RTF and Prehospital Procedure (Major Trauma)

Procedure information

Procedure number: *900*

Classification: Clinical

Supersedes:

Version number: 2

Date of Equality Impact Assessment:
Detail date of EqIA

Approval information

Approved by:
Clinical Written Control Documentation Group
Date of approval:
03/07/2023
Date made active:
03/07/2023
Review date:
03/07/2023

Summary of document:
This document is intended to define the appropriate pathways for patients presenting with major trauma within Hywel Dda Health University Board.

Scope:
Should be utilised by all staff involved in the treatment of patients presenting with an injury pattern consistent with major trauma (life or limb threatening injury).
Applies to the Pre-hospital phase (WAST personnel) and hospital staff attending patients in the Emergency Department as part of the Trauma Team.

To be read in conjunction with:
SWTN P01-P09 - Reference to South Wales Trauma Network (SWTN) Policies/Procedures – opens in a new tab
899- HDUHB Major Trauma Policy - opens in a new tab

Patient information:
Include links to Patient Information Library

Owning group:
Scheduled Care Quality, Safety and Experience Group
18/10/2022

Executive Director job title:
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Reviews and updates:
1 – new procedure: 9.6.2020
Reuploaded 8.9.2020 with all new links inserted
Version 2 – 03.07.2023

Keywords
Trauma, Major Trauma, Trauma Network, Rural Trauma Facility

Glossary of terms

Amber Calls	999 calls to the ambulance service designated as serious but without immediate threat to life.
Emergency Medical Retrieval and Transfer Service (EMRTS)	A helicopter and land based advanced medical team able to respond to patients in the pre-hospital phase or in order to facilitate time critical inter-hospital transfers.
Injury Severity Score (ISS)	The sum of the squares of the 3 highest Abbreviated Injury Scores for different body regions. Used to retrospectively define injury as Major trauma (ISS>15), an ISS of 9-15 is described as moderately severe.
Local Emergency Hospital (LEH)	Hospital not normally expected to receive or admit major trauma patients. No hospitals in Hywel Dda are designated as an LEH.
Major Trauma	Injury or injuries that are life threatening or life changing with potential for significant morbidity and prolonged recovery phase, including long term disability. Formally defined retrospectively using the ISS (ISS>15).
Major Trauma Centre (MTC)	Tertiary hospital with the capacity to treat all types of injury.
Major Trauma Desk	Co-ordinating desk located within an ambulance control centre commissioned through the Trauma Network. Staffed by senior staff with experience in the management of patients with major trauma. Available to co-ordinate and advise on the pre-hospital response to major trauma and the transfer of patients with major trauma between hospitals.
Red Calls	High priority 999 calls to the ambulance service, defined as patients with life threatening conditions. An 8 minute response time target is applied to these calls.
Rural Trauma Facility (RTF)	A hybrid model of hospital, intended to enhance pre-hospital care and assist with stabilisation for more rural populations and provide inpatient care for those lower level trauma or co-morbidity that would mean onward transfer is not appropriate.
Trauma Triage Tool	Decision making tool to guide staff treating in the pre-hospital phase as to the identification of patients presenting with features likely to suggest major trauma and therefore the need for transfer to the major trauma centre.

Trauma Team	Multidisciplinary team forming a pre-determined response who attend the Emergency Department upon activation via the hospital bleep system
Trauma Team Leader (TTL)	Doctor leading the trauma team response. Usually a senior doctor working in the Emergency Department.
Trauma Unit (TU)	Hospital recognised as meeting specific standards for the management of moderate to severe trauma.

