Clinical Guideline

Guideline ID	
Version	1.2
Title	Accessing Trauma Services
Approved by	Clinical and Quality group
Date Issued	01/01/2025
Review Date	01/01/2027
Directorate	Clinical
Publication Category	**Amber – Deviation permissible following remote senior support**

1. Scope

1.1 This document describes the process by which injured patients access major trauma services in the Southwest, replacing the SWAST Guideline 'Trauma Care: Accessing Trauma Services during the COVID-19 Pandemic"

1.2 The final tool on a page can be seen in Appendix 1.

2. Introduction

2.1 Major trauma is the leading cause of death in all groups under 45 years of age and a significant cause of short and long-term morbidity. The National Audit Office (NAO) estimates that there are at least 20,000 cases of major trauma each year in England, resulting in 5,400 deaths and many others resulting in permanent disabilities requiring long-term care.

2.2 The challenge in delivering major trauma care is that whilst the clinical skills and experience required to deliver optimum care are considerable, for most clinicians, the frequency of exposure to cases is negligible.

2.3 The philosophy of the trauma triage tool below is that it is a multidisciplinary tool for all grades and experiences, that senior clinical advice (provided by the Major Trauma & Resuscitation Advice Line, MTRAL, Specialist Practitioners-Critical Care, SP-CC) is available throughout and that it should identify patients to go to an MTC who need immediate assessment by a consultant lead team with access to emergent lifesaving intervention.

2.4 When considering trauma, there are three types of designated hospitals across the South West, as detailed in Table 1.

2.5 *Table 1 – Designated Centres*

Type	Location	Description
Major Trauma Centre	Derriford, Plymouth Bristol Royal Hospital for Children (under 16yrs only) John Radcliffe, Oxford Southampton General Southmead, Bristol (Patients under 16yrs must go to Bristol Royal Hospital for Children)	Provides the highest level of trauma care, through the provision of specialist services available 24/7
Trauma Unit	Bristol Royal Infirmary Dorset County (Dorchester) Gloucester Royal Great Western (Swindon) Musgrove Park (Taunton) North Devon District Poole General Royal Devon and Exeter (Orthoplastics) Royal United Bath Salisbury District (Orthoplastics) South Devon (Torbay) Royal Cornwall Hospital Yeovil District	Provides a level of trauma care suitable to stabilise a patient suffering major trauma, prior to transfer to an MTC Ability to manage non-major trauma on-site.
Local Emergency Department	Royal Bournemouth Cheltenham General Weston General (Will not accept patients under 16yrs unless peri-arrest or in cardiac arrest)	Not offering major trauma services

3. Patient Assessment

All patients who may be experiencing trauma or major trauma must continue to be assessed using the Trusts standard CABCD assessment process, supported by JRCALC guidelines. Clinicians should be mindful of the additional Trust clinical guidelines and PGDs (e.g. tranexamic acid) which support trauma management.

3.2 Traumatic Injury

3.2.1 In all cases where traumatic injury is suspected, the ambulance clinician must complete the Trauma Triage Tool (TTT) to determine the most appropriate receiving hospital. The TTT must be used in all cases of suspected/actual major trauma, even when the patient's nearest hospital is an MTC. If the MTC is the closest hospital

Once a patient has been identified as having suspected Major Trauma the **HEMS Desk** should be contacted on **Talk Group 302.** This is to facilitate addition clinical support on scene. The following information should be given to help aid downstream decision making:

- Vehicle Call Sign
- Clinician Name
- Location
- Age of Patient
- Time of Incident
- Mechanism of Injury
- Injuries Sustained
- Signs (RR, HR, BP, GCS)

In operation hours the HEMS Desk dispatchers will contact the closest Enhanced/Critical Care team. The clinicians in this team will decide what action will be taken next:

- Dispatched to join scene/rendezvous with crew
- Offer to talk with the crew(s) on scene
- Continue without further input

Outside of operational hours Talk Group 302 is covered by the Incident Support Desk who can deploy HART, BASICS or seek further advice from the CCAL SP-CC.

3.2 Major Trauma & Resuscitation Advice Line

3.2.1 The CCAL is staffed by experience SP-CCs week who are on call 24 hours a day, 7 days a to provide expert input to seriously, or potentially seriously, injured patients.

3.2.2 In the unlikely event that CCAL cannot be contacted and there is any uncertainty about the most appropriate receiving hospital, the clinician must proceed to the nearest appropriate receiving hospital, calling them directly while en-route. Contact the HEMS and/or Incident Support Desk on Talk Group 302 and ask that they attempt to contact the CCAL Clinician.

