SOUTH YORKSHIRE MAJOR TRAUMA NETWORK

GUIDELINE FOR SECONDARY TRANSFER OF PAEDIATRIC MAJOR TRAUMA PATIENTS FROM TRAUMA UNITS

BACKGROUND

Sheffield Children's Hospital (SCH) is the primary receiving hospital for all paediatric major trauma triggering the Major Trauma Triage Tool (MATT) within the South Yorkshire Major Trauma Network (SYMTN) (which includes Scunthorpe and Grimsby for children) and is the location for the regions only paediatric Major Trauma Centre (MTC). Despite 10 years of MTC's and Major Trauma Networks, severely injured children continue to be taken to Trauma Units (TU). The TARNLET 2017-2018 report showed that about 60% of paediatric trauma patients are taken to a TU or other non specialist healthcare facility initially; a) they self-present b) they do not initially trigger the triage tool c) the triage tool is applied incorrectly by the first crew on scene d) the child is very severely injured and needs critical interventions in which case the pathway is initially to the trauma unit regardless e) the transit time to the major trauma centre is too far to allow safe bypass (currently 60 minutes).

For these reasons, it will be necessary on occasion for an immediate time-critical secondary transfer to take place from the TU to the MTC. Such a transfer should be arranged using the agreed pathway specified within this document. This document sits alongside the Secondary Transfer Pathway outlined in the Yorkshire and Humber Paediatric Major Trauma Guidelines, specifically relating to those within the SYMTN.

SCOPE

This document will be distributed to the managers and lead clinicians within Sheffield Children's Hospital MTC and its TU network and the South Yorkshire Major Trauma ODN. It has the input of the regional Paediatric Critical Care Network Executive Group also.

DEFINITIONS

Paediatric Trauma Patient
Any patient who is under the age of 16 at the time of sustaining their injury.

Triage
Triage is a process of sorting patients by urgency and priority and is a dynamic process that can and should be reassessed at multiple points.

Automatic Patient Acceptance
The setup of the major trauma network, the trauma units and the major trauma centres is predicated on the principle of automatic patient acceptance. This means that if a phone call is made about a critically ill patient who needs to move to the major trauma centre then there is no discussion, the patient is accepted. The reason for ringing the MTC trauma team is simply to notify of the imminent arrival of such a patient and for the MTC to make preparation for their arrival in terms of preparing department, equipment and team. Such patients are not for discussion about whether or not to be

transferred, by virtue of triggering the MATT they should always be transferred. This mechanism is also described as 'call and send' and denotes an MTC 'pull' system of care, as opposed to TU 'push'.

Major Trauma Triage Tool (MATT)
This is the locally agreed mechanism for assessing the severity of injury of a child and is primarily used in the pre-hospital arena to decide the initial destination of that child. Major trauma centres and trauma units should be familiar in its use and it is suggested in the initial phases of this pathway that if triage is to be reapplied, that to be consistent, the trauma triage tool is also used in-hospital.

Candidate Major Trauma Patient
The definition of a candidate major trauma patient is any patient taken to a trauma unit or trauma centre who is thought to have suffered major trauma. By definition major trauma is defined by an injury severity score of more than 15 and this is always done by retrospective analysis. Therefore, it can be days, weeks or even months before it is known whether a patient fulfils the criteria to be defined as a major trauma patient. Thus, potential patients are referred to as candidate major trauma.

Secondary Transfer
The definition of a secondary transfer is any movement of the patient after arriving at the initial hospital for specialist care elsewhere or for major trauma centre care more immediately. An immediate time critical emergency secondary transfer is required for a patient who is defined as major trauma by being positive on the TTTT and who needs to move rapidly to the major trauma centre. A delayed non time critical secondary transfer usually involves referral to a specialty or subspecialty such as orthopaedics, general surgery, plastic surgery or neurosurgery and will usually be arranged via the Embrace paediatric transport service.

