

Sussex Trauma Network

Patient Pathways

Including Secondary Transfers



October 2021

Patient Pathways

Control Page

Name:	Sussex Trauma Network – Patient Pathways
Version:	9.5a
Version Date:	01/10/2021
Category and number:	Trauma Policy No. 2
Approved by:	Sussex Trauma Network
Date approved:	01/10/2021
Name of author:	Geoffrey Bryant, Director of Education, Sussex Trauma Network, ED Consultant, UHS
Name of responsible committee/individual:	Sussex Trauma Network – Dr Peter Westhead, Clinical Director for the Sussex Trauma Network
Date issued:	October 2021
Target review date:	24 months
Target audience:	All specialities and services dealing with Major Trauma (Prehospital Services, UHS and Network TUs)
Accessibility	www.bsuh.nhs.uk/stn/docs/

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1 Executive Summary

- As of the beginning of the COVID-19 pandemic, patient pathway process and criteria were modified. These modifications remain in force and should now be regarded as a long-term change until further notice.
- See [Appendices 2 to 6](#) for summary algorithms.

2 Introduction

- This policy describes the initial passage of patients from pre-hospital to treating hospital, whether that be a Major Trauma Centre (MTC) and / or Trauma Unit (TU).
- It does not cover repatriation from the MTC to a TU or any other hospital. This is covered by the [STN Repatriation Policy](#).
- At present it does not include patient pathways to rehabilitation facilities, community resources or home.

3 Purpose of the Policy

The aims and objectives of this guideline are:

- To provide a system-wide approach for management of patients with major trauma
- To define appropriate patient pathways for these patients
- To list appropriate accepted routes of communication

4 Scope

The policy covers all major trauma patients within the Sussex Trauma Network. It replaces and supersedes all previous Patient Pathways covering Sussex Trauma Network and is applicable to adults and children.

5 Standard Operating Procedure

5.1 Pre-Hospital Triage

Pre-hospital Triage of patients with major trauma is performed by the two organisations providing pre-hospital care:

- South East Coast Ambulance Service NHS Foundation Trust (SECAMB)
- Air Ambulance Kent Surrey Sussex (AAKSS)

Both of these serve more than one trauma network and so have their own over-arching trauma triage protocols.

See [Appendix 2](#) for the current SECAMB triage protocols, which were implemented at the beginning of the COVID-19 pandemic and are pending review.

5.2 Secondary Transfer Protocols

Principles

1. These protocols apply after a patient has been assessed at a Trauma Unit (TU) and the assessing Team determine that the patient may benefit from transfer to a Major Trauma Centre (MTC).
2. Patients triaged to a TU should be assessed and stabilised within the Emergency Department (ED) and not 'turned around' at the front door.
3. During periods of excessive MTC or Network overload, the Major Trauma Centre at the Royal Sussex County Hospital (RSCH) will have a 24/7 rota of selected consultants to act as "Major Trauma Centre Advice Consultant". The person on duty at any time can be contacted on . The purpose of this Consultant is to take and screen referrals from Trauma Units to ensure that those patients being transferred to the MTC do so at a time that maximises MTC bed capacity and that patients are not transferred long in advance of any surgical procedure they require. The Advice Consultant will either negotiate with the Consultant of relevant specialities within the MTC OR advise that a Consultant at the TU does this negotiation.
4. Use of the "Major Trauma Centre Advice Consultant" will not be throughout the whole COVID-19 pandemic. They will be used when either the MTC or Network are at risk of being overloaded.
5. The decision as to whether the "Major Trauma Centre Advice Consultant" is in use will be decided prospectively. This decision will depend on the OPEL Level of the MTC and the Trauma Network. See [Appendix 6](#) for a description of the OPEL Levels.

This outcome of this decision will determine whether **PATHWAY A** or **PATHWAY B** is in use for non-immediate secondary transfers – see below. Which pathway is in use will be notified to all participating hospitals. It is the responsibility of each hospital to cascade this information to relevant clinicians.

PATHWAY A – Normal Service – when MTC and the Network are both at OPEL 1 level (see Appendix 2)

PATHWAY B – Reduced Capacity – when either MTC or Network are at OPEL level 2 or above. This is when the "Major Trauma Centre Advice Consultant" will be in use.

PATHWAY A is the default pathway for non-immediate secondary transfers.

