Yorkshire & Humber Guidelines for the Transfer of Critically Ill Adults

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1.0 Introduction

1.1 Background

1.1.1 The transfer of critically ill adults between healthcare facilities is an essential component of modern critical care delivery. Increasing service specialisation, regionalisation of specialist services, and variations in local critical care capacity mean that patients frequently require transfer to access definitive treatment or ongoing specialist care.

1.1.2 The safe transfer of critically ill adults requires robust governance arrangements, appropriately trained personnel, suitable equipment, effective communication, and standardised clinical processes.

1.1.3 Transfer should be regarded as a continuation of critical care rather than a transport episode, with equivalent standards of monitoring, treatment, and patient safety maintained throughout.

1.1.4 This guideline has been developed collaboratively by the Adult Critical Care Networks across Yorkshire and the Humber to support the safe transfer of critically ill adults within and between healthcare organisations.

1.1.5 At the time of publication, Yorkshire and the Humber does not have a commissioned regional Adult Critical Care Transfer Service (ACCTS). Consequently, most transfers continue to be undertaken by Acute Trusts in conjunction with local ambulance services. This guidance aims to promote consistent standards of care irrespective of the transferring organisation.

1.2 Aims & Scope

The purpose of this guideline is to:

- Define minimum standards for the transfer of critically ill adults within Yorkshire and the Humber; North Yorkshire & Humber; South Yorkshire & Bassetlaw and West Yorkshire
- Promote safe, effective and equitable transfer practice
- Support consistent governance arrangements across Acute Trusts
- Scope includes the transfer of Level 2 & 3 critically ill patients
- Reduce avoidable transfer-related harm
- Support education, training, quality improvement and service development

1.3 Additional Guidance

The guideline should be read in conjunction with:

1.3.1 National Guidance

- Guidance on the Transfer of the Critically Ill Adult. Intensive Care Society and Faculty of Intensive Care Medicine (2026)
- Guidelines for the Provision of Intensive Care Services (GPICS)
- Guidelines for the Provision of Anaesthetic Services (GPAS)
- NHS England Adult Critical Care service specifications and commissioning guidance
- 2021 Anaesthetics curriculum | The Royal College of Anaesthetists
- College of Intensive Care Medicine curricula
- NHS England patient safety guidance
- GIRT: Inter-facility transfer of critically ill or deteriorating patients. A guide for NHSE Elective Surgical Hubs NHSE: Framework to support inter hospital transfer of critical care patients (B1215)
- CC3N Steps Proficiency Frameworks
- ICS Guidance: Repatriation of International Critical Care Patients to UK Hospitals
- Intensive Care Society | The decision making and transfer of critically ill adults to their preferred place of death
- Intensive Care Society | Transfer outdoors during end of life
- Intensive Care Society | Transfer to the outdoors
- Intensive Care Society | Transfer

1.3.2 Regional Guidance

- South Yorkshire MTN
- North Yorkshire and Humber MTN
- West Yorkshire MTN
- Y&H Renal AKI Transfer Policy

2.0 Network Governance and Responsibilities

2.1 Overview

2.1.1 Critical Care Networks have a key role in supporting the safe, effective and equitable transfer of critically ill adults across Yorkshire and the Humber.

2.1.2 Networks should work collaboratively with Acute Trusts, Ambulance Services, NHS England and any commissioned Adult Critical Care Transfer Service (ACCTS) to ensure that transfer services are delivered to an agreed standard and are supported by appropriate governance arrangements.

2.1.3 Network governance structures should support service development, quality improvement, education, audit and incident review.

2.2. Geographical Remit (Hospital Locations and Metrics)

2.2.1 Yorkshire and the Humber encompass the regions of West Yorkshire, North Yorkshire and Humber, and South Yorkshire and Bassetlaw.

2.2.2 Appendix 1 contains milage grid with distance metrics (in miles) between critical care units across the region.

2.2.3 Wherever clinically appropriate, patients should be transferred within their local network to the nearest facility capable of providing the required investigation, treatment, or specialist intervention.

2.3 Adult Critical Care Transfer Services (ACCTS)

2.3.1 At the time of publication, Yorkshire and the Humber is not served by a dedicated Adult Critical Care Transfer Service (ACCTS).

2.3.2 Following the establishment of an ACCTS, the Critical Care Networks will work collaboratively with the service to review and update this guideline as required. This will support a consistent and standardised approach to patient transfers, regardless of whether the transfer is undertaken by the ACCTS, a local hospital team supported by the Ambulance Service, or a combination of both.

2.3.3 Once established, the ACCTS should work in partnership with Critical Care Networks to provide education, training, and supernumerary transfer opportunities for staff involved in non-ACCTS transfers.

2.3.4 The ACCTS should also collaborate with Critical Care Networks to support the collection and reporting of transfer data, ensuring that the nationally mandated minimum dataset is captured for all critical care transfers.

2.4 Network Transfer Leads

2.4.1 Each Adult Critical Care Network should appoint a Network Transfer Lead the role of which is to lead the enactment of local, regional and national guidance relating to transfer and overseeing the workstreams related to Critical Care transfers including training and education and quality assurance.

2.4.2 The Network Transfer Lead should chair the Network Transfer Forum. Remuneration for this role should align to the role, responsibilities and expected outputs in the absence of an ACCTS.

2.5 Network Transfer Forum

2.5.1 Each Critical Care Network should maintain a Transfer Forum. The Transfer Forum should act as a clinical advisory body to promote discussion between facilities and services.

2.5.2 The Network Transfer Forum should be multidisciplinary and include representation from Acute Trusts, Ambulance Services, Adult Critical Care Transfer Services (where commissioned), and other relevant stakeholders to support collaborative service development, governance and quality improvement

2.5.3 The chair of the transfer forum should report to the network Clinical Advisory Board (or local Network equivalent).

2.5.4 Learning points raised at the Clinical Advisory Board meeting should be shared regionally where applicable or possible.

2.5.5 The Forum should meet as a minimum quarterly and include representation from:

- Critical Care medicine
- Anaesthesia
- Nursing
- Advanced Critical Care Practitioners
- Ambulance Services
- Operational managers

- Any commissioned ACCTS provider

2.5.6 The Transfer Forum should:

- Review transfer activity and performance
- Review incidents, complaints and patient feedback
- Share learning across organisations
- Monitor compliance with agreed standards
- Support service development and innovation
- Oversee Network-wide audit programmes

2.6 Acute Trust Responsibilities

2.6.1 All acute trusts responsible for the care and transfer of critically ill adults must maintain the arrangements, resources and organisational capability required to undertake the resuscitation, stabilisation and transfer of patients on a 24-hour, 7-day-a-week basis.

2.6.2 Trusts must ensure that appropriately trained and competent staff are always available to provide clinical escort and transfer support for critically ill patients. This requirement remains irrespective of the commissioning or introduction of an Adult Critical Care Transfer Service (ACCTS).

2.6.3 All acute trusts must demonstrate compliance with current national and regional guidance relating to the transfer of critically ill adults and ensure that local policies, procedures and training programmes are aligned with these standards.

2.6.4 Each trust should nominate a Medical Transfer Lead and appropriate Nursing, Advanced Critical Care Practitioner (ACCP) and/or Operating Department Practitioner (ODP) representation to participate in Network transfer governance arrangements. These representatives should provide regular updates and assurance through local critical care governance and service delivery structures.

2.6.5 Organisations should ensure that nominated transfer leads are provided with sufficient time and organisational support to fulfil their responsibilities. This should include allocated programmed activity, duty leave, or equivalent arrangements proportionate to the scope of the role and expected level of activity.

2.7 Smaller and remote critical care units

2.7.1 All critical care facilities have variable demand on their services, but these are often more acutely felt in smaller general units who have limited elective throughput and reduced layers of resident cover.

2.7.2 It is recognised that providing staff for a critical care transfer can be challenging. However, patients must always be accompanied by a team capable of meeting their clinical needs, rather than being assigned to the most junior team member for convenience.

2.8 Elective Surgical Hubs

2.8.1 An increasing number of patients are undergoing elective procedures at dedicated elective hubs, where access to critical care facilities may be limited or unavailable.

2.8.2 Whilst most procedures are uneventful, elective hubs must have arrangements in place for timely transfer to a critical care bed if required.

2.8.3 Elective hubs are advised to liaise with their local acute hospital trust to establish a Standard Operating Procedure (SOP) for the retrieval or transfer of patients requiring Critical Care. Elective surgical hubs should refer to guidance as set out in the Inter-facility transfer of critically ill or deteriorating patients. A guide for NHS Elective Surgical Hubs. June 2025.

3.0 Types of Critical Care Transfers

3.1 Prioritisation and triaging: Interfacility Transfer Protocol

3.1.1 All Adult Critical Care Networks should implement a standardised process for the prioritisation, triage and coordination of inter-facility transfers of critically ill adults (see Appendix 2 for an example transfer pathway).

3.1.2 Adult Critical Care Networks should work collaboratively with Ambulance Services and Adult Critical Care Transfer Services (ACCTS), where commissioned, to establish agreed response categories and operational processes for time-critical, urgent and planned critical care transfers as described in the Guidance on the transfer of the Critically Ill Adults (2026).

3.1.3 It is recognised that patients within a facility may not be in a place of safety as they may be unable to receive the care they need within that facility, Critical Care

Networks must work collaboratively with Ambulance Services and ACCTs to ensure that this is recognised and put systems in place for such events.

3.1.4 Networks should establish a clear escalation process for transfer delays. This should include defined communication and escalation pathways between referring organisations, receiving organisations, Ambulance Services and ACCTS providers, with particular consideration given to patients requiring time-critical or time-sensitive interventions.

3.1.5 Transfer prioritisation should be based on clinical urgency, anticipated patient benefit and the time sensitivity of the required intervention, ensuring that patients with the greatest clinical need are transferred within appropriate timescales.

3.1.6 Local Ambulance Service trusts will follow the National Framework for Interfacility Transfers (NHSE):

- **YAS Inter facility transfer poster**
- EMAS Inter facility transfer poster

Yorkshire Ambulance Service telephone number for IFT: 0330 678 4159
East Midlands Ambulance Service telephone number for IFT: 999

Table 1. Ambulance Interfacility Transfer Criteria

Response Level	Target Response Time	Criteria
IFT Level 1 (Category 1)	Immediate	Reserved for exceptional circumstances where immediate assistance is required to support clinical care. For example, a patient with life-threatening asthma in an urgent care setting requiring immediate transfer.
IFT Level 2 (Category 2)	Within 18 minutes	Used where the patient's clinical condition requires, or is highly likely to require, immediate treatment or intervention at the receiving organisation. Response prioritisation is based on clinical need rather than diagnosis alone. For example, transfer to a tertiary centre for immediate life-, limb- or sight-saving surgery.
IFT Level 3 (Category 3)	Within 2 hours	Used for patients who do not require immediate life- or limb-saving intervention but require emergency transfer to access a higher level of clinical care.
IFT Level 4 (Category 4)	Within 4 hours	Used for patients requiring urgent transport for ongoing care who do not meet the criteria for Categories 1–3. This includes transfers to inpatient wards for ongoing management and for elective or semi-elective procedures or investigations.

3.2 Intra Facility Transfers

3.2.1 Intra-facility transfers of critically ill adults are undertaken frequently to facilitate admission to critical care areas, diagnostic investigations, and therapeutic interventions that cannot be delivered within the patient's current clinical environment.

3.2.2 Patients must receive a standard of monitoring, treatment and organ support equivalent to that provided within the critical care setting throughout the transfer process. Transfer should be regarded as a continuation of critical care rather than a transport episode.

3.2.3 The clinical team accompanying the patient must possess the knowledge, skills and competencies necessary to safely manage the patient's anticipated care needs for the duration of the transfer, including the management of clinical deterioration and equipment failure.

3.2.4 Transfers to specialist environments, including magnetic resonance imaging (MRI) departments, interventional radiology suites and cardiac catheterisation laboratories, require additional planning and risk assessment due to hazards associated with the environment, equipment compatibility, restricted access to the patient and limitations on emergency intervention.

3.2.5 Acute Trusts must have a locally approved standard operating procedure (SOP) for the transfer and management of critically ill adults within specialist clinical areas. The SOP should define roles and responsibilities, staffing requirements, monitoring standards, communication processes and escalation arrangements.

3.2.6 Organisations should ensure that intra-facility transfer procedures are aligned with national guidance, including Guidance on the Transfer of the Critically Ill Adult published by the Intensive Care Society and Faculty of Intensive Care Medicine (2026), which includes specific guidance relating to transfers involving MRI environments.

3.3 Communication

3.3.1 Effective communication is essential to the safe transfer of critically ill adults.

3.3.2 Communication failures are a recognised contributory factor in transfer-related incidents and adverse events. All communication associated with the transfer process should therefore be clear, concise, timely and structured.

3.3.3 A standardised communication framework should be used throughout the transfer pathway. The Yorkshire and Humber Adult Critical Care Networks recommend the use of the SBAR (Situation, Background, Assessment, Recommendation) communication tool to support consistent clinical handover and information exchange.

3.3.4 Although discussions between referring and receiving teams may have occurred before the arrival of the transfer team, the transfer team must make a pre-departure telephone call to the receiving organisation to confirm the estimated time of arrival, verify the agreed handover location and communicate any changes in the patient's clinical condition.

3.3.5 All transfer-related communications should be documented contemporaneously within the patient record, including discussions regarding referral, acceptance, clinical status, transfer arrangements and handover.

3.3.6 As healthcare records are increasingly maintained electronically, organisations must ensure that relevant clinical information accompanies the patient and is available to the receiving team. This should include details of assessments, investigations, medications administered, ongoing infusions, treatment provided and any significant clinical events. Information should be transferred electronically wherever possible or provided in printed format where electronic transfer is not available, to support continuity of care and patient safety.

3.4 Risk Assessment

3.4.1 All critically ill adults undergoing either an intra-facility or inter-facility transfer must undergo a documented risk assessment before transfer.

3.4.2 The risk assessment should consider the anticipated benefits of transfer against the potential risks associated with moving the patient. Where risks are identified, appropriate measures should be taken to mitigate them wherever possible. The assessment and any actions taken must be clearly documented in the patient record.

3.4.3 Risk assessments should be undertaken by the most senior clinician available and should take account of the patient's clinical condition, the urgency of transfer, the level of organ support required, transfer duration, and any operational or environmental factors influencing the decision to transfer.

3.4.4 The decision to proceed with transfer is a shared responsibility between the referring consultant and the receiving consultant, who should jointly determine that the anticipated benefits outweigh the associated risks.

3.4.5 A risk assessment tool is provided in Appendix 3 to support clinical decision-making and assist in determining the level of staffing and clinical support required during transfer. The tool should be used to inform, rather than replace, professional clinical judgement.

3.4.6 Risk assessment is inherently subjective and should be interpreted within the wider clinical context. Factors not captured within the assessment tool, including operational pressures, competing service demands, transport availability, weather conditions and environmental considerations, may influence the overall level of risk and should be considered as part of the decision-making process.

3.4.7 Where transfer duration is anticipated to exceed 3–4 hours, additional planning should be undertaken to minimise transfer-related risks. This should include consideration of staffing requirements, equipment capacity, medication supplies, patient comfort, physiological stability and contingency arrangements for clinical deterioration or unexpected delays.

3.5 Preparation, packaging and monitoring during transfer

3.5.1 All patients undergoing critical care transfer should be assessed, resuscitated and stabilised as far as reasonably practicable before transfer to minimise the risk of deterioration during transit. Assessment and optimisation should follow a structured ABCDE (Airway, Breathing, Circulation, Disability, Exposure) approach.

3.5.2 Where there are concerns regarding airway patency, respiratory compromise or neurological deterioration, the patient should undergo review by an appropriately trained anaesthetic or critical care clinician. The findings of the assessment, together with the transfer risk assessment and management plan, should be documented in the patient record.

3.5.3 Patients should normally be transferred with a minimum of two functioning peripheral intravenous cannula or an appropriately sited multi-lumen central venous catheter to ensure reliable vascular access throughout the transfer.