PATHWAY

Time Critical Secondary Transfers

This is defined as any child who, following reassessment on arrival at the trauma unit, triggers the MATT criteria for immediate transfer to the major trauma centre at Sheffield Children's Hospital. The steps in order of priority are to (see algorithm)

1) Call Embrace on 0114 268 8180 selecting option 1 'Major Trauma' which will trigger a conference call and inform clinical decision making about the best place of transfer for the patient.
2) Once need for transfer agreed, arrange an emergency inter facility transfer via Yorkshire Ambulance Service (YAS) on 0300 330 0276 or East Midlands Ambulance Service (EMAS) on 01522 548910.
3) In parallel, arrange for appropriate TU personnel to accompany the patient to the MTC, whether this be anaesthetic staff, ED staff or critical care staff. The responsibility for this rests with the Trauma Units.

If transfer is imminent then only critical life saving interventions, e.g. intubation and ventilation, decompression of a tension pneumothorax etc, should be performed. Imaging should never delay transfer, nor should the placement of monitoring lines or other treatments or interventions that will not immediately impact upon the clinical care of the patient.

Having been pre-alerted by the initial Embrace call, contact should again be made with Sheffield Childrens Hospital on departure from the TU (if not immediate) and 10-15 minutes before arrival. The Sheffield Children's Hospital major trauma team will meet the patient in the Emergency Department resuscitation room for a full primary and secondary survey, with any imaging that is required being arranged at that point while further treatment and interventions continue. From the point of arrival at SCH resuscitation room the patient is managed as though they were a primary transfer from the scene of the accident. Once handover is complete, this releases the transfer team to return back to their trauma unit base.

Non-time Critical Secondary Transfers

Non-time critical transfers to subspecialties at SCH usually take place hours to days after the initial injury. These patients should be referred by the trauma unit team directly to the relevant specialty at Sheffield Children's Hospital using the call conferencing facility hosted by the Embrace paediatric transport service on 0114 268 8180. Embrace will contact the relevant specialists to facilitate the clinical decision-making and to arrange transfer from the trauma unit to the major trauma centre. If the child is due to arrive at SCH within 12 hours of first arriving at the TU, they will need to be met by the ED Consultant in ED, or transferred directly to Critical Care or Theatre.
For patients arriving after 12 hrs from their initial presentation at the TU, depending on their clinical condition, they can be admitted direct to the Ward, via ED if clinically unstable, Critical Care or Theatres and handover will be to staff in those areas.

SPECIALIST PATHWAYS

There are two sub-group of patients that may need to follow an alternative pathway.

Transfer to Leeds General Infirmary from TU's within SYMTN

This includes patients who are seen in the TU's within the SYMTN who have a need for vascular interventional radiology services, vascular surgery or those who require cardiothoracic management. Examples of this would include stab wounds to the chest, cardiac trauma, major haemorrhage from pelvic fractures, or major haemorrhage from limb injuries. Patients in the TU's of the SYMTN who have obvious initial need of these services should not come to Sheffield initially but should be triaged direct to Leeds via the Embrace hosted call facility. The initial call to Embrace would highlight this need and trigger re-direction of the call to the Red Phone at LGI paediatric MTC ED. Transfer will be direct from the TU ED to ED at LGI where the Trauma Team call at LGI will call in the appropriate expertise. Do not try to contact cardio-thoracic or vascular services direct.

Transfer from SCH MTC to STH MTC where SCH is acting in the capacity of a TU.

