



**Guidelines for the  
Inter- and Intra-Hospital  
Transfer of Critically Ill  
Adult Patients**

## Version control

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## 1. Introduction

Planning for inter-hospital transfer of critically ill patients was made mandatory by the Department of Health's publication of 'Comprehensive Critical Care: A review of adult critical care services' <sup>1</sup> in 2000. The South West Critical Care Network (SWCCN) is responsible for the clinical governance and provision of standards for inter- and intra-hospital transfer of critically ill patients within its geographical region.

These guidelines have been produced to support best practice in the inter- and intra-hospital transfer of critically ill and injured patients requiring medical escort for transport within the SWCCN and contain guidance relevant to both paediatric and adult populations. They are based on national guidance:

- The Faculty of Intensive Care Medicine & Intensive Care Society; Guidance On: The transfer of the critically ill adult, published May 2019 <sup>2</sup>
- Association of Anaesthetists; Guidelines for safe transfer of the brain-injured patient: trauma and stroke, published December 2019 <sup>3</sup>

Whilst there is increasing evidence for the provision of dedicated inter-hospital transfer teams, few exist for critically ill adult patients in the United Kingdom. Inter-hospital retrieval of critically ill neonatal patients within the South West is undertaken by NEST (Neonatal Emergency Stabilisation Team) based in Bristol and PNTS (Peninsula Neonatal Transport Service) based in Plymouth. Critically ill paediatric retrievals are undertaken by WATCh (Wales and West Acute Transfer for Children) based in Bristol. Specific referral pathways exist for each of these services and emergency contact telephone numbers are available in each acute hospital. Information about WATCh is included in Appendix A.

## 2. Definitions

Critically ill	Patients requiring a level of care greater than that normally provided on a standard hospital ward (i.e. Intensive Care Society Levels of Care 1-3) <sup>4</sup> . This includes patients in the convalescent phase of their critical illness who have ongoing requirements of enhanced levels of care (eg. tracheostomy)
Time-critical	Patients who require immediate emergency transfer to facilitate immediate life-, limb- or sight-saving intervention in the receiving facility
Clinical transfer	Patients requiring specialist care not provided by the referring hospital
Non-clinical transfer	Patients who are transferred due to a shortfall in capacity (the clinical care the patient requires can be delivered by the referring hospital but there is no critical care capacity)
Inter-facility transfer	NHS England ambulance service term for inter-hospital transfer. Categorized based upon clinical priority with defined response (see section 5)
Paediatric patient	Patients <16 years of age

### 3. Role of the SWCCN, hospital trusts and networks

The SWCCN is responsible for the development of guidance and regional referral pathways, data collection, audit and quality assurance. It will deliver this through an appointed consultant Lead for Transfer and membership of the Transfer Group.

The hospital trust is responsible for providing a nominated lead consultant for transfer (see Appendix B for role description). Through the trust, this individual is responsible for guidelines, training, competencies and equipment provision for all areas from which critical care transfers originate, including wards and the Emergency Department. This individual should report to the trust critical care delivery group and/or governance meeting as well as the SWCCN Transfer Group.

Operational Delivery Networks for trauma, burns, paediatric and neonatal critical care will define referral pathways. The SWCCN Transfer Group is concerned with the portion of this patient pathway involving medically escorted transfer when it is not provided by a commissioned service.

### 4. SWCCN Transfer Group

The SWCCN Transfer Group will meet quarterly via face-to-face or electronic means. A summary report for each of these meetings will be provided by the Chair or nominated deputy to the SWCCN Board.

The SWCCN Transfer Group consists of the following:

- Chair – SWCCN appointed consultant Lead for Transfer
- SWCCN representative – Network Clinical Lead or Network Manager
- Membership – Trust-nominated lead consultants for transfer, or deputy, for all trusts within SWCCN
- South Western Ambulance Service NHS Foundation Trust (SWASFT) representative – on behalf of all statutory conveying organisations

Terms of Reference for the SWCCN Transfer Group are included in Appendix C.

### 5. Interface with South Western Ambulance Service NHS Foundation Trust

SWASFT provides emergency transport for critically ill patients requiring inter-hospital transfer according to the NHS England Framework for the Commissioning of Ambulance Services<sup>5</sup> and Association of Ambulance Chief Executives National Framework for Inter-Facility Transfers<sup>6</sup>.

These documents categorise Interfacility Transfers as follows:

<b><i>IFT Category 1</i></b>	<p>Immediately life-threatening event</p> <p>Exceptional circumstance where a healthcare facility (such as a community hospital) is unable to provide an immediate life-saving intervention for patients in cardiac arrest, peri-arrest or obstetric emergency.</p> <p>Mean response 7 minutes, 90<sup>th</sup> centile 15 minutes</p>
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<b>IFT Category 2</b>	Serious potentially life-threatening conditions
	Immediately life-, limb- or sight-threatening situations which require immediate management in another facility. Examples include direct to theatre for emergency neurosurgery, stroke thrombectomy and immediate limb-saving surgery.
	Mean response 18 minutes, 90 <sup>th</sup> centile 40 minutes
<b>IFT Category 3</b>	Urgent condition
	Patients who do not require immediate life or limb saving interventions but do require an increase in their level of clinical care as an emergency. This category includes non-clinical transfers.
	Locally commissioned, response time between 30 and 120 minutes
<b>IFT Category 4</b>	Non-emergency
	Patients who have a clinical need for an ambulance such as those requiring elective or semi-elective surgery and those being repatriated. Transport in this category is not provided for by statutory NHS Ambulance Service Trusts and so must be provided by individual Trust agreements.

SWASFT currently provide an ambulance for IFT Categories 1 to 3. IFT Category 4 requires a commercially contracted transport vehicle provided locally via acute Trust contracts. Current examples of IFT Category 4 transfers include repatriation of holidaymakers to their local hospital and step-down of patients from a tertiary centre (e.g. Major Trauma Centre) to a secondary care facility.

In 2020 it is expected that IFT Category 3 transfers will be locally commissioned and may not be provided by NHS Ambulance Services.

## **6. Competency framework for escorting staff**

All escorting clinicians should be trained, competent and have appropriate experience in the transfer of critically ill patients. Prior to transfer, a risk assessment must be undertaken, which will aid in determining the appropriate escorting clinicians.

Escorting clinicians include physicians, nurses, Advanced Critical Care Practitioners (ACCPs), operating department practitioners (ODPs) and Specialist Paramedics in Critical Care (SP-CCs).

All escorting clinicians should have completed a regionally or nationally recognised training course on the delivery of intra- and inter-hospital transfer. It is the responsibility of the nominated lead consultant for transfer in each hospital to develop a strategy to ensure training is offered to those who require it as soon as practicable.

Note that competency requirements vary from patient to patient and this must be reflected in the risk assessment. For example, a paediatric patient with the potential to deteriorate should be transferred by staff with the competency to deliver paediatric critical care without reliance solely upon extrapolation of adult experience.

### **6.1 Physicians**

Transfer competencies for physicians are included in the Intensive Care Medicine CCT produced by the Faculty of Intensive Care Medicine <sup>7</sup> and in the Anaesthesia CCT produced by The Royal College of Anaesthetists <sup>8</sup>. The key elements of these are summarised below and reproduced in full in Appendix D:

- Ability to independently intubate the critically ill patient
- Manage and maintain the invasively ventilated patient
- Maintain sedation
- Predict and account for the physiological effects of movement
- Safely package the patient

### **6.2 Nurses, ACCPs, ODPs, SP-CCs**

Competencies for nursing staff are included in the 'National Competency Framework for Adult Critical Care (Step 1 & 2 Competencies)' produced by the Critical Care Networks – National Nurse Leads <sup>9</sup>. These are amalgamated in Appendix E.

Competencies for ACCPs and SP-CCs are not defined nationally and will need to be agreed locally to reflect role and scope of practice.

## **7. Training**

The Transfer Group will oversee education across the SWCCN and define key themes and content that regional transfer courses must deliver. This system aims to ensure that basic and intermediate competencies will be covered for all attendees and that opportunities exist to develop higher and advanced competencies.

This is an area of evolution across the region and it is envisaged that local training courses will be offered "Approved Status" based on comparison of their content against the key themes identified by the SWCCN Transfer Group. This will allow staff to develop competency in a way which allows their skills to be recognised anywhere within the region.

Wherever possible, courses should be multidisciplinary in nature, reflecting the delivery of transfer care.



## 8. Equipment

Transfer equipment is the responsibility of the nominated consultant lead for transfer in each hospital trust. It must be immediately available for intra- and inter-hospital transfers. At a minimum, the following equipment is required:

- Transfer bag
- Transfer drugs
- Portable ventilator
- Portable monitor
- Portable oxygen cylinders with appropriate devices for attachment to a patient bed
- Transfer trolley

### 8.1 Transfer bag

The SWCCN recommend, in line with national guidelines, adoption of a standardised transfer bag across trusts in the network. This will promote familiarity for staff, quicker access in an emergency and ease of checking and restocking. It is recommended that trusts use the same bags for both inter- and intra-hospital transfer work – most will require more than one bag, and some may require several.

Appendix F details the recommended contents for a transfer bag, adapted by Royal Cornwall Hospital from the Intensive Care Society Guidance On: The Transfer of the Critically Ill Adult <sup>2</sup>.

Transfer bags must be checked regularly to maintain safety. It is recommended that a checking system of single-use seals is utilised to facilitate rapid checking at the beginning of each clinical shift. Bag contents must be checked regularly to ensure disposable items remain in date and, at a minimum, this must occur monthly.

### 8.2 Transfer drugs

Appendix G details the recommended minimum contents for a drugs bag. Trusts may find it cost-effective to adopt a standardised drug bag that is sealed and checked in line with the transfer bag. Additional drugs specific to the patient being transferred should be added as required.

### 8.3 Transfer trolley

Trusts must have a CEN compliant transfer trolley for inter-hospital transfers, in line with national guidelines. Ventilator, monitor, infusion pumps and ancillary devices must be mounted in such a way as to be CEN compliant and should be below the patient mattress. It is the responsibility of trust nominated consultant leads for transfer to select appropriate devices according to local preference and market competition.

Use of a transfer trolley allows greater time for movement, packaging and settling of the critically ill patient prior to arrival of inter-hospital transfer, reduces delays to the transporting ambulance crew and improves safety.

SWASFT is not obliged to return clinical escorts to the transferring hospital <sup>10</sup>. In cases where a transfer trolley is used, the SWASFT Duty Manager may agree at the time of call to return clinical escorts and the transfer trolley. However, the ambulance will continue to be available to respond to 999 Category 1 (life threatening) calls during the journey, which may significantly extend the time taken to return.

#### **8.4 Equipment governance**

All equipment must be regularly checked, serviced and maintained. Documentation of this must be collated by the trust nominated consultant lead for transfer and must be made available to external parties on appropriate request.

### **9. Incident reporting**

All incidents relating to the transfer of critically ill patients should be reported using local trust incident reporting systems such as DATIX. Incidents that arise during an inter-hospital transfer should usually be reported by the transferring hospital.

The nominated consultant lead for transfer is responsible for investigating these incident reports and providing a summary report ahead of each quarterly SWCCN Transfer Group meeting.

Significant incidents, including (but not limited to) actual patient harm, death, road traffic collision involving transport and staff injury should be reported to the SWCCN Transfer Lead in a timely manner to ensure support and guidance can be provided.

### **10. Data collection and audit**

The SWCCN inter-hospital and intra-hospital transfer forms must be used to record all critical care patient transfers. It is the responsibility of the trust nominated consultant lead for transfer to collate these forms, check data quality (i.e. missing data) and address any obvious clinical quality issues.

Inter-hospital forms must be submitted to the SWCCN within 4 weeks for transcription onto the SWCCN Transfer Database. The SWCCN Transfer Lead will collate an annual report for the SWCCN Board and each Trust will receive a summary annual report of their own activity and data. Trusts requiring additional reports outside this cycle must give at least 8 weeks' notice.

Intra-hospital forms are the responsibility of the nominated consultant lead for transfer. A summary report should be provided ahead of each quarterly SWCCN Transfer Group meeting including activity, destinations and any reported incidents.

Reasonable requests for data access for audit should be made to the SWCCN Lead for Transfer.