3.5.4 It is recognised that complete physiological stabilisation may not always be achievable, particularly where urgent transfer is required to facilitate time-critical interventions. In such circumstances, a senior decision-maker should undertake and document a risk-benefit assessment, balancing the risks associated with transfer against the risks of delaying definitive treatment.

3.5.5 Resuscitation status (i.e. whether CPR should be commenced) should ideally be specified prior to transfer. This is particularly pertinent for anticipated life-threatening complications, such as ruptured aortic aneurysm, aortic dissection and sever brain injury. Teams should also review the need for resuscitation interventions en-route, such as chest drain or emergency resuscitative clam shell thoracotomy. Ideally these should be performed prior to departure where possible and only by clinicians experienced in their use.

3.5.6 Minimum monitoring standards during transfer must comply with the recommendations contained within Guidance on the Transfer of the Critically Ill Adult (Intensive Care Society and Faculty of Intensive Care Medicine, 2026. Monitoring should be appropriate to the patient's clinical condition and level of organ support.

3.5.7 Invasive arterial blood pressure monitoring is generally preferred during the transfer of critically ill adults, particularly those receiving vasoactive medications. However, the insertion of invasive monitoring should not delay transfers where timely access to specialist treatment is clinically indicated.

3.5.8 Adult Critical Care Networks should adopt a inter-facility checklist to support the preparation, assessment and safe transfer of critically ill adults. Checklists should be used at key stages of the transfer pathway to ensure that equipment, medications, documentation, communication and clinical requirements have been completed.

3.5.9 Where applicable, specialty-specific transfer checklists should be used to address the additional requirements of defined patient groups, including neurosurgical, major trauma and maternity patients. These checklists should complement, rather than replace, the standard critical care transfer checklist.

3.6 Assistance at Community Emergency Incidents During Return Journeys

3.6.1 When returning from a transfer, Ambulance Service vehicles may be diverted to respond to a patient in the community requiring emergency medical assistance.

3.6.2 Transfer team members may be requested, or may volunteer, to support Ambulance Service personnel in the assessment, treatment, and, where appropriate, conveyance of a patient. Any assistance provided should be proportionate to the individual's professional role, competence, and experience.

3.6.3 Ordinarily, the Ambulance Service crew retains responsibility for the incident and should lead the management of the patient. Transfer team members should support the crew and comply with all relevant Ambulance Service policies, standard operating

procedures and clinical guidance throughout the incident. However, it is recognised that in certain circumstances, or when undertaking specific tasks, a member of the transfer team may be better placed to lead aspects of the patient's care. This should be assessed on a case-by-case basis, with the approach agreed collaboratively by the Ambulance Service crew and transfer team.

3.6.4 There is no legal obligation for transfer team members to assist Ambulance Service personnel in these circumstances beyond that which might reasonably be expected of a "Good Samaritan". However, the ethical challenges presented by such situations are recognised and understood.

3.6.5 Where assistance is provided, it should remain within the individual's scope of practice and level of competence, taking into account that many of the safeguards, support systems, and governance processes typically available in familiar clinical environments, such as intensive care units or operating theatres, may not be present.

3.6.6 Transfer personnel should recognise that pre-hospital environments present hazards and operational challenges that differ significantly from those encountered within hospital settings. Staff may not be equipped or dressed for work in the pre-hospital environment and must ensure that their personal safety, and that of their colleagues, remains the primary consideration at all times.

3.6.7 Clinical staff must work within the limits of their competence and should not undertake procedures or interventions for which they are not appropriately trained, experienced or authorised.

4.0 Equipment and Transfer Resources

4.1.1 All acute trusts must ensure that dedicated equipment is always available to support the safe intra-facility and inter-facility transfer of critically ill adults.

4.1.2 Each organisation must have access to a dedicated critical care transfer trolley that complies with relevant safety standards, including applicable CEN regulations, and is compatible with Ambulance Service vehicle securing systems. Transfer equipment, including monitoring devices, ventilators and infusion pumps, should be securely mounted to the transfer trolley to minimise the risk of equipment movement or failure during transfer.

4.1.3 A dedicated transfer bag containing essential equipment, consumables and medications required to manage foreseeable clinical events during transfer should accompany every patient. This should include equipment to support airway

management, vascular access, monitoring and emergency interventions. Recommended equipment lists are provided within Guidance on the Transfer of the Critically Ill Adult (Intensive Care Society and Faculty of Intensive Care Medicine, 2026) (Appendix 4).

4.1.4 During intra-facility transfers, equipment should be transported using an appropriate transfer trolley wherever possible. Equipment should not be placed on the patient's bed or trolley in a manner that could compromise patient safety, equipment security or access to the patient.

4.1.5 All transfer equipment, bags and consumables must be subject to routine inspection, maintenance and replacement in accordance with manufacturer recommendations and local policies. Organisations must maintain records of equipment checks and ensure that equipment is safe, functional and fit for purpose before use.

4.1.6 Where specialist or non-standard equipment is required for transfer, it must be transported safely and securely. Equipment should either be carried within the transfer bag, attached to the critical care transfer trolley, or secured appropriately within the ambulance vehicle to prevent movement during transit.

4.1.7 Patients with a tracheostomy must be transferred with appropriate spare equipment, including replacement tracheostomy tubes and emergency airway equipment, as these items may not be included within standard transfer equipment inventories.

4.1.8 All staff expected to undertake critical care transfers as part of their role must complete a local induction and equipment orientation programme. Staff should be familiar with the location, operation, troubleshooting and maintenance requirements of all transfer equipment they may be required to use.

4.1.9 Adult Critical Care Networks should work collaboratively towards the standardisation of transfer equipment, transfer bags and equipment inventories across the region to promote consistency, improve staff familiarity and support mutual aid arrangements between organisations.

5.0 Medicines Management During Transfer

5.1.1 Adult Critical Care Networks should develop and maintain a transfer medicines policy that describes medicines management throughout the transfer pathway,

including preparation, prescribing, administration, storage, transportation and handover of medicines between organisations (DBHT example)
The policy should include arrangements for:

- Prescribing and administration of medicines during transfer
- Stock management and replenishment of transfer medication bags
- Storage and transportation requirements
- Documentation and record keeping
- Governance and handling of Controlled Drugs
- Clinical handover of medicines information between organisations

5.1.2. Patients should be reviewed prior to transfer and any medication needs anticipated, giving these where possible prior to transfer at an appropriate time in relation to the journey e.g. antiemetics, pain medication.

5.1.3 Relevant patient medications should be administered prior to departure (e.g., anti-platelet medications in cardiology patients, nimodipine for subarachnoid haemorrhage, antibiotics for sepsis, etc). Administration must be documented on the referring hospital prescription chart to ensure dosing regimens are maintained and accidental second dosing prevented on arrival at the receiving hospital.

5.1.4 All medication taken on transfer should be stored in dedicated medication bags. These bags should have a tamper proof seal and have a local process in place for checking content and use by dates following transfers and on a regular basis, at least weekly.

5.1.5 If the patient is on specialist medication that is not easily obtainable, the patient should ideally be transferred with sufficient doses to ensure that treatment is not interrupted whilst awaiting the specialist medication supply at the receiving hospital.

5.1.6 The management of Controlled Drugs during transfer must comply with the referring organisation's Controlled Drugs policy, relevant legislation and national guidance. Local arrangements should be approved by the organisation's Controlled Drug Accountable Officer.

5.1.7 This guidance accepts that the ICS guidance recommends controlled drugs for transfer are supplied in a dedicated drug bag or as a discharge medication. However, in the absence of a dedicated ACCTs this may be challenging to enforce, especially in time critical circumstances. Acute trusts should ensure that controlled drugs are signed out as per local policy. Transfer teams should then ensure drug usage and wastage is clearly documented in the transfer record.

5.1.8 Where appropriate, medication infusions should be prepared using the standard concentrations recommended in the Intensive Care Society Standard Medication Concentration to support consistency and reduce the risk of medication error.

5.1.9 All medication infusions and syringes must be prepared, labelled and administered in accordance with local medicines management policies and applicable national standards.

5.1.10 A minimum supply of medication sufficient to cover at least twice the anticipated journey duration should accompany the patient to allow for unforeseen delays or clinical deterioration.

5.1.11 Medication infusions commenced by the referring organisation should be reviewed on arrival at the receiving organisation and replaced with locally prepared infusions as soon as clinically appropriate.

5.1.12 All medicines administered during transfer must be documented contemporaneously within the transfer record. A copy of this documentation must accompany the patient and be provided to the receiving clinical team as part of the formal handover process.

5.2 Blood Transfusion During Transfer

5.2.1 The administration of blood components during transfer must comply with the referring organisation's transfusion policy and all relevant national transfusion standards.

5.2.2 All blood products administered during transfer must be fully documented within the patient transfer record and any local transfusion documentation to ensure compliance with legal and regulatory traceability requirements.

5.2.3 Documentation required for traceability purposes must be returned to the issuing transfusion laboratory following completion of the transfer in accordance with local policy.

5.2.4 Prior to administration, blood products must undergo the same patient identification and compatibility checks required within the hospital environment. Wherever possible, these checks should be completed before departure.

5.2.5 Blood products accompanying a patient but not yet connected for administration must be transported and stored in accordance with transfusion protocols to maintain the integrity of the cold chain.

5.2.6 Any unused blood products should be returned to the issuing transfusion laboratory or blood bank at the earliest opportunity and in accordance with local procedures.

5.2.7 Although critical care transfers may involve clinically unstable patients and time-critical decision-making, blood components remain a valuable and limited healthcare resource. Staff should therefore take all reasonable steps to minimise avoidable wastage while ensuring patient safety remains the overriding priority

6.0 Transport Requirements for Critical Care Transfers

6.1.1 This guidance applies to the transfer of critically ill adults undertaken by land-based ambulance vehicles only.

6.1.2 All vehicles used for critical care transfers must comply with the requirements of BS EN 1789:2020 (CEN Standards) and any subsequent amendments or replacement standards applicable to ambulance vehicles and associated equipment.

6.1.3 Where Ambulance Services commission third-party transport providers to undertake inter-facility transfers, the Ambulance Service retains responsibility for ensuring that the provider organisation has the capability, equipment, governance arrangements and appropriately trained personnel required to undertake the transfer safely.

6.1.4 Where non-Ambulance Service vehicles are used to facilitate critical care transfers, such as hospital-operated transport ambulances, provider organisations must ensure that the vehicle and associated equipment meet the standards and safety requirements outlined within national guidance, including Guidance on the Transfer of the Critically Ill Adult (ICS/FICM, 2026).

6.1.5 All vehicles used for critical care transfers should be fitted with an approved securing system compatible with the critical care transfer trolley used within the Network. Transfer trolleys, monitoring equipment, ventilators, infusion devices and any additional equipment must be secured in accordance with manufacturer instructions and vehicle safety requirements.

6.1.6 All occupants, equipment and clinical devices must be appropriately restrained, secured or installed to minimise the risk of injury or equipment damage during vehicle movement, braking or collision.

6.1.7 The primary role of the Ambulance Service crew is to provide safe transportation between the referring and receiving organisations. Although Ambulance Service personnel may provide valuable clinical assistance where appropriate, responsibility for the ongoing clinical management of the patient remains with the designated transfer team throughout the transfer episode.

6.1.8 Following completion of the transfer, Ambulance Services should, facilitate the return of the transfer team and associated transfer equipment to the referring organisation in order to minimise disruption to local critical care services.

6.1.9 Where a dedicated critical care transfer trolley has been used, arrangements should be made for its prompt return to the originating organisation so that it remains available for subsequent transfers.

6.1.10 Although ambulance vehicles are equipped to support the transport of critically ill patients, the referring organisation is expected to provide all equipment, medications and consumables required for the patient's care during transfer. Exceptions include vehicle-supplied oxygen and electrical power.

6.1.11 Wherever possible, transfer trolleys should be connected to the ambulance oxygen supply and onboard electrical system during transit to conserve cylinder capacity and battery life.

6.1.12 Ambulance vehicles used for critical care transfers should be equipped with suitable electrical power outlets within the patient compartment to enable the safe operation and charging of transfer equipment during transit. Power systems should be compatible with approved critical care transfer trolleys and associated equipment.

6.1.13 Ambulance Services and Adult Critical Care Networks should work collaboratively to ensure equipment compatibility across organisations and to identify, manage and resolve any operational or safety concerns relating to transfer equipment, vehicle interfaces or securing systems.

7.0 Documentation and Handover

7.1.0 Accurate, contemporaneous documentation is essential to ensure patient safety, continuity of care and effective governance of critical care transfers.

7.1.1 A written record of all critical care transfers, whether intra-facility or inter-facility, must be completed and incorporated into the patient's clinical record.

7.1.2 All patients must be transferred with two valid patient identification wristbands in place in accordance with local patient identification policies.

7.2 Inter-facility Transfer Documentation

7.2.1 Each Adult Critical Care Network should adopt a standardised inter-facility transfer document to support the consistent recording of transfer activity (Appendix 5).

7.2.2 Inter-facility transfer documentation must comply with the recommendations outlined in Guidance on the Transfer of the Critically Ill Adult (Intensive Care Society and Faculty of Intensive Care Medicine, 2026 and include, as a minimum, the nationally recommended dataset.

7.2.3 Adult Critical Care Networks should implement a standardised inter-facility transfer checklist covering all stages of the transfer pathway, including patient preparation, departure, transfer and arrival. The checklist should be incorporated within the transfer documentation.

7.2.4 Transfer documentation should include sufficient information to support service monitoring, activity reporting, audit and quality improvement across the Network.

7.2.5 A copy of the completed critical care transfer form should be submitted in accordance with local Network governance arrangements to facilitate audit and service evaluation.

7.2.6 The quality and completeness of transfer documentation should be audited against agreed key performance indicators (Appendix 6). Audit findings should be reviewed through Network governance processes and discussed at Transfer Forum meetings to support organisational learning and service improvement.

7.2.7 On arrival at the receiving organisation, a formal handover between the transfer team and receiving multidisciplinary team must be completed and documented within the transfer record.

7.2.8 A transfer summary or accompanying clinical documentation containing key patient information should be provided to the receiving team to support continuity of care.

7.2.9 Critical Care Transfer forms should be readily available in clinical areas where transfers are commonly initiated, including emergency departments, critical care units and operating theatres. Organisations should have reliable arrangements in place to ensure documentation always remains available.

7.2.10 The introduction of an Adult Critical Care Transfer Service (ACCTS) should facilitate progression towards greater interoperability and, where feasible, integration with Electronic Patient Record (EPR) systems.

7.3 Intra-facility Transfer Documentation

7.3.1 Documentation relating to intra-facility transfers should be recorded within the patient's clinical record using a dedicated transfer form or approved electronic equivalent. An example template is provided in Appendix 7.

7.3.2 Acute Trusts should adopt a standardised approach to intra-facility transfer documentation to promote consistency, support staff training and facilitate governance activities.

Documentation should include the indication for transfer, risk assessment, staffing arrangements, monitoring requirements, significant clinical events and confirmation of handover on arrival.

7.4 Patient Handover

7.4.1 A formal multidisciplinary handover must take place on arrival at the receiving clinical area or organisation.

7.4.2 Handover should utilise a structured communication tool, such as SBAR, and include as a minimum:

- Relevant patient history and diagnosis
- Reason for transfer
- Significant clinical events during admission and transfer
- Current physiological status and organ support requirements
- Treatments, procedures and medications administered
- Ongoing management priorities
- Treatment escalation plans and resuscitation status
- Allergies and other critical safety information
- Any outstanding investigations or actions required

7.4.3 The receiving clinician should be provided with all relevant clinical documentation, transfer records and medication information to ensure continuity of care.

7.4.4 Completion of the handover, including the names and roles of the individuals involved, must be documented within the inter-facility transfer record

8.0 Governance Arrangements

8.1 Transfer Education and Training

8.1.1 Adult Critical Care Networks should provide education and training programmes to support the safe transfer of critically ill adults.

8.1.2 All staff expected to undertake critical care transfers as part of their role should be supported to attend Network-approved transfer training and complete a local induction programme covering transfer equipment, documentation, governance requirements and operational procedures.

