THE ASSESSMENT OF WARD PATIENTS (ADULTS) WHO HAVE FALLEN AND SUSTAINED A HEAD / NECK INJURY

This guidance does not override the individual responsibility of health professionals to make appropriate decision according to the circumstances of the individual patient in consultation with the patient and/or carer. Health care professionals must be prepared to justify any deviation from this guidance.

Introduction

The guideline covers those adult patients who have fallen and injured their head whilst in-patients on a ward and specifically which patients should have imaging and the need for neuro-observations. It does not cover children. It does not cover those patients who have been specifically admitted to hospital for ongoing care of an already diagnosed (significant) head injury or significant neck injury. The guideline does not cover discharge, follow-up or patient advice.

This guideline is for use by the following staff groups:
Nurses, doctors and advance clinical practitioners on all adult inpatient wards.

Lead Clinician(s)

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Approved by	Falls Steering Group Frailty Directorate Meeting Medicines Safety Committee Medicine DMB ISAG FoC Physicians Consultant Meeting
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Review Date This the most current document and should be used until a revised version is in place	3rd December 2028

Key amendments to this guideline

Date	Amendment	By:
05/2010	Approved by Falls Steering Group	
01/2011	Approved by Patient Safety and Quality Committee	
06/2011	Appendix 3 inserted (in line with recent NPSA alert) – approved at Falls Steering Committee on 23/6/11	Ros Pickering
08/2012	Reviewed by Clinical Leads. Minor amendments to clinical and radiological assessment of cervical spine	James France
10/2014	Reviewed by Clinical Leads. Update due to NICE guidance 2014	James France
03/2017	Document extended for 12 months as per TMC paper approved 22nd July 2015	TMC
01/2018	Reviewed by Clinical Leads. Update due to NICE guidance 2016	James France
04/2019	Cervical spine imaging updated. Option to not use 3 point fixation for cervical spine injuries	James France
07/2025	Update due to NICE guidance 2023 Major changes to the role of T+O team with regards to patients under other specialities when they fall. T+O only now involved if the patient needs surgical input or there is a specific concern around the C-Spine. Changed AVPU to ACVPU to take account of new confusion	Susan Powell

THE ASSESSMENT OF WARD PATIENTS (ADULTS) WHO HAVE FALLEN AND SUSTAINED A HEAD INJURY

Contents:

1) Introduction

A head injury should be considered in any patient who sustains an injury to their head or face. External signs of injury may be minimal. The most important factor is to consider whether there has been any injury to the brain itself (as opposed to just the skin or the scalp or skull bone). These patients need appropriate assessment and investigation to allow early detection of potentially life-threatening brain injuries. Ward patients who are considered to be at higher risk for significant brain injury are those who are anticoagulated, known to have high alcohol intake and the elderly. Those patients who are more likely to fall are also at increased risk for head injury e.g. those with mobility problems, those taking medication that could predispose to falls including psychotropic medications, sedatives and anti-hypertensives and patients with delirium.

Inclusions:

- All adult ward patients who have fallen and hit their head (witnessed or external signs of injury)
- In addition, consider the possibility of head injury if any of the following apply after an unwitnessed fall:

➢ New onset symptoms suggestive of brain injury
  - vomiting, headache, altered consciousness, dizziness
  - pain or tenderness of scalp / head
  - anticoagulant therapy (but not DVT prophylaxis)

➢ Patients with cognitive impairment e.g. dementia or delirium; they may not present in the same way as listed above. Vigilance is required for signs of unusual behaviour, increased levels of agitation / restlessness or listlessness which require urgent review.

Exclusions:

- Children
- Patients admitted specifically for ongoing management of an already diagnosed head or neck injury.

2) Immediate Management by ward nursing staff

Immediately following the fall, the patient should be rapidly assessed as per advanced life support guidelines to ensure that they have a patent AIRWAY, that they are BREATHING spontaneously and that CIRCULATION is present. When necessary, dial 2222 and request the medical emergency team.

A rapid neurological assessment should be made using the ACVPU system (appendix 2).

There are situations in which it is important to minimise neck movements, and nursing staff can achieve this by maintaining manual in-line support or advising the patient to remain still.

1) If the patient is unconscious, then a neck injury as well a head injury should be suspected, and the patient should **not** be moved until a doctor or ACP has made a decision about whether to use full 3-point immobilisation (see section 7 and appendix 5)

2) If the patient is conscious and complaining of any new neck discomfort *or* altered sensation *or* weakness in the arms or legs then similarly the patient should **not** be moved until further decision making by the reviewing doctor or ACP (see section 7 and appendix 5).

Starting high flow oxygen for a short period of time is unlikely to be harmful.

Intravenous access may be required.

3) History by resident doctor or advanced clinical practitioner

If there is evidence of a head injury and the GCS is 12 or less (consistent with a moderate or severe head injury), the updated NICE guidance suggests that consideration is given to a 2g iv bolus injection of tranexamic acid, even when no extracranial bleeding is evident.
This should be given within 2 hours, and can be given **before** imaging. It could be requested whilst taking a history.

Mechanism & Timing: Understanding the exact mechanism of injury will enable the determination of the forces involved and the likelihood of subsequent complications. Consider the possibility that a preceding medical condition (e.g. seizure, arrhythmia) may have been responsible for the fall. Document time of injury accurately.

Loss of Consciousness / Amnesia: a period of unconsciousness implies a head injury of at least moderate severity. It can be difficult to establish exactly how long the period of unconsciousness lasted, particularly if there is associated amnesia. Document the length of amnesia both before and after the injury.

Subsequent Symptoms: Ask specifically about the following:

- headache
- nausea and vomiting
- limb weakness
- paraesthesia (numbness or tingling sensation in the arms, legs or face)
- diplopia (double vision)
- rhinorrhorea (cerebrospinal fluid discharge from the nose)

- otorrhorea (cerebrospinal fluid discharge from the ear)

Past Medical History: Document pre-existing illnesses and symptoms which may have played a role in causing the head injury e.g. epilepsy, diabetes, arrhythmias, postural hypotension, poor mobility, alcoholism. Document those conditions which may make the consequences of the head injury more severe e.g. bleeding disorders such as haemophilia or liver disease. Enquire about previous head injuries.