## 11. Clinical practice

### 11.1 Decision to transfer

The decision to transfer a patient must be consultant led. Most discussions should be consultant-to-consultant. In situations where defined pathways permit other routes of referral (e.g. major trauma auto-acceptance within the Peninsula Trauma Network), these should be followed. The clinical department in the transferring hospital responsible for transfers must be involved at the earliest opportunity.

In most cases, the decision to accept a critical care transfer lies with the admitting critical care consultant. All patients should also have an accepting specialty consultant with the exceptions being major trauma (for whom the accepting consultant is the Trauma Team Leader) and paediatric patients (for whom the WATCH or Paediatric specialist consultant is the accepting clinician).

### 11.2 Urgency of transfer

There are different levels of urgency associated with transfers:

- Time-critical: patients who require transfer to a specialist centre for immediate life-saving intervention on arrival (e.g. extradural haematoma, intussusception, MCA syndrome, aortic dissection).
- Urgent: patients who require transfer to a centre for specialist care or non-time critical intervention (e.g. sub-arachnoid haemorrhage, stable major trauma patients, empyema requiring washout).
- Repatriation:
  - De-escalation: patients who no longer require specialist care at a tertiary centre but require ongoing critical care at a local secondary hospital.
  - Transfer: patients, such as holidaymakers, who are hospitalised in a location which is geographically remote from home and require ongoing critical care treatment in their local hospital.

Non-clinical transfer, or transfer of one patient to facilitate admission of another, should be an option of last resort. In very rare circumstances these may be required, and the urgency depends upon operational pressures. When such a transfer occurs, the patient requiring admission should generally be the one transferred out, rather than expose another patient to risk of transfer solely for the benefit of another (exceptions to this may occur and require consultant input). When a non-clinical transfer occurs:

- The consultant making the decision to transfer should complete a local incident report form
- The trust nominated consultant lead for transfer should notify the SWCCN Transfer Group of the instance as part of the quarterly activity report.

Timing of transfers depends on a number of factors:

- Availability of resource (e.g. bed, surgeon, etc) at receiving centre. For time-critical patients, bed availability **must not** influence acceptance, in line with the Coroner's Regulation 28 ruling from 2017<sup>2,11</sup>
- Availability of transferring clinicians
- Safety related to weather and light
- Availability of transport
- Operational pressures

The balance of weight afforded to each of these factors will be on a case-by-case decision requiring consultant-level decision making.

### **11.3 Transport mode selection and request**

The majority of inter-hospital transfers will be undertaken by road. The decision to carry out a transfer by road or air will depend on local circumstances, patient factors and staff training and availability.

Arrangements for road transfer depend upon the National Framework for Interfacility Transfer<sup>6</sup>. Details on how to contact SWASFT are included in Appendix H but, in principal, for time-critical transfers call 999. The expectation should be of a 20-minute response time, so timing of the 999 call must account for this to minimise delay to departure and excess waiting by a 999 ambulance crew for a patient that is not adequately prepared.

#### **11.3.1 Air transfer**

Air transfers should be discussed via the same telephone numbers with a specific request made for the ambulance service to consider sending an air asset. Note that air transfer rarely offers a time saving over any road journey of 1 hour or less due to the additional logistical complexities. The ambulance control operators will balance clinical need against availability and operational pressures on the air assets. The decision to go via air rests with the ambulance service (in collaboration with the pilot commander of the aircraft involved), not the referring hospital. Before making the call for a possible air transfer, the weight of the patient, escorting staff and transfer equipment must be accurately assessed so this information can be passed to the pilot for fuel calculations.

Wherever possible, staff who have not had previous familiarisation training with the aircraft should not conduct these transfers without an experienced supervisor.

It is the responsibility of the trust nominated consultant lead for transfer to develop links with local air ambulance and Coastguard services likely to be involved with time-critical transfers. This will likely include flight certification of medical transfer equipment to be used on board the aircraft. Transfer teams must ensure only approved devices are used aboard the aircraft – these should be clearly labelled to assist with this.

Non-emergency air transfer, such as long-distance repatriation, should be discussed with a specialist aeromedical retrieval company.

### **11.4 Risk assessment and selection of escorting staff**

Critically ill patients undergoing inter- and intra-hospital transfer should be accompanied by one or ideally two trained and competent staff.

Prior to transfer, a risk assessment must be undertaken by a consultant, or other suitably experienced member of medical staff, to determine the level of anticipated risk during transfer. Copies of the SWCCN Transfer Risk Assessment Tool (Appendix I) should be readily available in areas of the Trust where transfers originate, or an electronic version downloaded. The outcome of this assessment should be documented by:

- Filing the completed tool in the patient's notes (at the referring hospital)
- Noting the outcome of the Risk Assessment on the relevant transfer form

In addition to the Intensive Care Society Levels of Care (Level 0-3) <sup>4</sup>, the risk assessment takes into account:

- The patient's current condition as objectified by NEWS Score
- Specific risks related to the patient's condition
- Risks associated with the transfer and movement of the patient
- Likelihood of deterioration during transfer, accepting the limitations of such an assessment. This includes the potential for requiring additional monitoring or advanced interventions such as airway management
- Mode of transport and likely duration of transfer

If patient parameters fall across risk categories, the higher category should be chosen. The risk assessment provides an objective indicator of the required competency of escorting staff. In most cases, critical care patient transfers will require hospital staff to accompany them although there may be cases when a paramedic is suitable. Hospital staff may be nursing (and other allied healthcare professionals), medical or both.

If escorts cannot be provided by the transferring hospital, consideration should be given to postponing the transfer, calling in additional staff or using external services. When this occurs, a local incident report form should be completed and included in the quarterly report to the SWCCN Transfer Group.

### **11.5 Packaging (including immobilisation and spinal care)**

Packaging of the patient is an essential component of the delivery of high-quality critical care transfer. Adequate packaging reduces the risk of pressure injury, ensures adequate thermal management, ensures the physical risks of transfer within a moving vehicle are minimised and protects the patient's privacy and dignity.

#### **11.5.1 Inter-hospital**

It is helpful to consider the packaging in three layers:

- Inner layer – monitoring and therapy
  - Bundle wires together and ensure they do not run under the patient (a low-cost solution to this is to use disposable gloves to tie them together at 30cm intervals)
  - Extra adhesive dressings over ECG dots and IV/arterial cannulae
  - Consider arterial pressure monitoring where practicable (less battery drain)
  - Have back-up NIBP cuff on the patient but not on the same arm as the sedation infusion
  - Consider additional security of endotracheal tube: adhesive tapes plus a loose tie backup
  - Ensure IV access visible and accessible (where possible place cannulae on side facing the escort team – patient's right for road ambulance, patient's left for air ambulance)
- Middle layer – temperature management and bedding
  - Ensure sheets under patients are not creased
  - Blankets – minimum of 2, consider wrapping head
  - Consider active warming blankets and reflective blankets (heat and vapour barrier) where available
  - Ensure monitoring and IV lines are not tangled in blankets

- Security
  - Patients should be secured to the CEN-compliant transport trolley by means of appropriate restraint i.e. multipoint harness. Where patients are conveyed on an orthopaedic scoop stretcher (see below) they must be secured separately to the scoop stretcher and to the trolley.
  - CEN-compliant transfer trollies should not be loaded into Search and Rescue Helicopter assets. Whilst they will physically fit, the floor of the aircraft (containing fuel tanks) is not rated for the point-loading applied by the wheels of such a trolley.
  - Gas cylinders must be held in secure approved housings and not placed on the patient trolley or bed to avoid the risk of fire.
  - Cervical spinal immobilisation should consist of blocks and tape where required (rigid collars should not be used as these contribute to discomfort, pressure injury and ICP increase without proven benefit of limiting spinal movement <sup>12</sup>).
  - Where a CEN-compliant trolley is not available, or cannot be used for other reasons, the patient must be carefully secured using the provided restraint. Care must be taken to secure all medical equipment (to prevent it becoming a missile in the event of a collision) and none should rest in contact with the patient.

Before departure, ensure gas and electrical supplies for the equipment are being drawn from vehicle systems wherever available.

#### **11.5.2 Intra-hospital**

Packaging the intra-hospital transfer patient reduces risk and improves efficiency of the transfer and post-transfer recovery time.

Patients should be safely positioned on the hospital bed or trolley with bed rails elevated. Care should be taken to ensure limbs do not protrude beyond the bed rails to reduce the risk of injury.

A standardised approach to the placement and storage of electronic equipment such as monitors, ventilators and infusion pumps should be utilised to reduce the risk of injury to the patient, loss of invasive lines or damage to equipment. Specially designed equipment-carrying frames which attach to the bed should be used where available. Items should not be placed against or on top of patients as this compromises pressure area care and patient dignity.

#### **11.6 Minimum standards of monitoring and documentation**

Minimum standards of monitoring are well-established in national guidelines, particularly for anaesthetised patients. The SWCCN have the same minimum standards, with essential recording as follows:

- NIBP
- ECG
- SpO<sub>2</sub>
- FiO<sub>2</sub>
- Ventilator pressures
- ETCO<sub>2</sub>
- Temperature

Wherever possible, continuous core temperature monitoring is recommended. An arterial catheter should be used for continuous blood pressure monitoring as it allows optimum haemodynamic care and is much less draining on monitor batteries than a non-invasive cuff system. Insertion of an arterial catheter **must not** unduly delay departure of a time-critical patient.

Frequency of recording of observations should be:

- Every 5 minutes: BP, HR, SpO<sub>2</sub>, ETCO<sub>2</sub>
- Every 15 minutes: temperature, ventilator pressures, pupil size
- Every hour: urine output (if catheterised), consideration of pressure areas

Pupil size should be recorded in all sedated patients as a component of clinical assessment of adequacy of sedation. It has the additional role of monitoring pathophysiology in brain injured patients, more information about which can be found in Appendix R and the Peninsula guide to transferring the adult patient with a time critical brain injury<sup>13</sup>.

The SWCCN Transfer Form must be used to document observations and any events. Critical events must be reported using local incident report form by the transferring clinician on return to transferring hospital.

## **11.7 Safety en-route**

### **11.7.1 Personal protective equipment**

Staff accompanying an inter-hospital transfer should wear suitable warm and protective clothing including appropriate footwear (theatre attire is not suitable).

High visibility jackets should be worn, and these should be provided by the employer in line with national guidance.

A mobile telephone and contact telephone numbers should be available for liaison with the transferring and receiving unit in all transfers.

### **11.7.2 Vehicle aspects**

An inter-hospital transfer should not depart until the patient, staff and equipment are secure within the vehicle.

Staff should remain seated at all times and wear seat belts. Adequately resuscitated and stabilised patients should not normally require any significant changes to treatment during transport. If, however, a clinical emergency arises and the patient requires intervention, this should not be attempted in a moving ambulance. The vehicle should be stopped in a safe place before administering treatment (it is the responsibility of the driver to choose an appropriate place – the hard shoulder of a motorway should be avoided).

High speed journeys should not be undertaken, except in exceptional circumstances (e.g. the transfer of a time-critical patient). Blue lights and sirens may be used to aid passage through traffic to deliver a smooth journey. The driver holds the legal exemption for blue light driving and the decision regarding their use ultimately rests with them.

Transferring staff should ensure the temperature of the transport vehicle is appropriate to maintain patient comfort and temperature.

### 11.7.3 Intra-hospital

Critical Care Units should have a transfer policy that includes safe methods of bed movement around the hospital and methods to reduce manual handling risks to staff (e.g. best practice in moving patients onto the CT scanner table).

### 11.8 Transfer with blood products

Trusts must ensure that they have an agreement in place with their transfusion service to govern the transfer and administration of blood products in the inter-hospital environment. This guideline should include how blood is stored during transfer, administration en-route and a system for acceptance in receiving hospitals to allow usage and prevent wastage.

Blood products must not be transferred with a patient without the presence of an individual trained and competent in their administration (i.e. 'spare blood' must not be sent with ambulance service paramedics as they cannot oversee a transfusion, even if commenced prior to departure).

Wherever practical, transfusion should be conducted using a blood warmer.

### 11.9 Arrangements for return of staff and equipment

Due to operational reasons, escorting hospital staff and their equipment are not guaranteed to be returned to their base hospital by SWASFT after a transfer (for more information see Appendix J). Prior to departure, transferring clinicians should determine their return transportation. Transferring clinicians should carry money and mobile phones in case of unforeseen difficulties or delays on the return trip.