6. These protocols comprise two levels of transfers as follows:
- a. **Immediate Transfers (<60 minutes)** – for patients with life threatening conditions. See [Appendix 3](#).
These patients will include those who have been taken to a Trauma Unit for attempted stabilisation due to distance from the MTC (> 60-minute isochrone), as well as patients who either deteriorate at the TU or have been found after initial assessment to have a life-threatening condition.
 - i. Patients meeting the [exclusion criteria](#) (nursing home patient, active DNACPR decision or relevant advanced directive) will not be suitable for immediate transfer.
 - ii. Contact SECAMB to arrange an immediate transfer to RSCH.
 1. This should be done even if the patient is suitable for helicopter transfer because SECAMB are required to co-ordinate the process and arrange for an ambulance to convey between East Brighton Park and the MTC.
 2. If the patient requires hyper-acute or time-critical transfer from the Emergency Department, consider HEMS transfer request to AAKSS. Ring AAKSS direct to discuss suitability and the process. See Appendix 7 for current AAKSS Transfer Process and Transfer Checklist.
 - iii. Treating senior clinician in TU to contact the ED Consultant at RSCH (01273 696955 ext)
 - iv. Examples of pathologies requiring immediate transfer:
 1. Extradural haematoma with altered GCS
 2. Traumatic subdural haematoma in patients <70 years old and requiring airway support
 3. Proven vascular injury with on-going bleeding
 4. Truncal penetrating injury with haemodynamically instability or evidence of pericardial tamponade
 5. Penetrating injury to the neck with expanding haematoma
 - b. **All other transfers / requests for advice (Non-immediate)** –
For all other referrals, there are two separate pathways each with their own algorithm below:

Either
 - i. for patients with a head injury (**PATHWAYS A & B**) contact the duty Neurosurgical Consultant or Registrar at RSCH (01273 696955) AND complete on-line referral on <http://www.referapatient.org/refer-a-patient>
 - OR
 - ii. for all other cases – first identify which **PATHWAY** is in use at the time. If you are not sure, use **PATHWAY A** – but you may then be asked to make a second telephone call as per **PATHWAY B**:

1. **PATHWAY A** – see [Appendix 4](#)

If referral is to Trauma and Orthopaedics first complete relevant online referral via www.bsuh.nhs.uk/clinical/teams-and-departments/trauma-and-orthopaedics/ which can ONLY be accessed from hospital computers.

Contact duty Consultant for the relevant speciality at the MTC.

This process is described in more detail in the document - ***Processes for Urgent Referral to the Trauma and Orthopaedic Service at the Major Trauma Centre at the Royal Sussex County Hospital*** – which can be viewed at www.bsuh.nhs.uk/stn/docs/.

2. **PATHWAY B** - see [Appendix 5](#)

Contact the ‘Major Trauma Centre Advice Consultant’ at RSCH on .

In either case this contact should ideally be from a consultant. But in all cases contact must only occur after discussion with the consultant leading the patient’s care at the TU.

DO NOT make adult trauma referrals by any other routes.

Paediatric major trauma referrals should be made to your normal receiving Paediatric MTC.

7. All secondary transfers should only occur after a doctor at the receiving hospital has been informed of and agreed to the transfer.
8. The MTC will provide 24/7 access to a major trauma consultant and consultants in neurosurgery, cardiothoracic surgery, general surgery, paediatric surgery, liver surgery and intensive care to discuss the appropriateness and feasibility of transfer.
9. Wherever possible in the appropriate timeframe, discussion between sending and receiving hospital should be between Consultant and Consultant. If a Consultant cannot assess the patient sufficiently quickly (e.g. in the Immediate Transfer group), then the Consultant may delegate this role to a doctor who is able and authorised to:
 - a. perform an accurate assessment of the patient’s condition and needs
 - b. agree to and arrange admission at the “sending hospital” if the outcome of the consultation is not to transfer the patient
 - c. act as host and arrange theatres etc. if the outcome of the consultation is for a specialist surgeon to attend perform the surgery at the “sending hospital”.