Drug History: document whether the patient is on any form of antiplatelet or anticoagulant, therapeutic enoxaparin or fondaparinux. Consider carefully whether any of the current medication may be responsible for the fall e.g. psychotropics, anti-hypertensives or sedatives and hypnotics.

Tetanus Status: enquire about this in any patient with laceration (cut) or open fracture.

Social History: particularly relevant if patient likely to be discharged within the next 24 hours – who will be at home with the patient.

Use the "Post Fall" Assessment Document on Sunrise to record as much detail as possible, and use a separate Speciality Review note if there is more information to document.

4) Examination

Baseline Observations (by ward nursing staff):

- Calculate the NEWS2 score
- Capillary blood glucose
- The Glasgow Coma Scale must be performed (see appendix 1). A GCS of less than 13 should prompt urgent assessment by a doctor and critical care outreach team / out of hours nurse practitioner. It is appreciated that some patients 'normally' have a GCS of less than 15 (eg. patients with dementia) and so it is particularly important that the GCS and the TREND in the GCS with time is interpreted in light of the patient's pre-existing conditions and severity (or mechanism) of the injury.
- Document pupil size and reaction to light. A large unreactive pupil following a significant head injury should prompt urgent assessment by a doctor or critical care outreach team.

Neurological:

- Examine the cranial nerves - when examining the eyes ensure all movements are intact, pupil size and reflexes are normal.
- Look for cerebellar signs (past pointing, nystagmus, dysdiadochokinesia)
- Examine the limbs to ensure symmetrical tone, power, reflexes and sensation
- With specific reference to BASE OF SKULL fractures, think about:
- 'panda eyes' – bilateral orbital bruising confined to the orbital margin
- subconjunctival haemorrhage – (no posterior margin of the haemorrhage seen)
- haemotympanum – blood behind the eardrum or in canal if drum ruptured. Remember that hearing aid trauma might be another cause.
- otorrhorea or rhinorrhorea - fluid mixtures containing relatively small amounts of blood and cerebrospinal fluid (CSF)

Skin: assess head and face for bruises and lacerations.

Neck: see section below.

Other Injuries: a patient is unlikely to have an isolated head injury so screen for other significant injuries e.g.
Fracture Neck of femur (tender hip, ↓ROM), pubic rami fracture (tender groin, ↓ROM), scaphoid fracture (tender ASB), Colles fracture (tender deformed distal radius), fractured or dislocated humerus (swollen tender shoulder) or chest wall injuries such as fractured ribs. Also look for bruises, lacerations and easily missed dislocations e.g. fingers.

A lying and standing blood pressure ought to be performed once the patient is *clinically stable and immediate head (+/- neck) injury management and imaging has taken place*.

5) Imaging

There is little or no role for the use of skull X-rays in patients with head injuries. CT scanning is used to identify and define brain injury and more importantly, associated intracranial haematomas amenable to surgical treatment. It should be remembered that patients with a GCS of less than 8 should be intubated and ventilated prior to CT scan. Patients who are combative or confused following their injury may also need to be intubated and ventilated to ensure that they will lie still during the CT scan.

Before proceeding to CT the head, a clear decision regarding the need for further cervical imaging (plain X-rays or CT scan) should be made so that both regions can be scanned at the same time. A patient who is unconscious following a head injury will require both a CT scan of the head and the neck.

The following patients require a **CT SCAN WITHIN ONE HOUR of the REQUEST**

- Suspected open or depressed skull fracture
- Any sign of base of skull fracture
- Post-traumatic seizure
- Focal neurological deficit
- >1 episode of vomiting
- GCS<15 if assessed more than 2 hours after injury
- GCS<13 when first assessed

The following patients require a **CT SCAN WITHIN EIGHT HOURS of the REQUEST**

- Any amnesia or loss of consciousness PLUS
  - Age 65 or over
  - a history of bleeding or clotting disorder (eg. haemophilia)
  - fall >1metre or 5 stairs or similar dangerous mechanism
  - amnesia for events lasting more than 30 minutes before the injury

Consider a CT scan within 8 hours if the patient is prescribed:

- Warfarin therapy or other anticoagulants including treatment (but not prophylactic) dose enoxaparin
- Antiplatelet therapy (other than aspirin monotherapy)

Remember: a small proportion of patients taking anticoagulant or antiplatelet medication with *asymptomatic* head injury will have an intracranial haemorrhage which is only detectable on CT scan. Regardless of a patient's eligibility for neurosurgery, detecting a bleed in these patients provides an opportunity to assess their current prescription and temporarily or permanently stop anticoagulant or antiplatelet use to avoid deterioration.

A provisional written radiology report should be made available within 1 hour of the scan being performed.

If the patient does not fulfil any of the above criteria for urgent or delayed CT scan then they DO NOT need CT imaging of their brain; however, if concern persists, discuss with a senior colleague.

Consider discussion with the Intensive Care Unit registrar depending on the overall picture and any previous ReSPECT documentation.

The ongoing management of the patient is that of the parent team *unless*

1) they need critical care (then critical care will take over)
2) they need neurosurgery, in which case the **parent team** can liaise with the neurosurgical team – NOTE, THIS IS A CHANGE FROM THE PREVIOUS VERSIONS OF THIS GUIDANCE
3) there are suspected or confirmed musculoskeletal injuries eg cervical spine fractures or other bony trauma (in which case T+O will provide input).

If the patient is on a non-surgical ward and requires suturing of a head laceration, then the ward team should liaise with the maxillofacial team at Worcester Royal or the general surgical team at the Alex.