8.1.3 Transfer education programmes should be aligned to the competency frameworks and curricula published by the relevant professional bodies, including the Royal College of Anaesthetists (RCoA), College of Intensive Care Medicine (CICM), Critical Care Networks National Nurse Leads (CC3N) and Skills for Health transfer competencies where applicable.

8.1.4 Acute Trusts should maximise opportunities for inexperienced staff to participate in supervised transfers to develop competence and confidence before undertaking independent transfer duties.

8.1.5 Should a national transfer training programme become available, Networks and Acute Trusts should work collaboratively to ensure equitable access for all staff involved in critical care transfers.

8.1.6 Following the establishment of an Adult Critical Care Transfer Service (ACCTS) within Yorkshire and the Humber, the ACCTS should work collaboratively with Adult Critical Care Networks to support training, education and supervised transfer opportunities for staff undertaking non-ACCTS transfers, helping to ensure consistent standards of care across the region

8.2 Personnel and Competency Requirements

8.2.1 At the time of publication, there is no nationally agreed competency framework defining the minimum requirements for healthcare professionals undertaking independent critical care transfers.

8.2.2 Healthcare professionals undertaking transfers must be appropriately trained, competent and experienced for the clinical complexity of the patient and the anticipated transfer risks.

8.2.3 Doctors in their initial stages of training (pre–Initial Assessment of Competence (IAC)) should not undertake independent inter-facility transfers of Level 3 patients.

Staff undertaking transfers should be able to demonstrate competence in:

- Assessment of transfer-related clinical risk
- Stabilisation and preparation of critically ill adults for transfer
- Safe conduct of intra-facility and inter-facility transfers
- Recognition and management of clinical deterioration during transfer
- Use of transfer equipment and monitoring systems
- Communication, documentation and handover processes

8.2.4 The referring consultant is responsible for ensuring that the transfer team possesses the knowledge, skills and experience required to meet the individual patient's needs throughout the transfer episode, including the management of reasonably foreseeable complications.

8.2.5 Staff who have not completed local transfer induction or who cannot demonstrate the required competencies must not undertake independent transfers of critically ill adults.

8.2.6 Recognising the expanding roles of Advanced Critical Care Practitioners (ACCPs), Anaesthetic Associates and other advanced practitioners, Adult Critical Care Networks should develop a standardised competency assessment and authorisation process for all staff undertaking independent transfers, regardless of professional background.

8.3 Critical Incidents During Transfer

8.3.1 Adult Critical Care Networks should maintain a standard operating procedure (SOP) describing the management of critical incidents occurring during critical care transfers. Example: SYB Critical Incidents SOP

8.3.2 In the event of a critical incident, the immediate care and welfare of the patient must remain the primary consideration.

8.3.3 Acute Trusts should ensure that transfer teams have ready access to emergency guidance and decision-support resources, including the Emergency Action Cards contained within Guidance on the Transfer of the Critically Ill Adult (ICS/FICM, 2026). These may be provided electronically or as hard-copy resources within transfer equipment.

8.3.4 Where emergency intervention is required during transit, it may be necessary to stop the vehicle in a safe location to facilitate safe patient management.

8.3.5 Depending on the patient's condition, location and available resources, the transfer team may need to:

- Return to the referring organisation

- Divert to the nearest appropriate healthcare facility
- Continue directly to the receiving organisation

These decisions should be made following discussion with an appropriate senior clinician whenever practicable.

8.3.6 In the event of a patient death during transfer, transfer teams must follow the relevant Ambulance Service and local organisational policies. The legal responsibility for investigation and certification processes will rest with the appropriate authorities for the geographical area in which the death occurs.

8.3.7 All significant incidents occurring during transfer must be reported through the local incident reporting system. Incident reporting systems should include a transfer-specific identifier to facilitate audit, trend analysis and organisational learning.

8.3.8 The referring organisation's Medical Examiner service should be informed of any patient death occurring during transfer.

8.3.9 Transfer Leads should ensure that learning arising from critical incidents is reviewed through local governance processes and shared through the Network Transfer Forum where appropriate.

8.3.10 Acute Trusts should have formal debrief and staff support arrangements in place following significant incidents and ensure compliance with statutory Duty of Candour requirements.

8.4 Audit and Clinical Effectiveness

8.4.1 Acute Trusts and Adult Critical Care Networks must have governance arrangements in place to monitor and improve the quality of critical care transfers.

Governance arrangements should include:

- Incident reporting and review
- Morbidity and mortality review
- Patient and relative feedback
- Monitoring of key performance indicators

8.4.2 Network Transfer Forums are a key component of transfer governance and should meet regularly to review audit findings, incidents, service performance and improvement initiatives.

8.4.3 Adult Critical Care Networks should maintain a structured programme of audit to assess compliance with transfer standards, documentation requirements and agreed quality indicators.

8.4.4 Mechanisms should be established to ensure that learning and improvement actions are shared across Acute Trusts. Where issues involve more than one Network, findings should be communicated to the relevant Network Transfer Leads to support coordinated learning and improvement.

8.4.5 Recognising the limited national evidence base relating to critical care transfer services, Networks and any future ACCTS should support audit, service evaluation, quality improvement and research activities that contribute to the development of evidence-based transfer practice.

8.5 Staff and Patient Safety

8.5.1 The safety of patients, staff and ambulance personnel must be prioritised throughout all stages of a critical care transfer.

8.5.2 All vehicle occupants must wear seatbelts whenever the ambulance is in motion unless exceptional clinical circumstances prevent this.

8.5.3 Patients must be secured appropriately to the transfer trolley using approved restraint systems in accordance with manufacturer instructions and vehicle safety requirements.

8.5.4 Staff undertaking inter-facility transfers should be provided with appropriate high-visibility clothing and any personal protective equipment (PPE) required to undertake their duties safely.

8.5.5 Acute Trusts should ensure that staff have access to suitable clothing, footwear and equipment appropriate to the duration and nature of the transfer.

8.5.6 Adverse weather, road conditions or other environmental factors may affect transfer safety, a senior clinician should undertake a documented risk assessment before transfer proceeds.

8.5.7 The use of emergency driving conditions ("blue light" transfers) should be based on clinical need and authorised following a documented risk-benefit assessment involving the senior clinician responsible for the patient and the Ambulance Service crew.

Emergency driving may be appropriate where:

- The patient requires a time-critical intervention
- Delay would be likely to result in significant patient harm
- The patient's condition deteriorates during transfer, and urgent arrival is clinically necessary

8.5.8 The final decision regarding vehicle operation and road safety rests with the ambulance driver, who retains responsibility for the safe operation of the vehicle at all times.

8.6 Patient and Relative Information

8.6.1 Patients and, where appropriate, their relatives or carers should be informed about the need for transfer, the reasons for transfer and the receiving organisation.

8.6.2 Where immediate communication is not possible because of the urgency of the clinical situation; information should be provided as soon as it is safe and practicable to do so.

8.6.3 Relatives should normally arrange their own transport to the receiving organisation and should be advised not to follow the ambulance vehicle.

8.6.4 In exceptional circumstances, a relative may accompany a patient during transfer. Any such arrangement must comply with Ambulance Service policies and operational requirements.

8.6.5 Patients and relatives should be offered written or electronic information regarding critical care transfers and provided with details of the receiving organisation where appropriate.

8.7 Access to Transfer Information and Policies

8.7.1All staff involved in the transfer of critically ill adults should have access to current transfer policies, guidelines and supporting documentation.

8.7.2 Transfer guidance should be available through accessible formats, including organisational intranet systems, approved digital platforms and, where required, hard-copy documentation.

8.7.3 Information relating to transfer policies, procedures and available resources should form part of local induction programmes for all relevant staff.

8.7.4 Adult Critical Care Networks should work collaboratively to ensure transfer resources remain current, accessible and aligned with national guidance.

- South Yorkshire and Bassetlaw Critical Care Network
- West Yorkshire Critical Care Network
- North Yorkshire & Humberside Critical Care Network

8.8 Insurance and Indemnity

8.8.1 Acute Trusts should ensure that staff undertaking critical care transfers are informed of local arrangements relating to personal injury cover, employer liability and occupational health support.

8.8.2 Clinical activities undertaken during patient transfer are indemnified through standard NHS indemnity arrangements in the same manner as clinical activities undertaken within healthcare facilities.

8.8.3 Staff seeking additional personal insurance cover should obtain independent advice and consult the terms and conditions of any professional membership organisations or insurance providers.

8.8.4 Transfer Leads should seek assurance from their employing organisations that appropriate arrangements are in place to support staff undertaking transfer activities on behalf of the organisation.

9.0 Considerations for Specialist Transfers

9.1 Specialist transfers – general points

9.1.1 Where senior clinical discussion is required regarding the escalation of time critical specialist transfers, YAS control room Clinical Duty Manager responsible for managing risk across whole workload should be contacted on 0330 6784198

9.1.2 All specialist transfers should adhere to the standards and guidance outlined in preceding sections of this document. Ensuring that the fundamental principles of safe transfer are consistently applied. However, it is recognised that certain groups of critically ill patients require additional considerations to ensure that transfer care is safe, effective and aligned with agreed standards of practice.

9.1.3 It is also important to acknowledge that some aspects of specialist transfer are nuanced and may vary between centres and regions. Specialist centres therefore have a key role in providing appropriate guidance, support, and expertise to facilitate safe, efficient and high-quality transfers.

9.1.4 Specialist centres, Critical Care Networks and Ambulance Trusts should work collaboratively ensure that robust pathways exist for patients requiring time critical transfers to specialist services. These pathways should recognise that non-specialist hospitals are not always appropriate places to provide ongoing care and may not represent a place of safety for patients with highly specialist needs.

9.1.5 Clear escalation processes should be established to identify and address delays in transfer, particularly where time-critical interventions are required. These processes should enable timely involvement of senior clinical and operational decision makers to minimise delays, and support access to definitive care.

9.1.6 Transfers that take place out of hours and/or to unfamiliar areas could encounter access issues. Calling ahead and arranging for someone to meet you on arrival at an accessible area, then escort you to the critical care area will mitigate associated risks.

9.2 Neurosurgical and Neuromedical Transfers

9.2.1 Neurosurgical and complex neuromedical patients are frequently transferred between healthcare organisations to access specialist assessment, intervention and ongoing management. The regionalisation of specialist neuroscience services has increased the need for timely inter-facility transfer, a trend that is expected to continue with the expansion of specialist treatments such as mechanical thrombectomy for acute ischaemic stroke.

9.2.2 Many of these patients are critically ill and require urgent or time-critical transfer. Delays in transfer or suboptimal management during transfer may adversely affect neurological outcomes. Transfer should therefore be regarded as a continuation of specialist neurocritical care, with appropriate measures taken to maintain physiological stability and minimise secondary neurological injury.

9.2.3 Acute Trusts and Adult Critical Care Networks should have clearly defined pathways to support the referral, acceptance, transfer and repatriation of neurosurgical and neuromedical patients. These pathways should facilitate timely access to specialist services while ensuring that patients receive appropriate clinical support throughout the transfer process.

Table 2. Regional Neurosurgical Centres and Contact Details

Region	Neurosurgical Centre	Address / Location	Contact Details
South Yorkshire and Bassetlaw	Royal Hallamshire Hospital	Glossop Road, Sheffield, S10 2JF	Neuro Critical Care (K Floor ICU): 0114 271 2047 Neuro Intensive Care Doctor: Bleep 2577 Neuro Intensive Care Sister/Charge Nurse: Local bleep system Neurosurgical SpR: Bleep 2883 Neurosurgical Referrals: Refer-a-Patient
West Yorkshire	Leeds General Infirmary	Jubilee Wing, C Floor, Great George Street, Leeds, LS1 3EX	Neuro Critical Care (Ward L03): 0113 392 7403 Neurosurgical SpR: 07079 928120

			Neuro Acute Theatres: 0113 392 5305
North Yorkshire & Humber	Hull University Teaching Hospitals	Hull University Teaching Hospitals	Neuro HDU Unit: HRI switchboard 01482 875875, ask for neurosurgery registrar and consultant on call ICU Nurse Coordinator 07570036402 ICU 01482311727

9.2.4 Neurosurgical and Neuromedical transfers should be undertaken in accordance with the recommendations contained within Guidance on the Transfer of the Critically Ill Adult (Intensive Care Society and Faculty of Intensive Care Medicine, 2026) and relevant specialist neuroscience transfer guidance.

9.2.5 Wherever possible, transfer teams should include staff with experience in the assessment and management of patients with acute neurological injury. However, it is recognised that the time-critical nature of many neurosurgical and neuromedical transfers may limit the availability of specialist transfer personnel.

9.2.6 Specialist neuroscience centres should provide timely clinical support to referring organisations throughout the referral and transfer process. This should include clear referral pathways, readily accessible specialist advice and the provision of supporting resources, such as transfer checklists, clinical guidance and decision-support tools.

9.2.7 An example referral information sheet and transfer checklist is provided in Appendix 8. Transfer teams should utilise specialty-specific transfer checklists and protocols to support the delivery of neuroprotective care and promote adherence to best practice throughout the transfer pathway.

9.2.8 No patient should be denied access to emergency, lifesaving neurosurgical or neurological intervention solely because of critical care bed capacity constraint

9.3 Major Trauma Transfers

9.3.1 Transfers from local emergency hospitals and trauma units for major trauma patients forms a significant proportion of the time critical transfer requirements of many hospitals.

9.3.2. All three Yorkshire and the Humber Major Trauma Networks have well established transfer pathways for trauma victims with time critical or multi system injuries. In these cases, patients should be transferred as per the following pathways.

- North Yorkshire & Humber Major Trauma Network Transfer Policy (Adults) Network Transfer Pathways Posters (Adults)
- South Yorkshire Major Trauma Network Time Critical Transfer to MTC Transfer Policy (Adults)
- West Yorkshire Major Trauma Network
- Yorkshire & Humber Paediatric Major Trauma Guidelines 2024
- Yorkshire & Humber Paediatric Major Trauma Transfer & Referral Process 2024

9.3.3 Evidence suggests that, in some cases of time-critical neurological injury (for example, extradural haematoma), referral through neurosurgical pathways may inadvertently delay transfer to definitive care. Where permitted within established network pathways, direct Emergency Department-to-Emergency Department discussion and transfer may expedite access to a Major Trauma Centre (MTC). Critical care teams should be familiar with the circumstances in which this approach is appropriate.

9.3.4 Where a Trauma Unit or Local Emergency Hospital determines that a patient with major trauma requires services beyond the capabilities of the local organisation, the receiving Major Trauma Centre should accept the patient in accordance with regional trauma network arrangements.

9.3.5 Outside major incident or mass casualty scenarios, critical care bed availability at a tertiary centre should not delay the transfer of patients requiring time-critical specialist intervention. Access to definitive care should remain the overriding priority.

9.3.6 Once time-critical pathology requiring Major Trauma Centre management has been identified, the primary focus of the referring organisation should be the rapid preparation, stabilisation and packaging of the patient for transfer.

9.3.7 Where cross-sectional imaging has been completed within a Trauma Unit or Local Emergency Hospital, consideration should be given to transferring the patient directly from the CT scanner onto the critical care transfer trolley, where clinically appropriate, to minimise avoidable delays within the transfer pathway.

9.3.8 Transfer teams managing major trauma patients should have the capability to provide ongoing haemorrhage control and transfusion support during transfer,

including the administration of warmed blood components where clinically indicated, in accordance with local major haemorrhage and transfusion policies.

9.4 Maternal (Obstetric) Transfers

9.4.1 This section applies to critically ill maternity patients from 20 weeks' gestation until 6 weeks postpartum. Many of the principles described may also be applicable to patients at earlier gestations.

9.4.2 The guidance applies to both intra-facility and inter-facility transfers of critically ill maternity patients.

9.4.3 Maternity patients may require transfer for obstetric, non-obstetric or fetal indications, including access to specialist maternal medicine, critical care, surgical, neonatal or fetal services.

9.4.4 Although the fundamental principles of critical care transfer remain consistent with those for the general adult population, maternity transfers require additional consideration of maternal physiology, fetal wellbeing, gestational age and the potential need for urgent obstetric intervention.

