West Midlands Critical Care, Trauma and Burns Networks
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Document name: **Major Trauma Transfer Guidelines for Adults and Paediatrics: TU/LEH to MTC (Life & Limb Threatening)**
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Target audience: West Midlands Major Trauma Centres, Trauma Units, Local Emergency Hospitals
Description: For a patient who requires MTC (or vascular hub level of care BBCH&W network only) for immediate intervention (including, but not restricted to, surgery, interventional radiology, critical care management)
Action required: Dissemination to MTC, TU, LEH personnel for action.
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Version control and record of amendments:

Date	Amendment	Lead
Jan 26	Superseded document – TU (LEH) to MTC Hyper acute (delayed Primary Transfer Policy 2021	SG/SL

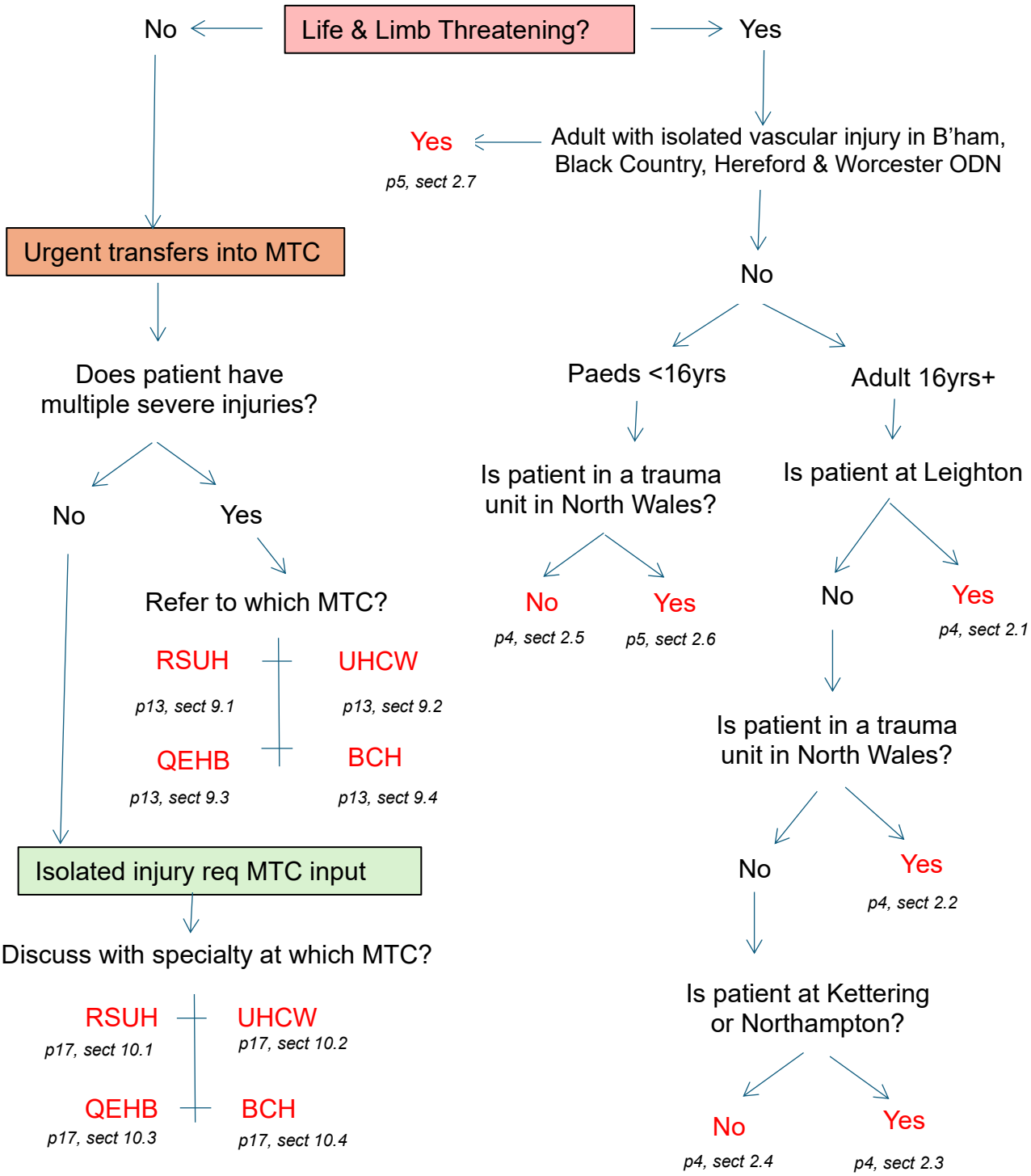
Contents

This document can be used interactively, so either (1) read through in a traditional manner, (2) click on a coloured box section in the flowchart below to jump to that section, or (3) follow the flowchart through, and click on a red link to be taken to site specific information

1 Operating principle of life & limb threatening transfers

There will be occasions when patients who warrant care at a Major Trauma Centre (MTC), or vascular hub (BBCH&W only), are initially cared for in Trauma Units (TU) or Local Emergency Hospitals (LEH). A patient who requires MTC or vascular hub level of care for immediate intervention there should be no delays to transfer. Patients in a TU/LEH meeting the Life ± Limb threatening transfer criteria may have arrived at hospital in this condition or deteriorate soon after arrival (i.e. still within the ED investigative / resuscitative phase of treatment).

Patients eligible for Life ± Limb Threatening Transfer are those needing immediate life / limb saving intervention at a MTC, or vascular hub, where it cannot be delivered in the current hospital, or within an appropriate timescale there.



2 Site specific instructions

The following will give specific instructions, based on referral site and ambulance service used:

2.1 NWAS adult hyperacute into Stoke

The TTL at Leighton will call the TTL at Stoke directly to inform them of the transfer and will call NWAS Emergency Ops Centre on **0151 261 4322** to organize transportation. It is expected that patients will be transferred from ED to ED.

2.2 WAST / EMRTS adult hyperacute into Stoke

These transfers are classified as an "immediate transfer" as per the Designed for Life; Welsh Guidelines for the transfer of the critically ill adult.