10. The separate Transfer Protocol for Spinal Injury is suspended.
11. Exclusion Criteria for transfer of patients from TU to MTC:
 - a. nursing home patient
 - b. patient with a relevant advanced directive
 - c. patient refused by the consultant at the MTC
 - d. patient over the age of 75 with fixed, dilated pupils
12. When arranging Emergency or Urgent secondary transfer to the MTC always contact the Ambulance service. They will assess and decide whether transfer by HEMS might be more appropriate. Patients considered to have risk of COVID-19 should NOT be transferred by helicopter – because time to clean the helicopter is prohibitive.
13. The two algorithms below are for adults and children from their 16th birthday. For children under 16, referrals should be direct to relevant Paediatric MTC - Kings College Hospital or Southampton General Hospital. When transferring children to the Paediatric MTC, the telephone numbers to contact the ED Consultants are as follows:
 - a. Kings College Hospital: 0203 299 9000 ext. 5447
 - b. Southampton General Hospital: 023812 206 666 (Direct dial Resus Priority Phone).

5.3 SITREP Reports

Each Trauma Unit will complete SITREP entries for each Major Trauma patient who is still an inpatient in the TU and who has been referred to, or whose case has been discussed with, the MTC on a SITREP spreadsheet and e-mail it each day by 09:00 to uhsussex.sussextrauma@nhs.net.

This will allow the MTC and the Network managers to track all patients that are still in the Trauma Units that might still require specialist advice or treatment.

For each patient, the following details will be required:

- HOSPITAL ID (Local)
- NAME
- DOB
- COVID STATUS IF KNOWN:- positive/unknown/negative
- CONTACT NUMBER FOR TREATING CONSULTANT
- BRIEF RESUME OF INJURY
- ONGOING CLINICAL ADVICE REQUIRED?: - yes/no
- MANAGED LOCALLY?: - yes/no
- ONGOING NURSING OF REHAB ADVICE REQUIRED?: - yes/no
- PATIENT DISCHARGED?: - yes/no

NB. An MTC Consultant will only telephone the named TU Consultant if the ONGOING CLINICAL ADVICE REQUIRED section is marked as YES

6 Links to other SOPs and Trust policies

This guidance refers to and links with the following STN publications or other documents:

- STN Repatriation Policy (present version called Repatriation Policy v4) from www.bsuh.nhs.uk/stn/docs/
- Processes for Urgent Referral to the Trauma and Orthopaedic Service at the Major Trauma Centre at the Royal Sussex County Hospital – which can be viewed at www.bsuh.nhs.uk/stn/docs/.

7 Appendices

7.1 Appendix 1 – Abbreviations

AAKSS	Air Ambulance Kent Surrey Sussex
CCD	Ambulance Service Critical Care Desk
DNACPR	Do Not Attempt Cardiopulmonary Resuscitation
HEMS	Helicopter Emergency Medical Service
MTC	Major Trauma Centre
RSCH	Royal Sussex County Hospital
SECAMB	South East Coast Ambulance Service
TU	Trauma Unit