9.4.5 Staff undertaking maternity transfers should be familiar with the recognition and management of maternal critical illness and should have access to relevant national guidance, local policies and specialist advice when required.

9.4.6 Organisations should ensure that staff involved in maternity transfers receive appropriate education, training and competency assessment to support the safe transfer of critically ill pregnant and postpartum patients.

9.4.7 Wherever possible, transfer planning should involve senior obstetric, anaesthetic, critical care and neonatal clinicians, ensuring that both maternal and fetal risks are considered throughout the transfer process.

9.4.8 Pre-transfer Assessment and Planning

9.4.9 Before transfer, the indication for transfer and the required timeframe should be clearly established. This should include consideration of maternal, obstetric, fetal and non-obstetric factors.

9.4.10 The urgency of transfer should be determined following assessment of the patient's clinical condition and the anticipated benefits of specialist care. Alternative

management options, including treatment within the referring organisation, should be considered and documented prior to transfer.

9.4.11 Patient Communication and Consent

9.4.12 The patient, and where appropriate their birth partner and family, should be involved in discussions regarding the proposed transfer and ongoing plan of care.

9.4.13 Decision makers should provide clear information regarding the reason for transfer, anticipated destination and potential risks and benefits. Any concerns raised by the patient or family should be addressed, and reasonable adjustments made where practicable.

9.4.14 Where a patient lacks decision-making capacity, decisions should be made in accordance with relevant legislation and local policy. Those close to the patient should be involved in best-interest discussions wherever appropriate.

9.4.15 Multidisciplinary Team Review

9.4.16 A consultant-led multidisciplinary team (MDT) review should be undertaken prior to transfer to assess the risks and benefits of transfer, identify mitigating actions and agree the proposed treatment plan, destination, timing and urgency of transfer.

9.4.17 The MDT should include, where available, representation from:

- Obstetrics
- Midwifery
- Maternal medicine
- Obstetric anaesthesia
- Intensive care medicine
- Neonatology

9.4.18 The MDT review should consider:

- Ongoing maternal resuscitation and stabilisation, ensuring that treatment continues while transfer arrangements are being made
- Whether delivery prior to transfer or transfer during pregnancy represents the safest option for the mother and baby
- Gestational age estimated fetal weight and neonatal cot availability
- The relative benefits of in-utero versus ex-utero transfer
- The optimal timing of transfer
- The capability and capacity of the receiving organisation, including specialist maternity, critical care and neonatal services

9.4.19 Potential transfer-related risks should also be considered, including:

9.4.20 Maternal risks

- Clinical deterioration during transfer
- Labour or birth during transit
- Postpartum haemorrhage
- Separation from the newborn, birth partner or family

9.4.21 Fetal risks

- Fetal compromise or intrauterine death
- Preterm birth and its associated complications

The outcome of the MDT review should be documented within the patient's clinical record.

9.4.22 Communication and Handover

9.4.23 Comprehensive consultant-to-consultant communication should occur between the referring and receiving organisations, involving all relevant specialties.

9.4.24 A structured senior midwifery handover should take place between the transferring and receiving teams to ensure continuity of care.

9.4.25 Prior to departure, the transfer team should establish clear roles and responsibilities for the management of foreseeable clinical events during transfer, including maternal deterioration, labour and delivery, obstetric haemorrhage and fetal compromise.

9.4.26 A designated senior clinical contact should be identified for escalation of concerns during transfer. This will normally be the responsible critical care consultant, or another agreed senior clinician.

9.4.27 Clinical Considerations During Transfer

9.4.28 The transfer team should ensure that maternal stabilisation, monitoring and treatment continue throughout the transfer process. Clinical management should prioritise maternal wellbeing, recognising that optimisation of maternal physiology is the most effective strategy for supporting fetal wellbeing.

9.4.29 Additional maternity-specific considerations should include fetal monitoring requirements, positioning to minimise aortocaval compression, preparedness for obstetric emergencies and arrangements for escalation should maternal or fetal condition deteriorate during transfer.

9.4.30 Maternal positioning should minimise aortocaval compression throughout the transfer. Patients should be transferred in a left lateral tilt of approximately 15–30 degrees or in an upright position where clinically appropriate.

9.4.31 An obstetric assessment of fetal wellbeing should be undertaken prior to transfer where feasible.

9.4.32 Where fetal compromise is suspected, maternal resuscitation and optimisation should be prioritised. The multidisciplinary team should consider whether delivery prior to transfer would provide greater benefit than transfer during pregnancy.

9.4.33 Risk of Labour and Delivery. The risk of labour or delivery occurring during transfer should be assessed and documented before departure.

9.4.34 Where there is a significant risk of preterm labour, the use of tocolysis should be considered in accordance with local and national guidance.

9.4.35 For pregnancies of less than 34 weeks' gestation, antenatal corticosteroids should be administered where appropriate to support fetal lung maturation.

9.4.36 For pregnancies of less than 30 weeks' gestation, magnesium sulphate should be considered for fetal neuroprotection in accordance with local maternity pathways.

9.4.37 Postpartum Haemorrhage. The risk of postpartum haemorrhage should be assessed and mitigated prior to transfer.

9.4.38 Transfer teams should ensure that appropriate uterotonic agents and tranexamic acid are readily available throughout the transfer and that staff are familiar with local haemorrhage management protocols.

9.4.39 Pre-eclampsia and Eclampsia. Patients with pre-eclampsia or eclampsia require careful preparation before transfer.

9.4.40 Appropriate antihypertensive therapies and magnesium sulphate should be available during transfer for blood pressure management and seizure prophylaxis or treatment.

9.4.41 Diversion Planning. Potential diversion destinations should be identified prior to departure in the event of maternal or fetal deterioration during transfer. The transfer team should be aware of the nearest suitable maternity and emergency care facilities along the transfer route.

9.4.42 Maternal Cardiac Arrest. In the event of maternal cardiac arrest after 20 weeks' gestation, resuscitation should follow current national resuscitation guidance. Where

indicated, a resuscitative hysterotomy (perimortem caesarean birth) should be undertaken without delay, with the aim of commencing the procedure within 5 minutes of cardiac arrest.

9.4.43 During transfer Maternal positioning should be maintained throughout the transfer to minimise aortocaval compression and optimise maternal haemodynamic. Continuous monitoring and reassessment of the mother's clinical condition should be undertaken throughout transit, with particular attention to signs of deterioration, labour, haemorrhage or seizure activity.

9.4.44 Routine fetal monitoring is not generally undertaken during transfer. Clinical management should focus on optimisation of maternal physiology, recognising that maternal wellbeing is the primary determinant of fetal wellbeing during transit.

9.4.45 Wellbeing. Transfer teams should remain mindful of the patient's experience and psychological wellbeing, providing reassurance, communication and support throughout the transfer whenever possible.

9.4.46 Arrival and Handover. On arrival at the receiving organisation, a structured multidisciplinary handover should be provided, including a summary of the patient's clinical condition, treatments delivered, transfer events and ongoing management requirements.

9.4.47 A timely obstetric review should be undertaken following arrival, including assessment of maternal condition and fetal wellbeing where appropriate.

9.4.48 All relevant clinical documentation, transfer records and investigation results should accompany the patient and be handed over to the receiving team.

9.4.49 Following completion of the transfer, the transfer team should undertake a debrief to identify learning opportunities, equipment issues, operational challenges and examples of good practice that may inform future service improvement.

9.5 Paediatric Transfers

9.5.1 The transfer of critically ill infants and children requires specialist expertise and should be undertaken in accordance with regional paediatric critical care transfer arrangements.

9.5.2 In Yorkshire and the Humber, the regional paediatric critical care transport service is provided by Embrace Transport Service. Embrace provides a 24-hour specialist

retrieval and transport service for critically ill infants and children who require transfer to another hospital within the region or to specialist centres elsewhere in the UK.

9.5.3 Referrals for urgent transfer, clinical advice or retrieval requests should be made via the Embrace referral hotline on **0114 305 8200**.

9.5.4 Information on referral pathways, transfer arrangements and service access can be found on the Embrace Transfers Information page.

9.5.5 Additional clinical guidance, policies, protocols and educational resources are available through the Embrace website.

9.5.6 Adult critical care transfer teams should not routinely undertake transfers of critically ill paediatric patients unless specifically agreed through established regional pathways and supported by appropriately trained personnel. Where a critically ill child requires transfer, early liaison with Embrace is strongly recommended to ensure timely access to specialist advice and retrieval services.

9.6 Renal Transfers

Yorkshire and Humber Kidney Network Renal Transfer Guidelines (2025)

9.7 Cardiac/Cardiothoracic Transfers

9.7.1 Cardiothoracic Surgical Emergencies

9.7.2 Patients with trauma related cardiothoracic emergencies should be managed as per the established regional trauma pathways and guidelines.

9.7.3 Patients with other cardiothoracic emergencies must be accepted by the destination cardiothoracic surgical team prior to transfer.

9.7.4 Of the non-traumatic cardiac surgical emergencies, **Type A aortic dissection** is the most time-critical condition. Patients should be transferred directly to theatre where possible, or to the Cardiac Intensive Care Unit if further assessment is required or theatre is not immediately available. Specialist units should have clear guidance in place for the escalation, management and transfer of these patients to minimise delays and facilitate timely definitive treatment.

9.7.5 Broadly, other cardiothoracic emergencies would be discussed with the surgical team and transfer timing and destination agreed on a case-by-case basis, recognising no two are the same and require risk assessment based on their unique circumstances.

9.7.6 Type A Aortic Dissection

9.7.7 Aortic Dissection should be managed as Type A if it involves the ascending aorta and/or the aortic arch proximal to the left subclavian.

9.7.8 Type A Aortic Dissections have specific haemodynamic targets prior to surgery:

- Heart rate of 60-80 bpm (within 60 minutes of diagnosis)
- systolic blood pressure between 100-120mmHg (within 30 minutes of diagnosis).

9.7.9 Beta blockade with Labetalol is the recommended initial agent of choice, prior to vasodilation, to reduce shear stress and minimise propagation of the dissection.

9.7.10 Cardiology Emergencies

9.7.11 Patients must be accepted by cardiology prior to transfer.

9.7.12 The most common indication for transfer would be PPCI which would go directly to Cath-lab if a lab is immediately available. If no lab is available, the patient may be transferred to the agreed critical care area prior to going for PPCI.

9.7.13 specialist units should have clear guidance / protocols in place to support referring units in the timely management, escalation and transfer of patients requiring cardiology interventions, including PCI. An example of the WYCCN PCI flow chart is included in appendix 9.

9.7.14 Management suggestions

9.7.15 A left sided radial arterial line is preferable in patients being transferred for PCI, the right radial artery is commonly the preferred site of access for the cardiologist.

9.7.16 NG tube is required to give time critical treatments when the patient cannot take them orally.

9.7.17 For post cardiac arrest patients, the downtime, rhythm at ROSC and ECG findings are critical pieces of information for the receiving cardiology team

Table 3. Yorkshire & Humber Cardiothoracic Services

	Receiving Hospital	Referring units to location	Usual area to be received
Cardiology:	**South Yorkshire** Northern General Hospital	Rotherham Barnsley Doncaster Bassetlaw	Cardiac catheter suite
	West Yorkshire Leeds General Infirmary	Pinderfields Calderdale	Cardiac catheter suite

		Bradford Airedale Harrogate	
	North Yorkshire Castle Hill	Scunthorpe Hospital Diana Princess of Wales Hospital, Grimsby Scarborough York (Rear Entrance)	Centre for Cardiology & Cardiothoracic Surgery (rear entrance)
Cardiac surgery:	**South Yorkshire** Northern General Hospital	Rotherham Barnsley Doncaster Bassetlaw	Chesterman Building: Cardiothoracic Theatres or CICU
	West Yorkshire Leeds General Infirmary	Pinderfields Calderdale Bradford Airedale Harrogate	Jubilee Wing, Cardiac Theatres or CICU
	North Yorkshire Castle Hill	Scunthorpe Hospital Diana Princess of Wales Hospital, Grimsby Scarborough York	Centre for Cardiology & Cardiothoracic Surgery (rear entrance)
Thoracic Surgery:	**South Yorkshire** Northern General Hospital	Rotherham Barnsley Doncaster Bassetlaw	Chesterman Building: Cardiothoracic Theatres or CICU
	West Yorkshire Leeds General Infirmary	Pinderfields Calderdale Bradford Airedale Harrogate	Thoracic Theatres: Bexley Wing ICU J81Bexley Wing (Level 2) or J54 Lincoln Wing (Level 2)
	North Yorkshire Castle Hill	Hull Royal Infirmary Scunthorpe Hospital Diana Princess of Wales Hospital, Grimsby Scarborough York	Centre for Cardiology & Cardiothoracic Surgery (Rear Entrance)

**The responsibility for identifying and confirming a receiving centre lies with the parent specialty at the referring hospital.*

**Ensure you confirm where you are expected to be received with the destination clinical team.*

9.7.18 Sheffield – Northern General Hospital

Cardiology catheter-lab, Chesterman theatres (Cardiothoracic) and *Cardiac ICU* are all based on Level E in the Chesterman building.

The Coronary Care Unit is on Level D of the Firth wing which is immediately adjacent to the Chesterman Building. Access for ambulance transfers is from the main entrance to Chesterman Wing on Level C.

On entering turn right on the corridor and there are lifts on the right. On exiting the lifts on level E turn right for cath-lab and head to the end, for CICU / Chesterman theatres turn left, Theatres is on the right and CICU on the left. On exiting the lifts on D floor turn left and follow the corridor, you will pass into the Firth Wing, CCU is on the right after you have passed the entrance to Firth 7.

General ITU is in Vickers Corridor with beds split over D and E floor. The most convenient access is via Vickers Courtyard car park; there is an ambulance bay outside Entrance 22 to Vickers corridor. When you enter via Entrance 22 there is an intercom on the left, at the visitors' entrance. Please use this to alert the ITU team to your arrival and they will help you gain access via Vickers corridor, which is beyond the next set of double doors and where there is no intercom.

9.7.19 Leeds Teaching Hospitals

Cardiology Catheter Lab is on E Floor, Jubilee Wing, Leeds General Infirmary

Coronary Care (Ward L20) is on F Floor, Jubilee Wing, Leeds General Infirmary

Cardiac Intensive Care (Ward L05/L04) is on C Floor Jubilee Wing, Leeds General Infirmary

Thoracics are based at St James' University Hospital, **however, any thoracic Injury should be referred to Thoracics on call via switchboard. Thoracic Trauma may be directed to MTC at LGI in the first instance**.

9.7.20 Castle Hill Hospital

Emergencies for Cardio-thoracic and Cardiology are all received via the ambulance entrance at the rear of the Centre for Cardiology & Cardiothoracic Surgery (Block 90).

The rear entrance to the Centre for Cardiology & Cardiothoracic Surgery can be accessed via either entrance 1 or entrance 2 when arriving at the Castle Hill Hospital site. The rear entrance to the Centre for Cardiology & Cardiothoracic Surgery provides access to cardiothoracic theatres and is for PCIs and cardiothoracic emergencies. There is a lift up to the theatre suites. The red emergency PCI signage should be followed.

All other general admissions to the ICU and theatres are accessible via the site's Main Entrance (Block 35). Follow the hospital corridor leading from the Main Entrance until you reach a crossroads. Turn right for the main general theatres, left for urology theatres and straight on for both ICU 1 and ICU 2. There is a lift access to ICU, but an

access card is not required. The ICUs are signposted on this corridor and there is a buzzer to gain access.

9.8 Critical Care Burns Transfers

Table 4. Yorkshire & Humber Burns Service Contacts

Service	Phone	Notes
Pinderfields Hospital – Burns (Adults)	01924 541700	Burns consultant of the day / on call
Pinderfields Hospital – Children's Burns Ward (G46)	01924 541931	Paediatric burns ward
Sheffield – Northern General Hospital Burns Unit (Adults)	0114 271 4129 / 0114 271 4126	Adult burns unit
Sheffield Children's Hospital – Burns Unit	0114 226 0694	Burns Unit (Switchboard: 0114 271 7000)
Newcastle RVI – Ward 37 (Adults) Burns Centre	0191 282 5637	Adult burns centre
Newcastle RVI – Ward 11 (Paediatrics)	0191 282 6011	Children's burns service
Middlesbrough – James Cook University Hospital (All Ages)	01642 854535	Burns consultant of the day / on call
Embrace (Yorkshire & Humber Infant and Children's Transport Service) – Urgent Referrals	0114 305 8200	24/7 referral hotline
National Burns Bed Bureau (NBBB)	01384 679036	National bed-finder helpline

9.8.1 Referral and Transfer of Burns Patients

9.8.2 Burns patients should be referred and transferred in accordance with national burn care referral criteria to ensure they receive care in the most appropriate facility.