The TTL at the North Wales TU will call the TTL at Stoke directly to inform them of the transfer. During the hours of 08:00-20:00, the EMRTS Air Support Desk can be contacted on **0300 1232301** to facilitate such transfers by land and air. Outside of these hours, Welsh Ambulance Service NHS Trust should be contacted via their regional control room.

2.3 EMAS / TAAS adult hyperacute into Coventry

The TTL at Kettering or Northampton will call the TTL at UHCW directly to inform them of the transfer is expected. Patients will be transferred from ED to ED.
During the hours of 07:00 to 02:00, the TAAS critical care team can be contacted via EMAS Air Support Desk on **0115 9675090** to facilitate such transfers by land in conjunction with EMAS ambulance and air (during daylight hours).
Outside these times, call EMAS Emergency Operations Centre via **999** to request an interfacility transfer.

2.4 WMAS / MAA adult hyperacute into Stoke, QEHB or Coventry

The TU / LEH TTL will contact the Regional Trauma Desk on **01384 215696** who will then contact the MTC TTL via a conference call on the relevant Emergency Dept 'red phone', and dispatch the most appropriate resource available.

*N.B For patients within BBCHW Trauma Network requiring Life & Limb threatening transfer, the NORSe system should **NOT** initially as it adds delays to patient care. Add details to NORSe at a later time.*

2.5 Paeds into BCH

All children with trauma needing a transfer to the Children's MTC (Birmingham Children's Hospital) should be referred via KIDS NTS (KIDS Intensive Care and Decision Support).
Do ***not*** phone ED, a specialty area, or the WMAS Regional Trauma Desk.
The Paediatric call arrangements are:

- The TTL in the MTC / TU / LEH will identify paediatric patients meeting the criteria for Life ± Limb threatening transfer and initiate the process
- KIDSNTS tel: **0300 200 1100** will be the hub for communication for all paediatric patients who require transfer to BCH.
    - KIDS will facilitate the call and provide TTL advice when required
    - KIDS will be used in a coordination capacity and will not necessarily move the child but will assist with sorting out an alternative
    - If the patient is time critical, it will still fall on the local team to transfer

N.B There may be some paediatric patients at Stoke from the North of the UHNM patch for whom the TTL decides referral to Alder Hey may be more appropriate, in which case the following section should be followed:

2.6 Paeds into Alder Hey

For paediatric transfers from TU's in North Wales, or maybe Stoke MTC if from North of the UHNM patch, into Alder Hay Hospital in Liverpool, they should contact **0151 252 5600**. This is a direct "trauma line" to the Emergency Department in Alder Hey Hospital.