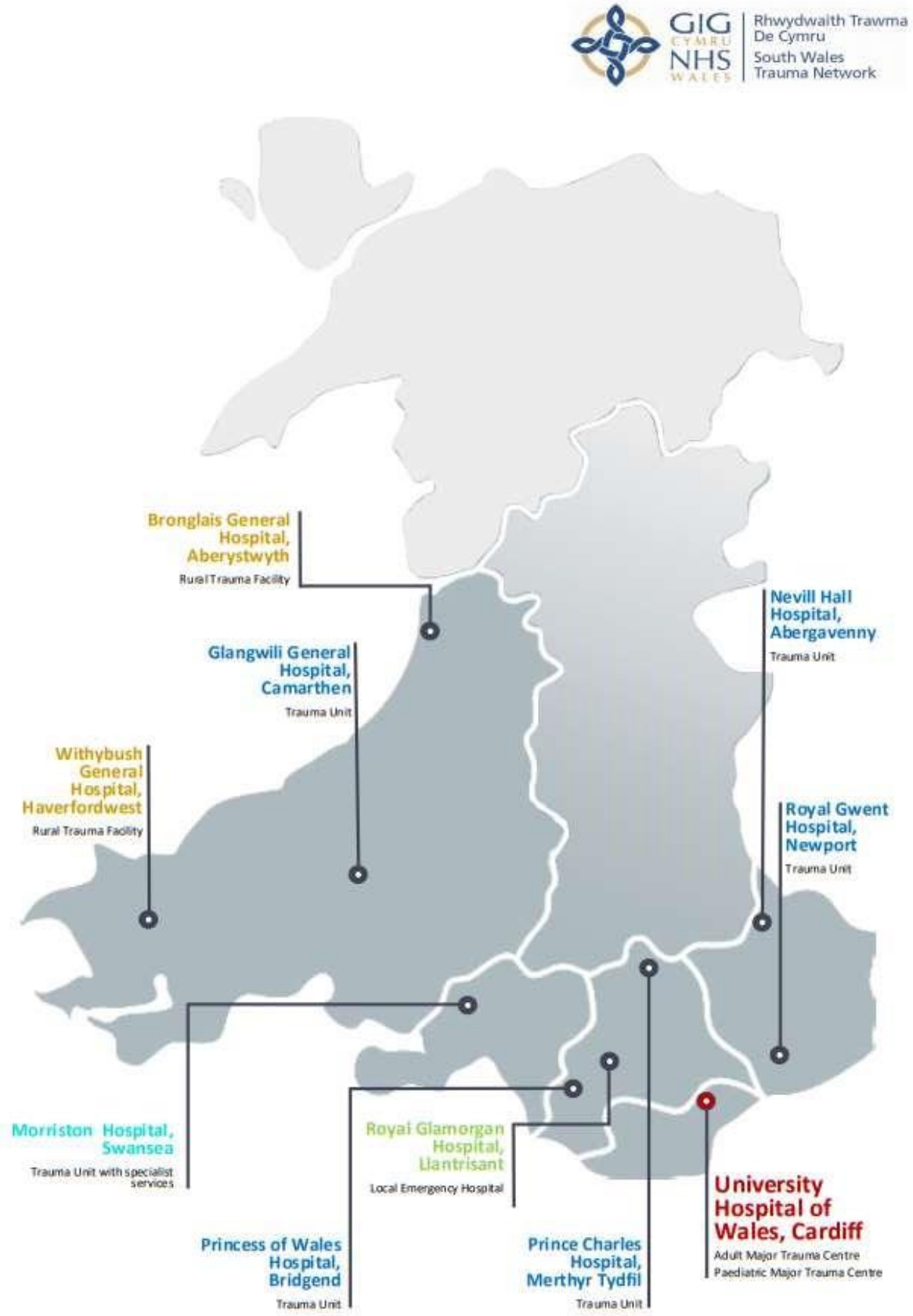
Contents

Aim of procedure

This procedure aims to define the pathway for patients with major trauma presenting in the prehospital phase or to Rural Trauma Facilities within Hywel Dda University Health Board (UHB). It supports the Hywel Dda UHB 899- Major Trauma Policy – opens in a new tab - by setting down the expected destinations of patients suffering major trauma in keeping with the ethos of the South Wales Trauma Network. The Network agreed Major Trauma Triage tool, along with advice available from the Trauma Desk, provides guidance on diagnosing and triaging to Trauma Unit/Major Trauma Centre. The primary aim of this document is to support clinicians dealing with the geographical challenges and potential prolonged travel times to Trauma Unit/Major Trauma Centre faced in the Hywel Dda area.