3.2.3 The Bristol Royal Hospital for Children and Southampton General Hospital are the designated paediatric MTCs. Patients known to be under the age of 16 years, who meet the Trust criteria for transportation to an MTC, must be conveyed to these units, in preference to another MTC, where it can safely be reached within 60 minutes. Please note that Southmead Hospital do not accept patients under the age of 16 years.

3.2.4 Irrespective of whether they have major trauma, all paediatric patients (under 16 years old) who require admission within the current catchment area for Southmead Hospital must be transported to the Bristol Royal Hospital for Children, as Southmead do not offer paediatric services.

3.2.5 The decision on which hospital to transport a patient to is dynamic and may need to be reassessed at any time should the patient's condition change. If a patient deteriorates whilst en-route to an MTC, the lead ambulance clinician may consider diverting to another TU/ED where the travel time to the hospital is less than that to the MTC, and they believe that the patient may no longer be able to safely continue the journey.

3.3 Anatomical and Physiological Criteria

3.3.1 There is no perfect set of criteria that will accurately identify every patient that requires MTC care or that falls within the remit of TU level care. The TTT aims to accurately identify those that will need life saving interventions or specialist surgical input early on their arrival to hospital. There will inevitably be some over and under-triage and need for secondary transfer/repatriation.

3.3.2 Anatomical Criteria

The presence of any of the following criteria indicate someone who is seriously injured and should have MTC delivered care:

- Major chest injury (Chest wall injury with significant crepitus or widespread surgical emphysema)
- Amputation proximal to wrist or ankle
- Spinal injury with paralysis
- Bilateral femoral shaft fractures
- Degloved or mangled limb
- Major Pelvic Fracture (Suspected pelvic fracture with: signs of shock, deformity on examination, signs of open pelvic fracture: PU, PV, PR bleeding or scrotal haematoma). This does not include concern of pelvic fracture without the above, where a pelvic binder has been applied.

3.3.3 Physiological Criteria (Adults)

Indicators of Serious Injury in Adults:

- Glasgow Coma Scale (GCS) Motor score of 4 or less (responding by flexing to painful stimulus)
- Heart Rate higher than Systolic Blood Pressure
- Respiratory Rate of 24 or higher

Any one of these physiological features in isolation or in combination with others indicate the need for MTC care.

Managing Pain in Major Trauma:

It's crucial to address pain in both adults and children with major trauma. If physiological indicators remain abnormal despite adequate pain relief, it's important to be concerned.

Transient Physiological Changes:

Temporary physiological abnormalities may suggest that injured patients are compensating. If there's any uncertainty regarding the possibility of hidden serious injuries, it's advisable to seek advice from the Major Trauma Referral and Advice Line (MTRAL).

3.3.4 Physiological Criteria (Children)

Fortunately, children infrequently sustain major trauma, however when they do they can be difficult to assess and their normal physiology changes with age.

Hypotension is a late, even pre-terminal, sign in children. Children can be significantly hypovolaemic without hypotension and still require specialist major trauma care.

The following sustained physiological criteria indicate serious injury in children:

- Not responding normally to voice
- Abnormal vital signs for age not explained by pain or distress

Accurate age specific normal parameters can be found on the Page-For-Age section of the JRCALC app.

3.4 Airway and Catastrophic Haemorrhage and 60 Minute Travel Time

3.4.1 If either the airway and/or catastrophic haemorrhage (if present) cannot be safely managed, the patient must be transported to the nearest designated unit which may be an MTC or TU; whichever is the closest. If cardiac arrest is imminent, consideration should be given to utilising an Emergency Department not designated as a TU or MTC, where this is the closest hospital. This is a clinical judgement by the lead ambulance clinician caring for the patient, taking into consideration the additional travelling time to a TU or MTC, against the advantage of the trauma care available at these destinations.

3.4.2 If cardiac arrest is imminent, consideration should be given to utilising an Emergency Department not designated as a TU or MTC, where this is the closest hospital. This is a clinical judgement by the lead ambulance clinician caring for the patient. Consideration should be taken to balance the additional travel time to an MTC/TU and the specialist trauma care they can provide versus immediate access to potentially lifesaving resuscitation.

3.4.3 If the airway and catastrophic haemorrhage (if present) can be safely managed, the lead clinician is responsible for deciding whether the patient can safely reach a MTC within a 60 minute travelling time from the incident. Clinical decision support can be sought through CCALto aid destination decision making.