2.7 Adult isolated vascular injuries within the BBCH&W ODN

The following pathways should be adhered to for the injuries mentioned below:

- Arterial injury in poly trauma/mangled extremity should be transferred to QEHB in line with section 2.4 above, with proximal control of bleeding with tourniquet if necessary.
- Knee dislocation, popliteal dissections, or other arterial injuries in isolation may be managed at the closest vascular hub; Heartlands, Russell's Hall, Worcester Royal, Royal Wolverhampton.

In the BBCH&W network, if a unit that is ***not*** a vascular hub receives a patient, and a vascular injury is found on imaging, if they can undertake CTA without delay then they should do so whilst discussing the case with the vascular hub. If they cannot undertake CTA without delay they must contact the vascular hub immediately with a view to urgent transfer via the Regional Trauma Desk in line with section 2.4 above.

2.8 Vascular injuries

Vascular injuries are a significant cause of morbidity and mortality in trauma. The initial assessment and management of patients follows usual ATLS protocols. Control of catastrophic external haemorrhage should be performed with direct pressure or by the application of a tourniquet. When indicated, tourniquets should be applied early, and time of application be recorded as well as duration (1).

Vascular injury should be suspected according to the presence of hard and soft signs (Table 1). Hard signs mandate urgent surgery, or immediate transfer to an MTC or vascular hub (BBCH&W network only). Suspicion of arterial injury, in the presence of soft signs warrants further investigation. The investigation of choice is computed tomography angiogram (CTA). These images should be transferred at the same time as the patient transfer on inter-hospital image exchange portal (IEP).

Table 1: Hard and soft signs of vascular injury

Hard Signs (urgent surgery or transfer)	**Soft Signs** (further investigation CTA)
Active arterial bleeding	Proximity of injury to vascular structure
Rapidly expanding or pulsatile haematoma	History of arterial bleeding at scene
Absent pulses	Major single nerve deficit
Bruit or thrill	Reduced (but present) unilateral pulses
Signs of limb ischaemia/compartment syndrome	Posterior knee or elbow dislocation

In patients who are haemodynamically ***unstable*** and deteriorating, damage control surgery (DCS) is indicated. This should be undertaken locally within 30mins when possible

In haemodynamically ***stable*** patients with soft signs, An ABPI is a useful measurement to guide the need for imaging. An ankle-brachial pressure index (ABPI) of <0.9 in a patient with no previous history of peripheral vascular disease suggests vascular injury and a CTA is indicated. A normal ABPI (>0.9) does not exclude vascular injury (2)

Patients with vascular injury, associated with fractures and dislocations require combined review by orthopaedic and vascular surgeons. Vascular examination before and after re-alignment and splinting of the limb is required as part of the initial assessment. The aim of management is to revascularise the ischaemic limb within 4 hours from injury, either via DCS or definitive repair. Emergency primary limb amputation should only be undertaken in cases where attempts to preserve the limb pose an unacceptably high risk to the patient's life and where the limb is deemed unsalvageable (ideally a two consultants decision from different specialities of either ortho, plastics, vascular. (3).

Penetrating injuries of the neck are conventionally evaluated according to three zones relating to the relevant vascular structures. The description of injuries according to zone is only a guide and the possibility of injury to structures outside their conventional zone should be appreciated. These patients can decompensate rapidly, therefore close assessment and initial evaluation via ATLS protocol is paramount. An expanding haematoma with associated airway compromise mandates immediate anaesthetic assessment for guidance on best method of airway management.