The graphic found overleaf illustrates the hospitals supporting the Wales Trauma Network across South Wales.

Hospitals supporting the Wales Trauma Network across South Wales



Objectives

To outline the steps to get patients to the most appropriate facility safely. Guidance is offered in the form of a non-exhaustive list of patients likely to benefit from transfer to a Major Trauma Centre or Trauma Unit and those who may be better served by being admitted to a Rural Trauma Facility. Decisions regarding where such patients are admitted is ultimately an individual clinical one.

Scope

This procedure applies only to patients presenting with demonstrated or suspected major trauma, including paediatric patients. The strict definition of which is based on retrospective Injury Severity Scoring (ISS). For practical purposes it is to be applied to patients who have demonstrable (or suspected) multi-system, significant life threatening or life changing injuries or complex trauma.

It does not apply to patients with simple soft tissue or isolated simple orthopaedic trauma, who should continue to be taken to and treated at the closest hospital with an Emergency Department.

The procedure is designed to guide all steps of the acute trauma pathway where there are specific challenges within Hywel Dda. It is not intended to replace policies and procedures set out by the South Wales Trauma Network, rather to facilitate compliance with these within the Hywel Dda area.

As such it should be used by all staff dealing with the resuscitation and stabilisation of patients with major trauma:

- Welsh Ambulance Services Trust (WAST) Personnel
- Emergency Department Personnel
- Surgical and Orthopaedic Personnel
- Anaesthetic and Critical Care Personnel
- Paediatric inpatient teams

Procedure steps

Pre-Hospital Management

The WAST pre-hospital triage tool (SWTN P03) should be used for patients presenting to the ambulance service with trauma as agreed within the Major Trauma Network. It is acknowledged that much of the area served by Hywel Dda UHB is more remote than other parts of South Wales and as such presents a greater challenge in terms of safe transfer over longer distances. The flow diagram below at Appendix 1 outlines the decision making around such patients in the pre-hospital phase.

In general, then a Trauma Unit should be the preferred destination for WAST crews if the patient cannot be taken directly to the Major Trauma Centre (i.e. patient too unstable to transfer directly or Emergency Medical Retrieval and Transfer Service (EMRTS) not available).

Only where a patient is so unstable (unmanageable airway/breathing/circulation problem) should a WAST crew attend an RTF rather than TU if this is the closest facility

The underlying principle is that patients presenting as major trauma should be taken directly to the most appropriate facility, taking into account their physiological stability, need for immediate intervention and safety of transfer during the pre-hospital phase.

EMRTS has a key role in the delivery of high quality care to patients within our Health Board.

Where a suspected major trauma patient is brought to a Rural Trauma Facility Emergency Department the ambulance crew should remain with the patient until a decision regarding the need for an acute transfer is made and communicated to the crew by the Trauma Team Leader. The need should usually be established within 30 minutes of arrival, beyond this it is not reasonable to keep crews waiting pending a decision. Where a decision has been made and some stabilisation is needed crews should ideally remain. This will facilitate timely onward transfer and facilitate transfer of EMRTS crews between remote helicopter landing sites and the hospital. When EMRTS is not available, it will facilitate early onward transfer with a local escort.

In exceptional circumstances, where pressure due to high priority 999 calls means the crew cannot remain in the Emergency Department, (e.g. outstanding “Red” calls or high priority Amber calls with no available crews), a call to WAST for onward transfer should be treated with appropriate priority, and should be made through the trauma desk.

Resuscitation in Rural Trauma Facility

Due to the geography of the Hywel Dda area patients do present to our Rural Trauma Facility Emergency Departments where ideally they would be transported direct to an Major Trauma Centre or Trauma Unit.

As outlined in the UHB’s 9 - Major Trauma Policy a trauma team is to be maintained in the Rural Trauma Facilities, and the focus should be on sufficient resuscitation and stabilisation in line with the Network clinical guidelines (SWTN CG01-CG25 available on the South Wales Trauma Network SharePoint Site - opens in a new tab - and Hywel Dda Major Trauma intranet page) – opens in a new tab - to allow early onward transfer for definitive care.