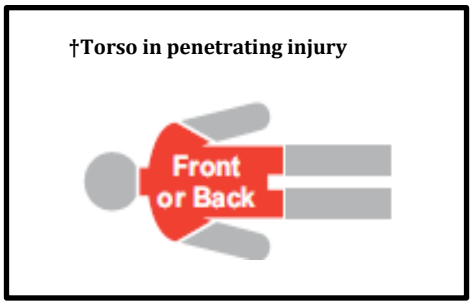
3.5 Special Circumstances

3.5.1 Consideration must be given to special groups of patients who are more prone to occult injury or complications from injury, listed below.

3.5.2 CCALcan be used for all patients that are deemed TTT positive however the **must** be used in the following circumstances to seek advice on appropriate destination and management:

- Penetrating torso trauma†, in penetrating trauma efforts should be taken to minimise scene times
- Pregnancy ≥ 20 weeks gestation
- Burns ≥15% TBSA (blistering or deeper)
- Significant clinical concerns (e.g. high energy mechanism, children, older patients – severe frailty, anticoagulated or polypharmacy)

- Open lower limb fractures (midfoot and proximal) outside of MTC catchment



3.5.3 Rationale

These have been listed for the following reasons:

- Penetrating trauma is a diverse group, there are those that are clearly seriously injured and will automatically trigger based on the physiological criteria but differentiating between those who have occult serious injuries and only have superficial injuries may be challenging. We do not wish all patients to have to undergo significant travel times and repatriation for non-significant injuries.
- Latestage pregnancy has high chance of occult intra-abdominal pathology and physiological compensation often occurs in spite of heamorrhagic shock and these patients will benefit from the multidisciplinary care available at an MTC.
- Appreciating the extend of burns in the pre-hospital setting is difficult, they can often co-exist with other major trauma and loss of airway can progress rapidly. We do not have a major burns centre within the SWAST geographical region so careful triage decisions are required. Burns (deeper than superficial erythema) under 15% can largely have their initial assessment in any ED. Only blistering or deeper should be counted when assessing extent of burns for triage decisions.
- Appreciating the level of injury in children is challenging and they may compensate for a longer period of time before terminally decompensating. Always consider the need for a safeguarding referral when children sustain serious injuries.
- Similarly older patients (aged 65 years and above compounded by frailty) physiology may not respond to injury as other adults and can sustain significant injuries from low mechanism injuries (including falling from standing height).
- Anticoagulation is often present in younger age patients with single system comorbidity and likely to worsen haemorrhage, whilst polypharmacy (such as beta blockade) can mask the traditional signs of shock.
- High energy mechanism – such as an uninterrupted fall >3 meters, unrestrained car occupant or ejection from vehicle – are important to discuss if not triggering on anatomical or physiological criteria. Modern vehicle safety features mean that even when traveling at significant speeds occupants are well protected.

3.5.4 **Open Lower Limb Fractures**

3.5.4.1 Open lower limb fractures (from the mid-foot proximally) require specialist orthoplastic surgery. The way that these injuries are managed in the Trauma Networks that the Trust works with are diverse. To receive appropriately prompt surgery these patients should go to the right centre first time.

3.5.4.2 If patients have sustained open lower limb fractures as part of a package of major trauma and the TTT indicates they should go to an MTC no further action is required. Equally if the MTC is the closest hospital and the patient is triaged to a TU then the patient should be conveyed to that MTC following local pre-alert pathways.

3.5.4.3 In all other cases where an open lower limb fracture is sustained the CCAL clinician **must** be contacted. They will have access to GoodSAM video calling, if required, for detailed visual assessment of the injury and will advice as to which hospital is most appropriate for the patient. The CCAL clinician's decision is final.

3.6 Exclusion Criteria

3.6.1 Previously the Trauma Triage Tool had no exclusion criteria, the COVID-19 pandemic saw introduction of some of these criteria to reduce pressure on MTCs where there were fears that hospitals would become overwhelmed. Some of these criteria will remain going forward where there is recognition that this patient group do not benefit from invasive treatment regimens and are likely best served by remaining close to home near family and support networks.

3.6.2 Exclusion

The only exclusion is::

- Patients with an advanced decision (such as RESPECT Form) precluding hospital admission.
-

Frailty scoring alone removed has been removed from the triage tool as this can be difficult to assess and subjective, especially when seeing someone seriously injured

These criteria do not prevent the patient being conveyed to hospital for pain or wound management.

3.6.4 Any patient initially taken to a TU rather than MTC in accordance with this exclusion criteria can be assessed and discussed with MTC as a secondary transfer if it is felt appropriate and beneficial for their care.