6) Ongoing Assessment and Management

a) Neuro-Observations

All patients who have sustained a head injury require neuro-observations until a definitive management plan has been agreed. Perform and record observations on a half-hourly basis until GCS=15.

When GCS = 15, minimum frequency of observations (from time of injury) is:

- half-hourly for two hours
- then 1 hourly for 4 hours
- then 2 hourly thereafter

If the patient deteriorates to GCS<15 after initial 2 hour period, revert to half-hourly observations and follow original schedule above.

Minimum acceptable documented neurological observations:

- GCS
- pupil size and reactivity (loss reactivity, asymmetry of pupils may be a cause for concern)
- limb movements
- respiratory rate
- heart rate (slowing down of rate with increased blood pressure may be a cause for concern)
- blood pressure (increasing pressure with a slow heart rate may be a cause for concern)
- temperature
- oxygen saturations

Changes in neuro-observations that require review:

The following conditions should prompt review by another nurse and if the changes are confirmed a doctor should be called to attend the patient within 30 minutes for active consideration of performing urgent CT head Scan.

⊡ Agitation or abnormal behaviour.
⊡ Drop of GCS by one point and lasting at least 30 minutes (especially if motor component).
⊡ Any drop of 3 or more points in eye opening or verbal response scores or 2 or more points in the motor score.
⊡ Severe or increasing headache developed or persistent vomiting.
⊡ New or evolving neurological symptoms or signs, such as pupil inequality or asymmetry or limb or facial movement.

If the changes are not confirmed the observations should continue according to the schedule.

If GCS 15 (or baseline GCS) not achieved after 24 hours of neuro-observations but CT scan normal discuss with radiology regarding further imaging e.g. MRI.

b) Criteria for Referral to Neurosurgeons

The parent team should refer to the neurosurgical team via NORSE at the Queen Elizabeth Hospital, UHB, when there are:

- new, surgically significant abnormalities on imaging

OR, even if there is normal imaging, if:

- persisting coma (GCS ≤8) after initial resuscitation
- unexplained confusion for more than 4 hours
- deterioration in GCS (particularly motor response)
- progressive focal neurological signs
- seizure without full recovery
- definite or suspected penetrating injury
- cerebrospinal fluid leak

IF A SENIOR CLINICAL DECISION MAKER DEEMS THAT THE PATIENT IS NOT A CANDIDATE FOR SURGICAL INTERVENTION, THEN DISCUSSION WITH NEUROSURGERY IS NOT MANDATED, BUT MAY BE USEFUL TO DISCUSS THE ONGOING MEDICAL MANAGEMENT INCLUDING PLANS AROUND ANTICOAGULATION, ANTICONVULSANTS ETC.

7) Assessment of the Cervical Spine (Neck) In a Patient with a Head Injury

Any patient who has any injury above the clavicles should be considered at risk of a cervical spine injury. Again, a thorough understanding of the mechanism of injury is essential e.g. the elderly patient falling forward and hitting their forehead is at risk of peg fractures. A patient with a potential cervical spine injury must be assessed for the possibility of a fracture (predominantly tenderness) and also the potential for spinal cord injury (neurological deficit).

On initial assessment following the fall, cervical spine immobilisation should be **strongly considered** if any of the following factors are present:

- GCS<15 on initial assessment
- Neck pain or tenderness
- New focal neurological deficit
- Paraesthesia in the arms or legs
- 65 years or over
- Dangerous mechanism (fall >1metre or 5 steps)
- Significant distracting injury
- Any other clinical suspicion of cervical spine injury

However, cervical spine immobilisation may not be appropriate if the patient is agitated and actively resistant to this form of restraint – clinical judgement will need to be exercised. Cervical spine immobilisation is uncomfortable and disorientating for the patient. There is a risk that cervical spine injuries may be worsened in patients who are immobilised but actively resisting this form of restraint (see appendix 5 for advice about making a risk versus benefit decision). If C-spine immobilisation is not performed, it is vital to document the clear rationale for deviating from NICE guidance.

Full cervical spine immobilisation (also know as 'three point fixation') consists of:

- Appropriately fitted hard neck collar
- Sandbags / immobilisation blocks at the side head and neck
- Head and collar taped or strapped to blocks which are in turn attached to a flat solid fixed surface.

Please note that after a patient has been immobilised on a spinal board, it is still then possible to use a flat lifting kit (Hoverjack or Flo-jack) to recover them up off the floor. This is the preferred option.

The T+O SHO or Registrar can support with initial spinal precautions and collar application if the patient is on a non-surgical ward. If they are under a surgical speciality with ATLS training, then T+O may not need to be involved.

Imaging of the Cervical (Neck) Spine

See Appendix 4 for Cervical Spine Imaging Flowchart

A lower threshold for requesting cervical spine imaging should be considered if the patient has an injury above the clavicle as well as either another significant ('distracting') injury or there is a reduced level of consciousness or confusion or intoxication due to drugs or alcohol.

A CT scan should be performed within 1 hour of the risk factor being identified. A provisional written radiology report should be made available within 1 hour of the scan being performed.

Do an MRI of the C-spine in addition to CT if there are neurological signs and symptoms suggesting injury to the cervical spine.

If all the following criteria are met, then the patient has no indications for CT scan or plain X-ray examination:

⊡ Patient is comfortable in a sitting position
⊡ Patient has been ambulatory at any time since injury

- ⊡ Patient does not have midline cervical tenderness
- ⊡ Patient is able to actively (perform movement by themselves) rotate their neck 45^0 to the left and right.

However, if concern persists, discuss with a senior colleague.

Patients with a confirmed or suspected BONY injury should be discussed with T+O.

If there is a concern around a SPINAL injury, then the parent team can liaise with radiology / neurosurgery / critical care as necessary.

Overview - Management of ward patients with a head (+/- neck) injury following an in-patient fall

1. Exclude cardiac arrest

2. Perform GCS and assess need for cervical spine protection. Do not start to recover from the floor if there are any risk factors for C-spine injury (see section 7). Tell the patient to stay still, or maintain manual in-line support.

