan

Monitoring of patient’s physical observations should be directed by an individual patient assessment. All patients should have physical observations monitored once daily for the first five days following admission (unless otherwise directed by the medical team, this must be documented in the patients’ medical records). This schedule will then be reviewed by the Multi-Disciplinary team (MDT) and a rationale given as why to this should be continued or stopped.

Any patients with abnormal physiology require a normal parameter exception care plan (See appendix 2.2). This is included in the observation schedule document. An appropriate range for physical observation parameters should be proposed and treatment to ensure this prescribed and advised. This forward planning will ensure that patients are escalated appropriately.

5. The ABCDE Approach

The approach to all deteriorating or critically ill patients is the same. The underlying principles are:

1. Use the Airway, Breathing, Circulation, Disability, Exposure (ABCDE) approach to assess and treat the patient.
2. Do a complete initial assessment and re-assess regularly.
3. Treat life-threatening problems before moving to the next part of assessment.
4. Assess the effects of treatment.
5. Recognise when you will need extra help. Call for appropriate help early.
6. Use all members of the team. This enables interventions (e.g. assessment, attaching monitors) to be undertaken simultaneously.

7. Communicate effectively - use the Situation, Background, Assessment, Recommendation (SBAR) or Reason, Story, Vital signs, Plan (RSVP) approach.
8. The aim of the initial treatment is to keep the patient alive and achieve some clinical improvement. This will buy time for further treatment and making a diagnosis.
9. Remember – it can take a few minutes for treatments to work, so wait a short while before reassessing the patient after an intervention.

First steps

1. Ensure personal safety. Personal Protective Equipment to be worn in line with Infection Prevention Control (IPC) guidance.
2. First look at the patient in general to see if the patient appears unwell.
3. If the patient is awake, ask “How are you?” If the patient appears unconscious or has collapsed, shake them and ask, “Are you alright?” If he responds normally, he has a patent airway, is breathing and has brain perfusion. If he speaks only in short sentences, he may have breathing problems. Failure of the patient to respond is a clear marker of critical illness.
4. This first rapid ‘Look, Listen and Feel” of the patient should take about 10 seconds and will often indicate a patient is critically ill and there is a need for urgent help. Ask a colleague to ensure appropriate help is coming, instruct for an ambulance to be called, if required.
5. If the patient is unconscious, unresponsive, and is not breathing normally (occasional gasps are not normal) start CPR according to the resuscitation guidelines. If you are confident and trained to do so, feel for a pulse to determine if the patient has a respiratory arrest. If there are any doubts about the presence of a pulse start CPR. **Refer to Infection Protection and Control (IPC) Guidance for use of appropriate Personal Protective Equipment (PPE) in response to known or potential infections.**
6. Monitor the vital signs early. Attach a pulse oximeter, and a non-invasive blood pressure monitor to all critically ill patients, as soon as possible.

Airway (A)

Airway obstruction is an emergency. Get expert help immediately. Untreated, airway obstruction causes hypoxia and risks damage to the brain, kidneys and heart, cardiac arrest, and death.

1. Look for the signs of airway obstruction

- Airway obstruction causes paradoxical chest and abdominal movements (‘see-saw’ respirations) and the use of the accessory muscles of respiration. Central cyanosis is a late sign of airway obstruction. In complete airway obstruction, there are no breath sounds at the mouth or nose. In partial obstruction, air entry is diminished and often noisy.
- In the critically ill patient, depressed consciousness often leads to airway obstruction.

2. Treat airway obstruction as a medical emergency

- Obtain expert help immediately. Untreated, airway obstruction causes hypoxaemia (low PaO₂) with the risk of hypoxic injury to the brain, kidneys and heart, cardiac arrest, and even death.
- In most cases, only simple methods of airway clearance are required (e.g. airway opening manoeuvres, airways suction, insertion of an oropharyngeal or nasopharyngeal airway).

3. Give oxygen at high concentration (see oxygen flow chart)

- Provide high-concentration oxygen using a mask with oxygen reservoir. Ensure that the oxygen flow is sufficient (usually 15 L min⁻¹) to prevent collapse of the reservoir during inspiration
- In acute respiratory failure, aim to maintain an oxygen saturation of 94–98%. In patients at risk of hypercapnic respiratory failure (see below B11) aim for an oxygen saturation of 88–92%.

Breathing (B)

During the immediate assessment of breathing, it is vital to diagnose and treat immediately life-threatening conditions (e.g. acute severe asthma, pulmonary oedema).

1. Look, listen and feel for the general signs of respiratory distress: sweating, central cyanosis, use of the accessory muscles of respiration, and abdominal breathing.
2. Count the respiratory rate. The normal rate is 12–20 breaths min⁻¹. A high (> 25 min⁻¹) or increasing respiratory rate is a marker of illness and a warning that the patient may deteriorate suddenly.
3. Assess the depth of each breath, the pattern (rhythm) of respiration and whether chest expansion is equal on both sides.
4. Note any chest deformity (this may increase the risk of deterioration in the ability to breathe normal) note the presence and patency of any chest drains; remember that abdominal distension may limit diaphragmatic movement, thereby worsening respiratory distress.
5. Record the inspired oxygen concentration (%), the SpO₂ reading of the pulse oximeter. The pulse oximeter does not detect hypercapnia. If the patient is receiving supplemental oxygen, the SpO₂ may be normal in the presence of a very high PaCO₂.
6. Listen to the patient's breath sounds: rattling airway noises indicate the presence of airway secretions, usually caused by the inability of the patient to cough sufficiently or to take a deep breath. Stridor or wheeze suggests partial, but significant, airway obstruction.
7. Percuss the chest (if medically trained to do so): hyper-resonance may suggest a pneumothorax; dullness usually indicates consolidation or pleural fluid.
8. Auscultate the chest (if medically trained to do so): bronchial breathing indicates lung consolidation with patent airways; absent or reduced sounds suggest a pneumothorax or pleural fluid or lung consolidation caused by complete obstruction.
9. Check the position of the trachea in the suprasternal notch (if medically trained to do so): deviation to one side indicates mediastinal shift (e.g. pneumothorax, lung fibrosis or pleural fluid).