Trust leads for transfer are responsible for devising an effective system to rapidly recover staff and equipment in the event of a transfer e.g. arrangements with a local taxi company. Any reasonable expense incurred to the transferring clinicians during this process must be reimbursed by the transferring hospital Trust. Transfer drugs, in particular controlled drugs, must be returned and remain the responsibility of the transferring doctor at all times until returned to the transferring hospital.

Note that a SWASFT ambulance returning transferring clinicians and equipment will remain available for Category 1 (life-threatening) emergencies. In the event of being tasked to such an emergency, transferring clinicians must follow all instructions given by SWASFT clinicians to ensure their safety. They may only offer clinical assistance within the strict limits of their own scope of practice, taking into account the differences in environment and situation. Unless separately authorised by SWASFT through an air ambulance service or BASICS scheme, escorting physicians must not practice emergency anaesthesia, advise on termination of resuscitation or influence triage decisions for patients encountered during the return journey from a transfer.

### 11.10 Handover

A formal handover must occur between the transfer team and receiving medical and nursing staff on arrival at the receiving hospital. **At the completion of handover, all clinical responsibility is assumed by the receiving hospital trust and its staff.** Local arrangements for location of handover must be followed. Handover will usually occur in the Emergency Department or Critical Care Unit. Occasionally, the patient will be transferred directly to an operating theatre and handover should occur on arrival into theatre.



Handover should consist of a written summary of the patient's medical history, interventions, relevant results (blood tests, microbiology, printed radiology reports), physiological status, and reason for transfer. Relevant radiology should be transmitted electronically to the receiving hospital and the transferring unit must take responsibility for this.

A structured verbal handover using a system such as 'SBAR', 'ATMIST' or 'ABCDE' should accompany the written summary and must include details of the transfer itself, pertinent physiology, drug infusions, interventions and immediate patient needs.

The transfer team must not be asked to escort the patient to radiology or locations outside the receiving Emergency Department, Critical Care Unit or theatre suite. It is the responsibility of the receiving hospital staff to undertake radiology and ongoing interventions. In the case of Southmead Hospital, this is detailed in Appendix K.

### **11.11 Insurance and indemnity**

Inter-hospital transfer presents an increased risk to both the patient and transferring staff. Whilst serious accidents involving ambulances are rare, they do occur and can lead to serious injury and death.

It is recommended that all staff involved in transporting patients ensure that adequate financial arrangements are in place for themselves and their dependents in the event of an accident. The Intensive Care Society and the Association of Anaesthetists provide personal injury insurance for members as part of their annual subscription.

Limited personal and medical indemnity will be provided through NHS Resolution as the transfer is an extension of that individual's work environment for the duration of the transfer and return. Note that this only applies whilst the individual is performing Trust duties.

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## **Appendix A – Information about WATCh**

Awaiting information from WATCh, February 2020

## Appendix B – Hospital trust consultant lead for transfer role description

### Responsibilities

- The writing, updating and dissemination of guidelines for intra- and inter-hospital transfer of critically ill and injured adult and paediatric patients. Ensure that these Trust policies remain aligned with regional and national guidance.
- Coordinate with relevant specialist stakeholders to assist in the development of local care pathways of which patient transfer is a significant component.
- The coordination of development and delivery of training in Transfer Medicine to appropriate clinical staff within the Trust.
- Operate as single-point-of-contact between the Trust and any existing or potential transfer services, including South Western Ambulance Service NHS Foundation Trust (SWASFT), air ambulance units, and any other air or road-based services used by the Trust for transfer of medically-escorted critically ill or injured patients.
- Be the nominated consultant to sign-off Transfer Medicine competency modules for trainee medical staff in Anaesthesia and Intensive Care Medicine posts within the Trust.
- Specify equipment necessary for the Trust's interhospital transfer service and oversee procurement, maintenance and servicing processes to maintain a functional transfer service within reasonable limits.
- Identify, report and manage risks associated with provision of the Trust's inter-hospital transfer capability
- Collate and analyse data on core logistical and clinical quality indicators for all medically-escorted inter-hospital transfers and report this data, including summary KPI data where agreed, to the Critical Care management team.
- Represent the Trust at the South West Critical Care Network (SWCCN) Transfer Group and share appropriate anonymised performance data with the Group as necessary for regional audit and quality improvement purposes.
- Liaise with key stakeholders on local issues, including, but not limited to:
  - Critical Care Unit
  - Department of Anaesthesia
  - Emergency Department
  - SWASFT and air ambulance unit(s)
  - SWCCN Transfer Group
  - Regional Neurosciences Group
  - Major Trauma Networks (adult and paediatric)
  - South West Burns Operational Delivery Network
  - Wales and West Acute Transport for Children Service (WATCh)

### Reporting

- The Trust consultant lead for transfer reports to the Critical Care Governance Group and is accountable to the Clinical Director(s) of the Critical Care Directorate.
- Transfer activity data will be reported annually to the Critical Care Governance Meeting. The report will also be made available, as required, for the purposes of Trauma Network Peer Review.

## Appendix C – SWCCN Transfer Group Terms of Reference



### TRANSFER GROUP TERMS OF REFERENCE

#### 1. Aims

The South West Critical Care Network is responsible for clinical governance and provision of standards for the inter- and intra-hospital transfer of critically ill patients within its geographical region.

#### 2. Context

Planning for inter-hospital transfer of critically ill patients was made mandatory by the Department of Health's publication of 'Comprehensive Critical Care: A review of adult critical care services' in 2000. The SWCCN Transfer Group will fulfil this responsibility through an appointed consultant Lead for Transfer and membership of the Transfer Group.

The SWCCN Transfer Group reports to the SWCCN Board through the Lead for Transfer.

#### 3. Purpose of the SWCCN Transfer Group

The SWCCN Transfer Group will ensure that the Network supports the delivery of high-quality critical care to patients undergoing inter- and intra-hospital transfer. In order to achieve this, it will develop guidance, regional referral pathways, undertake data collection, audit and quality assurance.

#### 4. Objectives of the SWCCN Transfer Group

The SWCCN Transfer Group will:

- Support and advise the Network Manager/Lead Nurse and Network Medical Lead in issues concerning the inter- and intra-hospital transfer of critically ill patients
- Review guidance and feedback from national and regional bodies and offer resolution, advice or agree actions with the SWCCN Board and Network Management Team
- Produce regional guidance for ratification by the SWCCN Board
- Produce quarterly reports of transfer activity, incidents occurring and additional work for discussion at the SWCCN Board

- Produce annual reports of transfer activity for acute trusts within the SWCCN and for the SWCCN Board
- Produce inter- and intra-hospital transfer paperwork for mandatory completion in all cases to facilitate data collection, audit, research and activity reporting
- Oversee education in transfer across the SWCCN, defining key themes and content that courses must deliver
- Work with the SWCCN Board, Commissioners and key stakeholders to develop medium and long-term strategies concerning the inter-hospital transfer of critically ill patients

#### **5. Chair & Meeting arrangements**

- The SWCCN consultant Lead for Transfer will chair the SWCCN Transfer Group. In their absence, a nominated deputy will chair the meeting.
- The SWCCN Transfer Group will meet four times a year by face-to-face or electronic means. Ad hoc meetings may be required when there is the need to expedite timely resolution to a specific issue.
- Ratification of documents be undertaken by the SWCCN Board and, in line with its Terms of Reference.

#### **6. South West Critical Care Transfer Group Membership**

Membership must reflect representation from all Critical Care Units across South West Critical Care Network:

- South West Critical Care Network Lead for Transfer – Chair
- South West Network Manager/Lead Nurse
- South West Acute Provider Trusts with critical care services' nominated consultant leads for transfer or deputy
- South Western Ambulance Service NHS Foundation Trust representative (on behalf of all statutory conveying organisations)

## Appendix D – Physician competencies

Adapted from the Royal College of Anaesthetists CCT Basic- and Intermediate-level (2010) and Faculty of Intensive Care Medicine CCT Transfer Competencies (2014).

### 1. Attitudes

- 1.1 Anticipates and prevents problems during transfer
- 1.2 Lead, delegate and supervise others appropriately according to experience and role
- 1.3 Appreciates the importance of communication between referring, transporting and receiving staff prior to and during transport
- 1.4 Desire to minimise patient distress
- 1.5 Recognises personal limitations, seeks and accepts assistance or supervision (knows how, when and who to ask)
- 1.6 Indicates the lines of responsibility that should be followed during transfer practice
- 1.7 Outlines the roles and responsibilities of all staff accompanying the patient during transfer including the ambulance technicians and paramedics

### 2. Knowledge

- 2.1 Indications, risks and hazards and benefits of patient transfer (intra / inter-hospital)
- 2.2 Outlines strategies to minimise risk during Interhospital transfer, including but not limited to:
  - Stabilisation
  - Pre-emptive intervention
  - Sedation
  - Monitoring
  - Packaging
  - Choice of mode of transfer
- 2.3 Describes the increased risks to critically ill patients of transfer and the reasons for these risks
- 2.4 Explains how time-critical elements may influence risks to the patient and transfer personnel and how these should be managed to reduce them
- 2.5 Understands the increased risk of interventions during interhospital transfer
- 2.6 Explains the concept of primary/secondary/tertiary transfer
- 2.7 Ethical issues surrounding transfer
- 2.8 Strategies to avoid transfer - use of other facilities
- 2.9 Strategies to manage the unique problems associated with patient transfer - limitations of space, personnel, monitoring and equipment
- 2.10 Advantages and disadvantages of road ambulance, fixed and rotary wing aircraft including problems associated with altitude, noise, lighting conditions, vibration, acceleration and deceleration
- 2.11 Selection of mode of transport based upon clinical requirements, distance, vehicle availability and environmental conditions
- 2.12 Determination of required number of physicians / nurses / others during transfer and the role of paramedical personnel
- 2.13 Selection and operation of transport equipment: size, weight, portability, power supply/battery life, oxygen availability, durability and performance under conditions of transport
- 2.14 Outlines the basic principles of how the ventilators used for transfer function
- 2.15 Recalls/describes the minimal monitoring requirements for transfer
- 2.16 Describes the importance of keeping records during transfer

- 2.17 Outline the issues surrounding the carrying/recording of controlled drugs during transfer
- 2.18 Homeostatic interaction between patient and environment (e.g. thermoregulation, posture / positioning)
- 2.19 Recalls/describes the physiological effects of transport including the effects of acceleration and deceleration, including Newton's laws of motion
- 2.20 Physiology associated with air transport
- 2.21 Operation of locally available retrieval services
- 2.22 Outlines the specific considerations for transfer of patients with specific clinical conditions, including but not limited to:
  - Head, spinal, thoracic and pelvic injuries
  - Critically ill medical patients
  - Burns
  - Children
  - Pregnant women
- 2.23 Lists the different modes of ventilation and explains the selection of appropriate parameters in e.g. Asthma/COPD and ARDS
- 2.24 Outlines the problem of infection and contamination risks when moving an infected patient
- 2.25 Explains how to assess and manage an uncooperative and aggressive patient during transfer
- 2.26 Recalls/discusses the reasons for patients becoming unstable during transfer and strategies for management
- 2.27 Recalls/describes how to manage patients who develop sudden airway difficulties whilst in transit [both in the intubated and un-intubated patient]
- 2.28 Understands the effects of high ambient noise on patients and alarm status
- 2.29 Potential psychological impact of inter-hospital transfer and family dislocation
- 2.30 Outlines the consent requirements and the need to brief patients in transfer situations
- 2.31 Understands hospital/regional protocols governing transfer of patients
- 2.32 Awareness of the laws relating to deaths in transit
- 2.33 Describes the personal equipment needed when leading a transfer, especially when a prolonged journey is anticipated
- 2.34 Discusses the importance of auditing practice and reporting critical incidents that arise during Interhospital transfer and the need for appropriate research