3. GCS 13-15: ward nurse to call doctor or nurse practitioner to attend within 30-60 minutes to assess patient.

GCS 3-12 **OR** concerns about the cervical spine: ward nurse to call doctor and critical care outreach / out of hours nurse practitioner, to attend within 5-15 minutes to assess the patient

4. Ward nurse to start neuro-observations (half hourly for 2 hours, 1 hourly for four hours, 2 hourly for 6 hours). If any deterioration in neuro-observations inform doctor immediately.

5. Ward nurse to complete full set of observations and an incident form.

6. Assessing practitioner needs to assess and stabilise, and then ask:

Does the patient require haemorrhage control prior to formal wound closure?
Is there a role for empirical tranexamic acid (prior to imaging)?
Does the patient require analgesia (avoid NSAID, initially)?
Does the patient require ongoing cervical spine immobilisation?

- **T+O SHO or Registrar can support with the use of 3-point immobilisation, and whether this is appropriate or necessary.**

Does the patient require CT brain scan?
Does the patient require cervical spine X-ray or CT scan?
Does the wound require cleaning and closure (sutures / glue / staples)?
Has the patient been adequately examined to exclude other injuries?
Do any other investigations need to be performed to determine the cause of the “fall”?
Does the patient need to be recovered from the floor using a flat lifting kit (eg Hoverjack or Flo-jack)?

Related trust guidelines

Refer to:

- Trust Guidelines for the Reduction and Management of In-patient Falls WAHT-MED-005
- Post Fall Assessment Protocol for adult in-patient fallers WAHT- MED- 012

Monitoring Tool

Page/ Section of Key Document	Key control:	Checks to be carried out to confirm compliance with the policy:	How often the check will be carried out:	Responsible for carrying out the check:	Results of check reported to: *(Responsible for also ensuring actions are developed to address any areas of non-compliance)*	Frequency of reporting:
	WHAT?	**HOW?**	**WHEN?**	**WHO?**	**WHERE?**	**WHEN?**
	Audit the post fall suspected head injury management on in-patient fallers	Audit by resident doctors on 2 acute sites and nurses at Kidderminster	At least annually	Falls steering Group	Dr Powell Falls Steering Group	After results collated

References

Wyatt JP et al Oxford Handbook of Accident and Emergency Medicine 2nd Ed Oxford University press 2005

National Institute for Health and Clinical Excellence Head injury: assessment and early management. Issued: May 2023 NICE Clinical Guideline 232. https://www.nice.org.uk/guidance/ng232

Position statement on the 2023 NICE head injury guidelines regarding asymptomatic patients on anticoagulation or antiplatelet treatment This position statement is endorsed and supported by the following organisations: Association of Ambulance Chief Executives (AACE), Royal College of Emergency Medicine (RCEM), British Geriatrics Society (BGS), Society of British Neurological Surgeons (SBNS), and UK Hospital at Home Society.

National Institute for Health and Clinical Excellence Spinal injury:assessment and initial management. Issued Feb 2016 NICE Clinical Guideline 41 https://www.nice.org.uk/guidance/ng41

Jevan P Neurological assessment 1 - Assessing level of consciousness. Nursing Times 2008; 104: 26-27

APPENDIX 1 - The Glasgow Coma Scale

Assessment Area	Score
Eye Opening (E)	
Spontaneous	4
To speech	3
To physical stimuli	2
None	1
Best Motor Response (M)	
Obeys commands	6
Localising (purposeful movement towards physical stimuli)	5
Normal Flexion	4
Abnormal Flexion (flexion at elbow and wrist)	3
Extension (elbow extension and twisting inwards of the shoulder)	2
None (flaccid)	1
Verbal Response (V)	
Orientated	5
Confused conversation	4
Inappropriate words	3
Incomprehensible sounds	2
None	1

Head injury or traumatic brain injury (TBI) is defined by the patient's level of consciousness as determined by the Glasgow Coma Scale (GCS). Record the BEST response

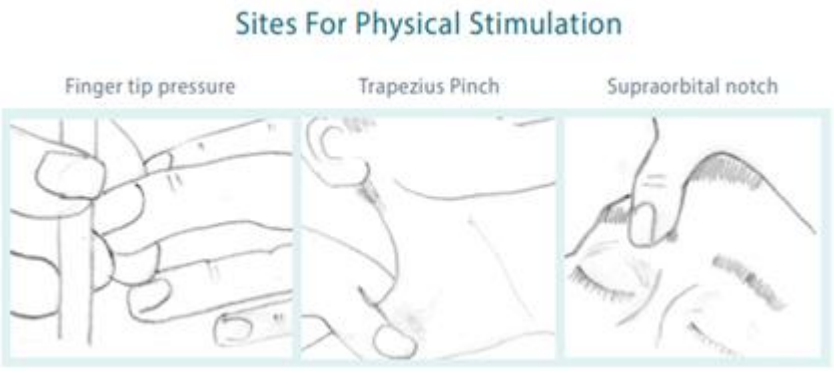
- Minor brain injuries GCS 13-15
- Moderate brain injury GCS 9-12
- Severe brain injury GCS 3-8

The lower the GCS the worse the patient outcome.

1. **Best eye opening response.**
2. **Best verbal response.** Judge on what the patient says when spoken to during nursing procedures or on eliciting physical stimuli as above (leave blank if intubated).
3. **Best motor response.** This is either to command or if this fails to physical stimuli. It is the best response of any of the four limbs.

Physical Stimulus

In patients with abnormal motor responses, it is important that the physical stimulus used allows the clinician to differentiate between a patient's attempt to localise and that of abnormal flexion


Sites For Physical Stimulation
Finger tip pressure
Trapezius Pinch
Supraorbital notch

APPENDIX 2 - ACVPU Scale

The ACVPU scale is a quick and easy scale to assess the level of consciousness during a rapid ABCDE survey.