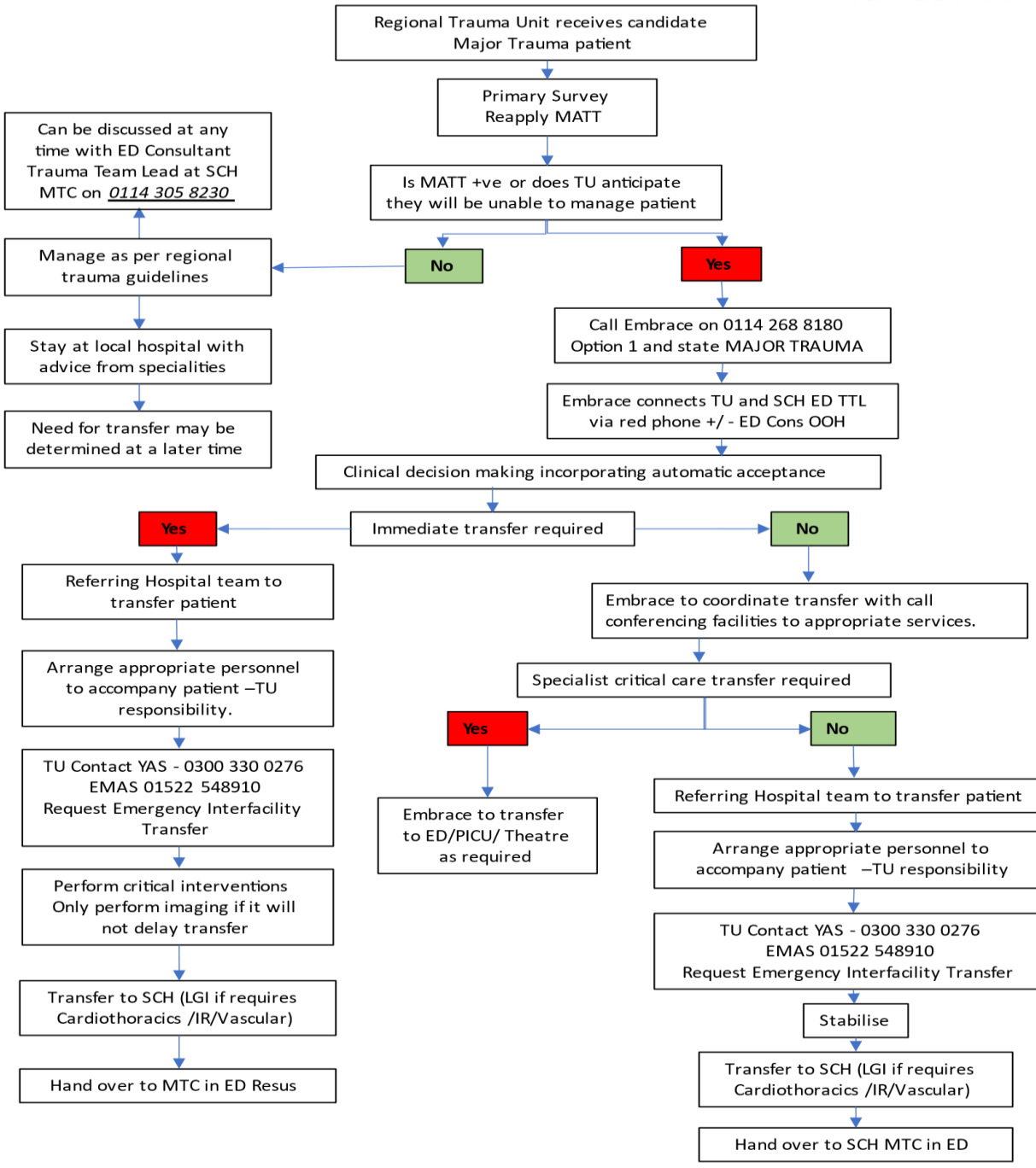
It is recognised that there are a small number of patients who would be initially conveyed from within Sheffield to the MTC at SCH, who would be too unstable to subsequently survive a transfer to LGI. This includes patients who have a need for urgent life saving vascular interventional radiology services, vascular surgery or those who require cardiothoracic management, including stab wounds to the chest, cardiac trauma, major haemorrhage from pelvic fractures, or major haemorrhage from limb injuries. These patients are to be discussed on a case by case basis with both the relevant surgeon and ED CIC at STH by a consultant from SCH. (See STH SOP: Children requiring management of Isolated Traumatic Injuries).

PATHWAY

The pathway is provided on the following page.

South Yorkshire Major Trauma Operational Delivery Network

South Yorkshire Trauma ODN
Paediatric Secondary Transfer Pathway



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Consultation Process
South Yorkshire Major Trauma Operational Delivery Network Clinical Audit & Advisory Group
Target Audience
All clinical and non-clinical staff within the South Yorkshire Major Trauma Operational Delivery Network involved in Major Trauma.

Version Review Control

Date	Version	Author	Revision description