retrieve
Adult Critical Care Transfer Service

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Retrieve trainee doctor competency pack

The following document is based on the current (2021) and previous (2021) Royal College of Anaesthetists and Faculty of Intensive Care Medicine curricula elements with the transfer module of training. It is broken into Stage 1, Stage 2 and Stage 3 elements. It is the intention that all trainees will have the opportunity to spend time with Retrieve twice during their training. There may be the opportunity to have additional attachments to Retrieve. Completion of the elements in this pack will allow sign-off to the commensurate level training modules in the 2021 curricula. The competencies in this document are constructed to treat transfer medicine as a discipline which draws on both anaesthesia and intensive care knowledge and skills; completing Stage 2 Retrieve competence allows sign-off at Stage 2 ICM or Stage 2 anaesthesia, and vice versa.

Stage 1 transfer competence in 2021 curricula requires independent practice for non-complex inter-hospital transfers, as well as intra-hospital transfers. The Retrieve Stage 1 competencies therefore include both intra- and inter-hospital elements and is therefore the most extensive set in the document.

Stage 2 competencies focus on increased complexity and instability of patients for inter-hospital transfer.

Stage 1 and Stage 2 competencies may be completed opportunistically during any attachment with Retrieve although it may not be possible for a Stage 1 trainee to attain all Stage 2 competencies during a single attachment; the volume of competencies, and the specific complexity of some elements (e.g., neurosurgical and cardiothoracic care, before undertaking these Stage 2 training elements) may be beyond the capability of some trainees at that stage.

Stage 3 competencies will be addressed in base hospitals through CBD exercises with local consultants who have expertise in transfer medicine. There will also be opportunities for regional training events designed to tackle the more complex elements required at this stage of training. There are additional competencies related to ICM SSMs or Anaesthesia SIAs in this section.

Evidencing completion of the various elements requires a signature from the consultant/senior trainee with whom you have discussed a particular learning outcome. There is an SLE column for you to annotate if a particular competency is also covered by means of one of these assessments. There is no minimum number of formative SLEs but you are encouraged to use a variety of these assessments.

Signatories for competencies will generally be of consultant level, although Stage 3 trainees working with Retrieve may sign-off Stage 1 and Stage 2 competencies. Only consultants may sign of High-Level Learning Outcomes/Holistic Assessment of Learning Outcomes forms.

Name (print)	Specimen initials signature	Grade

Stage 1

The learning outcomes and competencies within this section should be acquired through time with Retrieve, as well as workplace-based assessments in the base hospital. Acquisition of all competencies is commensurate with a doctor who is competent to undertake stable intra-hospital transfers of Level 3 patients (with remote supervision) and, on a case-by-base basis, short-range, inter-hospital transfers **of stable, non-complex patients travelling by road**.

Learning outcomes:

- Correctly assesses the clinical status of patients and decides whether they are in a suitably stable condition to allow **intra-hospital transfer**
- Correctly assesses the clinical status and complexity of patients, and decides, in conjunction with a consultant, whether they are in a suitably stable condition to allow **inter-hospital transfer**
- Gains understanding of the associated risks and ensures they can put all possible measures in place to minimise these risks

Core clinical learning outcome:

- Safely manages the **intra-hospital** transfer of the critically-ill but stable adult patient for the purposes of investigations or further treatment [breathing spontaneously or with artificial ventilation] with distant supervision
- Safely manages the **inter-hospital** transfer of the critically-ill but stable, non-complex adult patient for the purposes of investigations or further treatment [breathing spontaneously or with artificial ventilation] with remote supervision. Typical patients suitable for transfer by doctors signed off to this level include those with isolated neurosurgical complaints, or major trauma patients who do not require active resuscitation *en route*. Patients who are non-intubated who have some a potential for airway deterioration en route, or requiring a journey time greater than 90 minutes would generally not be suitable for a doctor at Stage 1 sign-off to transfer autonomously.

Knowledge	SLE	Sign	Date
Explains the importance of ensuring the patient's clinical condition is optimised and stable prior to transfer			
Explains the risks/benefits of intra-hospital transfer			
Recalls/describes the minimal monitoring requirements for transfer			
Lists the equipment [and back up equipment] that is required for intra-hospital transfer			
Outlines the physical hazards associated with intra-hospital transfer			