3.6.5 Any patient with exclusion criteria where the MTC is closer than the nearest TU should still go to the MTC.

3.7 Clinical Concern

3.7.1 Clinical concern is important and valid. There may be exceptional cases where a patient does not trigger the TTT for bypass to a Major Trauma Centre, but the lead ambulance clinician on-scene has significant concerns that not taking the patient to the MTC may have a detrimental effect (e.g. due to the potential for underlying injury, or the risk of deterioration).

3.7.2 In these circumstances, the clinician should contact the CCAL clinician on 0300 369 0117 for guidance as to destination. The decision of the CCAL clinician on the is definitive and **will** be accepted by MTC or TU receiving the patient.

3.8 Enhanced and Critical Care Teams & Air Ambulance

3.8.1 Enhanced and Critical Care Teams are senior clinicians with advanced training, specialist skillsets and significant experience in look after major trauma patients. The modality of transport that the team uses to get to the patient will depend on a number of patient, geographical and aviation factors. The minimum skillset and interventions available will remain constant. Enhanced and Critical Care Teams can facilitate transfers longer than 60 minutes to MTCs by their ability to bring forward hospital level care. Critical Care Teams escorting patients are responsible for choosing the most appropriate transport modality, under the circumstance present, in which to convey a patient to hospital.

3.8.2 The decision to use air assets is a dynamic one, which takes careful consideration. On occasion consideration should be given to arranging a secondary transfer to a HEMS Air Ambulance. Using other air assets (such as Search and Rescue, SAR, or Coastguard helicopters) can present significant challenges due to the unfamiliarity of air work, the logistics of aviation and clinical care in the air (particularly if clinicians do not routinely care for patients in aircraft). There can be unanticipated delay for SAR to attend scene, load and depart compared to a more 'scoop and run' approach. The use of SAR is not routinely recommended, even when transfer times exceed 60 minutes, and can only be authorised via the CCALSP-CC. Contacting the HEMS desk through talk group 302 may assist with identifying suitable rendezvous site en-route with an appropriate HEMS asset.

3.8.3 Enhanced and Critical Care Teams may wish to enact a bypass outside of this TTT, be that and decision to take a patient that has triaged as TU to the MTC or visa-versa, and this decision **must** be accepted by the MTC or TU.

3.9 Pre-Alerts and ATMISTs

3.9.1 Pre-alerts to MTCs and TU will be delivered by the responding clinician, flowing discussion with the CCAL clinician if required. The CCAL clinician may choose to contact the MTC or TU on behalf of the crew on scene. The common format clinicians are advised to follow when calling the receiving centre is ATMIST:

A	Age and gender
T	Time of injury
M	Mechanism of injury
I	Injuries identified and suspected
S	Signs and Symptoms
T	Treatment given and/or requested on arrival

Pre-alerts/ATMISTs must be made using the trust's recorded line.

3.9.4 If the travel time to the major trauma centre exceeds approximately 60 minutes, the patient should be transported to the nearest TU. Please consider discussion with the CCALto support extended transfer times. If cardiac arrest is imminent, consider ED guidance in Para 3.4.2.

3.9.5 If the patient is transported to a TU or non-designated ED, the patient will be handed over and the ambulance resource will book clear in the normal manner. If a subsequent secondary transfer is required to an MTC, the TU/ED will book this with the Clinical Hub. In certain very limited circumstances the TU/ED may attempt a rapid turnaround. The original ambulance resource must continue to book clear from the incident. Whilst they may be reallocated to the subsequent transfer, the Clinical Hub must consider the priority of all emergency incidents within the local area.

3.10 Non-Major Trauma

3.10.1 If following completion of the Major Trauma Triage Tool the patient is not considered to have suffered from major trauma requiring immediate specialist assessment and management on at arrival at hospital, they must be transported to the nearest TU. If the MTC is the closest hospital, then the patient should be transported there. Local Emergency Department may be able to accept certain minor trauma presentations such as an isolated fractured neck of femur or arm fracture - please see local guidance.

3.10.2 Isolated minor injury may be able to be seen at minor injury units or by SWAST Specialist Practitioners - Urgent Care

3.11 Secondary Transfers

3.11.1 Where a patient suffering major trauma requires transfer from a TU to an MTC, the TU will contact the Clinical Hub following agreed network policies and procedures to request an appropriate level of transfer. The transfer will be undertaken within normal Trust policies and practices.

3.12 Clinical Decision Making

3.12.1 The core responsibility for clinical decision-making rests with the lead ambulance clinician on-scene.

3.12.2 Further support is available via CCAL24/7. This can be contacted by phone or airwave radio on **0300 369 0117**.

3.12.3 The Major Trauma Triage Tool has been agreed by a range of trauma and associated specialists within the Trauma Networks, and by the Trusts senior clinical team following extensive evaluation. Staff will receive the full support of the Trust when this clinical guidance and the triage tool are followed, or any exceptions can be clinically justified if the case has been discussed with the CCAL clinician.