### 3. Skills

- 3.1 Demonstrates the necessary organisational and communication skills in managing inter-hospital transfers safely and effectively, recognising the importance of maintaining contact with base/receiving units if necessary whilst on transfer
- 3.2 Check transfer equipment and plan transfers with personnel prior to departure
- 3.3 Select appropriate staff based upon patient need
- 3.4 Prepare patients prior to transfer; anticipate and prevent complications during transfer - maintain patient safety at all times
- 3.5 Demonstrates the ability to calculate oxygen and power requirements for the journey
- 3.6 Adapt and apply general retrieval principles where appropriate to pre-, intra-, and inter-hospital transportation
- 3.7 Consider the need for and implements pre-transfer stabilisation before transfer
- 3.8 Undertake intra-hospital transfer of ventilated patients to theatre or for diagnostic procedures (e.g. CT)



- 3.9 Undertake inter-hospital transfers of patients with single or multiple organ failure
- 3.10 Maintain comprehensive documentation of the patient's clinical condition before, during and after transport including relevant medical conditions, therapy delivered, environmental factors and logistical difficulties encountered
- 3.11 Determine when the patient's needs exceed local resources or specialist expertise (requirement for transfer)
- 3.12 Demonstrates the ability to establish appropriate ventilation and monitoring required of a critically ill patient for interhospital transfer
- 3.13 Demonstrates safety in securing the tracheal tube securely prior to commencing the movement/transfer
- 3.14 Demonstrates safety in securing patient, monitoring and therapeutics before transfer
- 3.15 Demonstrates how to check the functioning of drug delivery systems
- 3.16 Demonstrates appropriate choices of sedation, muscle relaxation and analgesia to maintain the patient's clinical status during transfer
- 3.17 Demonstrates the ability to safely sedate a patient for interhospital transfer
- 3.18 Demonstrates the need to integrate patient diagnosis with the physiological effects of transport
- 3.19 Demonstrates the ability to manage sudden loss of airway control, vascular access and monitoring in patients during transfer
- 3.20 Demonstrates appropriate situational awareness

## Appendix E – Nursing competencies

Adapted from Step 1 and Step 2 Competencies from the National Competency Framework for Registered Nurses in Adult Critical Care (2015).

### 1. Knowledge

- 1.1 Understand the nursing role in the intra & inter hospital transfer of a critically ill patient
- 1.2 Policies/procedure/guidelines related to the transport of the critically ill patient:
  - ICS guidelines
  - Regional standards
  - Local policy
  - Bed management systems
  - Transfer audit documentation
  - NMC Code of Conduct
- 1.3 Indications for transfer from critical care including the:
  - Nature: repatriation, specialist treatment, investigation, continuing care
  - Sequence of expected event
  - Urgency and time-critical transfers
  - Reasons for reviewing individuals' priorities, needs and the timeframe with which this should be undertaken
  - Differing types of transport available and make recommendations for which is the most appropriate.
- 1.4 Process for organising the appropriate transport:
  - Ambulance service
  - Vehicle specification (including on-board resources and equipment)
  - Ambulance equipment
  - Storage of transport equipment in transit
  - Time critical transfer issues
- 1.5 Transfer process including the different considerations for clinical and non-clinical transfer decisions:
  - Identification of correct patient
  - Consent
  - Patient history, treatments and diagnostic tests
  - Infection status
  - Ethical issues and legal requirements
  - Referral to receiving hospital (including critical care and specialty consultants)
  - Responsibility of care during transfer
  - Indemnity insurance
  - Risk assessment of patient's physiological requirements and maintenance of homeostasis during transit
  - Contingency planning/back-up considerations
  - Drug administration during transfer
  - Communication with receiving hospital prior to transfer
  - Documentation and audit
  - Responsibility of care during transfer

- 1.6 Methods, procedures and techniques for the portable monitoring and the types of equipment required during transfer (outline the calibration requirements and battery life expectancy/expiry date of each):
- Mechanical Ventilator
  - Oxygen supply requirement calculations
  - Vital signs monitor
  - Invasive lines
  - Infusion devices/syringe pumps
  - Suction equipment
  - Orthopaedic scoop stretcher and transfer trolley
  - Gathering of extra battery packs, alternative equipment in case of malfunction
- 1.7 Implications of standardised monitoring techniques and explain the necessity/appropriateness of each during transfer:
- Continuous ECG
  - Arterial blood pressure versus non -invasive blood pressure
  - SpO<sub>2</sub>
  - Continuous capnography with wave form analysis
  - CVP
  - Temperature
  - Accuracy and calibration of portable monitoring and equipment
- 1.8 Emergency situations that may arise on transfer:
- Airway management
  - Alternative ventilation methods
  - Alternative monitoring techniques (non-invasive methods)
  - Basic and advanced life support
  - Interpretation of vital signs
  - Alteration of treatment plans to maintain homeostasis
  - Titration of medications to optimise condition
- 1.9 Maintain the safety of the patient during transfer:
- Assessment of the extra physiological stresses experienced by the patient during inter-hospital transfer
  - Anticipation of potential problems and planning to reduce the likelihood of their occurrence
  - Maintenance of situational awareness and readiness to respond to threatening situations if and as they occur
  - Demonstrate awareness of situational factors that could impact on the quality and safety of a critical care transfer
  - Complete a comprehensive risk assessment in collaboration with the MDT to ensure the patient is fit or suitable for transfer
  - Assess potentially competing needs of the patient for pre-transfer optimisation and specialist care
  - Assess clinical condition of patient before leaving the critical care unit
  - Identify the potential risks associated with transferring critically ill patients
  - Contents of the local emergency/transfer bag and identify the situations in which it may be required
  - Pharmacology requirements of the patient being transferred
  - Preparation considerations required for drug administration during transfer
  - Safe moving and handling of the individual and equipment being transferred

- 1.10 Process and sequence of communication required for providing oral reports/discussions:
- Information and informed consent in the conscious patient
  - Verbal referral and handover of the patient's condition to receiving unit/service
  - Communication with relatives and on-going updating of the situation as required
  - Handover of condition and physiological requirements to the transfer team/personnel
  - Clinical notes/radiology reports/recent blood profiles/investigations
  - Sharing information with the team in relation to safety, risk assessments and contingency planning
  - Contact receiving unit/service on departure
  - Formal handover to receiving unit/service on arrival
- 1.11 Documentation that needs to be completed for intra & inter hospital transfer:
- Pre-transfer risk assessment tool
  - Transfer form and/or physiological observation chart
  - Nursing evaluation
  - Reporting of clinical incidents
  - Audit tool

## 2. Skills

- 2.1 Assist in the physiological optimisation/stabilisation of the patient prior to transfer
- 2.2 Assist in the preparation of equipment and resources:
- Airway management
  - Portable ventilation
  - Suction equipment
  - Cardiovascular support including vasoactive drug infusions (+/- intra-aortic balloon pumps as required)
  - Vital sign monitoring
  - Fluid therapy & pharmacological requirements
  - Infusion devices/syringe drivers
  - Transfer bag
  - Psychological support
- 2.3 Assist in the location, calibration and safely set up monitoring and transfer equipment including:
- Alarm parameters
  - Prepare electromechanical devices
  - Supplementary gases
  - Transportation
  - Establishing optimum level of stability on portable equipment prior to transfer
- 2.4 Assist in and maintain the safety and continued treatment of the critically ill patient during transfer
- 2.5 Assist in the care for the family of the patient being transferred

## Appendix F – Recommended contents for transfer bag

This appendix details the contents and layout of the Royal Cornwall Hospital adult transfer bag. The system is in use across the Peninsula Trauma Network. It is recommended that both contents and layout are adopted to facilitate increased medical staff familiarity.

### Main transfer bags

- They are sealed and for **emergency use only** – please take all kit you will reasonably expect to use from main stock for your trip – you can stash this in the unsealed portion of the drug bag
- The front-top pouch with the triangle on contains the **BVM and should never be sealed** for obvious safety reasons
- The Critical Care Outreach team will check the equipment and bags **each day** but please replace any items you use; they will double check the contents before re-sealing the bags
- The bags will be checked monthly for expired stock against the expiry register
- Both bags are identical and if everyone does these things, we will all know a sealed bag contains:

Upper front	Bag valve mask	1	Interior lid	Small green	3-way tap	6	Long side pouch	Blood-giving set	2
	Size 4 mask	1		Red bung		10		Saline 0.9% 500ml	1
	Size 5 mask	1		Blue Swan-lock		8		Mannitol 10% 500ml	1
Lower front	Gum elastic bougie	1		Filter needle		5	Short side pouches	Saline 0.9% 500ml	2
	Intubation pack:			19G needle		10	Interior	Long blue	1
	ETT 6	1		18G needle		5		LMA 4	1
	ETT 7	1		Large green Venflon dressing		6		LMA 5	1
	ETT 8	1		Hydrofilm dressing		5	Large orange	12Ch suction catheter	3
	ETT 9	1		Infusion catheter		3		14Ch NG tube	1
	NPA 6	1		5x 10x10cm swabs		4		Waters bag	1
	NPA 7	1		Nitrile gloves	Black	10		Yankaur suction	1
	OPA 0	1		Chlorhexidine wipes	Red	10		Catheter mount	1
	OPA 1	1		14G venflon		2		HME filter	1
	OPA 2	1		16G venflon		2	Small blue	ECG dots	10
	OPA 3	1		18G venflon		2		Sterile scissors	1
	20ml Syringe	1		20G venflon		2		Pentorch	1
	Tube tie	1		Disposable tourniquets		3		Tape roll	2
	Laryngoscope	2		10ml 0.9% saline		10		ETCO <sub>2</sub> cuvette	1
	Mac 3	1		50ml Luer syringe	Blue	2			
	Mac 4	1		50ml Bladdertip		1			
	Magill's forceps	1		20ml Syringe		2			
	KV sachet	3		10ml Syringe		5			
	C size battery	2		5ml Syringe		5			

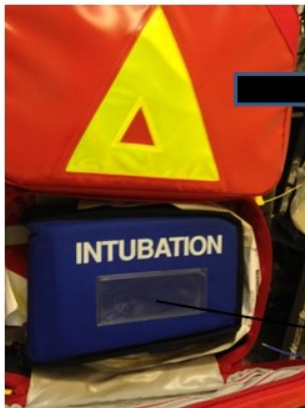
## Exterior compartments

**Long side compartment:**

500ml 0.9% saline  
500ml 10% mannitol  
Blood-giving set x2

**Short side compartments (x2):**

500ml 0.9% saline



**Upper front compartment:**

BVM  
#3 Face mask  
#4 Face mask



**Lower front compartment:**

Intubation pack  
Bougie

## Intubation Pack

ETTs – 1x 6.0, 7.0, 8.0, 9.0  
NPAs – 1x 6, 7

KY jelly x3

Tube ties x2

20ml syringe

Laryngoscope x2 with  
Macintosh 3 & 4



Spare batteries

OPAs 1x 0,1,2,3

Magill's forceps

## Inside main compartment



### Orange ventilation pack:

Tracheal suction catheters 3x 12Ch  
Water's circuit  
Yankaur suction tip  
14Ch NG tube  
Catheter mount  
HME filter

### Blue extras pack:

Tape 2-3 rolls  
ECG dots x10  
Pentorch  
Sterile scissors  
ETCO<sub>2</sub> cuvette

### Blue airway pack:

LMA #4  
LMA #5  
50ml syringe

## Inside main compartment - lid

### Green dressing/IV pack:

IV infusion line x3  
Venflon dressing x6  
Clear dressing x5  
5 sterile swabs x2

### Blue syringe pack:

5ml x5  
10ml x5  
20ml x2  
50ml Luer lock x2  
50ml Bladder tip x1



### Green bung pack:

3-way tap x4  
Red bung x8  
Blue swan-lock x8  
19G needle x10  
Filter needle x5  
18G needle x5

### Black gloves pack:

Nitrile gloves 3prs

### Red IV pack:

14G venflon x3  
16G venflon x2  
18G venflon x2  
20G venflon x2  
Disposable tourniquets x3  
Saline flushes x10  
Chlorhex wipes x10

## Appendix G – Recommended minimum contents for drugs bag

This appendix details the recommended minimum contents for a transfer drugs bag. The bag ensures that a transfer team can induce and maintain anaesthesia, manage cardiac arrest and anaphylaxis in the patient they are accompanying. The bag contains rocuronium that is stable outside a refrigerated cold chain for 12 weeks. Trusts should develop their own policies to manage this.