10. The specific treatment of respiratory disorders depends upon the cause. Nevertheless, all critically ill patients should be given oxygen. In a subgroup of patients with Chronic Obstructive Pulmonary Disease (COPD), high concentrations of oxygen may depress breathing (i.e. they are at risk of hypercapnic respiratory failure - often referred to as type 2 respiratory failure). Nevertheless, these patients will also sustain end-organ damage or cardiac arrest if their blood oxygen tensions are allowed to decrease. Aim for target SpO₂ range of 88–92%. Some patients with chronic lung disease carry an oxygen alert card (that documents their target saturation) and their own appropriate Venturi mask.
11. If the patient's depth or rate of breathing is judged to be inadequate, or absent, use bag-mask or pocket mask ventilation to improve oxygenation and ventilation, whilst calling immediately for expert help.

Circulation (C)

In almost all medical emergencies, consider hypovolaemia to be the primary cause of shock, until proven otherwise. Unless there are obvious signs of a cardiac cause.

1. Look at the colour of the hands and digits: are they blue, pink, pale or mottled?
2. Assess the limb temperature by feeling the patient's hands: are they cool or warm?
3. Measure the capillary refill time (CRT). Apply cutaneous pressure for 5 s on a fingertip held at heart level (or just above) with enough pressure to cause blanching. Time how long it takes for the skin to return to the colour of the surrounding skin after releasing the pressure. The normal value for CRT is usually < 2 s. A prolonged CRT suggests poor peripheral perfusion. Other factors (e.g. cold surroundings, poor lighting, old age) can prolong CRT.
4. Assess the state of the veins: they may be underfilled or collapsed when hypovolaemia is present.
5. Count the patient's pulse rate (or preferably heart rate by listening to the heart with a stethoscope).
6. Palpate peripheral and central pulses (if trained to do so), assessing for presence, rate, quality, regularity and equality. Barely palpable central pulses suggest a poor cardiac output, whilst a bounding pulse may indicate sepsis.
7. Measure the patient's blood pressure. Even in shock, the blood pressure may be normal, because compensatory mechanisms increase peripheral resistance in response to reduced cardiac output. A low diastolic blood pressure suggests arterial vasodilation (as in anaphylaxis or sepsis). A narrowed pulse pressure (difference between systolic and diastolic pressures; normally 35–45 mmHg) suggests arterial vasoconstriction (cardiogenic shock or hypovolaemia) and may occur with rapid tachyarrhythmia.
8. Auscultate the heart (if medically trained to do so). Is there a murmur? Are the heart sounds difficult to hear? Does the audible heart rate correspond to the pulse rate?
9. Look for other signs of a poor cardiac output, such as reduced conscious level and, if the patient has a urinary catheter, what is their output?
10. Look thoroughly for external haemorrhage from wounds or drains or evidence of concealed haemorrhage (e.g. thoracic, intra-peritoneal, retroperitoneal or into gut). Intra-thoracic, intra-abdominal or pelvic blood loss may be significant, even if drains are empty.

11. The specific treatment of cardiovascular collapse depends on the cause, but should be directed at fluid replacement, haemorrhage control and restoration of tissue perfusion. Seek the signs of conditions that are immediately life threatening and call 999.
12. If the patient has primary chest pain, or suspected Myocardial Infarction (MI), known as a Heart Attack or Suspected Acute Coronary Syndrome (ACS):
Only consider recording a 12-lead ECG early – if appropriate, and trained to do so, this should not delay escalation of care to the acute trust.
 - Immediate general treatment for chest pain if suspected MI or ACS includes:
 1. Aspirin 300 mg, orally, crushed or chewed, as soon as possible.
 2. Nitro-glycerine, as sublingual glyceryl trinitrate (tablet or spray).
 3. Oxygen: only give oxygen if the patient's SpO₂ is less than 94% breathing air alone.

Disability (D)

Common causes of unconsciousness include profound hypoxia, hypercapnia, cerebral hypoperfusion, or the recent administration of sedatives or analgesic drugs.

- Review and treat the ABCs: exclude or treat hypoxia and hypotension.
- Check the patient's drug chart for reversible drug-induced causes of depressed consciousness. Give an antagonist where appropriate (e.g. naloxone for opioid toxicity, see appendix 2.3 for emergency drugs).
- Examine the pupils (size, equality and reaction to light).
- Make a rapid initial assessment of the patient's conscious level using the AVPU method: Alert, responds to Vocal stimuli, responds to Painful stimuli or Unresponsive to all stimuli. Alternatively, use the Glasgow Coma Scale score (if trained to do so). A painful stimulus can be given by applying supra-orbital pressure (at the supraorbital notch), if trained to do so.
- Measure the blood glucose to exclude hypoglycaemia using a rapid finger-prick bedside testing method. Follow local protocols for management of hypoglycaemia (see appendix 2.3 for emergency drugs). Repeat blood glucose measurements to monitor the effects of treatment. If there is no improvement, call for an ambulance or seek medical advice if this is available national guidance exists for the management of hypoglycaemia in adults with diabetes mellitus.
- Nurse unconscious patients in the lateral position if their airway is not protected.