The 'no zone' approach has become the mainstay for assessing these injuries. Signs detected on examination, dictate the need for further investigation and management. Patients with vascular hard signs require urgent surgical exploration. If the superficial fascia of the neck is not breached, then a significant vascular injury is often excluded. If it is not possible to determine this, or there are any soft signs of vascular injury a CTA should be performed immediately at the TU/LEH or failing this the patient should be transferred to the MTC (4). If damage control surgery is required this should be performed in the TU/LEH within 30 minutes, otherwise the patient should be sent as a critical transfer to the MTC. Exploration of neck injuries should not be performed in the TU without imaging unless damage control surgery is required. Where CTA demonstrates a vascular injury, discuss this with the Vascular surgeon and this may necessitate transfer to the MTC. The duty trauma leader should be informed of the specific vascular injuries and the relevant surgical teams should be notified accordingly.

Blunt Cervical Vascular Injuries (BCVI) are frequently missed during the primary survey. The presence of any of the criteria listed in table 2, raise suspicion of an unidentified vascular injury and warrant further investigation with a CTA (5).

Table 2: Denver Criteria for BCVI

Signs and Symptoms	**Risk Factors (high energy transfer mechanism plus any of the following**
Potential arterial haemorrhage from neck/nose/mouth	Le Fort II or III fracture
Cervical bruit in patients < 50 years of age	Mandible Fracture
Expanding cervical haematoma	Traumatic Brain Injury (TBI) with GCS <6
Focal neurological deficit	C-spine fracture, subluxation, ligament inj
Neuro exam incongruous with CT head findings	Near hanging with anoxic brain injury
Stroke on CT or MRI	Seat belt abrasion with swelling, pain or altered mental status
	TBI with thoracic injury
	Scalp degloving
	Thoracic vascular injury
	Blunt cardiac rupture
	Upper rib fracture

If a BCVI is detected the patient should be discussed with a vascular regarding treatment and possible transfer. The severity of BCVI can be divided into five grades (6):

- Dissection (grade I-II),
- Pseudo-aneurysm (grade III)
- Occlusion (grade IV)
- Transection (grade V)

Grades I, II, and IV can be managed conservatively. Grade III injuries require surveillance and may require interventional treatment. Grade V injuries require urgent surgery and should be managed for penetrating injuries.

Management of Blunt Thoracic Aortic Injury (BTAI). Blunt injuries to the major vessels of the thorax most commonly occur following road traffic collisions or falls from height. The most common type of injury is a false aneurysm, followed by dissection and intimal tear. Physical signs are not reliable in the diagnosis of BTAI. Plain film chest x-ray features suggestive of BTAI include aorto-pulmonary window opacification, left displacement of trachea/oesophagus, left main bronchus displaced downwards, left apical cap, left haemothorax and fractures of the 1st rib, scapula, sternum, or vertebrae. The absence of these features does not exclude vascular injury. Hypotension in the presence of a widened mediastinum should prompt a search for an extra-thoracic haemorrhage, as a complex injury of the aorta often leads to rapid exsanguination. Blunt chest injury associated with hypovolaemia, a high-speed deceleration injury or chest x-ray signs raise the possibility of BTAI and an urgent CTA should be performed. A normal CTA effectively excludes BTAI.

Patients with BTAI diagnosed in a TU/LEH should be transferred to the MTC as critical transfers, CTA images should be transferred and the duty trauma team leader informed of the injuries and the vascular and cardiothoracic teams informed. If possible, fluid resuscitation should be performed with invasive blood pressure monitoring. Aggressive fluid resuscitation should be avoided (permissive hypotension).

1) National Institute of Health and Care Excellence (2016). Major Trauma: assessment and initial management (NICE guideline NG39) 2016. Available at https://www.nice.org.uk/guidance/ng39/evidence/full-guideline-2308122833

2) Kobayashi L, Coimbra R, Goes AMO Jr, Reva V, Santorelli J, Moore EE et al. AAST - WSES Guidelines on Diagnosis and Management of Peripheral Vascular Injuries. J Trauma Acute Care Surg. October 2020