3.13 Further On-scene Support

3.13.1 Early consideration should be given to whether additional clinical support may be beneficial at the scene. Potential options include: Enhanced and Critical Care Teams allied with Air Ambulance charities, BASICS or HART with Enhanced Skills.

3.14 Major Trauma Centre Capacity

3.14.1 In the unlikely event that the demand placed on an individual MTC exceeds its capacity; the MTC will contact the Trust Incident Manager to highlight the potential capacity issue. The Duty Manager will escalate the issue to the Strategic Commander and Senior Clinical Advisor who are jointly responsible for resolving the issue. In the unlikely event that an MTC becomes unable to accept major trauma patients, the message will be disseminated to staff using the data head message function.

3.14.2 The use of the CCALclinician is likely to be mandated for all patients in these scenarios to enable shared decision-making regarding triage destination.

3.15 Major Incidents

3.15.1 During a major incident, the demand on each MTC may exceed capacity. The additional demand placed on ambulance resources by the extended travelling time to an MTC also may no longer be viable. The Senior Clinical Advisor will discuss the incident with the MTC Consultant, to decide whether to temporarily suspend the normal MTC bypass.

3.15.2 In the unlikely event that a major incident is declared within a MTC and they are unable to accept major trauma patients, the Senior Clinical Advisor will discuss the incident with the MTC Consultant, to decide whether to temporarily suspend the normal MTC bypass procedure.

4. Documentation

4.1 In line with Trust Policy, a Patient Clinical Record must be completed and annotated appropriately. A Trauma Checklist must also be completed for all patients where major trauma is suspected. The Trauma Checklist must be completed even when the MTC is the nearest hospital to the incident. Any deviation from this guideline must be recorded, with any potential or actual adverse event reported through the incident reporting system.

Appendix 1. Trauma Triage Tool

NHS
South Western
Ambulance Service
NHS Foundation Trust

Trauma Triage Tool

The Critical Care Advice Line CCAL is available round the clock for advice on all aspects of major trauma management.
Ask yourself do you need help, guidance or reassurance? CCAL: 0300 369 0117

Has your patient suffered a traumatic injury (including drowning, asphyxiation, electrocution or fall from standing in the setting of frailty)?

↓

Exclusion to trauma pathway?

Advanced decision precluding hospital admission

This does not prevent hospital admission for pain and/or wound management
If uncertain contact CCAL

↓

Consider early activation of enhanced and critical care

↓

ANATOMY

Major chest injury*
Amputation proximal to wrist or ankle
Spinal injury with paralysis
Bilateral femoral shaft fractures
Degloved or mangled limb
Major pelvic fracture**

* **Chest wall injury with significant crepitus or widespread surgical emphysema**

** **Suspected pelvic fracture with:**
- Signs of shock
- Deformity on examination
- Signs of open pelvic fracture: PU, PV, PR bleeding or scrotal haematoma

OR

SUSTAINED ABNORMAL PHYSIOLOGY

ADULTS	CHILDREN 15 AND UNDER
GCS motor score ≤4 (flexing to painful stimulus) Heart rate > Systolic BP RR ≥24	Not responding normally to voice Abnormal vital signs for age*** not explained by pain or distress

***For physiological reference ranges see JRCALC

† **Torso in penetrating injury**
Minimise scene times in penetrating injury

YES ↓

Inform HEMS Desk
Talk Group 302, of a triage positive patient

↓ **YES**

Can catastrophic haemorrhage and airway be safely managed?
AND
Can MTC be safely reached in <60 minutes?

↓ **YES**

Attend Major Trauma Centre
Pass ATMIST

NO ↓

Attend Trauma Unit (MTC if closest)
Pass ATMIST

NO ↓

SPECIAL CIRCUMSTANCES PRESENT
If yes contact CCAL for guidance and follow recommendations on:

- Penetrating torso trauma†
- Pregnancy ≥ 20 weeks gestation
- Burns ≥15% TBSA (blistering or deeper)
- Significant clinical concerns (e.g. high energy mechanism, children, older patients – severe frailty, anticoagulated or polypharmacy)
- Open lower limb fractures (midfoot and proximal) outside of MTC catchment

For isolated minor injuries consider local ED, MIU or SPUEC

Significant concern?
Your clinical concern is important, CCAL can be contacted for advice in any circumstances in suspected major trauma
0300 369 0117

001213-trauma triage tool-297x210mm-v4 - updated 2 December 2024 7:37 am authorised by marketing and communications