9.8.3 Referral thresholds should be based on the National Burn Care Referral Guidance and used to determine whether management is required at a Burns Facility, Burns Unit or Burns Centre.

9.8.4 Referral to a specialist burns service should be considered for:

- Adults with burns affecting more than 15% Total Body Surface Area (TBSA).
- Children with burns affecting more than 10% TBSA.
- Full-thickness burns affecting more than 5% TBSA.
- Burns involving the face, hands, feet, genitalia, perineum or major joints.

- Circumferential burns of the limbs or chest.
- Suspected inhalation injury.
- Chemical or electrical burns.
- Patients with significant comorbidity, associated trauma or an anticipated requirement for critical care support.

9.8.5 Yorkshire and Humber Referral Pathways

9.8.6 Adult patients in West, North and East Yorkshire with major or complex burns, or those requiring critical care support, should normally be referred to the regional Burns Centre at Pinderfields Hospital.

9.8.7 Adult patients with burns of moderate complexity may be suitable for management at the adult burns service at Northern General Hospital, Sheffield. Early discussion with the burns team is recommended, particularly where critical care support may be required.

9.8.8 Paediatric patients should be stabilised locally before transfer. Critically ill or ventilated children should be discussed with the regional paediatric retrieval service and transferred to an appropriate specialist centre as advised.

9.8.9 Early involvement of the regional paediatric retrieval team is recommended to support clinical decision-making and transport arrangements.

9.8.10 For patients located near regional boundaries, discussion with the nearest specialist burns service may facilitate timely access to definitive care.

9.8.11 During periods of service pressure or surge activity, regional and national escalation processes should be followed to identify appropriate specialist capacity.

9.8.12 **Airway Management – Indications for Early Intubation**

Airway assessment should be undertaken early in all patients with significant burns. Early tracheal intubation should be considered where there is:

- Stridor, hoarseness, voice change or evidence of upper airway injury.
- Facial burns, oral burns, soot deposition or carbonaceous sputum.
- Progressive facial, oral or airway oedema.
- Exposure to fire within an enclosed space.
- Respiratory compromise.
- Reduced conscious level.

- Extensive burns involving more than 40–50% TBSA.
- Anticipated prolonged transfer where subsequent airway intervention may be difficult or unsafe.

9.8.13 Securing the Airway

9.8.14 Endotracheal tubes should be secured using methods that remain effective despite burns, moisture and oedema.

9.8.15 Adhesive tape should be avoided on burned or contaminated skin.

9.8.16 non-adhesive fixation methods, such as cotton ties, umbilical tape or appropriate commercial tube holders, should be used where possible.

9.8.17 Tube size and depth should be clearly documented and verified throughout transfer.

9.8.18 Continuous waveform capnography should be used to confirm and monitor tube position.

9.8.19 Airway Management – Practical Considerations

9.8.20 Endotracheal tubes should be of sufficient size to facilitate bronchoscopy if required.

9.8.21 Airway oedema may result in tube migration; tube position and capnography should therefore be reassessed after every patient movement.

9.8.22 Pressure areas should be adequately protected, particularly where burns affect the face or neck.

9.8.23 Difficult airway contingency plans should be established prior to transfer.

9.8.24 Neuromuscular blockade should follow current clinical guidance and local policy.

9.8.25 Temperature Management – Initial Cooling

9.8.26 Initial burn management should focus on cooling the burn injury whilst preventing patient hypothermia.

9.8.27 Burns should be cooled using cool running water for up to 20 minutes, ideally within three hours of injury.

9.8.28 Ice and iced water should not be used.

9.8.29 Burn wounds should be covered with non-circumferential cling film or a suitable low-adherent dressing.

9.8.30 The remainder of the patient should be insulated to minimise heat loss.

9.8.31 Temperature Management During Transfer

9.8.32 Active cooling should be discontinued before transfer commences.

9.8.33 Patients should be insulated appropriately using blankets, foil coverings or active warming devices where available.

9.8.34 Core temperature should be monitored regularly throughout transfer.

9.8.35 A target temperature of 36.0–37.5°C should be maintained.

9.8.36 Dressings should remain dry and intact throughout the transfer.

9.8.37 Vascular Access and Device Security

9.8.38 Vascular access devices should be secured using techniques appropriate for burned skin, recognising that adhesive fixation may be unreliable.

9.8.39 Wherever possible, access should be obtained through unburned skin.

9.8.40 Intraosseous access should be considered early where vascular access is difficult, particularly in paediatric patients.

9.8.41 Additional fixation measures should be used to minimise accidental dislodgement during transfer.

9.8.42 All lines and devices should be clearly labelled and checked after each patient movement.

9.9 Spinal Injury Transfers

9.9.1 General Principles

9.9.2 Spinal injuries may be traumatic or non-traumatic and can involve the spinal column, spinal cord or both.

9.9.3 Injuries may occur at any level of the spine and may be classified as stable or unstable.

9.9.4 Spinal cord injury can result in significant morbidity, mortality and permanent disability. High cervical cord injuries may cause severe respiratory and cardiovascular compromise requiring advanced organ support.

9.9.5 Initial assessment and management should follow current national guidance, including:

9.9.6 NICE Guideline NG41: Spinal Injury: Assessment and Initial Management.

9.9.7 British Orthopaedic Association Standards for Trauma (BOAST) guidance.

9.9.8 Patients with suspected or confirmed spinal cord injury should be transferred promptly to a Major Trauma Centre or specialist spinal injuries service where appropriate.

9.9.9 Early referral and direct clinician-to-clinician discussion with the receiving specialist centre are encouraged to facilitate timely access to definitive care.

9.9.10 Where urgent neurosurgical, spinal surgical or major trauma intervention is required, direct Emergency Department-to-Emergency Department referral pathways may expedite transfer and should be utilised where available.

9.9.11 Transfer teams should ensure spinal precautions are maintained throughout transfer in accordance with current guidance and the patient's clinical condition.

9.9.12 Conduct of Spinal Injury Transfers

9.9.13 Transfers should be minimised wherever possible to reduce the risk of secondary spinal injury, neurological deterioration, or displacement of unstable spinal injuries.

9.9.14 Patients should undergo appropriate resuscitation and stabilisation prior to transfer. The benefits of further optimisation must be balanced against the need for timely transfer to definitive care when urgent intervention is required.

9.9.15 Transfer teams should possess the knowledge, skills and experience necessary to safely manage the patient throughout the transfer. It is recognised that the specialist

nature of spinal injury care may limit exposure to such patients, and local services may need to identify the most appropriate available escort based on the patient's clinical needs and the urgency of transfer.

9.9.16 Staff undertaking spinal injury transfers should be familiar with the recognition and management of autonomic dysreflexia and the specific respiratory, cardiovascular, bladder, bowel and pressure area care requirements associated with spinal cord injury.

9.9.17 Comprehensive clinical documentation must accompany the patient and should include:

- A documented neurological assessment prior to transfer
- Details of organ support requirements
- Treatments and interventions undertaken
- Relevant imaging and investigation results
- The ongoing management plan

9.9.18 Referring organisations must ensure that appropriate transfer equipment is available and that staff are trained and competent in its use, including equipment required for spinal immobilisation and safe patient handling.

9.9.19 Specialist Spinal Injury Services

9.9.20 Patients with suspected or confirmed spinal cord injury should be discussed with, and where appropriate transferred to, a specialist neurosurgical or spinal injuries service to facilitate timely access to definitive care.

9.9.21 Acute Neurosurgical Centres covering Yorkshire & Humber region:

- Leeds General Infirmary Neurosurgical Centre
- Neurosurgical Unit, Royal Hallamshire Hospital, Sheffield
- Northern General Hospital, Sheffield (Major Trauma and Orthopaedic spine)
- Neurosurgical Unit Hull Royal Infirmary

9.9.21 Regional Spinal Injuries Centres

Table 5. Yorkshire & Humber Spinal Services

Spinal Injuries Centre	Location	Catchment / Coverage Area	Contact Point	Telephone

Yorkshire Regional Spinal Injuries Centre	Pinderfields Hospital, Level A, Gate 4, Wakefield	West Yorkshire, North Yorkshire, Hull and Humber regions	Reception	01924 542053
Yorkshire Regional Spinal Injuries Centre	Pinderfields Hospital, Level A, Gate 4, Wakefield	West Yorkshire, North Yorkshire, Hull and Humber regions	Staff Base 1	01924 542041
Yorkshire Regional Spinal Injuries Centre	Pinderfields Hospital, Level A, Gate 4, Wakefield	West Yorkshire, North Yorkshire, Hull and Humber regions	Staff Base 2	01924 542042
Yorkshire Regional Spinal Injuries Centre	Pinderfields Hospital, Level A, Gate 4, Wakefield	West Yorkshire, North Yorkshire, Hull and Humber regions	Liaison Team	01924 542054
Princess Royal Spinal Cord Injuries Centre	Northern General Hospital, Sheffield	South Yorkshire region	Main Contact	0114 226 69

9.9.23 Specialist Advice and Repatriation

9.9.24 Specialist spinal injuries centres and neurorehabilitation services should provide support to referring organisations through clear referral pathways, clinical guidance and access to specialist advice.

9.9.25 Effective communication between referring and receiving teams is essential to support timely decision-making and optimise patient outcomes.

9.9.26 Once specialist intervention has been completed, repatriation to local hospitals or appropriate rehabilitation facilities should occur as soon as clinically appropriate to maximise specialist bed availability and support patient flow across the region.

9.9.27 Specialist spinal rehabilitation services are nationally commissioned, and referrals should be made in accordance with the National Spinal Injuries Referral Pathway and commissioning arrangements.

9.10 ECMO Transfer

9.10.1 Extracorporeal Membrane Oxygenation (ECMO) is a highly specialised therapy used to support patients with severe, potentially reversible respiratory failure when conventional treatments have been exhausted.

9.10.2 There are currently eight designated adult respiratory ECMO centres across the UK.

9.10.3 Referrals should be made via the National ECMO Referral Pathway, which provides a single point of access to ECMO services.

9.10.4 The national referral pathway includes information on referral criteria, patient eligibility, contraindications, referral processes, and contact details for all ECMO centres.

9.10.5 Following acceptance, the receiving ECMO centre will provide specialist advice regarding ongoing patient management and preparation for retrieval or transfer.

9.10.6 Where appropriate, the ECMO centre may deploy a specialist retrieval team to undertake cannulation and transfer of the patient to the receiving unit.

9.11 High Consequence Infectious Diseases (HCID) and Hazard Group 4 Disease Transfers

9.11.1 National guidance on High Consequence Infectious Diseases (HCIDs) is available via the UK Government HCID guidance.

9.11.2 Patients with suspected or confirmed HCID may require secondary inter-facility transfer to a designated HCID treatment centre.

9.11.3 When HCID is confirmed/suspected the YAS Clinical Duty Manager should be contacted on 0330 6784198 when considering patient transfer.

9.11.4 The transfer of patients with suspected or confirmed HCID requires enhanced infection prevention and control (IPC) measures to minimise the risk of transmission and ensure the safety of patients, staff, and the public.

9.11.5 Staff involved in the transfer should adhere to local IPC policies and use the appropriate personal protective equipment (PPE) for the identified risk.

9.11.6 Advice from microbiology, virology, and infectious diseases specialists should be sought when planning and undertaking transfers involving suspected or confirmed HCID.

9.11.7 Transfer teams must follow relevant national, regional, and local standard operating procedures, including Ambulance Service protocols, for the safe management and transport of these patients.

9.11.8 Clear communication between referring, receiving, and transport teams is essential to ensure appropriate preparation, escalation arrangements, and infection control measures are in place before transfer commences.

9.12 Considerations for the Transfer of Bariatric Patients

9.12.1 Patients with a high body mass index (BMI) or large body habitus may require additional planning, equipment, and resources to facilitate safe transfer.

9.12.2 Prior to transfer, the patient's weight should be established wherever possible and assessed against the safe working limits of all transfer equipment, including transfer trolleys, ambulance loading systems, and patient-handling devices.

9.12.3 Transfer teams must ensure that the combined weight of the patient and any equipment attached to the transfer trolley does not exceed the manufacturer’s specified weight limit.

9.12.4 Additional width extensions may be required to safely accommodate some patients. Where a single trolley extension is required, transfer can often be undertaken using a standard ambulance vehicle.

9.12.5 Where bilateral trolley extensions are required; a specialist or non-standard ambulance vehicle may be necessary to ensure safe transport.

9.12.6 Any requirement for bariatric equipment or specialist transport arrangements must be identified early and clearly communicated when requesting ambulance resources to minimise delays and ensure appropriate vehicle allocation.

9.12.7 Referring organisations should consider the availability of suitable moving and handling equipment, transfer aids, and additional personnel required to safely prepare, load, and unload the patient.

9.12.8 Ambulance services should maintain contingency arrangements for bariatric transfers. These may include the deployment of specialist vehicles or resources from

alternative service lines, such as Hazardous Area Response Teams (HART) or specialist retrieval services, where appropriate.

9.12.9 A documented risk assessment should be undertaken prior to transfer to identify and mitigate risks to both the patient and staff.

Appendix

Appendix 1. Mileage Grid

West Yorkshire

Miles	Airedale General Hospital	Bradford Royal Infirmary	Calderdale Royal Hospital	Huddersfield Royal Infirmary	Pinderfields General Hospital	Leeds General Infirmary	St James's Hospital	Harrogate District Hospital	Nuffield Hospital
Airedale General Hospital		11	18	23	38	23	25	25	
Bradford Royal Infirmary	11		12	14	20	11	14	24	
Calderdale Royal Hospital	18	12		8	24	18	21	39	
Huddersfield Royal Infirmary	23	14	8		23	18	21	37	
Pinderfields General Hospital	38	20	24	23		12	13	32	
Leeds General Infirmary	23	11	18	18	12		3	15	<1
St James's Hospital	25	14	21	21	13	3		15	
Harrogate District Hospital	25	24	39	37	32	15	15		
Nuffield Hospital						<1			