Adenosine 6mg/1ml	2
Adrenaline 1:1,000 1ml	2
Adrenaline 1:10,000 10ml pre-filled syringe	2
Amiodarone 300mg 10ml pre-filled syringe	2
Atropine 500mcg/1ml	2
Calcium chloride 10% 10ml pre-filled syringe	2
Diazepam emulsion 10mg/2ml	2
Ephedrine 30mg/1ml	2
Furosemide 50mg/5ml	2
Glucose 50% 50ml	1
Glycopyrrolate 600mcg/1ml	2
Hydrocortisone 100mg	2
Labetalol 100mg/10ml	2
Magnesium sulphate 5g/10ml	1
Metaraminol 10mg/1ml	2
Naloxone 400mcg/1ml	2
Noradrenaline 4mg/5ml	2
Ondansetron 4mg/2ml	2
Propofol 1% 50ml (or 2% 50ml)	1
Rocuronium 50mg/5ml	4
Salbutamol nebuliser 2.5mg/1ml	5
Sodium chloride 0.9% 10ml	10
Thiopentone 500mg	2
Water for injection 10ml	4



## Appendix H – Contacting South Western Ambulance Service NHS Foundation Trust for inter-facility transfers

The following information summarises the current SWASFT guidelines, [available online](#).

### Inter-facility transfers

#### Key considerations

If the patient requires clinical skills which are outside of the scope of practice of a Paramedic, a suitably qualified and experienced clinical escort must accompany the patient. Please ensure that you inform the call taker of any escorts who will be travelling, noting that a maximum of two may be accommodated. In exceptional circumstances, a further one clinician may travel in the front of the vehicle.

The Trust is not obliged to return clinical escorts to the original destination. Escorts are advised to arrange their own transport back. In exceptional cases, such as where significant items of equipment or transfer trolleys are being provided by the transferring hospital team, the SWASFT Duty Manager may agree at the time of the call for the escorts return. The ambulance will however continue to be available to respond to Category 1 calls during the journey, which may significantly extend the time taken to return.

#### Upgrade of care

Emergency ambulance transport can be provided by SWASFT if the patient meets **ALL** the following criteria:

- Patient is being transferred to a higher level of care.
- Transferred for an intervention/treatment that requires their arrival within the next four hours. For the Royal Bournemouth Hospital only, this criteria also includes patients under the age of 16 who require assessment within four hours at a hospital with a paediatric capability. The need to secure a bed does not satisfy this criterion.
- Requires clinical observations or interventions on-route.

For calls within the Gloucestershire CCG area (e.g. Cheltenham and Gloucester Hospitals) the following alternative criteria apply:

- Emergency or urgent transport of a patient where a Paramedic crew is clinically required and the journey is to either a hospital within the SWASFT organisational area or to Hereford County Hospital, John Radcliffe Hospital Oxford, Worcestershire Royal Hospital or Queen Elizabeth Hospital Birmingham.

#### Trauma care

Ambulance transport will be provided by SWASFT for trauma patients being transferred from a Trauma Unit to a Major Trauma Centre.

Transfers from a Major Trauma Centre to a Trauma Unit are considered repatriations and are not within contract.

### Procedure for calling a SWASFT ambulance

#### Emergency calls

If your patient's condition is life-threatening and requires an emergency ambulance (blue lights and sirens response) you should call 999. SWASFT prioritises its telephone lines; using this number in an emergency will ensure that your call is answered as a priority.

#### Urgent calls

If your patient requires urgent treatment and assessment within four hours due to their clinical condition and they are not clinically safe to travel to hospital by their own means, then you should contact the SWASFT HCP Urgent Line 0300 3690096.

## Appendix I – SWCCN Pre-Transfer Risk Assessment

*Patient sticker*

*Risk assessment must be completed prior to all inter- and intra-hospital critical care transfers*

To perform this risk assessment, assess the low/medium/high risk criteria. If patient parameters fall across risk categories, the higher category should be chosen. It is recognised that subjectivity and other factors not included may influence your perceived level of risk.

It is the responsibility of the referring consultant / senior clinician to ensure the appropriateness of transfer and that the escorting clinicians have the required training, competencies and experience.

### Low risk

Maintaining airway FiO <sub>2</sub> <0.4 No inotrope/vasopressor support GCS 14-15 (stable for at least 60 mins) Base deficit 0 to -4mmol/L Normothermic NEWS2 1-4	Clinical practitioner with appropriate competencies (nurse, ODP, etc)	Tick
--	--	------

### Medium risk

Maintaining airway FiO <sub>2</sub> <0.6 Low-dose inotrope/vasopressor support GCS 9-13 (consider intubation) Base deficit -4 to -8mmol/L Mild hypo-/hyperthermia NEWS2 5-6	Clinical practitioner with appropriate competencies (nurse, ODP, etc)  <b>PLUS</b>  Doctor or advanced practitioner with critical care and advanced airway competencies	Tick
---	--	------

### High risk

Intubated/tracheostomy Invasive ventilation FiO <sub>2</sub> >0.6 CVS unstable / requiring higher dose inotrope/vasopressor Base deficit worse than -8mmol/L NEWS2 ≥7  Major trauma	Clinical practitioner with appropriate competencies (nurse, ODP, etc)  <b>PLUS</b>  Doctor or advanced practitioner with critical care and advanced airway competencies	Tick
--	--	------

**Name of clinician undertaking risk assessment:**

**Designation:**

**Signature:**

**Date:**

**Time:**

## **Appendix J – Memorandum of Understanding with South Western Ambulance Service NHS Foundation Trust**

Memorandum of understanding with South Western Ambulance Service NHS Foundation Trust regarding inter-facility transfers originating in the SWCCN. This includes categorisation of calls, use of CEN approved transfer trolleys and repatriation of equipment and transferring staff.

Pending further discussion with SWASFT, February 2020.

## Appendix K – Guideline for the transfer of critically ill patients from other hospitals into Southmead ICU

This guideline describes the process by which critically ill patients are transferred into Southmead Hospital Intensive Care Unit from hospitals around the region.

Version 1.1 | Valid from 10/02/2020 | Review due 10/02/2025 | Authors: Aidan Marsh, Scott Grier

### Background

North Bristol NHS Trust is a tertiary care hospital and consequently receives patients from all around the region for further specialist intervention and care. Some of these will be critically ill patients requiring ICU-ICU transfer.

### Scope

This guideline outlines the process by which critically ill patients are transferred into Southmead ICU. Although these patients transit through Southmead Emergency Department (ED) either for registration or for time-critical imaging (see below), they are not Southmead ED patients and are not the responsibility of Southmead ED staff.

The following groups of patients are excluded from this guideline as they already have their own agreed pathway:

- Major Trauma patients – these are the responsibility of the Trauma Team Leader
- Ward-level non-critical care patients – these are the responsibility of the accepting specialty

### Procedure

1. A patient requiring inter-hospital transfer to Southmead Hospital Intensive Care Unit must be referred to and accepted by the admitting team (NB. this is **not** ICU) taking over their care.
2. The clinician from the admitting team must contact the ICU Consultant on-call (or nominated deputy) on ext. **41499** and communicate:
  - Patient name and demographic details
  - Clinical reason for transfer and urgency of transfer
  - Transferring hospital
  - Contact details of transferring team (including mobile telephone number)

They must also tell the referring clinician to contact the Southmead ICU Consultant on-call on **0117 414 1499**

Transfer of the patient will then be co-ordinated by the Southmead ICU Consultant on-call and the ICU Nurse-in-charge.


3. After acceptance by the admitting team, and prior to leaving the referring hospital, the responsible ICU Consultant or clinician at the **referring** hospital will contact the Southmead ICU Consultant on-call on **0117 414 1499** to:
  - Give a clinical handover and estimated time of arrival;
  - Agree a handover location. This will be ICU (Gate 37, Level 2), Theatres (Gate 20, level 2) or Southmead ED. Handover in ED will **only** occur if the patient requires further time-critical imaging prior to emergency intervention.

The transferring team remain clinically responsible for the conduct of the transfer but should inform the Southmead ICU Consultant on-call (**0117 414 1499**) in the event of significant change in patient status (e.g. drop in GCS, dilation of pupil, etc) whilst en-route.

4. The Southmead ICU Consultant must contact the Southmead Emergency Department Nurse in Charge (ext. **44101**) to inform them of the incoming transfer.
5. All patients must enter Southmead Hospital via the emergency ambulance entrance in the Emergency Department. Upon arrival at the ambulance reception desk, the reception team will register the patient and provide wrist bands.
6. The transferring team will proceed to the pre-agreed handover location where clinical handover will occur.
7. Following handover (including transfer of patient onto Southmead Hospital monitoring, ventilator and syringe drivers), Southmead Hospital clinicians are responsible for their care, including transfer for further imaging.
8. In the exceptional circumstance where a significant clinical deterioration has occurred (e.g. drop in GCS, dilation of pupil, etc), it may be necessary to perform time-critical imaging on arrival prior to emergency intervention. The patient will remain on the transferring team's monitoring and equipment but must be met by the ICU team arranged by the ICU Consultant on-call.

**The clinical responsibility for these patients must be with the Southmead ICU team upon arrival in the CT scanner. Under no circumstances is it acceptable for the transferring team to undertake further imaging at Southmead Hospital without the presence of Southmead ICU team.**

## Appendix L – Peninsula Major Trauma Network Transfer Policy

Network Policy		
<b>Safe Transfer of Critically Ill Patients</b>		
<b>Date</b>	<b>Version</b>	
July 2019	V4.0	
<b>Purpose</b>		
<p>Following the national introduction of Regional Trauma Networks, Major Trauma Centres (MTC's) are required to have policies for the safe transfer of major trauma patients. The purpose of this policy is to provide direction and guidance for actions from key individuals and organisations within The Peninsula Trauma Network to improve the patient pathway and ensure that patients are transferred to the definitive point of care as quickly and safely as possible.</p>		
<b>Who should read this document?</b>		
<p>Trauma Network Clinical and Governance Directors            TU and MTC Clinical Leads for Major Trauma            Trauma Team Leaders            All Clinicians Transferring Patients to Specialist Centres            Acute Trust Lead Nurses</p>		
<b>Accountabilities</b>		
<b>Production</b>	Dr David Ashton-Cleary,	
<b>Review and approval</b>	PTN Clinical Advisory Group	
<b>Ratification</b>	PTN Executive Board	
<b>Dissemination</b>	All PTN acute Trusts, South Western Ambulance Service NHS Foundation Trust, Devon Air Ambulance, Cornwall Air Ambulance, Search and Rescue Service.	
<b>Compliance</b>	All Parties	
<b>Links to other policies and procedures</b>		
<p>PTN Automatic Acceptance Policy            PTN Secondary Transfer Policy            Peninsula and Severn Trauma Networks Paediatric Secondary Transfer Policy</p>		
<b>Version History</b>		
V1.0	Iain Grant	Clinical Director, Peninsula Trauma Network
V2.0	David Ashton-Cleary	Anaesthetic Registrar, RCHT
V3.0	David Ashton-Cleary	Anaesthetic Registrar, RCHT
V3.1	David Ashton-Cleary, Iain Grant	Anaesthetic Registrar, RCHT Clinical Director, Peninsula Trauma Network
V3.2	David Ashton-Cleary, Iain Grant	Locum Consultant Intensivist, RCHT Clinical Director, Peninsula Trauma Network
V4.0	David Ashton-Cleary	Consultant in Intensive Care, RCHT
<b>Last Approval</b>		<b>Due for Review</b>
Sept 2013		July 2022

# Contents

## Section

- 1 Introduction
- 2 Application: to whom this policy applies
- 3 The process for safe transfer of critically injured patients
- 4 Non-autoacceptance trauma pathways
- 5 Single-point-of-contact telephone numbers

## 1. INTRODUCTION

This policy exists as an Appendix to the South West Critical Care Network Guidelines for Intra- and Inter-Hospital transfer and should not be read in isolation. This appendix contains only details which are unique both to transfer of trauma patients and particular to trauma patients within the Peninsula Trauma Network.