- Alert
- New Confusion
- Responds to Voice
- Responds to Pain
- Unresponsive

Assess the level of consciousness using the ACVPU scale; if fully awake and talking to you, they are **A** (alert). If they respond but appear confused, try to establish whether this is a new (**C**) or long-standing problem; causes of recent onset confusion include neurological pathology and hypoxia.

If the patient is not fully awake, check if they respond to your voice, for example by opening eyes, speaking or moving; if they do, they are **V** (responds to voice).

If the patient does not respond to voice, administer a physical stimulus such as a squeeze on the trapezium and check for a response (eye opening, verbal such as moaning, or movement); if there is a response, they are **P** (responds to physical stimulus). Those who do not respond are **U** (unresponsive).

APPENDIX 3 - WARD FLOW CHART

INPATIENT FALLS: WHAT TO DO WHEN A HEAD INJURY IS SUSPECTED IMMEDIATELY

Perform rapid assessment of ABC/ACVPU
Assess need for cervical spine inline immobilisation
Document GCS, CBG + NEWS2 score

WARD NURSE DUTIES

Neuro-obs:initial

- Half-hourly till GCS 15 or for 2 hours
- Then hourly for 4 hours
- Then 2 hourly till 24 hours

IF: GCS 13-15: 30-60 minute review by Doctor/ OOH NP/ CCO
IF: GCS 3-12 OR concern re C-spine: immediate (within 15 minute) review by Doctor / OOH NP / CCO
IF: Decline in GCS, vomiting, headache, agitation, behavioural change or new neurological feature needs review by Doctor/ OOH NP / CCO

Complete: **Falls risk assessment**
Incident form
Falls care plan

ATTENDING PRACTITIONER / DOCTOR DUTIES

- Ensure patient is stable
- Take history and examination
- Early consideration of tranexamic acid
- Management Decisions:

- Need for cervical spine immobilisation
- Need to stop on going haemorrhage
- Need for analgesia (avoid NSAID, initially)
- Need for imaging (head, neck, any other injury)
- Need for other investigations related to cause of fall
- Wound cleaning and closure

Spinal Board and blocks are available on:

- Ward 17 at the Alex
- T+O wards at WRH
- At Kidderminster, would need to consider support from paramedics for transfer

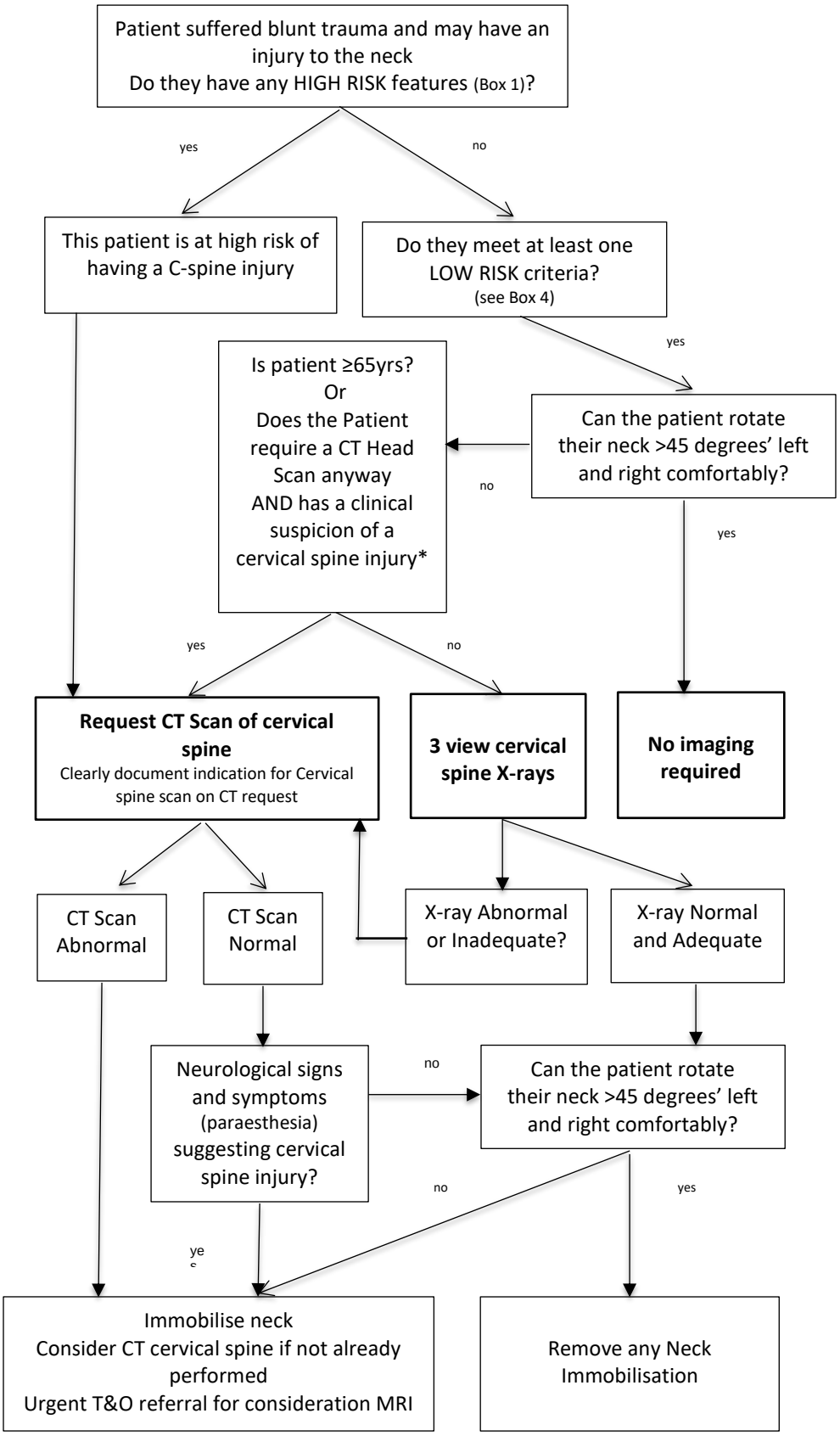
FloJacs are available at WRH on:

- Capacity Hub, Ground Floor (inside the main door on the left hand side)
- Aconbury 2 / CCU (at the end of ward, directly behind the doors which state “nursing staff only”
- Hazel Trauma Unit in the day room (in the day room)
- Beech A will be acquiring a FloJac (stored in the Surgical Doctors’ Office)

Hoverjacks are available in:

- MIU at KTC
- Bed Store Area at the Alex

Appendix 4 - Adult Neck Trauma Imaging Guideline



Box 1 – High Risk Features

- GCS ≤12 / Intubated
- Age ≥65yrs and clinical suspicion of cervical spine injury
- Focal neurological deficit
- Multi-regional trauma/abn vitals
- Urgent diagnostic requirement e.g. prior to surgery
- CT Head indicated
- Vertebral disease (see box 3)
- High risk mechanism (see box 2)

AND
Neck tenderness
OR
Visible supraclavicular injury
OR
Severely painful thoracic injury

Box 2 – HIGH Risk Mechanism

- Fall greater than 1m or 5 stairs
- Axial load

Box 3 – Vertebral Disease

- Ankylosing spondylitis
- Rheumatoid arthritis
- Previous neck surgery
- Spinal stenosis

Box 4 – LOW Risk Criteria

- Sitting comfortably
- Been ambulatory since injury
- No midline tenderness
- Delayed onset of pain

Suspicion of Vascular Injury
●Vertebral malalignment ●Posterior Circulation Syndrome
●High risk fracture that involve internal carotid or vertebral artery
→Arrange CT or MRI angiography neck vessels

Non-Fatal Strangulation
See separate IFAS guidance

https://tinyurl.com/39zusm5d

***Clinical Suspicion Cervical Spine Injury**

In the absence of High Risk Features and distracting injuries and impaired cognition and the inability to carry out a full examination this will likely be **midline neck tenderness**

APPENDIX 5 – SUMMARY OF WHEN TO REFER AND TO WHOM

Indications for NORSE referral to Neurosurgeons at QE:
Traumatic brain injury on imaging
Even if there is normal imaging if: • persisting coma (GCS ≤8) after initial resuscitation • unexplained confusion for more than 4 hours • deterioration in GCS (particularly motor response) • progressive focal neurological signs • seizure without full recovery • definite or suspected penetrating injury • cerebrospinal fluid leak
Spinal cord injury

Indications for referral to T+O:
Support around C-Spine assessment and application of 3 point fixation / immobilisation
Other bony injury from the fall eg hip fracture
Bony C-spine injury

Appendix 6

WRH ED Cervical Spine Immobilisation Guidance

There are five overriding principles that should be applied when considering spinal immobilisation in the emergency department:

1. **Movement of the potentially injured spine should be minimised**. Excessive movement of any injury contributes to further pain, inflammation, and haemorrhage. Careful and restricted movement of an unstable spinal injury will not transmit anywhere near the forces involved in the original injury, and yet there still may be deterioration or impaired recovery in the neurological injury. Any decisions surrounding spinal immobilisation must balance the benefits of this principle against competing harms.

2. All patients require a 'risk vs benefit' decision on their immobilisation strategy. This includes both the patient with a potential injury and the known injury. Given competing risks, a pragmatic adaptation of the precautions may be appropriate. The balance of the 'risk vs benefit' decisions will be different in different phases of the pre-hospital and in-hospital pathway and will then differ depending on the type of injury.

3. Immobilisation may be harmful, so decisions regarding immobilisation are urgent. Establishing whether a spinal injury exists or not, should be a priority. The uninjured patient should be released from their immobilisation as soon as possible. Similarly, in those confirmed to have a spinal injury, a decision on the definitive care and immobilisation strategy, should be made urgently.

4. Immobilisation should be applied to maintain the patient's normal cervical spine position Holding a patient's spine for a prolonged period in an abnormal position for them, will certainly cause pain and potentially lead to spinal injury. An assessment of the patient's anatomical position of comfort should be made and immobilisation adjusted accordingly.

5. Involve the patient in decision making (if possible) and document your decision in the clinical notes. In the event of a decision not apply any formal cervical spine immobilisation measures ensure the whole team looking after the patient is aware that the patient may still have a cervical spine injury.

Consider both whether the patient has the potential for a spinal injury, and whether the patient will benefit from immobilisation. These are related but distinctly different questions. It may be the best decision to forego full spinal precautions but the patient may still require imaging.

STARTING POINT

A clinical assessment has been performed.
There is potential for a spinal injury.
Imaging is required to exclude it.

Undertake a RISK: BENEFIT Assessment

See Box 1 for **PATIENT FEATURES** influencing the assessment
See Box 2 for **EVENTS** that will influence this assessment

Judgement of Risk	Assessment of Potential Benefit
What are the harms of immobilisation for this patient group?	What is the clinical concern of an unstable spinal injury based on mechanism of injury, clinical signs and underlying factors ?
What is the patient's ability to tolerate immobilisation ?	What is the effectiveness of the immobilisation technique in this patient's? Will it minimise movement and maintain the patient's normal anatomy ?

Box 1. PATIENT FEATURES that may impact the Risk: Benefit decision	
Ambulant, GCS 15 Low risk	Counsel the patient to be still as possible. Transfer sat up, in a position of comfort on trolley. Give analgesia. No other spinal precautions required. It is good practice to discuss these cases with radiographers.