A key aspect of this is early activation of an EMRTS response. The appropriate pathways are laid out below.

As a minimum the Rural Trauma Facility Trauma Team should be comprised of:

- Emergency Medicine Doctor
- Emergency Department Nurse
- Anaesthetist/Intensivist
- ODP/Anaesthetic Nurse
- Health Care Assistant

Triage of patients in a Rural Trauma Facility

Patients arriving at the Rural Trauma Facility with clear major trauma on initial assessment should immediately be considered for transfer to the Major Trauma Centre in parallel with ongoing resuscitation with reference to the SWTN automatic acceptance pathways. The local process for this is outlined in the flow chart in Appendix 2 – opens in a new tab.

Some patients will attend Rural Trauma Facility hospitals, either through WAST or self-referral who do not initially present as major trauma patients but for whom the extent of injury becomes apparent

following thorough assessment and imaging. Trauma in the elderly population is likely to be significantly represented in this group.

Whilst accepting that the network Triage Tool and Sliver Trauma Triage Tool (SWTN P03) – opens in a new tab - are designed for Pre-Hospital use, referral to them and the Trauma Team Activation criteria (SWTN P04) – opens in a new tab - along with clinical judgement and imaging results should aid decisions regarding the need for onward transfer.

The Major Trauma Centre Acceptance Policy (SWTN P01) – opens in a new tab - outlines three types of patient and referral procedures that should be used:

- Immediate (Hyperacute) transfers
- Emergency transfers
- Isolated non-time critical injuries

Patients with Injury Patterns Usually not requiring transfer:

- Simple soft tissue injuries
- Isolated, closed, non-complex skeletal trauma
- Patients with frailty fractures requiring conservative management alone

Transfer

Hyper acute Transfer

As laid out in the flow chart in Appendix 2 – opens in a new tab, EMRTS should have been activated and ideally be on-route even before the patient arrives in the Rural Trauma Facility Emergency Department and will therefore be well placed to undertake the transfer. Where this is not possible, the patient should be escorted by a senior member of staff and appropriate assistant, as guided by the Wales Critical Care Network guidelines.

All transfer requests should be co-ordinated through the Major Trauma Desk/ASD [01633 293386].

Where EMRTS is not immediately available, a considered decision needs to be taken, ideally in conjunction with the EMRTS top cover consultant and/or Trauma Team Leader at the Major Trauma Centre. The benefit of shorter transfer time by helicopter needs to be balanced against time spent waiting for a delayed response and transfer from hospital to landing site.

On very rare occasions patients may require emergency surgery locally. This should be undertaken adhering to the principles of damage control surgery and resuscitation, which is set out in the Network Standard Operating Procedures. Patients should then be transferred to the Major Trauma Centre for definitive treatment, which should be discussed with the Trauma Team Leader at the Major Trauma Centre. EMRTS should again be approached to support transfer.

Emergency Transfer

(See Emergency/Isolated non-time critical injuries in the Major Trauma Centre Acceptance Policy SWTN P01). – opens in a new tab.

Whilst many patients do not have an immediate threat to life, there is still a benefit from early transfer either to Major Trauma Centre or Trauma Unit. Clearly some still have a need for urgent transfer (e.g. Limb ischaemia/“stabilised” following major thoracic injury/intubated and ventilated as a result of injuries).

Guidance on specific isolated injuries

This guidance relates only to patients with isolated single system injury. All polytrauma patients should be transferred to the MTC in line with the SWTN automatic acceptance policy.

Head Injury
Head injured patients present with a spectrum of severity. Those with mild injury (<48 hours admission expected) may be managed with observation locally. Those thought to be at higher risk, needing longer observation, but not formally accepted for transfer to the Major Trauma Centre should be transferred to the Trauma Unit as this places them closer to the Major Trauma Centre in the event of further deterioration.