## 2. APPLICATION: TO WHOM THIS POLICY APPLIES

- 2.1. This appendix will relate to **all** patients within the Peninsula Trauma Network area following injuries that require emergency transfer to the Major Trauma Centre during the acute phase of their injury (within 24 hours of trauma). It does **not** apply to patients for whom specialist **advice** from the tertiary services at the MTC is required, but where admission is not being requested. It also does **not** apply to patients who are being transferred as tertiary referrals, direct to the speciality after the initial 24-hour period.
- 2.2. This policy should be read in conjunction with:
  - The Peninsula Trauma Network Automatic Acceptance policy
  - The Peninsula Trauma Network Secondary Transfer policy

## 3. THE PROCESS FOR THE TRANSFER OF CRITICALLY INJURED PATIENTS FROM TRAUMA UNITS

- 3.1. Patients who are identified in the TUs as having a critical Injury requiring immediate or urgent transfer to the MTC can be transferred, in consultation with the MTC Trauma Consultant of the day, direct to the MTC using the Automatic Acceptance Policy process (see Figure 1). Where time is critical, patients may be dispatched to the MTC prior to the MTC Trauma Consultant being notified. In general, prior warning should be given whenever possible and, in all cases, the MTC consultant must be informed that the patient is en route and an ETA given.

# PTN Secondary Transfer Protocol v7

11/07/2016

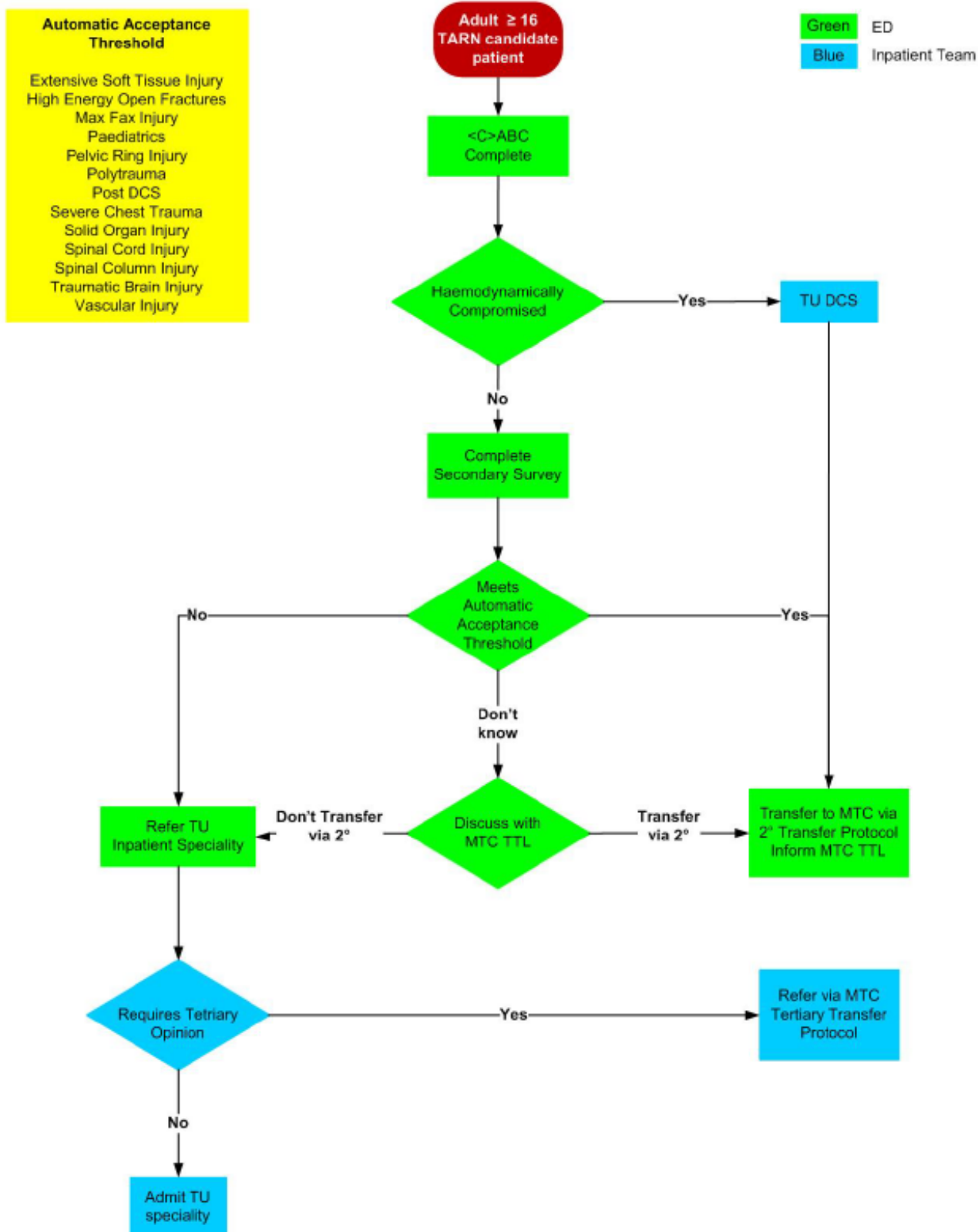


Figure 1 – Automatic acceptance pathway



3.2. All efforts must be made to avoid delays. Emphasis must be placed on optimisation (as opposed to stabilisation) of airway, breathing and circulation, accepting that ongoing resuscitation may be required and some degree of instability will be expected until definitive treatment has occurred at the MTC. Commonly acknowledged points of delay include:

- Moving to and from CT scanning
- Insertion of invasive monitoring lines (arterial and particularly central venous lines)
- Awaiting escorting staff for various reasons.

These phases must be expedited. The need for invasive monitoring must be carefully balanced against delay caused. In particular, a low threshold should be adopted for abandoning central venous cannulation if any delay will be caused. Senior assistance with this task or deferment to intraosseous access should be an early strategy.

3.3. Once the patient is optimised and has received adequate analgesia, patients should leave for the MTC without further delay. If nursing staff are unavailable for any reason, it is appropriate to use the skills of a State Registered Paramedic in lieu to complete the clinical transfer team (see Para 4.4).

#### 4. **NON-AUTOACCEPTANCE TRAUMA PATHWAYS**

4.1. For all neurosurgical referrals falling outside auto-acceptance criteria please make an electronic referral via the Referapatient portal:

- [www.referapatient.org](http://www.referapatient.org)

For acute/life-threatening cases **also** contact the neurosurgical registrar on-call via Derriford Switchboard.

4.2. For all haemodynamically normal patients with pelvic ring or acetabular injury please refer via email to:

- [Plh-tr.Pelvic-Trauma@nhs.net](mailto:Plh-tr.Pelvic-Trauma@nhs.net)

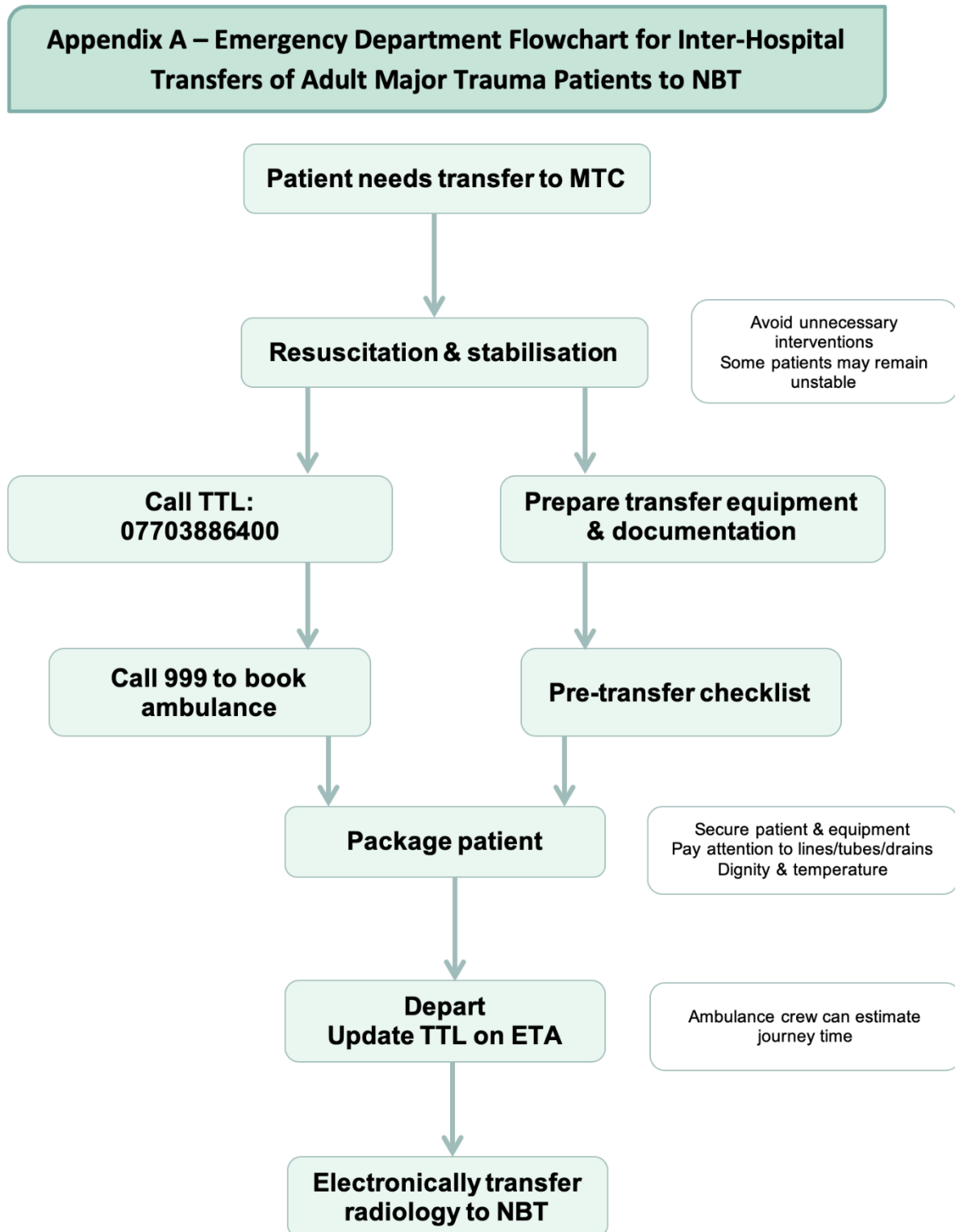
4.3. For chest-wall injury patients requiring consideration of surgical rib fixation please contact Derriford Switchboard and ask for:

- 0900-1700 Mon-Fri – Thoracics Registrar on-call
- Out-of-hours – Cardiothoracics Registrar on-call

#### 5. **SINGLE-POINT-OF-CONTACT NUMBERS**

MTC Switchboard	<a href="tel:01752202082">01752 202082</a>
PHNT Trauma Consultant:	<a href="tel:01752245066">01752 245066</a>
PHNT Trauma Nurse Co-ordinators	<a href="tel:01752437658">01752 437658</a> or <a href="tel:01752437631">437631</a>

## Appendix M – Severn Major Trauma Network referral process



Excerpt from: Severn Major Trauma Network STAG Manual T16-2A-205 – Inter-Hospital Transfer of Adult Major Trauma Patients

## Appendix N – South West Burns ODN referral process and specific burns clinical advice

The South West Burn Care ODN have a [website](#) which contains clinical guidelines and further details of their services. The following two pages contain details of referral criteria and relevant clinical advice when undertaking transfer of a burn injured patient.