3) British Orthopeadic Association. Diagnosis & Management of Arterial Injuries Associated With Extremity Fractures and Dislocations. December 2020. Available at https://www.boa.ac.uk/uploads/assets/febe46fb-f6e0-466381494271fde3878c/BOASTArterialInjuries-v2-2020-FINAL.pdf

4) Nowicki JL, Stew B, Ooi E. Penetrating neck injuries: a guide to evaluation and management. Ann R Coll Surg Engl. 2018

5) Geddes AE, Burlew CC, Wagenaar AE, et al. Expanded screening criteria for blunt cerebrovascular injury: a bigger impact than anticipated. Am J Surg. 2016

6) Biffl WL, Moore EE, Offner PJ et-al. Blunt carotid arterial injuries: implications of a new grading scale. J Trauma. 1999

3 Unsurvivable injuries

Some TU / LEH patients will have unsurvivable injuries and so transfer will be futile. However, this may not always initially be and the Trauma Network recognises that some patients transferred will die shortly after arrival at the MTC but this situation should be rare and avoided if possible. For this reason, it is acceptable to initiate a consultant-to-consultant discussion to consider treatment options, and accepting that for this group of patients a short delay in transfer may be appropriate. This group may include a variety of traumatic injuries but the majority of patients in this group will have serious brain injury. Patients >75 years of age with large intracranial haematomas demonstrated on CT scanning should be discussed with the MTC prior to transfer. Please refer to the Faculty of Intensive Care Medicine link – Management of perceived devastating brain injury after hospital admission – consensus statement, January 2018.
https://www.ficm.ac.uk/sites/default/files/dbiconsensus-statement-2018.pdf

4 When not to enact a life and limb threatening transfer

- For logistical reasons, e.g. lack of critical care beds in the referring hospital
- For patients initially assessed and treated at a TU / LEH who require ongoing care at the MTC or specialist unit but can use the urgent (48 hour) transfer pathway

5 Responsibilities List

5.1 TU / LEH Trauma Team Leader:

a. Make initial decision to enact Life ± Limb threatening transfer
b. Contact MTC TTL via appropriate route from section 2 above to check transfer is in the patients best interests, and allow for reception preparations at MTC
c. Ensure that patients are as safe to transfer as possible, bearing in mind achieving definitive stability may be the reason for the transfer
d. Confirm emergency ambulance request and anticipated timing of transfer via service in section 2 above
e. As a basic principle, the TTL should be satisfied that:

- Airway is safe for the duration of transfer or secured
- Appropriate cervical spine protection is maintained
- Life threatening chest injuries are excluded or treated as possible
- Appropriate haemorrhage control achieved
- Competent escort is provided for the transfer & must be able to manage ongoing patient needs prior to arrival at the MTC; adhere to Network Transfer Guidelines
- Any imaging and reporting is transferred electronically to the receiving MTC
- At all times the referring hospital should maintain the best clinical treatment within their capability until handed over to an MTC. It is likely that these patients will be considered one of the sickest in their department and as such it is expected that a senior registrar or consultant from emergency medicine and a supporting team should be actively caring for the patient until transfer takes place.

5.2 MTC Trauma Team Leader:

a. Take details of enacted Life ± Limb threatening transfers from TU / LEH TTL
b. If needing specialist opinion prior to accepting transfer (e.g. in cases where transfer may be futile) seek that opinion and commit to providing a conclusion to the TU / LEH within 30 minutes. If an opinion cannot be provided within 30 minutes from the end of

the initial call from TU / LEH TTL then automatic acceptance of the transfer is assumed

c. Ensure that trauma team is alerted to anticipated arrival of patient
d. Ensure that patient is received in appropriate clinical area by trauma team and any other staff needed for immediate management
e. Be available for advisory discussions with TU / LEH TTL
f. Review images on the Imaging Exchange Portal prior to patient arrival if possible
g. Notify relevant tertiary services as necessary

5.3 WMAS RTD critical care paramedic:

a. Coordinate communication between TU / LEH & MTC
- Receive call from TU / LEH and record details on WMAS call log
- Set up conference call with MTC TTL and monitor call
- Advise both parties of Life ± Limb threatening transfer process as appropriate b. Liaise with Emergency Operations Centre staff to ensure emergency ambulance dispatched to TU / LEH within WMAS operational area

c. If required, coordinate Enhanced Care Team involvement in Life ± Limb threatening transfer if available and able to attend TU / LEH within reasonable time