7.2 Appendix 2 – SECAMB Pre-hospital Triage Trauma Decision Tree

MANAGING MAJOR TRAUMA DURING COVID 19 PANDEMIC

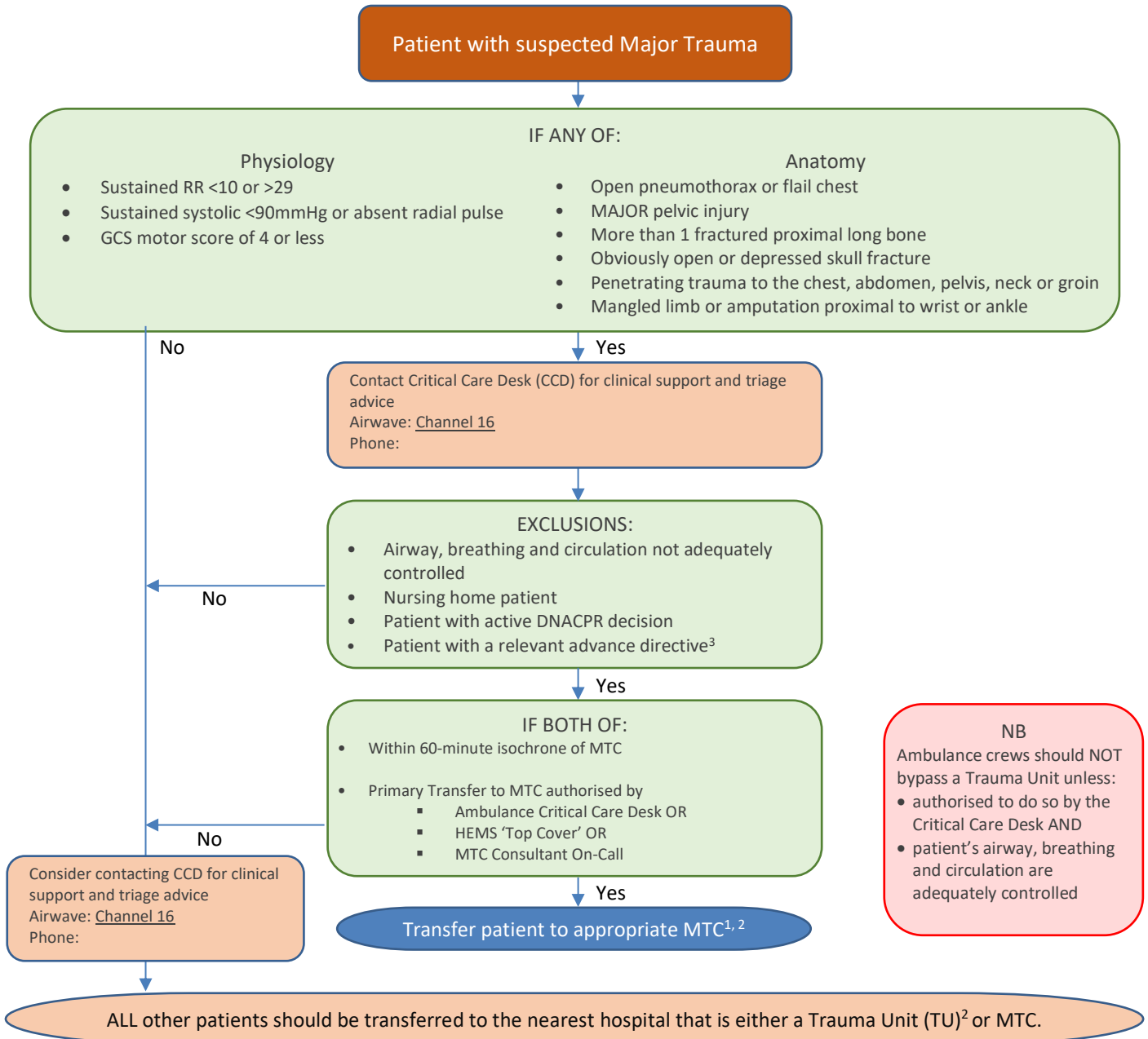
Sussex Trauma Network

South East London, Kent and
Medway Trauma Network

South West London and Surrey
Trauma Network

PRE-HOSPITAL TRIAGE:

Previous decision trees suspended. The networks have now moved to the following trauma decision tree.



Abbreviations:

CCD – Ambulance Service Critical Care Desk
DNACPR – Do Not Attempt Cardiopulmonary Resuscitation
MTC – Major Trauma Centre
TU – Trauma Centre
HEMS – Helicopter Emergency Medical Service

Notes:

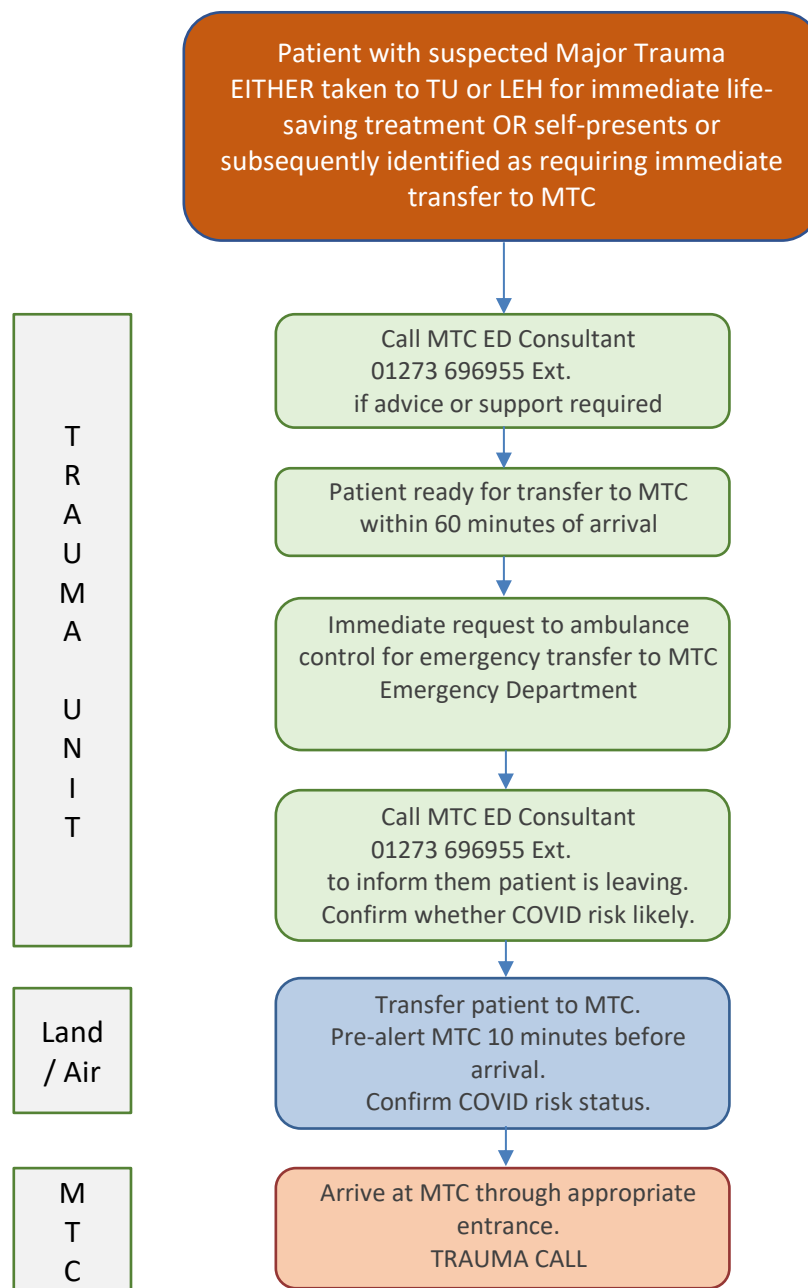
1. Appropriate MTC – Adults and children 16 and over – Royal Sussex County Hospital, Kings College Hospital or St. George's Hospital - unless relief agreed by adjacent MTC
Children under 16 – Kings College Hospital, St. George's Hospital or Southampton General Hospital
2. Patients should not be turned away from either MTC or TU once they have been conveyed. They should be assessed, and secondary transfer arranged if appropriate.
3. Relevant Advance Directive – a written signed document that shows the patient's wish to have limited care in circumstances that include the patient's present condition.

7.3 Appendix 3 – Immediate Transfers

Immediate Transfers (<60 minutes)

For all Adults and Children from their 16th birthday

See principles listed above



Notes:

1. When transferring children under 16 to a Paediatric MTC, the telephone numbers to contact the ED Consultants are as follows:
 - a. Kings College Hospital: 0203 299 9000 ext. 5447
 - b. Southampton General Hospital: 023812 206 666 (Direct dial Resus Priority Phone).