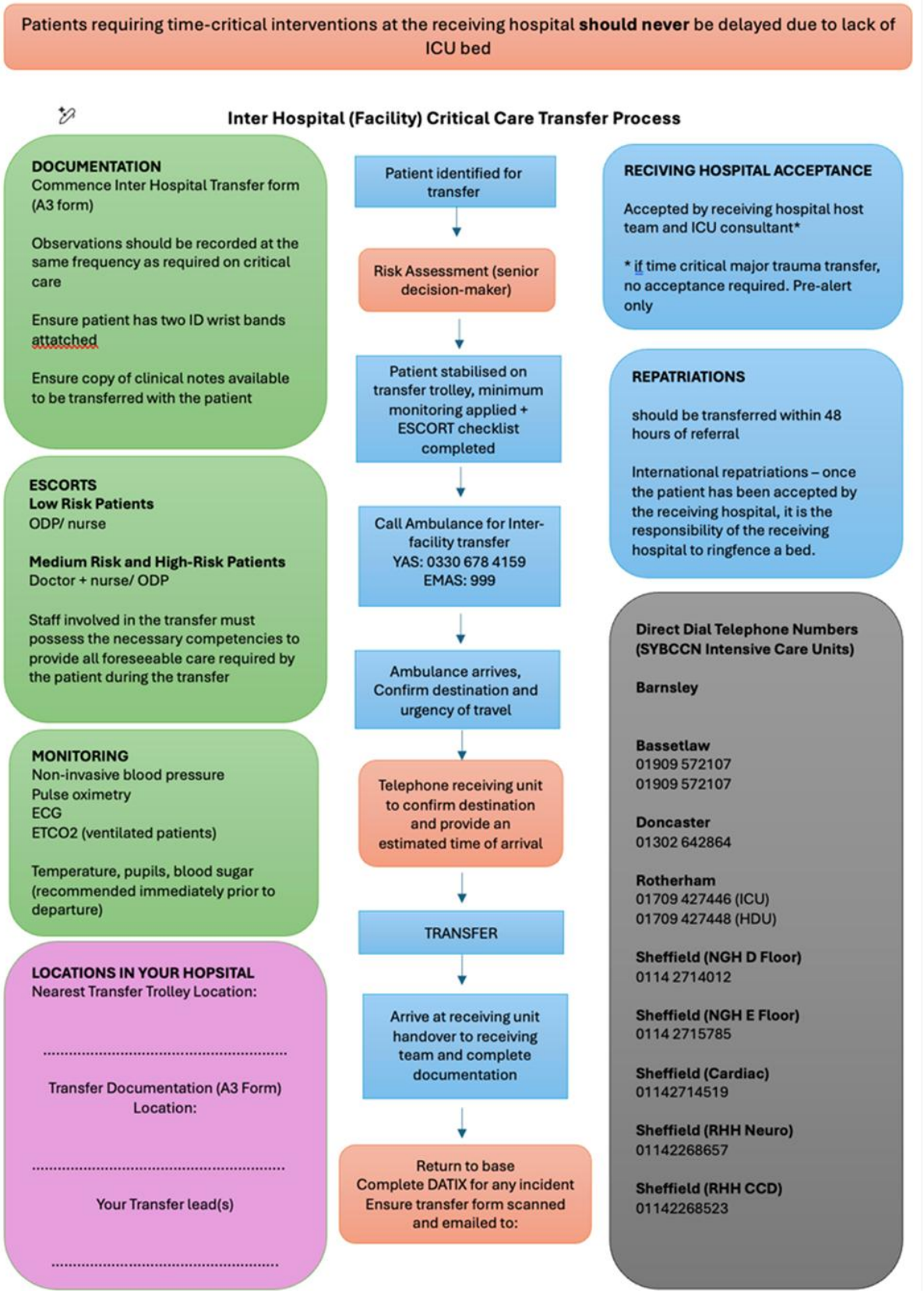
South Yorkshire & Bassetlaw

Miles	Barnsley Hospital	Bassetlaw Hospital	Doncaster Hospital	Northern General Hospital	Rotherham Hospital	Royal Hallamshire Hospital
Barnsley Hospital		28	18	13	17	17
Bassetlaw Hospital	28		19	20	13	20
Doncaster Hospital	18	19		16	16	25
Northern General Hospital	13	20	16		6.5	3
Rotherham Hospital	17	13	16	6.5		9
Royal Hallamshire Hospital	17	20	25	3	9	

Humber & North Yorkshire

Miles	Hull Royal Infirmary	Castle Hill	Diana, Princess of Wales	Scunthorpe General Hospital	York Hospital	Scarborough Hospital
Hull Royal Infirmary		56	31	22	38	45
Castle Hill	56		31	22	38	45
Diana, Princess of Wales	31	31		28	63	72
Scunthorpe General Hospital	22	22	28		47	63
York Hospital	38	38	72	63		41
Scarborough Hospital	45	45	72	63	41	

Appendix 2. Example of Interfacility Critical Care Transfer Flowchart



Appendix 3. Risk Assessment & Personnel tool

Risk stratification	Type of transfer	Level of escort required
Low risk patient NEWS 1-4 Maintaining airway FiO2 <0.4 / Base Deficit 0 to -4mmol/l Not requiring inotropic / vasopressor support GCS >13 Normothermic	Intra hospital transfer OR Inter hospital transfer	Competent Nurse / ODP / ACCP
Medium Risk NEWS 5-6 Maintaining airway FiO2 0.4-0.6 Base Deficit -4 to -8mmol/l Low dose inotropic / vasopressor support (<0.2mcg/kg/min) GCS 9-13 Hypo/hyperthermic	Intra hospital transfer OR Inter hospital transfer	Competent nurse/ ODP PLUS Competent Medical Escort
High risk patient NEWS 7 or more Intubated / Ventilated FiO2 >0.6 Base Deficit worse than -8mmol/l High dose inotropic support or CVS unstable (>0.2mcg/kg/min) GCS 9-13 Hypo/hyperthermic Major Trauma e.g. head / chest. abdominal / pelvic injuries	Intra hospital transfer OR	Competent nurse and/or ODP Competent medical escort with advanced airway skills
	Inter hospital transfer	Competent nurse and /or ODP Competent medical escort with advanced airway skills (minimum: must have passed Initial Assessment of Competence)

***** *These risk assessment tools are for guidance only. Each patient should be assessed by a senior decision maker who should weigh up the risks and benefits of the transfer.*

Competence is defined as "able to meet the needs of the patient during transfer". This includes reasonably foreseeable complications or deterioration enroute.

Appendix 4. List of supplementary equipment for use during transfer

Advanced Airway Equipment
1. 1x ET Tube 6
2. 1 x ET Tube 7
3. 1 x ET Tube 8
4.1 x ET Tube 9
5. 2 x laryngoscope Handles , Bulbs Batteries
6. 1 x Laryngoscope Blades 3
7. 1 x Laryngoscope Blades 4
8. 2 x Endotracheal ties
9. 1 x Magill Forceps
10. 1 x Tape for securing ET
11. 3 x Lubricant gels
12. 1 x Stylet
13. 1 x Gum Elastic Bougie
14. 1 x Tracheal dilator
15. 1 x Scalpel size 22
16. 1 x 10ml syringe
17. 1 x Torch
18. 2 x face masks
19. 1 x ETC02 indicator

Self-ventilating Equipment
1. 1 x Gudel airways size 2
2. 1 x Gudel airways size 3
3. 1 x Gudel airways size 4
4. 1 x Nasopharyngeal airways 6
5. 1 x Nasopharyngeal airways 7
6. 1 x Oxygen Mask-non rebreathe size 4
7. 1 x Oxygen Mask-non rebreathe size 5
8. 2 x Oxygen tubing

Breathing Equipment
1. 1 x I-gel size 3
2. 1 x I-gel size 4
3. 1 x I-gel size 5
4. 1 x Airway HME Filter
5. 1 x Catheter Mount
6. 1 x Waters circuit
7. 1 x Sterile scissors
8. 1 x Anaesthetic mask size 4 Green
9. 1 x Anaesthetic mask size 5 Orange
10. 1x Stethoscope
11. 1 x Wave form capnograph

Suction Equipment
1. 2 x Yankauer suckes
2. 2 x Suction catheters (10F)
3. 2 x Suction catheters (12F)
4. 2 x Suction catheters (14F)
5. 2 x Suction tubing

External Equipment
1. 1 x self-inflating bag and mask with oxygen reservoir and tubing (BVM)

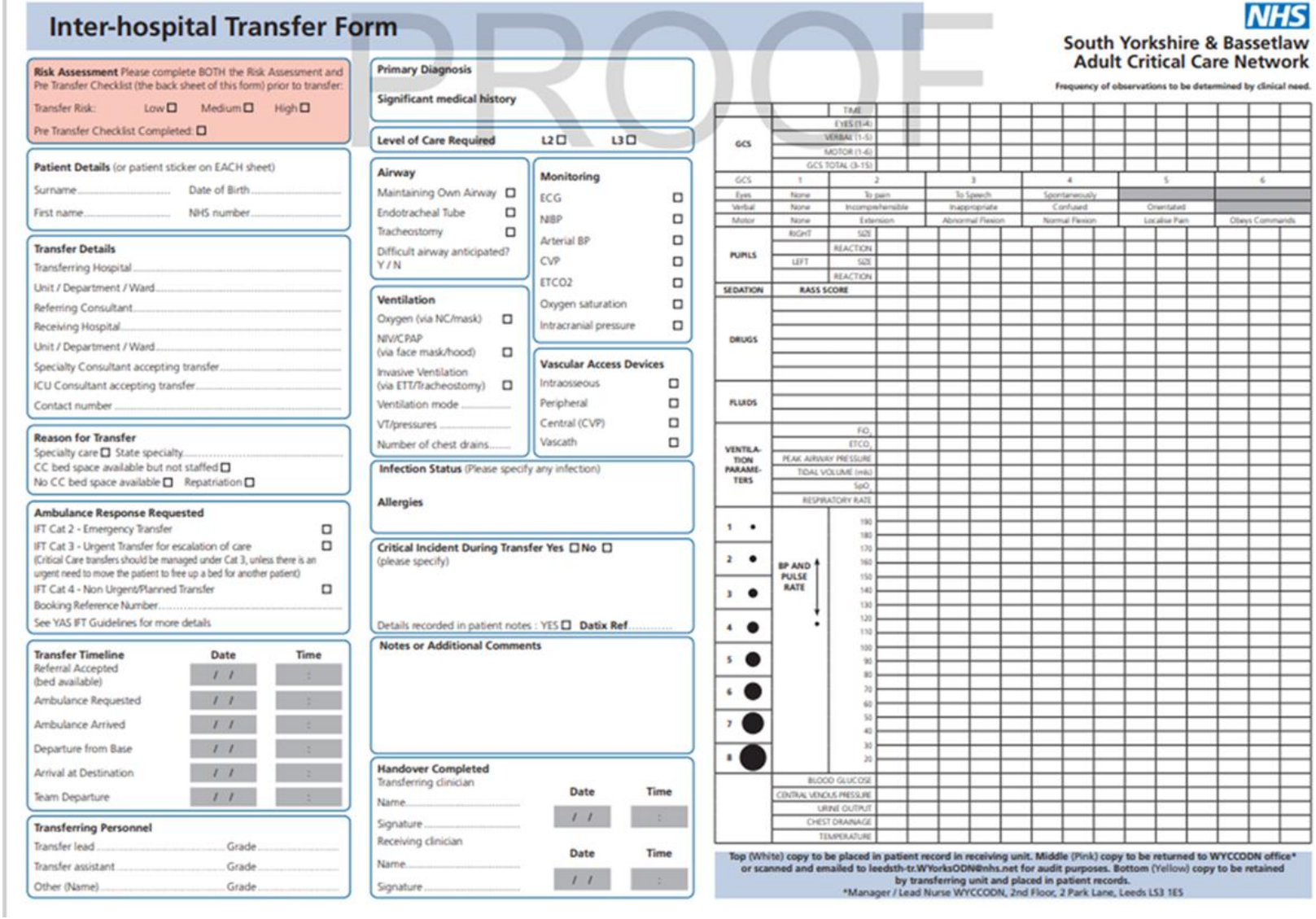
Inside pounch on side of bag
1. 2 x Clinical waste bags
2. 1 x Sharps box (to be sourced locally)
3. 1 x Hand-held portable suction
4. 3 x IV Fluids (crystalloid) 500ml
5. 1 x Pressure bag

Circulation Equipment
1. 2 x IV cannula size 14G
2. 2 x IV cannula size 16G
3. 2 x IV cannula size 18G
4. 2 x IV cannula size 20G
5. 2 x IV cannula size 22G
6. 10 x Pairs of non sterile gloves
7. 5 x Luer lock syringes 20ml
8. 4 x Luer lock syringes 50ml
9. 3 x Chloraprep skin wipes
10. 10 x Alcohol wipes
11. 2 x Blood./Colloid fluid giving sets (Gravity)
12. 5 x Infusion device giving sets
13. 5 x infusion device extension sets
14. 4 x 3-way taps (or equivalent)
15. 10 x Obturators (Red and/or white bungs)
16. 1 x Micropore tape
17. 4 x Gauze
18. 5 x Cannula dressings
19. 12 x ECG Electrodes
20. 1 x Trauma shear scissors
21. 10 x Labels
22. 10 x Sodium Chloride ampoules (flush)

Interventional circulation Equipment
1. 1 x EZ-IO Intraosseous Device
2. 3 x EZ-IO Needles
3. 5 x Needles Green
4. 5 x Needles Blue
5. 5 x Needles White
6. 5 x Drawing up needles
7. 2 x Tourniquets

Guidance on the Transfer of the Critically Ill Adult (Intensive Care Society and Faculty of Intensive Care Medicine, 2026)

Appendix 5. Example of Network Interhospital Transfer Form



Inter-hospital Transfer Form

PROOF

NHS
South Yorkshire & Bassetlaw
Adult Critical Care Network

Risk Assessment Please complete BOTH the Risk Assessment and Pre Transfer Checklist (the back sheet of this form) prior to transfer:

Transfer Risk: Low ☐ Medium ☐ High ☐

Pre Transfer Checklist Completed: ☐

Patient Details (or patient sticker on EACH sheet)

Surname ..... Date of Birth .....

First name ..... NHS number .....

Transfer Details

Transferring Hospital .....

Unit / Department / Ward .....

Referring Consultant .....

Receiving Hospital .....

Unit / Department / Ward .....

Specialty Consultant accepting transfer .....

ICU Consultant accepting transfer .....

Contact number .....

Reason for Transfer

Specialty care ☐ State specialty .....

CC bed space available but not staffed ☐

No CC bed space available ☐ Repatriation ☐

Ambulance Response Requested

IFT Cat 2 - Emergency Transfer ☐

IFT Cat 3 - Urgent Transfer for escalation of care ☐
(Critical Care transfers should be managed under Cat 3, unless there is an urgent need to move the patient to free up a bed for another patient)

IFT Cat 4 - Non Urgent/Planned Transfer ☐

Booking Reference Number .....

See YAS IFT Guidelines for more details

Transfer Timeline	**Date**	**Time**
Referral Accepted (bed available)	/ /	:
Ambulance Requested	/ /	:
Ambulance Arrived	/ /	:
Departure from Base	/ /	:
Arrival at Destination	/ /	:
Team Departure	/ /	:

Transferring Personnel

Transfer lead ..... Grade .....

Transfer assistant ..... Grade .....

Other (Name) ..... Grade .....

Primary Diagnosis

Significant medical history

Level of Care Required L2 ☐ L3 ☐

Airway

Maintaining Own Airway ☐

Endotracheal Tube ☐

Tracheostomy ☐

Difficult airway anticipated? Y / N

Ventilation

Oxygen (via NC/mask) ☐

NIV/CPAP (via face mask/hood) ☐

Invasive Ventilation (via ETT/Tracheostomy) ☐

Ventilation mode .....

VT/pressures .....

Number of chest drains .....

Monitoring

ECG ☐

NIBP ☐

Arterial BP ☐

CVP ☐

ETCO2 ☐

Oxygen saturation ☐

Intracranial pressure ☐

Vascular Access Devices

Intraosseous ☐

Peripheral ☐

Central (CVP) ☐

Vascath ☐

Infection Status (Please specify any infection)

Allergies

Critical Incident During Transfer Yes ☐ No ☐
(please specify)

Details recorded in patient notes : YES ☐ **Datix Ref** .....

Notes or Additional Comments

Handover Completed

Transferring clinician — **Date** / / **Time** :

Name .....

Signature .....

Receiving clinician — **Date** / / **Time** :

Name .....

Signature .....

Frequency of observations to be determined by clinical need.

GCS	TIME																						
	EYES (1-4)																						
	VERBAL (1-5)																						
	MOTOR (1-6)																						
	GCS TOTAL (3-15)																						
GCS	1	2			3			4			5			6									
Eyes	None	To pain			To Speech			Spontaneously															
Verbal	None	Incomprehensible			Inappropriate			Confused			Orientated												
Motor	None	Extension			Abnormal Flexion			Normal Flexion			Localise Pain			Obeys Commands									
PUPILS	RIGHT	SIZE																					
		REACTION																					
	LEFT	SIZE																					
		REACTION																					
SEDATION	RASS SCORE																						
DRUGS																							
FLUIDS																							
VENTILATION PARAMETERS	FiO_2																						
	$ETCO_2$																						
	PEAK AIRWAY PRESSURE																						
	TIDAL VOLUME (mls)																						
	SpO_2																						
	RESPIRATORY RATE																						
1 • 2 • 3 ● 4 ● 5 ● 6 ● 7 ● 8 ●	BP AND PULSE RATE	190 180 170 160 150 140 130 120 110 100 90 80 70 60 50 40 30 20																					
	BLOOD GLUCOSE																						
	CENTRAL VENOUS PRESSURE																						
	URINE OUTPUT																						
	CHEST DRAINAGE																						
	TEMPERATURE																						

Top (White) copy to be placed in patient record in receiving unit. Middle (Pink) copy to be returned to WYCCODN office* or scanned and emailed to leedsth-tr.WYorksODN@nhs.net for audit purposes. Bottom (Yellow) copy to be retained by transferring unit and placed in patient records.