Respiratory compromise	No collar. Sit up 30/45 degrees as tolerated. Lay flat briefly for CT. If unable to go flat at all, get an early multidisciplinary senior strategy.
Risk of pressure sore	Following imaging, log roll to check pressure areas in frail patients or paralysis. Make all efforts to transfer to correct hospital mattress as soon as possible.
Frailty +/- pre-existing deformity	Adapt immobilisation to the patient's comfortable, normal neck position. This may involve a trolley tilt and arrangement of supporting pillows and blankets +/- tape. No collar unless fitted to patients normal position.
Traumatic Brain Injury (severe)	Facilitate venous drainage. Head up tilt 30 degrees. Ensure normal neck position. Lateral supports and tape only. Collars restrict venous drainage and therefore are relatively contraindicated.
Intoxicated or obtunded or distracting injury	Lowers threshold for more restrictive immobilisation

BOX 2. ACUTE EVENTS that may impact the Risk: Benefit decision	
Agitation Confusion	Do not force immobilisation. MILS may be briefly helpful. Target all reasons immobilisation is not tolerated. Ensure analgesia and antiemetic. Check bladder. Patient may need sedation or even general anaesthetic in best interests.
Nausea	Antiemetic. Avoid collar. Close (1:1) monitoring. Suction available.
Vomiting	EMERGENCY. CALL FOR HELP. Low risk: Log roll will take too long, support patient in rolling to the side without a full log roll. High Risk or confirmed injury: immediate action should be the use of suction and tilting the trolley head down to help avoid aspiration. Log roll for postural drainage, maintaining spine alignment as best as possible. Suction.
Pain due to immobilisation	Uncomfortable immobilisation will result in more movement. Give analgesia. Ensure normal neck position for the patient. Cushioning behind head. Allow some head up tilt as soon as possible. If still poorly tolerated, remove it.
Intubation required	LOW RISK - Use bougie and employ only as much force as is necessary to gain a reasonable view. Use MILS but release if very poor view. HIGH RISK – Get help if possible. Consider VL or fibreoptic.

Apply Spinal Immobilisation according to Risk: Benefit assessment

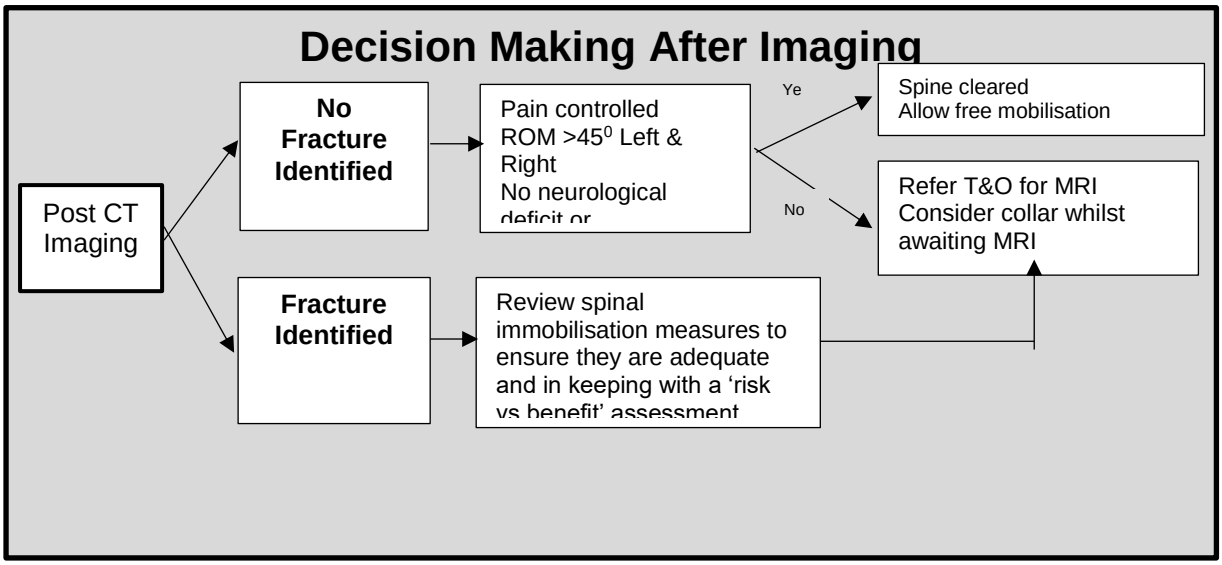
Minimal Immobilisation
patient advised to 'stay still' on the trolley

See Box 3

Full Immobilisation
blocks, tape, supine on rigid surface +/- collar

BOX 3. SPINAL IMMOBILISATION MEASURES. apply as determined by the Risk: Benefit decision.	
IMMOBILISATION MEASURE	**Considerations**
Patient supine on trolley	If the patient requires CT imaging, consider how the patient will be transferred from trolley to CT. Ensure the patient is on a rigid transfer device e.g. scoop or trauma mattress, as well.
Rigid scoop or 'trauma' mattress for transfer	As soon as transfers are complete, remove scoops or trauma mattresses from under the patient.
Neck supported in the patient's normal neutral position of comfort using blankets	Assess the normal neck position of ALL patients before immobilising.
Manual inline stabilisation (MILS)	MILS is a brief adjunct to control movement but cannot be done effectively in a transfer and takes up a valuable staff member.

Lateral supports (blocks or rolled blankets) and tape at forehead and chin	Rolled blankets or sandbags may impair hearing when compared to head blocks with ear holes.
Use of Tape	Do not apply tape directly to the patient's chin unless absolutely necessary, if it slips it tend to strangle the patient.
Log roll with 4 person team	Ideal staff numbers may be reduced to roll in an emergency.
Well fitting, tolerable rigid collar	Standard prehospital collars are not normally comfortable for prolonged periods and so should be replaced or removed.