Exposure (E)

To examine the patient properly full exposure of the body may be necessary. Respect the patient's dignity and minimise heat loss.

This guidance is based on 2021 Resuscitation Guidelines

NATIONAL EARLY WARNING SCORE PROCEDURE

The National Early Warning Score (NEWS) is an escalation tool used to alert clinical staff to the need to contact a doctor, or emergency services, for patients who give cause for concern because of sudden or deteriorating illness. Within Mental Health and Learning Disabilities In-Patient areas, it is also to be used for patients being observed during or after a period of restraint or rapid tranquilisation.

Refusal – a patient has the right to refuse physical contact with staff; this may be due to agitation, confused, fear or lack of understanding. However, physical observations can always be carried out without contact and the minimum of this is central nervous system (CNS - AVPU) and respiratory rate. These physical observations should be recorded on the physical observation chart. Refusal of any other physical observation for example blood pressure should be recorded in the nursing notes with an explanation as to why the patient has refused and a plan for repeating required observations and how this may be undertaken should also be documented. The word refused **MUST NOT** be recorded on the physical observation chart, as the rationale for refusal cannot be documented fully in the small space available.

Baseline – on admission the patient's physical observations must be taken (unless otherwise directed by the admitting clinician), these will become the patients' initial baseline, if the patient's physical presentation changes at any time during their stay their baseline observation should be reviewed and if needed a new baseline should be recorded. If this becomes necessary, a new sheet should be started and the word **NEW** should be recorded underneath **BASELINE** this will communicate changes to the baseline to all staff. If a patient is admitted with a known physical health condition and therefore the baseline scores and triggers on the NEWS a normal parameter exception care plan should be devised with the admitting Doctor. This should state the exceptions for this patient and give instructions as to when the patient should be escalated. In the Hospice, the exception is written in the electronic records, as physical observations are not routine.

The NEWS2 only uses the Systolic blood pressure measurement within its escalation calculations (both the systolic and diastolic measurement should always be recorded on the physical observation chart) as the score is used to note early deterioration in patients to enable a response before a critical illness wherever possible. In these situations, the systolic measurement is the measurement that tells us the most about the patient, and the one that will change early enough for a response to be effective. The diastolic measurement is important for day-to-day health and should still be noted and acted upon when a patient is unwell; however, tends to be slower to change in critical illness and therefore no use from an **EARLY** warning point of view.

Clinical judgement - The Early Warning Score (EWS) and track and trigger flow is only a guide, if the Registered Nurse becomes concerned with other aspects of the patient's condition, then further action may well be necessary.

See Appendix 2.1 on how to correctly calculate a NEWS 2 score and how to appropriately escalate.

See Appendix 2.2 for Normal Parameter Exception Care Plan.



Rotherham Doncaster
and South Humber
NHS Foundation Trust

News 2

KNOWN ALLERGIES

Name:

NHS no:

D.O.B:

Ward:

NEWS Key		Date					Date	
0	1	Time					Time	
A+B Respirations Breaths/min	Baseline	>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						>96
		94-95					1	94-95
		92-93					2	92-93
		<91					3	<91
SpO₂ Scale 2* Oxygen saturation (%) Use Scale 2 if target range is 88-92% eg. in hypercapnic respiratory failure *ONLY use Scale 2 under the direction of a qualified clinician		>97onO ₂					3	>97onO ₂
		95-96onO ₂					2	95-96onO ₂
		93-94onO ₂					1	93-94onO ₂
		>93 on air						>93 on air
		88-92						88-92
		86-87					1	86-87
	84-85					2	84-85	
		<83%					3	<83%
Air or oxygen		A=Air						A=Air
		O ₂ L/min					2	O ₂ L/min
		Device						Device
C Blood pressure Score uses systolic BP only		>220					3	>220
		201-219						201-219
		181-200						181-200
		161-140						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 Score for NEW onset of confusion (no score if chronic)		Alert						Alert
		Confusion					3	Confusion
		V					3	V
		P					3	P
	U					3	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°
NEWS TOTAL								Total
	Initials							

Always take into account the patient's baseline parameters. An EWS should not replace sound clinical judgement.

A sick patient may not trigger the EWS, likewise a patient who triggers the EWS may not be acutely unwell, hence the importance of a baseline observations and a **normal parameter exception care plan**.

Modifications For Abnormal Physiology (see careplan)

To be completed by clinicians who medically assess and instruct medical treatment eg. Medics, CCP's, and Nurse Consultants.

News	Observations	Clinical Response
1-4	1-4 hourly (dependant on score)	Refer to registered nurse using SBAR RN - face to face assessment of the patient, NEWS of 1 - 2, increase observations to a minimum of 4 hourly and consider review by medic if concerned. NEWS 2 of 3 - 4, increase observations to minimum of hourly and contact medic for advice. Any acute rise or clinical concern such as sepsis should be reviewed by medic. If in doubt escalate to acute hospital. Medic - ABCDE assessment and formulate a management plan. Consider escalation to acute hospital.
5-6	Minimum hourly	Refer to registered nurse using SBAR RN - urgent face to face assessment of the patient. Any acute rise or clinical concern, eg. Sepsis, should be reviewed by Medic. Urgent review by Medic within 30 minutes. If no assessment by Medic within 30 minutes, escalate to acute hospital via ambulance. Medic - ABCDE assessment and formulate a management plan. Consider urgent escalation to acute hospital via Ambulance.
7 or more		Urgently refer to registered nurse using SBAR RN - immediate face to face assessment of the patient. Immediate face to face assessment by Medic if available or Ambulance. Immediate escalation to acute hospital via Ambulance.