5.4 Other Emergency Operation Centres

a. Liaise with Emergency Operations Centre staff to ensure emergency ambulance dispatched to TU / LEH within their operational area
b. If required, Coordinate Enhanced Care Team involvement in Life ± Limb threatening transfer if available and able to attend TU / LEH within reasonable time

6. Imaging within the TU/LEH

Image appropriately prior to transfer (e.g. chest / pelvic x-ray), which should be context specific e.g. blunt trauma vs penetrating injury. If transfer is based on existing clinical information **do not delay it by performing further imaging within TU / LEH** (e.g. clear traumatic brain injury does not require a CT scan in the TU / LEH). If additional imaging is required to aid decision making, a Major Trauma CT scan should be performed without delay, using the same CT imaging protocol as the local MTC. A full radiologist report must be obtained and sent with the patient or direct to the MTC.

Regarding paediatric imaging, if you need to do a CT you should follow the Royal College of Radiologists guidelines for imaging in paediatric trauma

7. Pre-transfer actions (as included within appendix 1 – Transfer Check List)

1. Undertake full primary survey
2. Secure airway if necessary
3. Decompress pneumothoraces or haemothoraces: ideally use transport type drains not under water seal bottles
4. Control haemorrhage
    a. Stop external bleeding
    b. Use haemostatic agents if necessary
    c. Activate massive transfusion protocol if required; avoid administering crystalloids

d. Give initial dose tranexamic acid (if not already administered by ambulance crew)
e. Apply pelvic binder if required ± confirm ambulance service binder is optimally sited
f. If exsanguinating internal haemorrhage perform damage control surgery 5. Splint femoral fractures with traction splint
6. Immobilise other fractures with splints or plaster as clinically indicated
7. Only send blood products with patient if they are to be transfused en route;
8. Do not delay transfer to insert invasive monitoring; use non-invasive methods

8. Escort

The TU / LEH TTL will determine the appropriate escort. For example:

- Ventilated patients: anaesthesia or critical care doctor (adhere to Network Transfer guidelines)
- Non-intubated patients: escort capable of dealing with anticipated potential complications en route
- When available a prehospital Enhanced Care Team may be used however these services are limited and timely availability cannot be guaranteed

The ambulance service will not routinely return escorts to the TU / LEH

Appendix 1. Adult Life ± Limb threatening transfer check list (example)

Action undertaken / considered	Completed by	Comments
Speak to TTL at MTC		
Name of MTC TTL		
Airway safe or secured		
Chest decompressed		
Pelvis splinted		
Femurs splinted		
External bleeding stopped		
Tranexamic acid given		
Cervical spine immobilised		
Patient on scoop stretcher		
Escort personnel briefed		
Transfer bag checked		
Transfer drugs ready		
CCN transfer form available		
Copy of trauma chart and ambulance (e)PRF ready		
Appropriate imaging performed and reviewed		
Upload images to IEP/ PACS		

Appendix 2. Checklist for transfer of children with neurosurgical emergency (example)

Checklist:

✓ Use this checklist to assist in ensuring adequate therapy and monitoring are in place prior to and during transfer

Identify and consult:

- ***Identify acute neurosurgical emergency:***
  (eg. Mode of injury or history, focal neurological deficits, reduced GCS, dilated/unequal pupils, bradycardia & hypertension)
- ***Urgent conference call with KIDS consultant and Neurosurgeon***
  if time-critical, likely to require primary transfer by referring team
- ***If immediately life-threatening, may require primary transfer to neurosurgery theatre (theatre 1 at BCH) or local neurosurgical intervention – discuss with neurosurgeon and KIDS consultant***

Airway and Breathing:

- Oral ETT, firmly taped, T2 on CXR
- Cervical spine immobilisation if trauma
- $PaCO_2$ 4.5-5.3 kPa
- Orogastric tube on free drainage

Circulation:

- 2 peripheral iv lines
- Request crossmatch (*Aim Hb>10gms)*
- Aim for normovolemia
- Avoid hypotension
- 0.9% Saline maintenance *(+dextrose if hypoglycaemia)*
- Volume expansion 0.9% Saline 10ml/kg boluses
- Consider noradrenaline infusion to maintain BP
  (see KIDS drug calculator)
- CVL and arterial line if sufficient time

Disability and other management:

- 15 mins Neuro Obs
- CT scan *(discuss with Neurosurgeon/KIDS)*
- Normothermia (36-37° C)
- Phenytoin 18 mg/kg over 20 mins if seizures
- Maintain plasma Na >140mmol
- Hyperosmolar therapy (discuss with Neurosurgeon/KIDS
  see KIDS drug calculator)
- Secondary survey if trauma

Preparing for transfer:

- Adequate sedation and analgesia with morphine/midazolam infusion – see KIDS drug calculator for dosing
- Muscle relaxant infusion – see KIDS drug calculator for dosing
- Urinary catheterisation – especially if mannitol used
- Strategy for managing raised ICP:
  (discuss with Neurosurgeon/KIDS regarding sedation, pCO_2, ABP target for cerebral perfusion, hyperosmolar therapy)
- Secure child to trolley (*not on spinal board*)
- Connect long extension to allow additional drug and fluid administration en route
- Sufficient portable oxygen for whole journey x2
- Sufficient battery life on monitor and infusion pumps
- Use ambulance oxygen gas and electricity supply where possible
- Transfer documentation, radiology, blood results
- Regular observations (at least once every 15mins) – including pupillary reactions, heart rate, blood pressure $ETCO_2$, SpO_2
- Seat belts at all times
- Travel safe – Lights/Sirens only when necessary to manage traffic congestion or unstable patient or time critical

References:

APLS 4th edition 2004
Joint statement from the Society of British Neurological Surgeons (SBNS) and the Royal College of Anaesthetists (RCoA) Regarding the Provision of Emergency Paediatric Neurosurgical Services (document)

9 Operating principle of urgent transfers to the MTC

If the patient has sustained severe multiple injuries that are ***not*** life & limb threatening, but are thought to need urgent specialist treatment at a Major Trauma Centre, the case should be discussed with the most appropriate person at the MTC to deal with the request, and the aim will be to ensure any transfer is done in a timely and appropriate manner. Please ensure you have all the information the MTC is likely to need at hand – it might be worth completing an ATMIST in advance if referring to Stoke, Coventry or QEHB (see appendix 3), or the KIDS referral tool if referring to BCH, available here online, or see appendix 4. Where appropriate, please ensure you have assessed frailty before making a referral to support any futility discussion with the MTC Consultant.

9.1 Urgent adult transfers into RSUH

Images should be shared immediately, then the TU should call Stoke's switchboard on **01782 715444**, and ask for the Trauma Team Leader in ED (they carry their own Cisco phone). They will give immediate management advice. If the patient cant be accepted immediately, the MTC TTL will aim to respond within 30mins after reviewing imaging +/- specialty advice

9.2 Urgent adult transfers into Coventry

Please note that UHCW is a NOT a Paediatric MTC, and under 16's should be referred to BCH. Referrals to UHCW should be made by a minimum of a Registrar level doctor and should be discussed first with the local ED Consultant. Please ensure that all CT/x-rays have been linked via IEP before referral.
Contact UHCW Switchboard on **02476 964000** & ask to speak to ED Consultant on-call

Call the UHCW resus phone when the patient has left your department on **02476 967125** and ask the ambulance crew to 'trauma alert' the patient when 20 minutes away from UHCW

9.3 Urgent adult transfers into QEHB

For **Polytrauma patients** - contact QEHB on 0121 627 2000 and ask for the CTC on Call (Consultant Trauma Coordinator). After the call the referrer should log on to NORSE to complete the referral. The CTC and MTS can now manage this referral online with the QEHB specialities. Updates will be sent to the referrer and shared users, to reduce time spent chasing specialities. NORSE can be found at https://nww.norse.uhb.nhs.uk/ and there is a user guide here.
For **Isolated injury patients** - Contact switchboard on **0121 371 2000** and ask to be put through the on-call person for the relevant specialty