### SWUK BURN NETWORK REFERRAL GUIDANCE FOR ADULT BURNS (16 YRS +)

Each service can accept burn referrals up to their designated threshold.  
If in doubt – call your nearest burns service and they will be able to offer advice

	TBSA / DEPTH	OTHER FACTORS	BURNS SERVICE
<b>FACILITY</b>	<b>TBSA:</b> ≥3% <10% <b>DEPTH:</b> Partial Thickness All Deep Dermal & Full Thickness Burns	<b>Site:</b> Any burn to special areas (hands, feet, face, perineum, genitalia) <b>Mechanism:</b> Any chemical, electrical, friction, cold injury <b>Other:</b> Unhealed after 2 weeks Any other co-morbidities that may affect treatment or healing of burn i.e immuno-suppression, diabetics, pregnancy	<b>Derriford Hospital PLYMOUTH</b> Tel: 01752 792274 Switch: 01752 202082 (Burns on-call)
<b>UNIT</b>	<b>TBSA:</b> ≥10% <40% or <b>TBSA:</b> ≥10% <25% with inhalation injury or <b>TBSA:</b> ≥5% <40% if non-blanching	<b>Site:</b> Significant burn to special areas (hands, feet, face, perineum, genitalia) <b>Site:</b> Any non-blanching circumferential burn <b>Other:</b> Any predicted or actual need for HDU/ITU level care Any burn with suspicion of non-accidental injury should be referred to a Burn Unit/Centre for expert assessment within 24 hours. Any significant deterioration in physiology Patients who are pregnant All patients with a Major Trauma + Burn Injury (post treatment within Major Trauma Centre) when burn meets unit level thresholds Any concerns regarding an inhalation injury with any size burn should be discussed with a Burn Centre Patients with a skin loss disease (eg, TENS)	<b>Salisbury District Hospital SALISBURY</b> Tel: 01722 345 507 Switch: 01722 336262 (Burns on-call) Bleep 1029 <b>Southmead Hospital BRISTOL</b> Tel: 0117 414 3100/3102 Switch: 0117 950 5050 (Burns on-call) Bleep 1311
<b>CENTRE</b>	<b>TBSA</b> ≥40% or <b>TBSA:</b> ≥ 25% + <b>AGE:</b> > 65 yrs discuss	<b>Other:</b> All patients with a Major Trauma + Burn Injury (post treatment within Major Trauma Centre) when burn meets Centre level thresholds Patients assessed as requiring end of life care should be discussed with a Consultant Burns Specialist at a Burn Centre Patients with a skin loss disease (eg, TENS)	<b>The Welsh Burns Centre Morriston Hospital SWANSEA</b> Tel: 01792 703 802 Switch: 01792 702222 8:00-17:00: Burns Consultant of the day 17:00-08:00: Burns Consultant on call

# When should you refer a patient?

## Step 1

Assess the burn, refer if any of the following:

**Size:** Any size of burn in those aged 15 or under with a TBSA  $\geq$  1%

**Depth:** All full thickness burns

**Site:** Burns to face, hands, perineum and/or chest  
Circumferential burns or involving a major joint

**Mechanism:** Chemical, electrical, friction or cold injuries  
Suspected non-accidental injury or neglect

**Co-morbidity:** Inhalation injury  
All children with child protection concerns

**Other:** Any children 'unwell' shortly after a burn injury of any size  
Any burn injury not healed within 2 weeks

## Step 2

If any of these issues exist, complete an online referral form  
<https://nww.mdsas.nhs.uk/burns/> attaching photos if possible

## Step 3

Contact the Children's Burn Centre 0117 923 0000 (Bleep 6780) to discuss  
the wound and receive advice on treatment

### Still not sure?

Please feel free to discuss with a member of the Burns Team at the  
Bristol Royal Children's Hospital  
Daisy Ward - 0117 342 7900 (24hrs) Burns Centre Office (8am – 4pm) – 0117 342 7910

### Unwell child with a burn

If a child presents with any of the following symptoms following a burn injury, a full re-assessment is required at the Burns Centre

- ◆ High Temperature (>38°C)
- ◆ A rash
- ◆ Diarrhoea and/or vomiting
- ◆ Tachycardia/Tachypnoea
- ◆ General malaise – not eating or drinking, lethargy, irritability

Children aged 16+ need to be referred to the Adult Burn Unit at  
Southmead Hospital, Bristol Tel : 0117 950 5050

## Clinical considerations when transferring the burn injured patient

Further information can be found in the SW Burn ODN '[Guideline on the initial assessment and management of burn-injured patients](#)'.

### Airway

- Do not cut the ETT. If possible, place an ETT with subglottic suction.
- In the intubated patient, the ETT can be easily displaced either in or out:
  - Out: Cut tubes can “disappear” into the mouth. The ETT can also be pulled out by the tube ties as the face swells
  - In: On moving the patient, the tube migrates into the right main bronchus. This is more likely with uncut tubes
- Top tips:
  - Check length of tube to teeth not lips
  - Check regularly and readjust ties if necessary
  - Facial oedema formation is accelerated by fluid resuscitation and by lying the patient flat
  - Reintubation may be very difficult / impossible. Have a plan B

### Breathing

- Inhalation injury in combination with a burn increases the fluid resuscitation requirements but beware of fluid overload in smoke injured lungs.
- Ventilate with FiO<sub>2</sub> 1.0 until carbon monoxide (COHb) levels <5%. COHb causes functional anaemia and worsens tissue hypoxia, causing signs and symptoms of shock
- Remember the pulse oximeter is unreliable in the presence of COHb
- Suspect cyanide poisoning in all cases of smoke inhalation, but particularly in patients with severe lactic acidosis. Treat with Cyanokit
- Smoke inhalation injury can cause severe bronchorrhoea and bronchoconstriction
- Circumferential burns to the chest and abdomen can cause difficulty with ventilation. Consider whether the patient requires escharotomy before transfer – seek advice if unsure.

### Circulation

- Monitoring can be very difficult
- Non-invasive blood pressure monitoring is generally unreliable in larger burns, consider an arterial line when possible
- Central venous access often very useful but should not delay transfer

### Lines

- Place lines through unburned skin when possible. Groins are often spared in larger burns
- Use longer catheters if using femoral vessels
- Sticky tape won't stick to burned skin
- Secure lines with sutures but beware they can cut out through burned or oedematous skin
- Oedema can kink lines, especially if they are inserted at an acute angle.

### Environment


- Keep the patient warm – hypothermia is associated with increased mortality
- Consider multiple blankets, foil blanket systems (eg. Blizzard) if available, ambulance service warming blankets (caution: must not directly contact skin)
- Ask ambulance crew to turn up cabin heater (this may be uncomfortable for transferring team but will be valuable to the patient)

### Fluids

- Modified Parkland Formula
  - Hartmanns 3-4mls/kg/%TBSA in the first 24 hours post burn – **from time of injury**
  - Half in first 8 hours, half in next 16 hours
- Warmed fluids if possible
- Place a urinary catheter
- Place an NGT if possible

Source: Dr Jo Bowes, South West Burn ODN, December 2019

Appendix O – SWCCN Intra-hospital transfer form



**South West  
Critical Care Network**

To be used for all patients transferred to Critical Care - this is a legal record of transfer

# Transfer Form

## 6396

**BEFORE DEPARTURE...**

Affix sticker/ write details

Name: \_\_\_\_\_

DOB: \_\_\_\_\_

Hospital No: \_\_\_\_\_

Date: \_\_\_/\_\_\_/\_\_\_

Risk assessment category (circle)  
 High  Medium  Low

**A** Own  
 ETT  Tracheostomy  
 Intubation grade \_\_\_\_\_  
 Tube size \_\_\_ length \_\_\_

**B** FIO2 \_\_\_  
 Ventilation type \_\_\_\_\_  
 Ventilation mode \_\_\_\_\_

**C** Peripheral lines \_\_\_ G \_\_\_  
 Left  Right Arterial line  
 Left  Right Central line  
 IABP  Pacemaker/ ICD

Consultant \_\_\_\_\_

Informed?

Consent form required?

ALLERGY No  Yes

Details \_\_\_\_\_

**D** GCS: \_\_\_ (E\_V\_M\_)  
 Pupils L \_\_\_ R \_\_\_ (size/ reactivity)  
 Sedation  Analgesia

**E** Oxygen cylinders  
 Suction  
 Monitor  
 Defibrillator if applicable  
 Transport bag checked  
 Emergency drugs  
 Drug infusions:  
 1 \_\_\_\_\_ rate \_\_\_\_\_  
 2 \_\_\_\_\_ rate \_\_\_\_\_  
 3 \_\_\_\_\_ rate \_\_\_\_\_  
 4 \_\_\_\_\_ rate \_\_\_\_\_

Spare infusion drugs  
 Fluid/ blood available as needed  
 Chest drain management  
 ICP bolt  EVD  
 Need for isolation?  
 Resistant organism \_\_\_\_\_

DRUG \_\_\_\_\_

TIME use 24 hr clock

FLUIDS 220  
 1 \_\_\_\_\_  
 2 \_\_\_\_\_  
 3 \_\_\_\_\_

MAP \_\_\_\_\_  
 SBP \_\_\_\_\_  
 DBP \_\_\_\_\_  
 RR \_\_\_\_\_  
 Every 5 mins

SpO<sub>2</sub> \_\_\_\_\_  
 EtCO<sub>2</sub> \_\_\_\_\_  
 FIO<sub>2</sub> \_\_\_\_\_  
 Aw Pr \_\_\_\_\_  
 RR \_\_\_\_\_  
 Ivi 1 \_\_\_\_\_  
 U/O \_\_\_\_\_  
 Pupils L \_\_\_\_\_ R \_\_\_\_\_

**CRITICAL INCIDENTS**

Cardiac arrest	
Profound arrhythmia	
Hypertension	
Haemodynamic instability	
Accidental extubation	
Intubation	
Convulsions	
Dislodged cannula	
Monitor failure	
Ventilator failure	
Pump failure	
Oxygen failure	
Pupil dilatation	
Other	

SUMMARY OF TRANSFER including comments/problems

Dr's name (please print) \_\_\_\_\_

Signature of Escorting Doctor \_\_\_\_\_

From

Departing Time

To

Arrival Time

Return to

Arrival Time

# Appendix P – SWCCN Inter-hospital transfer form

## Transfer Form 6396

To be used for all patients transferred to Critical Care - this is a legal record of transfer

### PATIENT DETAILS

Name: \_\_\_\_\_ Address: \_\_\_\_\_  
 Date of Admission to Hospital: \_\_\_\_\_ Date of Transfer: \_\_\_\_\_  
 Transferred from: ICU  WARD   
 Hospital: \_\_\_\_\_ A&E  THEATRE   
 REASON FOR TRANSFER: \_\_\_\_\_ OTHER: \_\_\_\_\_  
 To: \_\_\_\_\_ Hospital: \_\_\_\_\_  
 Repatriation  No staffed bed space in CCU  No bed space in CCU   
 SPECIALIST TREATMENT: \_\_\_\_\_ Other (please state): \_\_\_\_\_  
 Yes  No   
 Pre-Sedation GCS: \_\_\_\_\_ E 4 V 5 M 6  
 DIAGNOSIS: \_\_\_\_\_  
 1) \_\_\_\_\_  
 2) \_\_\_\_\_  
 3) \_\_\_\_\_

### ESCORTING PERSONNEL

Doctor Name: \_\_\_\_\_ Grade: \_\_\_\_\_  
 Transfer training  YES  NO  
 Nurse/ODP Name: \_\_\_\_\_ Band: \_\_\_\_\_  
 Transfer training  YES  NO

### Checklist - Must be completed before transfer

Decision made by consultant   
 Checklist 1 & 2 completed (see reverse of form)   
 Approx 0<sub>2</sub> requirements   
 Patient notes photocopied   
 Results/X-rays/Scans present   
 Relatives aware of transfer   
 Risk assessment category (circle) High Med Low

### CONTACT DETAILS

Time receiving hospital called \_\_\_\_\_  
 Time receiving hospital accepted patient \_\_\_\_\_  
 Name of contact and bleep \_\_\_\_\_  
 Time patient ready for transfer \_\_\_\_\_  
 Reasons for delays \_\_\_\_\_

### AMBULANCE DETAILS

Time contacted \_\_\_\_\_ Time ambulance arrive \_\_\_\_\_  
 Ambulance Reference Number \_\_\_\_\_  
 IFT Category (1-4) \_\_\_\_\_  
 Spontaneous  Mechanical   
 ET Spacing / length at teeth \_\_\_\_\_  
 Ventilator type \_\_\_\_\_ Start \_\_\_\_\_  
 Tidal Volume (VT) \_\_\_\_\_  
 Peak Inflation Pressure \_\_\_\_\_  
 PEEP \_\_\_\_\_  
 FiO<sub>2</sub> \_\_\_\_\_  
 RR \_\_\_\_\_