RAPID TRANQ

Any medication given at the point of violence or aggression

EWS must be taken - Minimum of CNS Rating + Resps
 EVERY 15 mins for 1st hour
 EVERY 30 mins for next 3 hours

ALWAYS CALCULATE EWS

Each observation has its own score.
 If you are unable to take a certain observation for whatever reason, always calculate the score of those observations available.

RESTRAINT

EWS must be taken

During restraint
 EVERY 5 mins

After release
 EVERY 15 mins for 1st hour
 EVERY 30 mins for next 3 hours

IF NO OTHER OBS CAN BE TAKEN
 ALWAYS RECORD CNS (ACVPU) AND RESP RATE
 AND CALCULATE **EWS**

A - Airway Can the patient talk?

Are there any unusual sounds? Signs of airway obstruction

B - Breathing Is the Patient breathing?

Take respiratory rate; look at pattern and depth of respirations.

Take O2 saturations, are they on oxygen, are they sitting upright, can you hear unusual sounds, can they finish a sentence?

C - Circulation Does the patient have a pulse?

What is heart rate? Is it regular? What colour are patient hands/digits, how does skin feel, what is the capillary refill time? Take blood pressure, what is urine output? Is there any bleeding?

D - Disability Is the patient alert and oriented?

Assess AVPU. Are the pupils equal and reacting? What is the BM? Are they in pain?

E - Exposure Have you missed anything, look top to toe

Take temperature? Do they have a rash, cool peripheries, swollen legs etc

S – Situation – what is happening now?

B – Background – what has happened before (relevant)?

A – Assessment – what have you done?

R – Response – what do you need now?

Modifications For Abnormal Physiology

Only to be completed by medics/CCP (see care plan)

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News	Observations	Clinical Response
1-4	1-4 hourly (dependant on score)	<p>HCA - refer to registered nurse using SBAR</p> <p>RN-face to face assessment of the patient, NEWS of 1 - 2, increase observations to a minimum of 4 hourly and consider review by medic / CCP if concerned.</p> <p>NEWS 2 of 3 - 4, increase observations to minimum of hourly and contact medic / CCP for advice.</p> <p>Any acute rise or clinical concern, re. Sepsis should be reviewed by medic / CCP.</p> <p>If in doubt escalate to acute hospital.</p> <p>Medic / CCP - ABCDE assessment and formulate a management plan. Consider escalation to acute hospital.</p>
5-6	Minimum hourly	<p>HCA - refer to registered nurse using SBAR</p> <p>RN - urgent face to face assessment of the patient.</p> <p>Any acute rise or clinical concern, re. Sepsis, should be reviewed by Medic / CCP.</p> <p>Urgent review by Medic / CCP within 30 minutes.</p> <p>If no assessment by Medic / CCP within 30 minutes, escalate to acute hospital via ambulance.</p> <p>Medic / CCP - ABCDE assessment and formulate a management plan. Consider urgent escalation to acute hospital via Ambulance.</p>
7 or more		<p>HCA - urgently refer to registered nurse using SBAR</p> <p>RN - immediate face to face assessment of the patient.</p> <p>Immediate face to face assessment by Medic / CCP.</p> <p>Immediate escalation to acute hospital via Ambulance.</p>

Rapid Tranq

Any medication given at the point of violence or aggression

EWS must be taken

Every 15 minutes for first hour

Every 30 minutes for the next three hours

Restraint

EWS must be taken

During restraint

Every 15 minutes for first hour

After release

Every 30 minutes for the next three hours

Always calculate EWS

Each observation has its own score. If you are unable to take a certain observation for whatever reason, **always** calculate



**Rotherham Doncaster
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NAME:
DOB:
NHS No:
WARD

NORMAL PARAMETER EXCEPTION CARE PLAN

This form to be kept with the Patients NEWS2 Chart at all times

This sheet must be completed for Patients with an abnormal physiology. Only Clinicians who medically assess and instruct medical treatment e.g. Medics, CCP's and Nurse Consultants are to complete this form.

The following observations should be taken:

Rationale for observation schedule:.....

Signature:..... Date:.....

Review of schedule - rationale for continuation or cancellation:

Signature:..... Date:.....

(e.g. OD, BD, TDS, QDS etc)

This patient has on-going abnormal physiology and therefore requires an individualised Normal Parameter Exception Care Plan. This plan must be kept with the Patients NEWS2 Chart.

Oxygen Saturations

If oxygen saturations are between 88% and 92% and this is normal/regular for the patient, then scale 2 on the NEWS2 chart should be used.

If oxygen saturation falls outside the target range of:..... the following treatment should be administered:.....

PLEASE ENSURE ANY TREATMENT OXYGEN REQUIRED IS PRESCRIBED

If there is no improvement within minutes but no deterioration contact the Doctor for further advice.

If oxygen saturation drop below % the patient must be seen in A+E.

The following treatment plan should be followed until transfer to A+E is complete:.....

Blood Pressure

If blood pressure falls outside target range of the following action should be taken:.....

Pulse

If pulse falls outside target range of the following action should be taken:.....

NEWS2 Score

A rise or decrease of an overall NEWS from baseline of will require the following action:.....

This plan must be reviewed in MDT and/or a change in condition

Signature:..... Print Name:.....


Title:..... Date:.....

**CLINICAL JUDGEMENT MUST ALWAYS BE USED. THIS PLAN CAN BE OVER RIDDEN AT ANY POINT
IF THE NURSE IS CONCERNED ABOUT ASPECTS OF PATIENTS PRESENTATION.**

Appendix 2.3

Neurological Observation Chart – reorder information WZT720. Only use original documents.