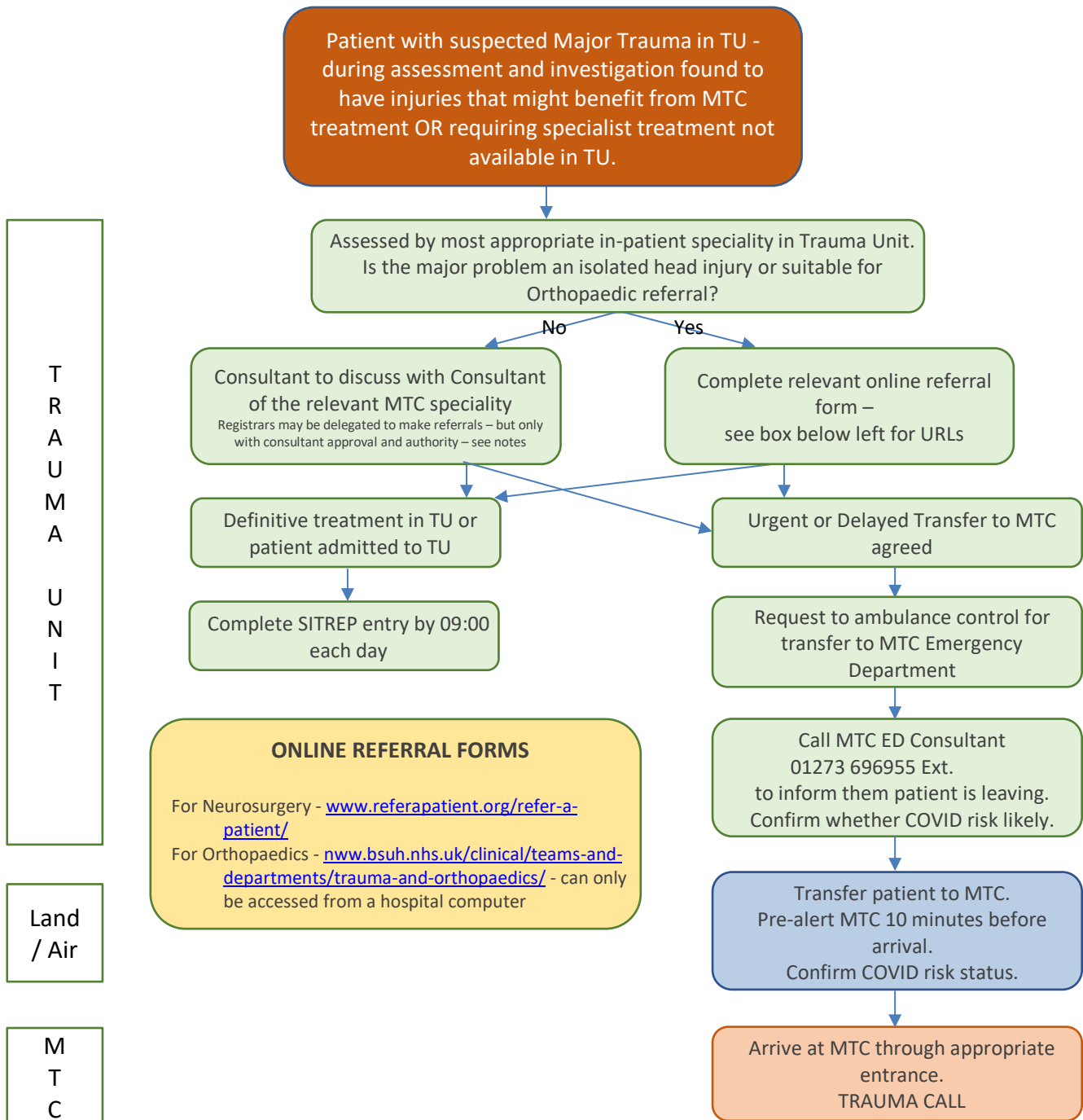
7.4 Appendix 4 – All Other Transfers – PATHWAY A

All Other Transfers / Requests for Advice (Non-immediate)

PATHWAY A – Normal Service

This is the default Pathway for non-immediate referrals. But you may be advised to use Pathway B when the capacity is reduced.

For all Adults and Children from their 16th birthday. See principles listed above.



Notes:

4. When transferring children under 16 to a Paediatric MTC, the telephone numbers to contact the ED Consultants are as follows:
 - a. Kings College Hospital: 0203 299 9000 ext. 5447
 - b. Southampton General Hospital: 023812 206 666 (Direct dial Resus Priority Phone).