Acknowledgement:
South East London Kent and Medway Trauma Network

Contribution List

Key individuals involved in developing the document

Name	Designation
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Dr Will Roberts	Clinical Director for Frailty
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Circulated to the following CDs/Heads of dept for comments from their directorates / departments

Name	Directorate / Department
A&E Consultants	Via Mr France
Orthopaedic Consultants	Via Mr Ahmed

Circulated to the chair of the following committees / groups for comments

Name	Committee / group
Hayley Flavell	ISAG

Supporting Document 1 - Equality Impact Assessment Tool

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

Herefordshire & Worcestershire STP - Equality Impact Assessment (EIA) Form
Please read EIA guidelines when completing this form

Section 1 - Name of Organisation (please tick)

Herefordshire & Worcestershire STP		Herefordshire Council		Herefordshire CCG	
Worcestershire Acute Hospitals NHS Trust	x	Worcestershire County Council		Worcestershire CCGs	
Worcestershire Health and Care NHS Trust		Wye Valley NHS Trust		Other (please state)	

Name of Lead for Activity	**Dr Susan Powell**

Details of individuals completing this assessment	**Name**	**Job title**	**e-mail contact**
	Dr Susan Powell	**Consultant Geriatrician**	**Susan.powell16@nhs.net**
Date assessment completed	**4th December 2025**		

Section 2

Activity being assessed (e.g. policy/procedure, document, service redesign, policy, strategy etc.)	**Title:** **The Assessment of Ward Patients (Adults) Who Have Fallen and Sustained a Head Injury**				
What is the aim, purpose and/or intended outcomes of this Activity?	Unfortunately, patients in hospital are at ongoing risk of falls, and with this, they may sustain an injury to the head or C-spine. Alongside the generic falls, guideline, this document provides specific advice and guidance for those patients with a suspected or proven head or neck injury.				
Who will be affected by the development & implementation of this activity?	x❑ x❑ ❑ ❑	Service User Patient Carers Visitors	x❑ ❑ ❑ ❑	Staff Communities Other _____	
Is this:	x❑ Review of an existing activity ❑ New activity ❑ Planning to withdraw or reduce a service, activity or presence?				
What information and evidence have you reviewed to help inform this assessment? (Please name sources, eg demographic	Latest NICE guidance				

information for patients / services / staff groups affected, complaints etc.	
Summary of engagement or consultation undertaken (e.g. who and how have you engaged with, or why do you believe this is not required)	There has been extensive involvement with T+O and ED consultant colleagues and also the frailty MDT. The draft was also circulated to all divisions via the clinical governance teams.
Summary of relevant findings	There will be a need for ongoing monitoring and audit, to ensure that the new guidance is embedded in to practice.

Section 3

Please consider the potential impact of this activity (during development & implementation) on each of the equality groups outlined below. **Please tick one or more impact box below for each Equality Group and explain your rationale**. Please note it is possible for the potential impact to be both positive and negative within the same equality group and this should be recorded. Remember to consider the impact on e.g. staff, public, patients, carers etc. in these equality groups.

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
Age	x			Elderly more likely fall, so a robust guideline is helpful. It is hoped that this pragmatic guideline will give senior decision makers the option to make pragmatic clinical decisions eg around referral to neurosurgery.
Disability		x		
Gender Reassignment		x		
Marriage & Civil Partnerships		x		
Pregnancy & Maternity		x		
Race including Traveling Communities		x		
Religion & Belief		x		
Sex		x		
Sexual Orientation		x		
Other Vulnerable and Disadvantaged Groups (e.g. carers; care leavers; homeless; Social/Economic		x		

Equality Group	Potential positive impact	Potential neutral impact	Potential negative impact	Please explain your reasons for any potential positive, neutral or negative impact identified
deprivation, travelling communities etc.)				
Health Inequalities (any preventable, unfair & unjust differences in health status between groups, populations or individuals that arise from the unequal distribution of social, environmental & economic conditions within societies)		X		

Section 4

What actions will you take to mitigate any potential negative impacts?	Risk identified	Actions required to reduce / eliminate negative impact	Who will lead on the action?	Timeframe
	N/A	.		
How will you monitor these actions?				
When will you review this EIA? (e.g in a service redesign, this EIA should be revisited regularly throughout the design & implementation)	**Annually**			

Section 5 - Please read and agree to the following Equality Statement

1. Equality Statement

1.1. All public bodies have a statutory duty under the Equality Act 2010 to set out arrangements to assess and consult on how their policies and functions impact on the 9 protected characteristics: Age; Disability; Gender Reassignment; Marriage & Civil Partnership; Pregnancy & Maternity; Race; Religion & Belief; Sex; Sexual Orientation

1.2. Our Organisations will challenge discrimination, promote equality, respect human rights, and aims to design and implement services, policies and measures that meet the diverse needs of our service, and population, ensuring that none are placed at a disadvantage over others.

1.3. All staff are expected to deliver services and provide services and care in a manner which respects the individuality of service users, patients, carer's etc, and as such treat them and members of the workforce respectfully, paying due regard to the 9 protected characteristics.

Signature of person completing EIA	Dr Susan Powell
Date signed	4/12/25
Comments:	
Signature of person the Leader Person for this activity	Dr Susan Powell
Date signed	4/12/25
Comments:	

If you have identified a potential discriminatory impact of this key document, please refer it to Human Resources, together with any suggestions as to the action required to avoid/reduce this impact.

For advice in respect of answering the above questions, please contact Human Resources.

Supporting Document 2 – Financial Impact Assessment

To be completed by the key document author and attached to key document when submitted to the appropriate committee for consideration and approval.

	Title of document:	Yes/No
1.	Does the implementation of this document require any additional Capital resources	n
2.	Does the implementation of this document require additional revenue	Yes – number CT neck scans will increase
3.	Does the implementation of this document require additional manpower	n
4.	Does the implementation of this document release any manpower costs through a change in practice	n
5.	Are there additional staff training costs associated with implementing this document which cannot be delivered through current training programmes or allocated training times for staff	n
	Other comments:	

If the response to any of the above is yes, please complete a business case and which is signed by your Finance Manager and Directorate Manager for consideration by the Accountable Director before progressing to the relevant committee for approval