This chart must not be photocopied

 Rotherham Doncaster and South Humber		NAME DOB: ATTACH STICKER HERE IF AVAILABLE NHS No:		
Neurological Observations Chart				
Anticoagulant therapy		Name of drug	Dose	
Head Injury/post fall prompt				
Key		BASELINE		
Must be completed alongside physical observations chart		Date		
		Time		
Size • 1 • 2 • 3 • 4 • 5 • 6 • 7 • 8 • 9 Response B= Brisk S= Sluggish F= Fixed C= Closed by swelling R= Refuse to open	Pupil	R size		
		R response		
		L size		
		L response		
	L I M B S M O V E M E N T	A R M S	normal power	
			mild weakness	
			severe weakness	
			spastic flexion	
			extension	
		L E G S	normal power	
			mild weakness	
			severe weakness	
			spastic flexion	
			extension	
	Brow	Both		
		Right		
		Left		
	Tongue	Straight		
Left				
CNS	AVPU			
Lift arms	Both			
	Right			
	Left			
Changes to gait	Yes			
	NO			
changes to speech	Yes			
	No			
EWS - from physical obs chart				
GCS				
Initials				
Key: PF-Post fall		PL-Post ligature	HI-Head injury	
			PH-Physical health	

Neurological Observations (Neuro Obs)

Neurological observation is the collection of information on a patient's central nervous system consisting of the brain and spinal cord. Neurological observations are recorded to determine deterioration or improvement in a patient's condition. They must be recorded and interpreted in conjunction with the patient's physical observations and National Early Warning Score to obtain an overall clinical picture.

Neurological observations should be performed on patients at risk of developing an impaired level of consciousness e.g. a deteriorating patient, post ligature etc. as part of a systematic ABCDE assessment, or on patients with an altered level of consciousness or the possibility of e.g. post fall or head injury.

Frequency of neurological observations is dictated by the patient's stability, underlying condition or an incident e.g. post fall/new head injury.

When undertaking neurological assessment, it is essential that a baseline has been previously obtained and the observations are compared to this baseline to ensure any changes to normal presentation are noted.

In addition, it is important, that, any change from the person's normal presentation must be considered a possible result from the neurological injury and action taken appropriately.

Neurological observations are split into examinations and observations. Examinations require patients not only to consent, but also to comply with and understand instruction. Therefore, observations have been added to the process to provide some other measure of how the patient has been affected; these observations do not require any touch and can be completed at a distance e.g. seclusion, using mirroring/communications skills.

Therefore, wherever possible an attempt should be made to take the full set of neurological observations, where a patient is unable to complete due to cognitive impairment (CI) should be recorded on the chart and non-compliance can be recorded as (NC), the reason for the non-compliance must be documented in the nursing notes.

EXAMINATIONS

Pupil Response

A change in the pupil size and reaction can be an indication of raised inter cranial pressure and therefore the compression of the optic nerve after head injury.

Notes For Completing Pupil Checks

Each pupil should be recorded separately.

- Are the pupils of equal size?
- Assess the pupils for their size and shape using a measure of 1-9 see the diagram on the observation chart

- Reaction to light – rapid constriction to light is recorded as a B= brisk; no constriction is recorded as F = fixed. A slow reaction should be recorded as S = sluggish. Closed by swelling should be recorded as C= closed.
- Move a light from the outer aspect of the eye directly over the pupil, the pupil should constrict quickly and dilate again when the light is moved away. Both eyes should constrict when a light is shone into one eye.
- In a patient with slight swelling an attempt should be made to open the eye if at all possible.
- If a person refuses to open their eyes document R = refused to open eyes. If this is a change from normal behaviour it should be documented as this is a change to presentation after head injury, but if this is normal behaviour document refusal as normal behaviour.

Limb Movement/Motor Function

Again, when checking motor function we must be aware of the person's normal function and record if needed.

Check the limbs for;

- Normal Power – the person's norm they will be able to push against or squeeze with no difficulty.
- Mild weakness – a change/ reduction from the norm they will be able to push against but will be overcome easily.
- Severe weakness - a change/ reduction from the norm they will be able to push against but will be overcome very easily.
- Spastic Flexion – bending or flexing the limb that is not the norm, if this is the person's norm they would score for normal presentation.
- Extension – straightening or extending that is not the norm, if this is the person's norm they would score for normal presentation.
- No Response – again a change from normal presentation.

The response should be checked by giving simple commands, squeeze my hands, lift your legs etc.

If there is no response to commands and this is a change from normal behaviour, painful stimuli should be used to reassess. Suborbital pressure can be used, rub finger along bony rim above eye, or Trapezium squeeze, use the thumb and 2 fingers to squeeze the muscle.

OBSERVATIONS

Eye brow lift – damage to the cranial nerves can cause changes in facial movement. Ask the patient to raise their eyebrows, demonstrate this by example if necessary. Record what happens with a tick. Do both eyebrows raise or only the right or only the left? Compare this with the baseline are there any changes?

Tongue movement – damage to any part of the motor nervous system can cause changes in tongue movement. Ask the patient to stick out their tongue, demonstrate this by example if necessary. Record what happens with a tick. Does the tongue stick out straight, to the left or to the right? Compare this with the baseline, are there any changes?

Lifting arms - damage to any part of the motor nervous system and cerebellum or basal ganglia can cause changes in muscle strength, tone, and co-ordination. Ask the patient to put their hands on their thighs and then raise them both upwards, demonstrate this by example if necessary. Record what happens with a tick. Do both arms raise or does only the left or only the right? Compare this with the baseline, are there any changes?