9.4 Urgent paediatric transfers into BCH

Referrals should be made via KIDS on **0300 200 1100,** and they have produced a referral tool to aid referral, which can be found online here, or below in appendix 4

Appendix 3. ATMIST handover

Referring Dr	**Direct phone number at TU**
Age & Sex of Patient	
Time of Injury **Time arrived at TU**	
Mechanism	
Injuries	
Signs RR Sa02 P BP GCS = E V M Pupils	
Treatment	
Imaging linked? **Investigations**	
Name of patient	
Date of Birth	
Address	
NHS number (if known)	

Appendix 4. KIDS Referral Tool

REFERRAL TOOL

Name	Age
DOB	Sex M / F
Allergies	WT kg
Date:	Time:

KIDS NTS

Referrer:

Location:

WORKING DIAGNOSIS OR CLINICAL EMERGENCY

Current History **INFECTION/ISOLATION CONCERNS-**

Significant past history, Advanced Care Plan

Therapy given-

HR	**RR**	**SAT**	**BP**	**Temp**	**CRT**

A	Patent/SV Airway adjunct	ETT size Depth	C-SPINE PROTECTION Grade	
B	Support Exam/ Secretions - Ventilator settings	FiO2 - Chest X-ray	WOB	
C	Pre ductal Sats- Post ductal- Femorals- Echo Lower limb BP **PROSTIN** Volume ml/kg Inotropes		Murmurs Perfusion	
D	GCS E V M A V P U Pupils Sedation and Analgesia			
E	Rash			
F	Maintenance	Urine	NBM	Abdo
I	Abx	Cultures		Virology
Access	PIV	Art		CVL
Inv	CXR	CT	MRI	
Safeguarding concerns Y or N	If yes, has social services referral been done (MARF) □			

Site			
pH			
pCO2			
pO2			
HCO3			
BE			
Lac			
Glu			

Hb		
WBC		
PLT		
CRP		
UREA		
Creat		
Na / K		
LFT		
PT		
APTT		
Ammonia		

Questions:

□ **Consultant review**

□ **Anesthetist / ITU**

IMPRESSION:

PRIMARY TIME CRITICAL TRANSFER (USE checklist) ☐ **GUIDELINE ADVISED** ☐

KIDS ADVICE:

-
-
-
-
-

KIDS drug calculator printed ☐

Images on PACS ☐

Discharge summary ☐

Notes photocopied ☐

Parents updated ☐

FOR NEUROSURGICAL EMERGENCIES

During call

- Say **"THIS IS A PRIMARY TIME CRITICAL TRANSFER"** to referrer
- Direct referrer to **KIDS NEUROSURGICAL EMERGENCY GUIDELINE**
- **Conference in BCH NEUROSURGEON to refer the patient and confirm theatre**

After call

- **Contact PICU admitting consultant to confirm bed for the child**
- Contact the **Regional Trauma desk** (even if not trauma patient) on **01384215696** -
  - The critical care paramedic may be able to offer a doctor/paramedic team to facilitate hyper-acute transfer (see MCCTN TU/LEH to MTC hyper-acute transfer policy)
  - They will also ensure an emergency ambulance is allocated to the task regardless of which team carries out the medical escort

Early call back to referring hospital

- Reinforce **"Time critical transfer"**
- Offer logistic assistance
- **Confirm cause for local delay**

10 Isolated injuries that require MTC specialty input

Patients who have isolated trauma and who may require care at a specialised centre can be referred for senior to senior discussion directly with the speciality (***ideally Consultant to Consultant***).

10.1 RSUH specialty discussions

Contact switchboard on **01782 715444** and ask to be put through the on-call person for the relevant specialty

10.2 Coventry specialty discussions

Contact switchboard on **02476 964000** and ask to be put through the on-call person for the relevant specialty

10.3 QEHB specialty discussions

Contact switchboard on **0121 371 2000** and ask to be put through the on-call person for the relevant specialty

10.4 BCH specialty discussions

Contact switchboard on **0121 333 9999** and ask to be put through the on-call person for the relevant specialty