### TRANSFER DETAILS

Date of Admission to Hospital: \_\_\_\_\_  
 Date of Transfer: \_\_\_\_\_  
 Transferred from: ICU  WARD   
 Hospital: \_\_\_\_\_ A&E  THEATRE   
 REASON FOR TRANSFER: \_\_\_\_\_ OTHER: \_\_\_\_\_  
 To: \_\_\_\_\_ Hospital: \_\_\_\_\_  
 Repatriation  No staffed bed space in CCU  No bed space in CCU   
 SPECIALIST TREATMENT: \_\_\_\_\_ Other (please state): \_\_\_\_\_  
 Yes  No   
 Pre-Sedation GCS: \_\_\_\_\_ E 4 V 5 M 6  
 DIAGNOSIS: \_\_\_\_\_  
 1) \_\_\_\_\_  
 2) \_\_\_\_\_  
 3) \_\_\_\_\_

### CONTACT DETAILS

Time receiving hospital called \_\_\_\_\_  
 Time receiving hospital accepted patient \_\_\_\_\_  
 Name of contact and bleep \_\_\_\_\_  
 Time patient ready for transfer \_\_\_\_\_  
 Reasons for delays \_\_\_\_\_

### RSI Time

Arrival time \_\_\_\_\_  
 CT complete \_\_\_\_\_  
 Auditor only \_\_\_\_\_

### ABG Time:

pH	ETCO <sub>2</sub>	K <sup>+</sup>
PCO <sub>2</sub>	Hb	Glu
pO <sub>2</sub>		
BE		
Lac		

### AMBULANCE DETAILS

Time contacted \_\_\_\_\_ Time ambulance arrive \_\_\_\_\_  
 Ambulance Reference Number \_\_\_\_\_  
 IFT Category (1-4) \_\_\_\_\_  
 Spontaneous  Mechanical   
 ET Spacing / length at teeth \_\_\_\_\_  
 Ventilator type \_\_\_\_\_ Start \_\_\_\_\_  
 Tidal Volume (VT) \_\_\_\_\_  
 Peak Inflation Pressure \_\_\_\_\_  
 PEEP \_\_\_\_\_  
 FiO<sub>2</sub> \_\_\_\_\_  
 RR \_\_\_\_\_

### VENTILATION DURING TRANSFER

Time contacted \_\_\_\_\_ Time ambulance arrive \_\_\_\_\_  
 Ambulance Reference Number \_\_\_\_\_  
 IFT Category (1-4) \_\_\_\_\_  
 Spontaneous  Mechanical   
 ET Spacing / length at teeth \_\_\_\_\_  
 Ventilator type \_\_\_\_\_ Start \_\_\_\_\_  
 Tidal Volume (VT) \_\_\_\_\_  
 Peak Inflation Pressure \_\_\_\_\_  
 PEEP \_\_\_\_\_  
 FiO<sub>2</sub> \_\_\_\_\_  
 RR \_\_\_\_\_

### RSI Time

Arrival time \_\_\_\_\_  
 CT complete \_\_\_\_\_  
 Auditor only \_\_\_\_\_

### ABG Time:

pH	ETCO <sub>2</sub>	K <sup>+</sup>
PCO <sub>2</sub>	Hb	Glu
pO <sub>2</sub>		
BE		
Lac		

### CRITICAL INCIDENTS

Cardiac arrest   
 Profound arrhythmia   
 Hypertension   
 Hypotension   
 Accidental extubation   
 Intubation   
 Convulsions   
 Dislodged cannula   
 Monitor failure   
 Ventilator failure   
 Pump failure   
 Oxygen failure   
 Pupil dilatation   
 Other \_\_\_\_\_

### SPINE

Precautions taken for spinal injury   
 n/a  Yes  Details: \_\_\_\_\_  
 Arterial  Central  Peripheral  Vas Cath   
 Other please detail: \_\_\_\_\_

### SUMMARY OF TRANSFER

including comments/problems  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

DRUG \_\_\_\_\_

### TIME

use 24 hr clock

FLUIDS	220
1	200
2	180
3	160
Depart.....	140
Arrive.....	120
Please record	100
MAAP	80
MAP	60
HR	
RR	
ET Spacing	
ET Length	
FiO <sub>2</sub>	
RR	
SpO <sub>2</sub>	
ETCO <sub>2</sub>	
Arterial	
Central	
Peripheral	
Vas Cath	
Pupils - L	
Pupils - R	

### CRITICAL INCIDENTS

Cardiac arrest   
 Profound arrhythmia   
 Hypertension   
 Hypotension   
 Accidental extubation   
 Intubation   
 Convulsions   
 Dislodged cannula   
 Monitor failure   
 Ventilator failure   
 Pump failure   
 Oxygen failure   
 Pupil dilatation   
 Other \_\_\_\_\_

### SPINE

Precautions taken for spinal injury   
 n/a  Yes  Details: \_\_\_\_\_  
 Arterial  Central  Peripheral  Vas Cath   
 Other please detail: \_\_\_\_\_

### SUMMARY OF TRANSFER

including comments/problems  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

DR's name (please print) \_\_\_\_\_  
 Signature of Escorting Doctor \_\_\_\_\_  
 Signature of Receiving Doctor \_\_\_\_\_  
 COMMENTS OF RECEIVING DOCTOR \_\_\_\_\_  
 DR's name (please print) \_\_\_\_\_

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## Appendix Q – Transfer Checklists

The following checklists have been modified from *The Faculty of Intensive Care Medicine & Intensive Care Society Guidance on: the transfer of the critically ill adult, 2019*. They are printed on the back of the SWCCN Transfer Forms.

**Remember to use the SWCCN Transfer Form and complete a risk assessment**

### Pre-transfer checklist: patient

#### Patient and relatives aware of transfer

#### Airway

- Airway safe or secured by intubation
- Endotracheal tube or tracheostomy secure, length recorded

#### Breathing

- Adequate spontaneous respiration or ventilation established on transport ventilator
- Adequate ventilation confirmed with arterial blood gas

#### Circulation

- Haemodynamic status (HR, BP, organ perfusion) optimised with control of blood loss and restoration of volume status
- Two sites of intravenous (peripheral or central) access
- Venous and arterial lines secure

#### Disability

- Neurological status assessed. If deterioration likely, consider need for intubation and ventilation prior to departure
- Assess and record GCS, pupil size and responsiveness
- Check blood glucose (aim >4mmol/L)
- Consider medical and non-medical management of suspected raised intra-cranial pressure
- Sedated and paralysed as appropriate

#### Input/output

- Consider urinary catheter and NG tube placement for long (>60 minute) transfer

#### Trauma

- Cervical spine immobilisation (blocks & tape) or radiological documentation of spine clearance
- Pneumothorax excluded or managed with intercostal chest drain
- Tranexamic acid administered (if appropriate)

#### Monitoring

- ECG
- Blood pressure: non-invasive set to 5 minute (ventilated) or 15 minute (not ventilated) cycle *or* invasive
- Pulse oximetry
- Waveform capnography (if ventilated)
- Temperature (invasive or non-invasive)

## **Pre-transfer checklist: team, equipment and safety**

### **Patient**

- Monitoring applied (consider tying cables together or using cable tidy)
- Infusion lines organised to avoid traction
- Packaged to maintain dignity and temperature
- Securely strapped transfer trolley

### **Staff**

- Risk assessment completed by consultant or suitably experienced member of staff
- Nurse transfer trained, experienced and competent
- Doctor transfer trained, experienced and competent
- Adequately clothing and footwear for personal comfort and safety
- Mobile telephone and money or credit card
- Formal handover received prior to departure
- Ambulance crew briefed

### **Equipment**

- Monitor – all cables present, adequate battery life, mains cable
- Ventilator – checked, appropriate circuit (+ HME filter if required), adequate battery life, mains cable
- Infusion pump(s) – adequate battery life, mains cable
- Portable suction (if not carried by ambulance service)
- Gas cylinder(s) – in secured approved housings, sufficient oxygen supply for anticipated journey
- Transfer bag – contents checked
- Drugs – adequate infusions for anticipated journey, pre-drawn emergency drugs if required

### **Organisation**

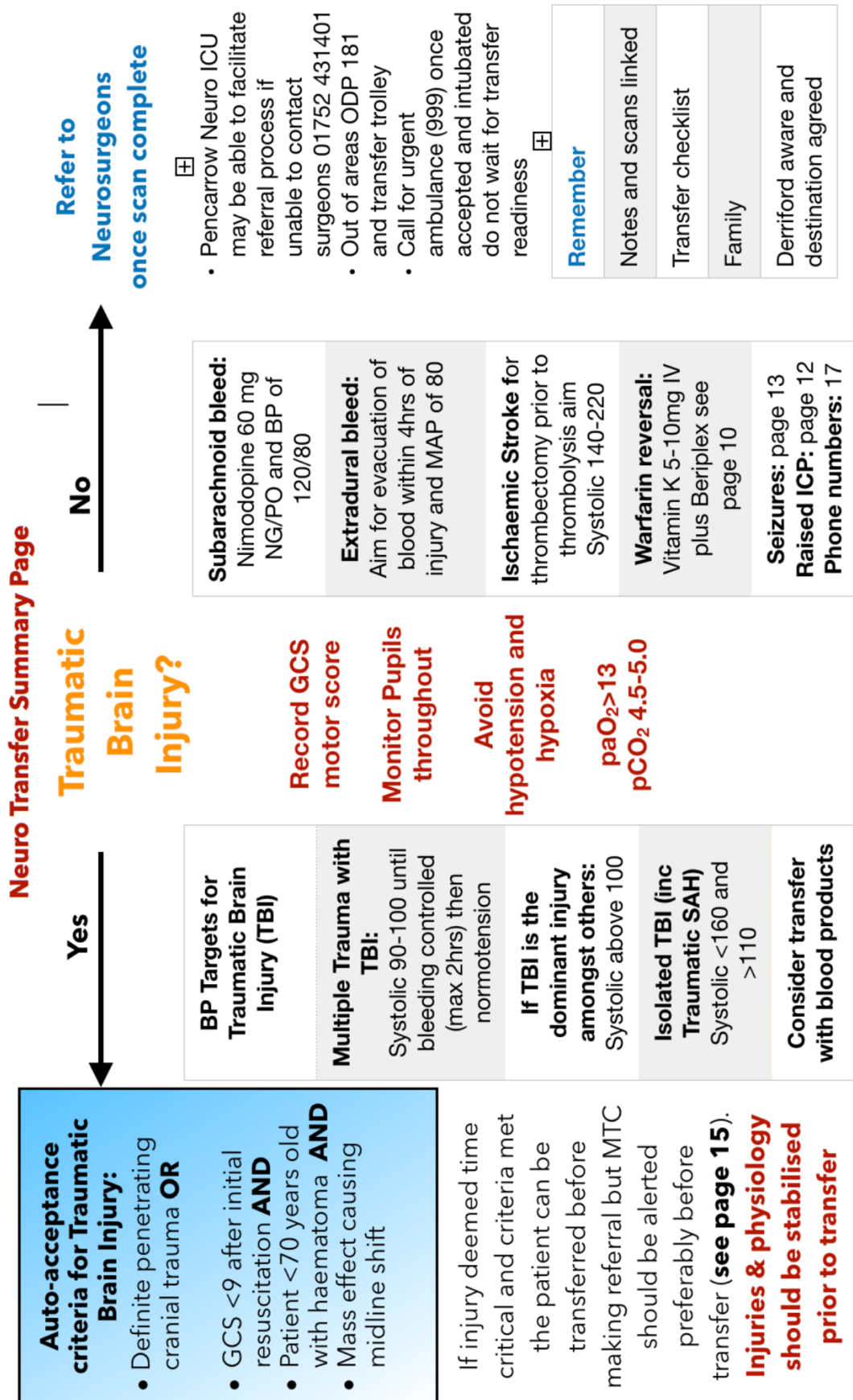
- Patient notes including blood results and radiology reports
- Radiology transmitted electronically to receiving hospital
- Destination hospital, unit and location directions
- Telephone numbers of transferring and receiving units known
- SWCCN Transfer Form – left side complete
- Return transport plan for staff and equipment

***Remember to contact receiving hospital on departure to provide ETA***

### **Departure**

- Equipment secured to transfer trolley
- Equipment secured in back of ambulance
- Ventilator connected to ambulance oxygen supply
- Electrical equipment plugged into ambulance power supply (if available)
- Staff seated and wearing seat belts

## Appendix R – Peninsula neurosurgical care guidance summary



## **Appendix S – Transfer KPIs**

Pending discussion and agreement by SWCCN Transfer Group.