GLASGOW COMA SCALE (GCS)

Difficult to calculate in many patient groups and can be very subjective particularly when not used on a regular basis. The preferred measure of Central Nervous System (CNS) is the AVPU (Alert, Voice, Pain, Unconscious) score as discussed previously. In most cases a person's consciousness will have deteriorated before observations start to alter, therefore any change in a person's AVPU score will mean action is required. Within RDASH the GCS score will be calculated by the attending paramedic, doctor or other clinician trained to do so, unless it is carried out in within particular areas as normal practice.

HOW A NEUROLOGICAL INJURY CAN AFFECT NEUROLOGICAL OBSERVATIONS

TEMPERATURE

The hypothalamus is the thermo regulator in the brain, any raised inter cranial pressure will affect the ability to regulate the temperature and therefore there may be a fluctuating temperature.

BLOOD PRESSURE

After a neurological injury the blood pressure may rise in attempt to perfuse the brain or fall as a result of a slowed pulse rate.

PULSE

After a neurological injury the pulse may slow as the body attempts to compensate for an increase in intracranial pressure.

RESPIRATORY RATE

The brain controls the breathing, therefore any problems with the brain can affect respirations, (raised inter cranial pressure will lower the respiratory rate and alter the respiratory pattern) particularly in the absence of any other observations, the rate, depth and pattern of the breathing should be recorded after neurological injury, this must be described in the nursing notes.

CNS/AVPU

The CNS rate is a person's consciousness level

The **AVPU** assessment is a good indicator of a change in a person's Central Nervous System (CNS) function level.

A – Alert the person is aware of their surroundings, aware you are there,

V – Responds only to voice, you need to use the sound of your voice to illicit a response.

P – Responds only to pain, to assess response to pain only **one of** the following 2 procedures may be used; suborbital pressure, rub finger along bony rim above eye, or,

Trapezium squeeze (fig 1), use the thumb and 2 fingers to squeeze the muscle.

U – The person does not respond to any of the above so is

Unconscious/Unresponsive

CHANGES TO NORMAL PRESENTATION

Any changes must be considered to be as a result of a neurological injury until ruled out by a medic. E.g. A person who was not using sentences or appropriate words starts talking normally; a person who gives no eye contact starts to stare, changes to normal muscle tone/normal movement ability, e.g. becomes floppy etc.

NEW HEAD INJURIES

An unwitnessed fall/patient found on the floor where the patient can or cannot explain the mechanism of the fall/why they are there must be treated as a new head injury. If the patient states, they did not hit their head, but the fall was unwitnessed, then neurological observations must be commenced as shown in the flow chart below.

ANY INJURY TO THE FACE OR HEAD COULD CONSTITUTE A HEAD INJURY

After any head injury there is a risk of deterioration, and this often is masked until the effects are serious. It is prudent to observe the injured person for subtle signs of a deteriorating head injury so that action can be taken in a timely fashion.

Neurological observations are to be carried out, after a new head injury, at the following intervals AT LEAST;

- half-hourly for 2 hours then 1-hourly for 4 hours
- If required, continue 2-hourly thereafter until EWS and neuro obs as baseline.

If NEWS and Neuro obs are normal/normal to that patient at the initial reading post fall, neuro obs must continue for at least 6 hours.

Clinical Judgement

There are times when an incident involving a patients head requires a clinical judgement as to the use of the head injury guidelines, some of these incidents are outlined below. A clinical judgement NOT to use the neuro obs guidelines would require a very detailed rationale in the patient's records.

Blow to the head

A blow to a patient's head by another patient during an altercation should be treated as a head injury if the blow causes movement of the head, pain, redness etc. If it is not a blow but a tap/slap this would be a judgement call by the staff present.

Patients that "head bang"

The majority of patients that bang their head as a known behaviour have a pattern; this will be a known pattern e.g. they always bang their head on a flat wall and use their forehead to do this, they use the same strength, it makes the same noise etc. A known behaviour. This does not require a full set of head injury observations, HOWEVER, if the patient bangs their head in any other way, uses a different part of their head, it sounds different, the force has changed, this would constitute a change to their normal behaviour pattern and therefore would require neuro obs as per the head injury/falls policy.

Poor spatial awareness

Patients with poor spatial awareness often walk into door frames etc. and bump their head; this incident will require clinical judgement. Look at the mechanism of the incident did the bump stop the person in their tracks, did it throw the head backwards, did it make a noise, is there a red mark, was it painful, is there a change to their presentation after the incident, in all of these cases neuro obs should be commenced.

WHEN TO CALL AN AMBULANCE AFTER A HEAD INJURY

- Unconsciousness or lack of full consciousness (for example, problems keeping eyes open).
- Problems understanding, speaking, reading, or writing (since the injury).
- Loss of feeling in part of the body (since the injury).
- Problems balancing or walking (since the injury).
- General weakness (since the injury).
- Any changes in eyesight.
- Any clear fluid running from ears or nose.
- A black eye with no obvious damage around the eye.
- Bleeding from one or both ears.
- New deafness in one or both ears.
- Bruising behind one or both ears.
- Any evidence of scalp or skull damage, especially when the skull has been penetrated.
- A forceful blow to the head at speed (for example, a pedestrian hit by a car, a car or bicycle crash, a diving accident, a fall of 1 metre or more, or a fall down more than five stairs).
- A convulsion or fit since the injury.