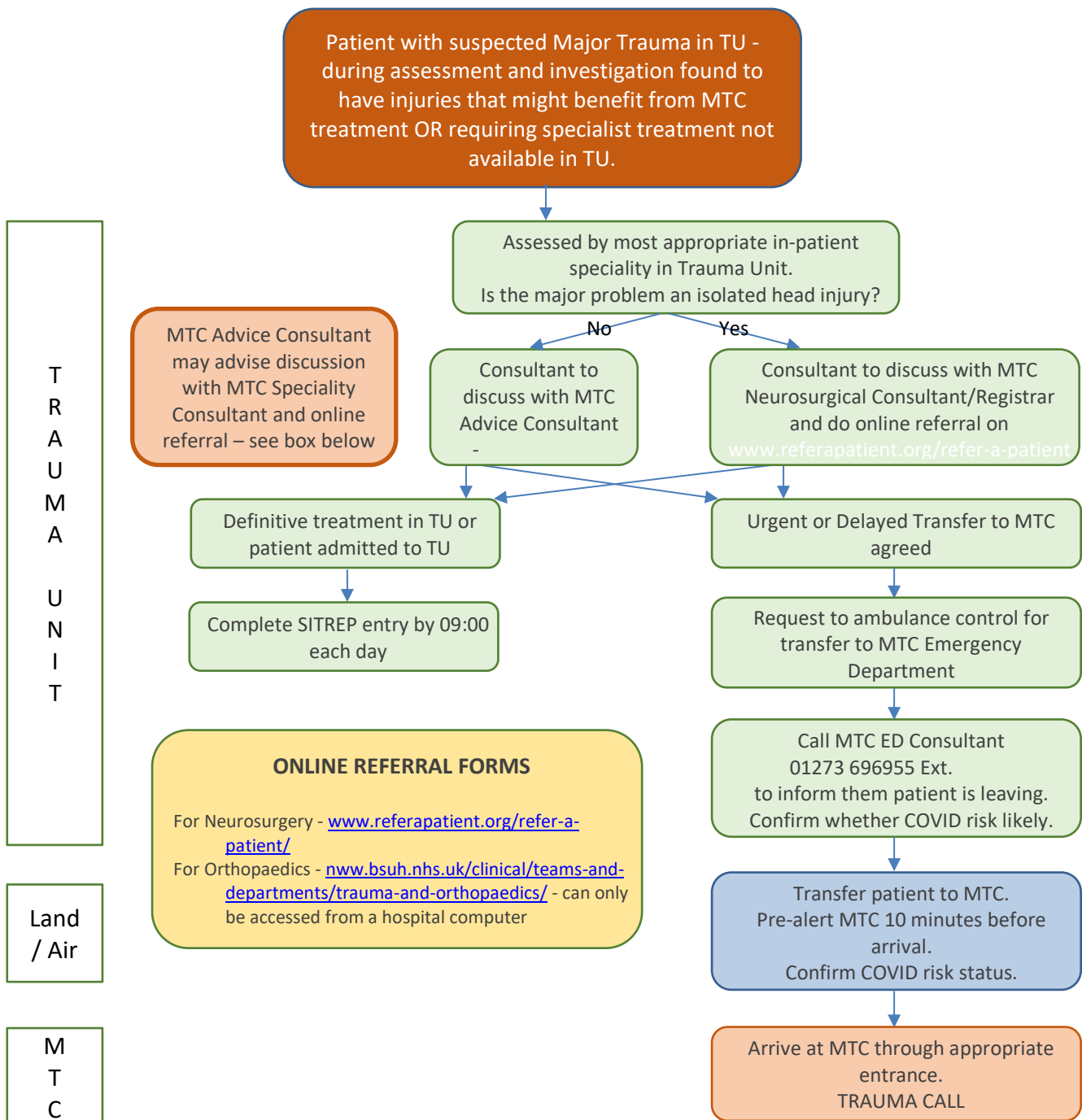
7.5 Appendix 5 – All Other Transfers – PATHWAY B

All Other Transfers / Requests for Advice (Non-immediate)

PATHWAY B – Reduced Capacity

This is Pathway for use when the MTC or Network capacity is reduced. This should be notified in advance.

For all Adults and Children from their 16th birthday. See principles listed above.



Notes:

4. When transferring children under 16 to a Paediatric MTC, the telephone numbers to contact the ED Consultants are as follows:
 - a. Kings College Hospital: 0203 299 9000 ext. 5447
 - b. Southampton General Hospital: 023812 206 666 (Direct dial Resus Priority Phone)