Thoracic injury

There is significant risk of morbidity and mortality as a result of isolated chest wall trauma, especially in the older patient.
Early, high quality analgesia can be instrumental in improving patient outcomes. Likewise, in a subset of patients, early rib fixation may improve outcomes. Indications are listed in SWTN guideline CG06, but those pertaining to patients likely to be admitted to an RTF or TU are repeated here for reference;
Patients considered for rib fracture fixation;

- Any patient ventilated (invasive or non-invasive) with a flail segment

  OR

- >3 rib fractures
- Multiple co-morbidities
- Difficulty weaning from ventilator
- Failure of regional and systemic analgesia

Remember – request 3D reconstruction of CT scans to facilitate referral and decision making.

Patients meeting these criteria should be discussed with the thoracic surgeons in Morriston – the Trauma Unit with Specialist Services (TUss) at the earliest opportunity. Where early referral, acceptance and planned admission to Morriston is confirmed, direct transfer should be arranged via the trauma desk.
Where there is no expectation of imminent transfer to Morriston, or a delay in specialist opinion, transfer to the TU (GGH) should be considered.

Irrespective of location of ongoing inpatient care, it is vital that good analgesia is provided early. In the vast majority of cases this should include the use of intravenous opioid analgesia in the acute phase.
For pathway 1 or 2 patients, transfer must not be delayed by regional anaesthetic techniques, reliance upon systemic (intravenous) analgesia in these patients is reasonable.

Transfer to TU

Patients with significant chest wall injuries who have been discussed with and deemed not for transfer to TUss or MTC care should have their in patient management provided in a TU.

This provides the advantages of reliable access to the major trauma service team, reliable access to regional anaesthesia techniques and greater facility for ongoing management and/or transfer in the event of deterioration.

Criteria for patient transfer to TU from RTF

- Any patient with isolated thoracic trauma and intercostal drain in situ not for admission to MTC or TUss
- Patient's with a STUMBL score of >25
- Persistent pain despite
    - Balanced analgesia, to include;
        - Adequate intravenous strong opiod analgesia (PCA)
        - Regular paracetamol
        - Regular NSAID (if not contraindicated)
    - AND no facility locally to provide quality regional anaesthesia

General surgery is the admitting specialty for thoracic injury. However, reflecting the process in the MTC, the process of referral into the TU for patients with significant chest wall injury should be undertaken via the ED duty/oncall consultant in GGH. They will notify the general surgical team of any patient being transferred and notify Intensive care if critical care is likely to be required.
The ED consultant is best placed to take this initial call as the on-call consultant with the best understanding of trauma pathways. It should be established at this stage that it is appropriate that the patient is not being transferred to MTC or TUss
The ideal position is that patients should be admitted direct to an inpatient area, not the Emergency Department. Any discussions with surgical teams or ICU should not significantly delay transfer.