Explains the problems caused by complications arising during transfer and the measures necessary to minimise and pre-empt difficulties e.g. displacement of tubes/lines, cardiac arrest, equipment failure			
Outlines the basic principles of function for a typical transfer ventilator			
Indicates the lines of responsibility that should be followed during transfer			
Outlines the consent requirements and the need to brief patients/next-of-kin in the context of capacity transfer situations			
Outline the issues surrounding the carrying/recording of controlled drugs during transfer			
Describes the importance of keeping records during transfer			
Outlines the problem of infection and contamination risks when moving an infected patient			
Explains how to assess and manage a patient who unexpectedly becomes uncooperative or aggressive during transfer			
Understands hospital protocols governing transfer of patients between departments and between hospitals			
Outlines the importance of maintaining appropriate communication with the patient and other members of the transfer team			
Explains the risks/benefits of Interhospital patient transfer			
Outlines the hazards associated with Interhospital transfer, including but not limited to physical, psychological and organisational			
Describes the increased risks to critically ill patients of transfer and the reasons for these risks			
Outlines strategies to minimise risk during Interhospital transfer, including but not limited to: • Stabilisation • Pre-emptive intervention • Sedation • Monitoring • Packaging • Choice of mode of transfer			

• Choice of escorting clinical team based on experience/skills matched to patient need			
Lists and explains the critical care equipment used during transfer including but not exclusively: • Ventilators • Infusion pumps • Monitoring			
Understand the safety implications of electrical and hydraulic equipment that may be used during patient transfer			
Understands the effects of high ambient noise on patients, team members, and recognition of alarms and patient deterioration			
Recalls/discusses the reasons for patients becoming unstable during transfer and strategies for management			
Recalls/describes how to manage patients who develop sudden airway difficulties whilst in transit [in the intubated]			
Outlines the importance of maintaining communications between the transfer team and the base/receiving units			
Outlines the roles and responsibilities of all staff accompanying the patient as part of the transfer team, during transfer			
Understands the importance and relevance of thermal and pressure area care during transfer			
Understands the importance of high-quality communication, structured handover, and the potential for discontinuities of care and the hazards this presents to patient safety, as a consequence of the transfer process			
Skills			
Demonstrates the necessary organisational and communication skills to plan, manage and lead the intra- hospital transfer of a stable patient			
Demonstrates how to set up the ventilator and confirm correct functioning prior to commencing transfer			
Demonstrates safety in securing the tracheal tube securely prior to commencing the movement/transfer			
Demonstrates the ability to calculate oxygen and power requirements for the journey			
Demonstrates safety in securing patient, monitoring and therapeutics before transfer			

Demonstrates proper thermal care and pressure area care of the patient			
Demonstrates how to check the functioning of drug delivery systems			
Demonstrates appropriate choices of sedation, muscle relaxation and analgesia to maintain the patient's clinical status during transfer			
Demonstrates the ability to maintain monitoring of vital signs throughout transfer			
Demonstrates the ability to maintain clinical case recording during transfer			
Demonstrates the ability to optimally package a patient for Interhospital transfer to minimise risks			
Demonstrates the ability to establish appropriate ventilation and monitoring required of a critically ill patient for interhospital transfer			
Demonstrates the ability to safely maintain sedation and analgesia for an intubated patient for interhospital transfer			
Demonstrates the need to integrate patient diagnosis with the physiological effects of transport			
Demonstrates the ability to manage sudden loss of airway control, vascular access and monitoring in patients during transfer			
Demonstrates the necessary organisational and communication skills in managing inter-hospital transfers safely and effectively, recognising the importance of maintaining contact with base/receiving units if necessary whilst on transfer			
Demonstrates appropriate situational awareness			
Demonstrates a structured and confident approach to communication, with a particular focus on handovers at the start and completion of a transfer			

Stage 2

Learning outcome:

- Build on the knowledge, understanding and skills obtained in Stage 1 training, so developing greater confidence and ability to provide clinical care to patients requiring transfer, with a particular focus on those patients with more complex needs

Core clinical learning outcomes:

- To deliver safe and efficient transfer [with distant supervision] of:
  - Complex patients for intra-hospital including retrieving a newly referred ITU patient from an ED or ward environment to ICU
  - An uncomplicated ventilated patient requiring inter-hospital transfer by land, who may require active *en route* management e.g. neurosurgical emergency requiring ongoing therapy to mitigate increased ICP.

Knowledge	SLE	Sign	Date
Explains the concept of primary/secondary/tertiary transfer			
Explains how critical illness and instability affects the risk of transfer			
Explains how time-critical elements may influence risks to the patient and transfer personnel and how these should be managed to reduce them			
Understands the increased risk of interventions during Interhospital transfer			
Outlines the specific considerations for transfer of patients with specific clinical conditions, including but not limited to: • head, spinal, thoracic and pelvic injuries • critically-ill medical patients • burns • children • pregnant women			
Lists the different modes of ventilation and explains the selection of appropriate parameters in e.g., Asthma/COPD and ARDS			
Outlines the different modes of transport available for inter-hospital transfer, including risks/benefits			