*Manager / Lead Nurse WYCCODN, 2nd Floor, 2 Park Lane, Leeds LS3 1ES

NHS

South Yorkshire & Bassetlaw
Adult Critical Care Network

Pre Transfer Check Sheet

PROOF

Transfer Risk Assessment

Risk assessment is to some extent subjective and other factors not listed may influence the perceived risk. The risk tool is provided for guidance only. It is the referring Consultant's responsibility to ensure that the transfer is appropriate and that the transferring team have the necessary skills required.

Low Risk

NEWS 1-4
Maintaining airway
FiO2 < 0.4 / Base deficit 0 to – 4mmol/l
Not requiring inotrope / vasopressor support
GCS ≥ 14
Normothermic
Nurse / Practitioner with appropriate competencies only.

Medium Risk

NEWS 5-6
Maintaining airway
FiO2 < 0.4 – 0.6 / Base deficit – 4 to – 8 mmol/l
Low dose inotrope / vasopressor support < 0.2ug/kg/min
GCS 9-13 (consider elective intubation)
Hypo / Hyperthermic
Doctor accompanied by Nurse / Practitioner with appropriate competencies. If potential to deteriorate then doctor should have critical care and advanced airway competencies.

High Risk

NEWS 7 or more
Intubated / ventilated
FiO2 > 0.6 / Base deficit worse than – 8 mmol/l
CVS unstable and / or requiring inotrope / vasopressor support > 0.2ug/kg/min
Hypo / Hyperthermic
Major trauma e.g head / chest / abdominal / pelvic injuries
Doctor with critical care and advanced airway competencies accompanied by Nurse / Practitioner with appropriate competencies.

NEWS Score ☐ **Level of risk: Low ☐ Medium ☐ High ☐**

Name.....

Designation.....

Signature.....

Date ☐ **Time** ☐

Pre Transfer Checklist

Critical Care transfer to another hospital

Check sheet for preparation of a patient for transfer to another hospital

Details of person completing pre transfer check sheet

Name..... Designation.....

Signature..... Date..... Time.....

Oxygen calculation

(RR x VT) x FiO2 % x duration of transfer in minutes x 2

(___ x ___) x _____ x _____ x 2 = _____ litres O2

Before Moving The Patient Consider:

Reason:	Can the patients needs be met within the existing hospital
Timing:	Does this transfer need to be done at this time
Team:	Are the right people available to conduct the transfer safely
Transport:	Booked and reference number documented
Risk:	What are the predictable risks & will the base hospital be exposed whilst the team are deployed

Preparing For Transfer:

E	Equipment	Establish on transfer ventilator and secure patient on trolley Full monitoring to ICS standard Emergency drugs, oxygen and fluids available Transfer bag checked (including battery back up) Consider spinal immobilisation if necessary Specialist equipment e.g. balloon pump, warming blankets	☐ ☐ ☐ ☐ ☐ ☐
S	Systematic	Full ABCDE assessment Confirm airway secure 2 Working and accessible intravenous access points Confirm patient stable and suitable for transfer	☐ ☐ ☐ ☐
C	Communication	Inform patient (if not sedated) and family Confirm transfer, requirements and ETA with receiving unit Mobile telephone available	☐ ☐ ☐
O	Observations	Commence inter-hospital transfer charting Full set of observations recorded Confirm patient is stable and suitable for transfer	☐ ☐ ☐
R	Recent Investigations	Handover documentation completed Recent investigation results including arterial blood gas Confirm radiological images transferred electronically	☐ ☐ ☐
T	Team	Skill mix of transfer team appropriate Protective clothing / high visibility jackets available Is the unit safe to leave?	☐ ☐ ☐

After Transfer

Team debrief / Restock transfer bags / Submit Network audit data
Send middle (pink) copy of Transfer Form to WYCCODN office for audit purposes

Patient Details (patient sticker)

Surname..... Date of Birth.....

First name..... NHS number.....

Address.....

.....

.....

Critical Care Unit Contact Details

Barnsley Hospital NHS Foundation Trust

Barnsley Hospital
Gawber Road Barnsley S75 2EP

Switchboard	01226 730000
ICU/HDU	01226 432794

Chesterfield Royal Hospital NHS Foundation Trust

Chesterfield Royal Hospital
Calow Chesterfield Derbyshire S44 5BL

Switchboard	01246 277271
ICU	01246 512287 01246 512282
HDU	01246 513237 01246 512668

Doncaster & Bassetlaw Teaching Hospitals NHS Trust

Bassetlaw Hospital
Blyth Road Worksop S81 0BD

Swichboard	01909 500990
ICU/HDU	01909 572106 01909 572107

Doncaster Royal Infirmary
Thorne Road Doncaster DN2 5EP

Switchboard	01302 366666
ICH/HDU	01302 642022

Sheffield Teaching Hospitals NHS Foundation Trust

Northern General Hospital
Herries Road Sheffield S5 7AU (S5 7AT for SATNAV)

Switchboard	0114 2434343
General ICU (D Floor)	0114 2714012 0114 2714122
General ICU (E Floor)	0114 2715785 0114 2715786
Cardiac ICU	0114 2714519 0114 2714805

Royal Hallamshire Hospital
Glossop Road Sheffield S10 2JF

Switchboard	0114 2434343
General ICU/HDU	0114 2265576 0114 2712047
General/Neuro Unit	0114 2713418
Neuro ITU	0114 2712047

Rotherham NHS Foundation Trust

Rotherham General Hospital
Moorgate Road Oakwood Rotherham S60 2UD

Switchboard	01709 820000
ICU	01709 427446 01709 424227
HDU	01709 427448 01709 427883

This form should be retained by the transferring unit and placed in the patient records

Appendix 6. Documentation Quality Assessment – Audit Tool

South Yorkshire Critical Care Operational Delivery Network (SYBCCODN) Inter-hospital transfer form

Indicator	Descriptor	Notes	Score	Reference
1. General standards	1.1 A transfer form must be completed for every critical care inter-hospital transfer 1.2 Overall impression (clarity)	Numerator: number of returned SYBCCODN forms to the network office Denominator: YAS data	No form = total 0 at bottom 0 points - illegible 1 point – reasonable clarity 2 point – easy to read, clear Total = 2	*Critical Care Networks should develop standardised documentation for both inter-hospital and intra-hospital transport. This should include a core data set for audit purposes (ICS[1])*
2. Patient information	2.1 Demographics (patient details) 2.2 Indication for transfer 2.3 Primary diagnosis		1 for each component completed Total = 3	
3. Transfer details	3.1 Transferring hospital 3.3 Receiving hospital 3.4 Consultant accepting transfer		1 for each component completed Total = 3	*The decision to transfer and accept a patient must be made by appropriate consultants in both referring and receiving hospitals (ICS[1])*

[1] Guidance on the Transfer of the Critically Ill Adult (Intensive Care Society and Faculty of Intensive Care Medicine, 2026)

4. Risk assessment and level of care	4.1 Risk assessment completed 4.2 Transfer checklist used 4.3 Level of care required 4.4 Type of airway documented	Checked box (risk assessment) Checked box (transfer checklist used) Level 2/3	1 for each component completed Total = 4	*Prior to the transfer of a critically ill patient, a risk assessment must be undertaken and documented by a senior clinician to determine the level of anticipated risk during transfer (ICS[1])* *Patients with a GCS <8, a significantly deteriorating conscious level and requiring transfer should undergo tracheal intubation and mechanical lung ventilation (AAGBI[2])*
5. Personnel	5.1 Names of staff documented	Should include minimum of appropriately trained airway operator and assistant	0 for not fully documented 1 for fully documented Total = 1	*The outcome of the risk assessment should be used to determine the competencies of the staff required to accompany the patient during transfer (ICS[1])*
6. Drugs	6.1 Drugs and doses documented 6.2 Vascular access documented	Documentation of administration during transfer	1 for each component Total = 2	*Reassurance, sedation, analgesia and anti-emetics should be provided as required to reduce patient discomfort and distress (ICS[1])* *Secure venous access is mandatory, and a minimum of two intravenous cannula (central or peripheral) are recommended (ICS[1])*

[2] AAGBI Guidelines for the safe transfer of the brain-injured patient: trauma and stroke (2019)

7. Monitoring	7.1 Appropriate monitoring in place 7.2 Observations recorded at appropriate intervals 7.3 Ventilator settings documented (if appropriate)	As per AAGBI guidelines (ECG/blood pressure/O2 sats/respiratory rate and ETCO2 if ventilated) Minimum of every 15 minutes To include FiO2, peak airway pressure, PEEP, tidal volume	1 for each component Total = 3	*Minimum standards of monitoring must be applied in every case. Monitoring should be continuous throughout the transfer (ICS[1])* *A documented record of observations and events must be maintained (ICS[1])*
8. Communication	8.1 Handover box completed 8.2 Critical incidents documented		1 for each component completed Total = 2	*All acute provider trusts should use the Datix system (or equivalent) for reporting incidents occurring during critical care transfer. Reports should include 'critical care transfer' as an identifier to enable future data searching and analysis (ICS[1])*
Total points		**20**		

Appendix 7. Example of Intra Facility Critical Care Transfer Form

Intra-Hospital Transfer Form

West Yorkshire
Critical Care & Major Trauma
Operational Delivery Networks

Transfer Details

Hospital.....

Transfer from (Unit / Department) .....

Transfer to (Location /Department).....

Reason for ICU admission

Reasons for transfer

Final destination (if different to above)

Patient Details (patient sticker)
Surname..... Date of Birth.....

First name..... NHS number.....

Address ....

Transfer Timings	**Date**	**Time**
Departure from Unit		
Arrival at destination		
Return to unit /Arrival at final destination (if different)		

Risk Assessment
NB. Risk assessment is to some extent subjective and other factors not listed may influence the perceived risk. The risk tool is provided for guidance only. It is the consultants responsibility to ensure that the transfer is appropriate and that the transferring team have the necessary skills required.

Low Risk: ☐
News 1-4
Maintaining Airway
FiO_2 < 0.4 / Base deficit 0 to -4mmol/l
Not requiring inotropes / vasopressor support
GCS > 14
Normothermic

Medium Risk ☐
NEWS 5-6
Maintaining airway
FiO_2 < 0.4— 0.6 / Base deficit -4 to -8 mmol/l
Low dose inotrope / vasopressor support < 0.2ug/kg/min
GCS 9-13 (consider elective intubation)
Hypo / Hyperthermic

High Risk ☐
NEWS 7 or more
Intubated / ventilated
FiO_2 > 0.6 Base deficit worse than -8mmol
CVS unstable and / or requiring inotrope / vasopressor support > 0.2ug/kg/min
Hypo / Hyperthermic
Major trauma e.g. head /chest /abdominal / pelvic injuries

Intra Hospital Critical Care Transfer Checklist

E	Equipment	◊ Emergency airway equipment available ◊ Suction equipment checked & available ◊ Oxygen cylinders checked & 2x anticipated amount required available ◊ Establish on checked transport ventilator ◊ Infusion pumps charged & sufficient Infusions prepared ◊ Full monitoring to ICS standards ◊ Emergency drugs & fluids available ◊ Transfer bag checked & complete ◊ Consider spinal protection & specialist equipment available
S	Systematic	◊ Full ABCDE assessment ◊ Confirm airway, lines & drains secured ◊ Working IV access, & infusions rationalised ◊ Consider ceasing enteral feeding
C	Communication	◊ Inform patient & family if appropriate ◊ Confirm transfer with receiving department ◊ Mobile telephone available
O	Observation	◊ Confirm patient stable for transfer ◊ Commence intra hospital transfer charting ◊ Full set of initial observations recorded
R	Recent Investigations	◊ Recent investigation results available ◊ ABG reviewed once established on transport ventilator
T	Team	◊ Introductions & roles allocated ◊ Skill mix of transfer team appropriate ◊ Is the unit safe to leave?

Level of Care required L1 ☐ L2 ☐ L3 ☐

Transferring Personnel

Doctor (Name).....Grade.....

Nurse (Name)..... ... Grade.....

Other (Name).....Grade .....

Critical Incident during transfer Yes ☐ No ☐ (provide details)
Details recorded in patient notes : YES ☐
Incident Ref Number .....

Appendix 8. Example of Transfer Checklist for Brain Injured Patients (Stroke & Trauma)

Transfer Checklist for Brain Injured Patients (Trauma and Stroke)

NHS
South Yorkshire & Bassetlaw
Adult Critical Care Network

Patient Name: ..... DOB: ..... NHS number: .....

TIME CRITICAL TRANSFERS for **LIFESAVING NEUROSURGICAL** or **NEURORADIOLOGICAL** intervention, **DO NOT DELAY** transfer for unnecessary investigations or interventions.

This form is designed to be used in conjunction with the SYBCCODN transfer form to provide advice on the safe transfer of brain injured patients. If in doubt about any aspect of the transfer, please contact **Neuroananesthetic / Neurosurgical team at Royal Hallamshire Hospital (RHH) 24/7 for advice** *(contact numbers overleaf).*

1 Airway

Grade of Intubation: ..... Time of Intubation: .....

ETT mark at lips ..... cm

Intubation aids used: Bougie ☐
Video-laryngoscope ☐
Other ..... ☐

If possible **TAPE** the ETT ☐
(Avoid tight ligature around neck)

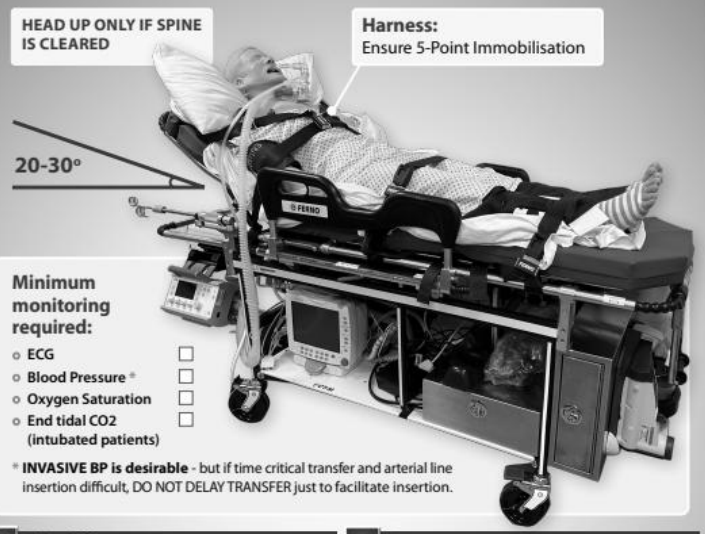
C-SPINE PROTECTION (Trauma) ☐

2 Breathing

CONTROLLED MV (Aim 6-8ml/kg tidal volume) ☐

Targets:

- ABG: PaO2 ≥ 13kPa, PaCO2 4.5 - 5kPa (allow PaCO2 4.0 - 4.5kPa if evidence of herniation) ☐
- SPO2 ≥ 95% ☐
- Validate ETCO2 by estimation of **A-a gradient** ☐
- PEEP ≥ 5cmH2O (Pneumothorax - consider **Chest Drain** prior to transfer if instability during transfer likely) ☐



Minimum monitoring required:

- ECG ☐
- Blood Pressure * ☐
- Oxygen Saturation ☐
- End tidal CO2 (intubated patients) ☐

* **INVASIVE BP is desirable** - but if time critical transfer and arterial line insertion difficult, DO NOT DELAY TRANSFER just to facilitate insertion.