WHEN TO CALL A DR AFTER HEAD INJURY

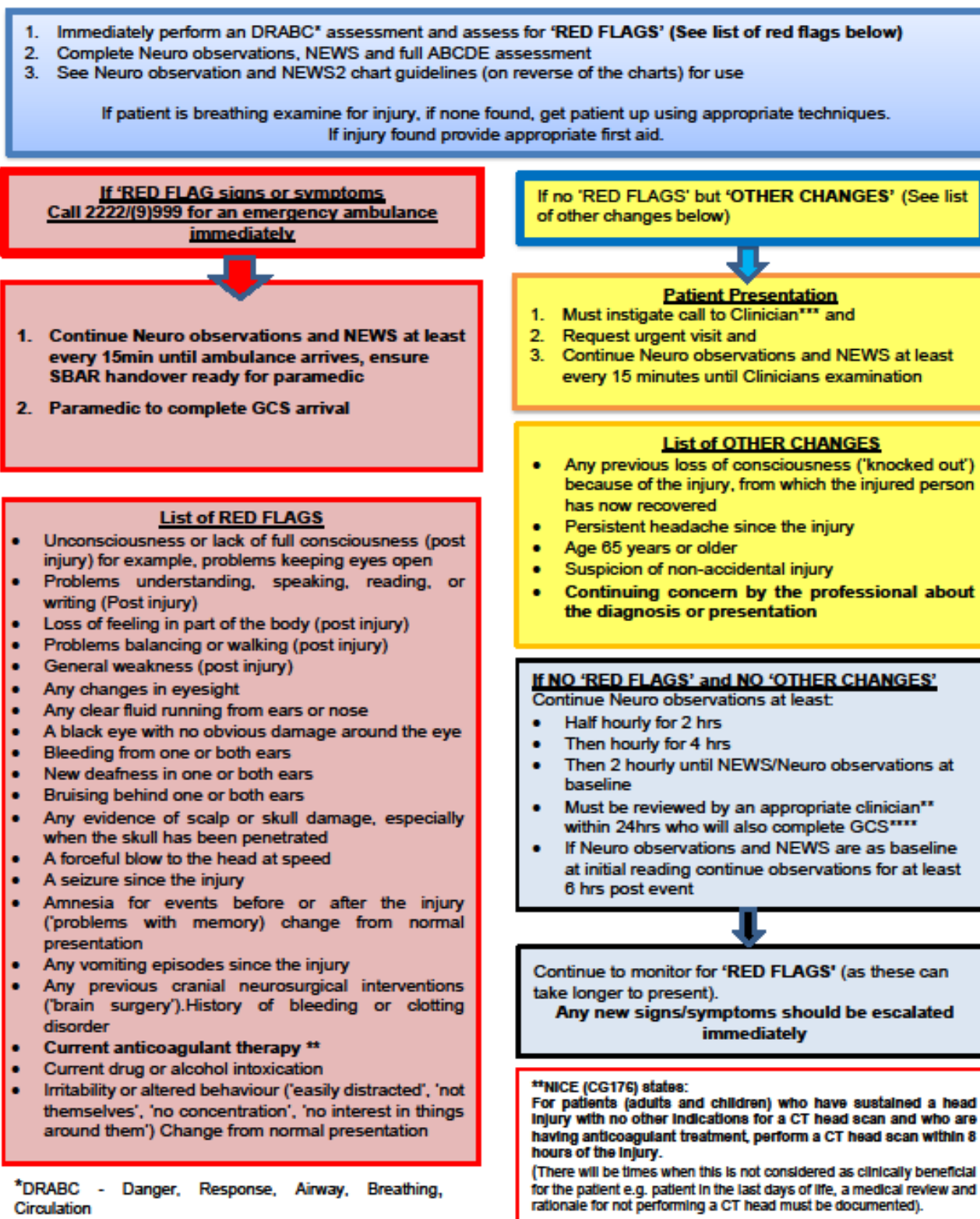
- Any previous loss of consciousness ('knocked out') as a result of the injury, from which the injured person has now recovered.

- Amnesia for events before or after the injury ('problems with memory) change from normal presentation.
- Persistent headache since the injury.
- Any vomiting episodes since the injury.
- Any previous cranial neurosurgical interventions ('brain surgery').
- History of bleeding or clotting disorder.
- Current anticoagulant therapy such as warfarin or heparin.
- Current drug or alcohol intoxication.
- Age 65 years or older.
- Suspicion of non-accidental injury.
- Irritability or altered behaviour ('easily distracted', 'not themselves', 'no concentration', 'no interest in things around them') Change from normal presentation
- Continuing concern by the professional about the diagnosis

Taken from NICE guidance CG176 Head Injury

Head Injury Flow Chart

Action to be taken following actual or possible head trauma.