Recalls/describes how to manage patients who develop sudden airway difficulties whilst in transit [both in the intubated and un-intubated patient]			
Outlines the ethical issues related to patient transfer, including the need to brief patients and their relatives, with a particular focus on capacity transfers			
Awareness of the legal process surrounding deaths in transit			
Outlines the regional protocols for organising capacity transfers between intensive care units			
Describes the personal equipment needed when leading a transfer, especially when a prolonged journey is anticipated			
Discusses the importance of auditing practice and reporting critical incidents that arise during Interhospital transfer and the need for appropriate research			
Skills			
Demonstrates ability to determine when patients are in their optimum clinical condition for transfer			
Demonstrates ability to know when the patient's needs exceed the local resources available/that specific expertise is required			

Stage 3 (including Stage 2 FICM SSM and Stage 3 RCOA SIA)

Learning outcome:

- Capture the maturation process by building on the knowledge, understanding and skills gained during Stage 2 training

Core clinical learning outcomes:

- Demonstrates the ability to lead a multidisciplinary team undertaking the initial assessment and stabilisation of patients, prioritising their early treatment
- Demonstrates the leadership and clinical management skills needed to lead teams delivering safe and effective intra-/inter hospital transfer of any patient, however complex, and for prolonged journeys within the UK if required, by either land or air.
- Demonstrates an understanding of the roles and responsibilities of teaching and supervising those undergoing training in the transfer of patients
- Provide safe and effective multi-disciplinary care to all patients requiring retrieval and/or transfer, however complex, independently

- Competencies specific to Stage 2 FICM Curriculum SSM are denoted with blue shading, and those specific to Stage 3 RCOA SIA are denoted with orange shading. Some competencies (shaded grey) are not achievable outside of an attachment with a HEMS pre-hospital service, or international fixed-wing retrieval system.

Knowledge	SLE	Sign	Date
Discusses the special requirements of inter-hospital transfer by helicopter			
Demonstrates a basic understanding of HEMS legislation			
Describes the effects of flight on: • Patient's physiology • Monitors / equipment • Medical staff			
Discusses the key aspects of safety relating to helicopter transfer: • Loading / unloading a patient • Securing a patient during transfer • Personal safety			

Discusses the drills required during common emergencies on helicopters			
Discusses the principles of communication with flight crew and correct radio procedures			
Discusses the key qualities of leadership required in those undertaking transfers, including the safe management of complex or prolonged transfers by land or air			
Discusses the importance of audit/quality improvement projects of the transfer process, reporting of critical incidents during air transfer, and research			
Understands the basics of crew resource management			
Discusses the issues regarding supervision of arranging patient transfers			
Skills			
Demonstrates the ability to plan teaching of trainees the basic levels of competencies for intra-hospital transfer			
Demonstrates leadership in the clinical management of any patient requiring transfer to another area/hospital for further management			
Demonstrates the ability to teach the basic competencies of intra-hospital transfer to trainees			
Demonstrates the ability to supervise more junior trainees undertaking intra-hospital transfers			
Demonstrates the necessary organisational and communication skills required to effect the transfer of patients in a timely and efficient manner			
Demonstrates the ability to communicate effectively in a compassionate, non-discriminatory and understanding manner when communicating with patients and relatives/carers when organising transfers			
Demonstrates leadership of the multi-disciplinary team undertaking the transfer			
Demonstrates the ability to package a patient for transfer by helicopter			
Demonstrates basic crew resource management skills			
Demonstrates a willingness to participate in audit/quality improvement projects, critical incident reporting and research			

	Contrast the risks and benefits associated with emergent inter-facility transfer			
	Describe the principles of planning and co-ordinating patient transfer, exhibiting a professional approach			
	Demonstrate correct preparation of patients for safe inter-facility transfer, exhibiting a professional approach			
	Differentiate the risks and benefits of road, helicopter, fixed wing, and other transport modalities			
	Demonstrate the ability to transfer patients using a range of modalities, with a professional approach			
	Describe the common problems experienced during patient transfer			
	Demonstrate the safe inter-facility transfer of all age groups of ventilated patients			
	Leads the clinical care of complex patients requiring transfer or retrieval by road or air			
	Works safely in the prehospital environment to resuscitate and stabilise patients			
	Communicates and works effectively with multiagency partners			
	Can triage casualties appropriately for evacuation by road or air			
	Can prepare, package and safely transfer patients appropriate by air			
	Is familiar with aircraft operating and safety procedures, crew communications systems and emergency procedures			
	Describes relevant law and procedures in relation to international medical transfers and repatriations			
	Is able to co-ordinate transfer and retrieval services across an area or network including ability to liaise with road or air transport providers, transfer teams and referring and receiving hospitals			