3 Circulation

Arterial line - transducer at the level of TRAGUS (see BP targets overleaf) ☐

2 Reliable IV/IO access ☐

Vasopressor easily available (ideally as infusion, bolus doses as minimum) ☐

Crystalloid available - Balanced isotonic solution / 0.9% Saline ☐

(Bleeding controlled/ cross-matched blood available) ☐

4 Disability

Pre-Intubation GCS E ..... V ..... M ..... ☐

Check Pupils (pre departure, on arrival) ☐

Ensure adequate sedation +/- paralysis: (Avoid patient coughing/ straining on ETT) ☐

Treat seizures:

- **Levetiracetam** 30mg/kg (if seizures continue - CONTACT NEUROSURGEONS)
- **Phenytoin** 20mg/kg Adjusted Body Wt. (max. 2g)

After discussion with Neurosurgical team:
Mannitol 0.6g/Kg: 4ml/kg 15% **Mannitol** based on Actual Body Weight

5 Exposure

Temperature: aim normothermia (36-37°C) ☐

Position: 20-30° HEAD UP (IF Spine cleared), 5-point immobilisation ☐

Blood Glucose: 7-11 mmol/L ☐

Confirm NG tube position (if present)

Management of Raised ICP
(In patients without ICP Monitoring)

TIER 1

- Intubate and Ventilate *(indications below)*
- Maintain MAP ≥ 90 mm Hg
- Optimise patient position (head up if possible, no obstruction to cranial venous outflow)
- Ensure adequate analgesia and sedation
- Ensure PaCO2 4.5 - 5.0 kPa, PaO2 ≥ 13kPa
- Treat seizures

Signs of Neurological Deterioration

- Spontaneous decrease in the GCS motor score of ≥ 1 points (unsedated patients only)
- New decrease in pupillary reactivity
- New pupillary asymmetry or bilateral mydriasis
- New focal motor deficit

Contact **Neurosurgical/ Neuroanaesthetic team** for advice.

TIER 2

- Ensure Tier 1 therapies optimised
- Neuromuscular blockade in adequately sedated patients
- Allow PaCO2 4.0 - 4.5kPa (If evidence of herniation)
- Consider Mannitol (after discussion with Neurosurgical team - *see under* ***4 - Disability***)

Please DO NOT...

- Delay transfer of **TIME CRITICAL** patient for unnecessary investigations or interventions
- Give mannitol by continuous IV infusion
- Give steroids
- Actively cool to ≤35°C
- Hyperventilate (PaCO2 < 4kPa)

Indications for Intubation:

- GCS ≤ 8
- Significantly deteriorating conscious level (e.g. fall in GCS ≥ 2 points, or fall in motor score ≥ 1 point)
- Loss of protective laryngeal reflexes
- PaO_2 < 13 kPa
- $PaCO_2$ ≤ 4kPa OR ≥ 6kPa
- Bilateral fracture mandible
- Copious bleeding into the mouth
- Seizures
- Agitation causing risk to self / staff on transfer

Intubating the Brain Injured Patient:

AIM to avoid episodes of hypotension / hypoxia / severe hypertension / severe hypercapnoea

- Use familiar technique including local intubation checklist if available
- Consider early use of video laryngoscope / adjuncts
- Suggested Induction Agents
  - **Propofol 2mg/kg** OR **Ketamine 2mg/kg**

  PLUS
  - Opioids: **Fentanyl 3-5 mcg/kg**, **Alfentanil 10-20 mcg/kg,**
  - Neuromuscular Blockade: **Rocuronium 1 mg/kg**

Recommended Sedation Doses

Propofol PLUS Opiate ESSENTIAL (Midazolam third line).

Neuromuscular Blockade strongly advised when transferring all acutely brain injured patients.

INFUSION OF PERIPHERAL VASOPRESSOR ALSO RECOMMENDED

- **1% Propofol** 0 - 5mg/kg/hr (0 - 35 ml/hr for 70kg) Or TCI to target a BIS of 40-60
- **Alfentanil** (500mcg/ml) 0.1 - 0.6mcg/kg/hr (0.84 - 5.04ml/hr)
- **Remifentanil** (50mcg/ml) 0.1 - 0.2 mcg/kg/min based on Ideal Body Weight [Height (in cm) - 100(M)/105(F)]
  - Increase in increments of 0.025 mcg/kg/min (OR TCI to target a BIS of 40-60)
- **Rocuronium** or **Atracurium** (0.5mg/kg every 30-40 minutes) boluses repeated as appropriate.
  - Or **Atracurium infusion** 0.3 - 1mg/kg/hr (2 - 7 ml/hr for 70kg) ONLY IF enough pumps available.

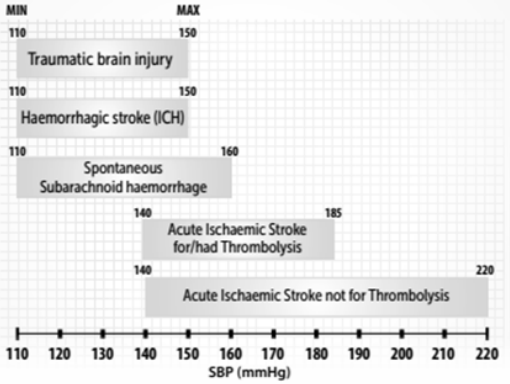
Systolic Blood Pressure Target Range

HYPOTENSION

- Correct Hypovolaemia
- Avoid excess sedation

Vasopressors:

- **METARAMINOL** [20mg in 100 ml 0.9% Saline (0.2mg / ml) OR 10mg in 20ml 0.9% Saline with rate titrated to BP]
- **NORADRENALINE** (0.025 - 1 mcg/kg/min)



HYPERTENSION

- Avoid Fluid Overload
- Ensure adequate sedation / analgesia

Small boluses of **LABETALOL** (20 mg bolus to be given over at least 1 minute, repeated at 10 minute intervals if required; max. 200mg) ONLY IF SEVERE HTN, AFTER NEUROSURGICAL ADVICE.

Communication and Personnel

STH Switchboard	0114 243 4343
RHH K floor (Neuro Critical Care)	0114 271 2326
RHH Neuroanaesthetic Registrar	2577
Neuro Critical Care Nurse in Charge *(Bleep)*	2018
Neuroanaesthetic/GITU Consultant	mobile via switch
RHH Neurosurgical Registrar / SHO *(Bleep)*	2883 / 2066
Emergency Theatre Co-ordinator RHH *(Bleep)*	2446
NGH D Floor ICU	0114 271 4012 / 4122
NGH E Floor ICU / HDU	0114 271 5785 / 5786
NGH GITU Registrar/ Nurse in charge/ Theatre Co-ordinator *(Bleep)*	2100/ 2815/ 2192
Emergency Department NGH	0114 271 4741 / 4743

Notes (Eg. Critical incidents/ Delays/ Brief History of events / PMHX / communications to receiving team)

Name and Signature: ..... Grade: ..... Transfer trained: Y / N

Transfer Details

Indication for transfer:

Referring Hospital:

BDGH ☐ BH ☐ CRH ☐ DRI ☐ NGH ☐ RHH ☐ Other: .....

Urgency?	Type of Transfer?	Pre-departure ABG	Arrival ABG
Time Critical (Life/ limb/ sight saving) ☐	**Escalation** (Treatment unavailable) ☐	FiO_2	FiO_2
Urgent (Time sensitive) ☐	**Repatriation** (Return patient closer to home) ☐	$PaCO_2$ $EtCO_2$	$PaCO_2$ $EtCO_2$
Planned (Elective/ ongoing care) ☐	**Non clinical** ☐	PaO_2 SaO_2	PaO_2 SaO_2
		BE	BE

	DATE	TIME	Neurosurgeons/ Anaesthetists Informed?
CT Scan Reported			
Patient Referred to Neurosurgeons - **referapatient.org**			
Patient Accepted by Neurosurgeons			☐ (anaesthetist)
Departure from DGH			☐
Handover at RHH			

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Appendix 9. Example of Primary PCI Transfer Checklist

WYCCN TRANSFER PROTOCOL AND CHECKLIST FOR INTUBATED PATIENTS REQUIRING PRIMARY PERCUTANEOUS CORONARY INTERVENTION

This form is to be used in conjunction with the WYCCN interhospital transfer form to provide advice on the safe transfer of intubated patients for primary percutaneous coronary intervention.

REFERRAL PATHWAY

Refer via phone call to LGI Cardiology team on 07920548411.

↓

Once accepted for PPCI, phone LGI acute anaesthetist on bleep 2507.

↓

Inform LGI Adult Critical Care (ACC) patient flow team on 07899067209 to prepare an ICU bed.

↓

Transfer patient to LGI cath lab, E floor Jubilee wing, enter through the Emergency Department entrance.

↓

Handover patient to LGI acute anaesthetist on arrival to cath lab.

↓

Once handover completed, the transferring clinician can return to their base hospital.

↓

Following PPCI, the patient will be admitted to LGI ICU for at least one night's stay. The acute anaesthetist will transfer to ICU and handover to the ICU team.

Acceptance of a patient for PPCI should not be dependent on Critical Care bed availability.

REPATRIATION

Adult Critical Care (ACC) patient flow team in LGI to contact referring hospital before 0800 the following day.

Following ICU consultant review in LGI, patient to be transferred back to referral centre if deemed suitable.

If patient not stable for transfer, then ICU consultant to give approximate expectation of when transfer appropriate.

Referring hospitals must accept repatriation when transfer is deemed suitable to ensure efficiency of the service.

COMMUNICATIONS FOR LGI

LGI Cardiology referral number	07920548411
Acute LGI Anaesthetist	Bleep 2507
LGI Adult Critical Care (ACC) patient flow team	07899067209 or Bleep 2244
LGI Cath lab coordinator	01133928427
LGI General ICU (wards 6 and 7, C floor, Jubilee Wing)	Ward 6 -01133927406 Ward 7- 01133927407
LGI Cardiac ICU (ward 5, C floor, Jubilee Wing)	01133927405

COMMUNICATIONS IF LGI CATH LAB HAS NO CAPACITY TO PERFORM PPCI

Sheffield PPCI referral (transfer to Northern General Hospital) CCU – Firth Wing, D Floor Cath Labs – Chesterman Wing, E floor	Either 0114 2269504 or 0114 2715333 If one number is busy, try the other
Hull Cardiology (transfer to Castle Hill Hospital)	01482461599

CLINICAL MANAGEMENT

The following are points for consideration and should not unduly delay a time critical patient transfer.

AIRWAY

Ensure the following are documented in the patient record:

- ETT size and length at the lips
- Grade of laryngoscopy/adjuncts used

Is ETT secure (tape or tie)?

Insert NG tube (for DAPT treatment)

BREATHING

Controlled IPPV (6-8ml/kg ideal body weight tidal volume)

Aim oxygen sats of 94% - 98% to avoid over oxygenation (PaO_2 10-13KPa)

Aim $PaCO_2$ 4.7-6 kPa

CIRCULATION

Arterial line – avoid right sided arterial cannulation

Attach defib pads compatible with ambulance

2x IV access available and working

MAP over 65mmHg

Vasopressors/inotropes available

Consider IV GTN

Consider IV fluid administration

DISABILITY

Ensure adequate sedation

Consider neuromuscular blockade

Ensure seizure control

EXPOSURE

Prevent temperature >37.5°C

Maintain glucose 7.8-10mmol/L

Aim normal potassium 4-4.5mmol/L

Insert urinary catheter

TREATMENT

Give dual antiplatelet therapy as per cardiology advice.

- Aspirin 300mg via NG, PR or IV
- Ticagrelor 180mg can be crushed and dissolved in water then given via NG

USEFUL LINKS

Follow QR code for:

- Primary PCI drug formulary
- Full LTHT guidance on primary PCI transfers

With thanks to Dr Andrew Parrish LTHT

Appendix 10 Definitions

Term	Definition
Critically Unwell Patient	A Level 1–3 patient under the care of critical care services, as defined by Intensive Care Society (ICS) guidance.
Adult Patient	Any patient aged 16 years or over.
Facility	Any location where healthcare is provided. The terms *facility* and *hospital* may be used interchangeably within this guideline.
Intra-Facility Transfer	Transfer occurring within the same healthcare facility without leaving the premises and without requiring ambulance transport.
Inter-Facility Transfer	Transfer between healthcare facilities requiring a mode of transport.
Receiving Facility (or Team)	The destination healthcare facility and/or clinical team accepting responsibility for the patient.
Referring Facility (or Team)	The healthcare facility and/or clinical team from which the patient is being transferred.
Host Team	The named medical or surgical specialty team with overall responsibility for the patient's care.
Ambulance Service	Refers primarily to the Yorkshire Ambulance Service (YAS). However, some organisations within the region may utilise the East Midlands Ambulance Service (EMAS).
Clinical Transfer	A transfer undertaken to facilitate patient care, usually to access specialist investigation, intervention, or treatment.
Non-Clinical Transfer (Capacity Transfer)	A transfer undertaken primarily for operational reasons, such as bed capacity pressures, rather than to meet a specific clinical need of the patient.
Repatriation	Transfer of a patient back to the referring facility or to a hospital closer to their usual place of residence, typically when specialist intervention is no longer required.

Term	Definition
In-Hours Transfer	A transfer occurring between 07:00 and 22:00 hours, with the patient arriving at the receiving facility before 22:00 hours.
Out-of-Hours Transfer	A transfer occurring between 22:00 and 07:00 hours, including any transfer where the patient remains in transit during this period.
Stable Transfer	A low- or selected medium-risk transfer where no significant deterioration is anticipated and only minimal clinical intervention is expected during transit.
Unstable Transfer	A medium- or high-risk transfer where there is a significant risk of deterioration, requiring active monitoring and potential intervention during transit.
Within-Network Transfer	A transfer between hospitals located within the same Adult Critical Care Network.
Out-of-Network Transfer	A transfer to a hospital outside the patient's originating Adult Critical Care Network.
Adult Critical Care Transfer Service (ACCTS)	A dedicated retrieval and transfer service commissioned in accordance with NHS England specifications to undertake the transfer of critically ill adults.
Primary Transfer	Transfer from the scene of injury or illness to a healthcare facility, usually undertaken by ambulance or pre-hospital care services.
Secondary Transfer	Transfer from one healthcare facility to another healthcare facility.
Time-Critical Transfer	A transfer required to facilitate immediate life-, limb-, or sight-saving intervention and reduce the risk of death or severe morbidity. Examples include emergency neurosurgery for intracranial pathology, mechanical thrombectomy for acute ischaemic stroke, surgery for acute aortic dissection, or urgent interventional radiology for uncontrolled haemorrhage.
Urgent Transfer	A transfer required for time-sensitive treatment where delay may increase the risk of death or significant morbidity. Examples include ventilated neurosurgical patients not requiring immediate surgery, major trauma patients requiring Major Trauma Centre care, acute cauda equina syndrome, spinal abscess or haematoma requiring decompression, and patients requiring specialist burns care.

Term	Definition
Planned Transfer	A transfer undertaken for elective intervention or ongoing management where timing is clinically important but not immediately time critical. Examples include transfer to a respiratory weaning centre, spinal injuries rehabilitation unit, or for elective specialist procedures unavailable at the referring facility.

Appendix 11. Abbreviations

ECMO	Extra Corporeal Membrane Oxygenation	YAS	Yorkshire Ambulance Service
RRV	Rapid Response Vehicle	MTC	Major Trauma Centre
RCOA	Royal College of Anaesthetists	NEWS	National Early Warning Score
ICS	Intensive Care Society	GCS	Glasgow Coma Score
AAGBI	Association of Anaesthetists of Great Britain and Ireland	STEPS	CC3N Steps Competency Framework for Registered Nurses
NHS	National Health Service	IAC	Initial Assessment of Competency
CCN	Critical Care Network	SOP	Standard Operating Procedure
SYBCCN	South Yorkshire and Bassetlaw Critical Care Network	ACCP	Advanced Critical Care Practitioner
WYCCN	West Yorkshire Critical Care Network	ICU	Intensive Care Unit
GPAS	Guidelines for the Provision of Anaesthetic Services	EMAS	East Midlands Ambulance Service
GPICS	Guidelines for the Provision of Intensive Care Services	MRI	Magnetic Resonance Imaging
ACCTS	Adult Critical Care Transfer Service		