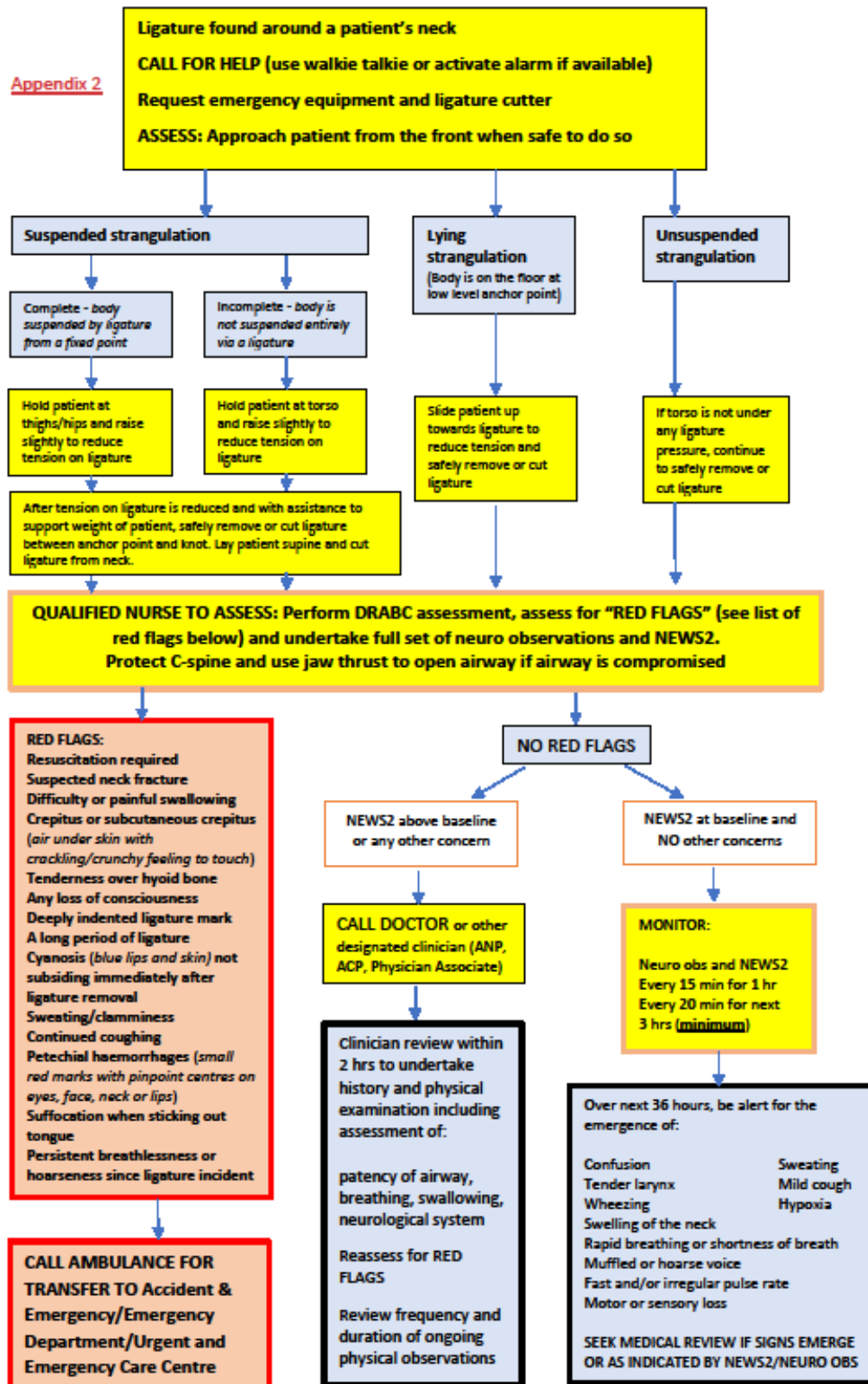
*DRABC - Danger, Response, Airway, Breathing, Circulation

*** Usually a medical doctor but in some areas this function can be carried out by other designated clinical staff e.g. Nurse consultants

**** On Wards where GCS is part of existing practice GCS to be completed by ward staff

Head Injury Flow Chart Version 2.1 August 2023

Appendix 2



Foreign Body Airway Obstruction Protocol

- Suspect choking if someone is suddenly unable to speak or talk, particularly if eating.
- Encourage the person to cough.
- If the cough becomes ineffective, give up to 5 back blows:
 - Lean the person forward.
 - Apply blows between the shoulder blades using the heel of one hand.
- If back blows are ineffective, give up to 5 abdominal thrusts:
 - Stand behind the person and put both your arms around the upper part of their abdomen.
 - Lean the person forwards.
 - Clench your fist and place it between the umbilicus (navel) and the ribcage.
 - Grasp your fist with the other hand and pull sharply inwards and upwards.
- If choking has not been relieved after 5 abdominal thrusts, continue alternating 5 back blows with 5 abdominal thrusts until it is relieved, or the person becomes unresponsive.
- If the person becomes unresponsive, start CPR and seek urgent medical help.

Recovery Position

- For adults and children with a decreased level of responsiveness due to medical illness or non-physical trauma, who do not meet the criteria for the initiation of rescue breathing or chest compressions (CPR), RCUK recommends they be placed into a lateral, side-lying recovery position. Overall, there is little evidence to suggest an optimal recovery position, but RCUK recommends the following sequence of actions:
 - Kneel beside the person and make sure that both legs are straight.
 - Place the arm nearest to you out at right angles to the body with the hand palm uppermost.
 - Bring the far arm across the chest and hold the back of the hand against the person's cheek nearest to you.
 - With your other hand, grasp the far leg just above the knee and pull it up, keeping the foot on the ground.
 - Keeping the hand pressed against the cheek, pull on the far leg to roll the person towards you onto their side.
 - Adjust the upper leg so that both the hip and knee are bent at right angles.
 - Tilt the head back to make sure the airway remains open.
 - Adjust the hand under the cheek if necessary, to keep the head tilted and facing downwards to allow liquid material to drain from the mouth.
 - Check regularly for normal breathing.
 - Only leave the person unattended if absolutely necessary, for example to attend to other people.
- It is important to stress the importance of maintaining a close check on all unresponsive individuals until the EMS arrives to ensure that their breathing remains normal. In certain situations, such as resuscitation-related agonal respirations or trauma, it may not be appropriate to move the individual into a recovery position.

This guidance is based on 2021 Resuscitation Guidelines (RCUK)