7.6 Appendix 6 – National Opel Triggers for Major Trauma Centre and Network

MAJOR TRAUMA	Major Trauma Specific Trigger Points
OPEL - 1	<p>MAJOR TRAUMA CENTRE MTC able to receive critically injured patients into appropriate critical care area</p> <p>MAJOR TRAUMA NETWORK Network functioning as currently; triage tool at steps 1 & 2 (limited) only</p>
OPEL - 2	<p>MAJOR TRAUMA CENTRE MTC can provide immediate resuscitation, emergency surgery and specialist critical care for life threatening conditions but limited capacity for other categories of automatic transfers or ward level patients.</p> <hr/> <p>MAJOR TRAUMA NETWORK Any one of:</p> <ul style="list-style-type: none"> • MTC at OPEL-2 • 1-3 TUs not accepting triage positive trauma (if all TUs in network escalate to OPEL-3) • 1-3 TUs or critical care transfer service not able to support time critical secondary transfers (if all TUs in network escalate to OPEL-3) • Pre-hospital running only primary transfers
OPEL - 3	<p>MAJOR TRAUMA CENTRE MTC can provide immediate resuscitation, emergency surgery and specialist critical care for life threatening conditions but MTC unable to accept other categories of automatic transfers or ward level patients.</p> <hr/> <p>MAJOR TRAUMA NETWORK</p> <ol style="list-style-type: none"> 1. MTC at OPEL-2 AND any of the below: <ul style="list-style-type: none"> • Pre-hospital running primary transfers and time critical secondary transfers only • 1-3 TUs only able to accept triage positive patients with airway compromise or life-threatening haemorrhage • 1-3 TUs or critical care transfer service not able to support time critical secondary transfers <p>Or</p> <ol style="list-style-type: none"> 2. Adult or paedrs MTC in network at OPEL-3 <p>Or</p> <ol style="list-style-type: none"> 3. All TUs only able to accept triage positive patients with airway compromise or life threatening haemorrhage <p>Or</p> <ol style="list-style-type: none"> 4. All TUs and / or critical care transfer service not able to support time critical secondary transfers
OPEL - 4	<p>MAJOR TRAUMA CENTRE Any one of:</p> <ul style="list-style-type: none"> • No capacity for critical care • MTC cannot provide immediate resuscitation and/or emergency surgery <hr/> <p>MAJOR TRAUMA NETWORK Any one of:</p> <ul style="list-style-type: none"> • Pre-hospital service unable to run primary transfers • All TUs unable to accept triage positive trauma and support time critical transfers • Any MTC is at OPEL-4 (either adult/paedrs/combined MTC) No rapid access to specialist care

HEMS Transfer Request

Is your patient a hyper-acute or time critical transfer from the Emergency Department?

Is the patient within the scope of AAKSS?
Refer to transfer checklist

At the earliest opportunity establish HEMS aircraft availability by ringing the HEMS co-ordination desk on either **0300 123 5811** or **0782 798 2152** and providing a short summary of the transfer (including Covid-19 status and/or risk.)
AAKSS will not currently fly a high risk or confirmed Covid-19 patient
If an aircraft is immediately available and the weather is in limits then one of the Clinical Managers will call back within 5 minutes so please ensure a contact telephone number is provided.

Some transfers, especially those patients with Level 3 needs, may require further remote assessment and could involve an additional telephone call from the duty HEMS consultant before the transfer is accepted.
Less complex transfers will be accepted with minimal delay where an aircraft is available.
If HEMS are unable to support the transfer due to lack of availability or poor weather please use the standard system for requesting an ambulance inter-hospital transfer

If the transfer is accepted, the HEMS coordinator will provide an ETA and activate the helipad or make arrangements where required for an ambulance transfer to the secondary landing site (Covid-19 duration only)

HEMS Transfer Checklist

Patients to meet ALL the following criteria:

- Adult patients (paediatric patients considered on a case by case basis);
- Hyper-acute transfer (patient still in the Emergency Department);
- From a hospital with either a primary (on-site) or secondary (off-site) helicopter landing site that is available (not all sites are available after dark)
- To a hospital with an available primary (on-site) helicopter landing site (some secondary sites will be considered on a case by case basis)
- Ideally to the Emergency Department at the receiving hospital

Guidance around *clinical parameters* suitable for AAKSS transfer (all numerical values are maximums):

Ventilation:

- FiO2 ≤ 0.6
- PEEP ≤ 10 cmH2O
- Peak pressure ≤ 35 cmH2O
- Stable on Oxylog 3000 plus or equivalent transport ventilator

Circulation:

- Noradrenaline ≤ 0.3mcg/kg/min
- Not requiring more than 1 unit/hr PRC *

* if > 1 unit/hr but haemorrhage controlled at sending hospital then d/w AAKSS team

Sedation:

- If required, comfortable on analgesic and sedative infusions (e.g. fentanyl, remifentanyl, propofol or midazolam) requiring less than 50ml/hr



24/7 landing sites are available at:

- Kings College
- TWH Pembury
- Maidstone Hospital
- WHH Ashford
- OEM Margate
- Eastbourne Hospital
- Southampton Hospital

All other sites are daylight only