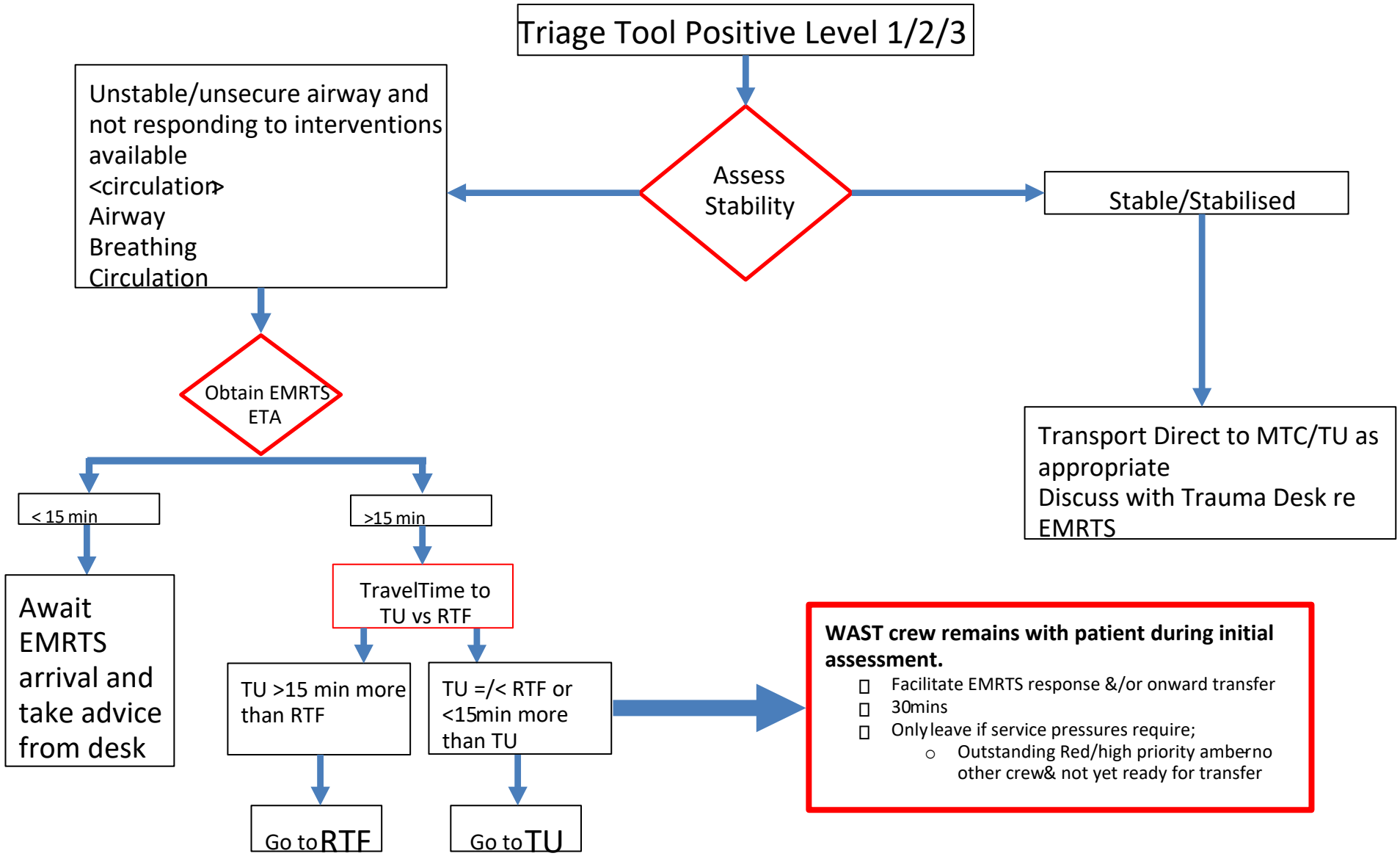
References

NHS England. NHS Standard Contract for Major Trauma Service. Accessed online 6/7/19 at; https://www.england.nhs.uk/wp-content/uploads/2014/04/d15-major-trauma-0414.pdf

NICE. Quality Standard QS166. Published March 2018. Accessed online 6/7/19 at; https://www.nice.org.uk/guidance/qs166

NHS England. Quality Surveillance Team. Major Trauma Services Quality Indictors. Accessed online 6/7/19 at; https://nhs-odn.peacockcarter.co.uk/wp-content/uploads/2016/08/MajorTrauma-Services-Quality-Indicators.pdf

Appendix 1 - Pre-hospital Pathway Flow Chart


Triage Tool Positive Level 1/2/3
Assess Stability
Unstable/unsecure airway and not responding to interventions available
<circulation>
Airway
Breathing
Circulation
Stable/Stabilised
Transport Direct to MTC/TU as appropriate
Discuss with Trauma Desk re EMRTS
Obtain EMRTS ETA
< 15 min
>15 min
Await EMRTS arrival and take advice from desk
TravelTime to TU vs RTF
TU >15 min more than RTF
TU =/< RTF or <15min more than TU
Go to RTF
Go to TU
WAST crew remains with patient during initial assessment.
Facilitate EMRTS response &/or onward transfer
30mins
Only leave if service pressures require;
Outstanding Red/high priority amber no other crew& not yet ready for transfer

Appendix 2 – RTF Emergency Department Pathway Flow Chart

7. Appendix 2 - RTF Emergency Department Pathway Flow Chart

RTF Emergency Department Pathway