USE OF SIMULATION BASED LEARNING IN CRITICAL CARE TRANSFER TRAINING

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Aim
The aim is that all critical care patient transfers are undertaken by staff who have been exposed to simulation based transfer training.

Introduction
Transfers of critically ill patients are inevitable in most hospitals
- Intensive care units undertake transfers to a variety of locations including internally to scanning, or externally to specialist centres.
- All transfers pose significant risks to critically ill patients, particularly those requiring multiple organ support1.
- Critically ill patients may require a range of staff to support the transfer, including anaesthetic doctors, ICU & ED nurses and ODPs.
- All staff potentially involved in the transport of critically ill patients should have received appropriate training in transfers and have the opportunity to gain experience in a supernumery capacity2.
- All staff involved in transfers must be able to demonstrate the range of competencies appropriate to their role3.

Why simulation based learning in critical care transfers is so important
- In a survey of specialty trainees in years one and two only 33% had been on a specific transfer course and, 39% (n=12) had been asked to undertake a transfer when they did not feel they had adequate experience to do so5.
- One study observed 86 adverse events that occurred in 57 of the 143 (39.9%) transportations performed. over a period of one year, resulting in increased morbidity in these critically ill patients.
- The transport process itself is associated with a risk of physiological deterioration and adverse events. The incidence of adverse events is proportional to the duration of the transfer, to the pre-transfer severity of illness or injury and to the inexperience of the medical personnel2.
- Incidents may be divided into medical and technical incidents. Medical adverse events are most often cardiovascular or respiratory events.
- Equipment failure or technical problems are common and may account for 46% of all incidents6.

Benefits of simulation based learning in critical care transfers course
- Despite recommendations, it is often difficult to be a supernumery member of a critical care transfer due to other work commitments.
- It allows familiarity with transfer equipment, where it needs to be placed, and how it is managed during a transfer.
- Provides an awareness of working in a remote environment, outside of the comfort of an intensive care, emergency department or theatre area.
- Underpins the logistics of moving a patient within a hospital or in an ambulance—obstacles, environmental issues, other personnel.
- Enables learners to understand the adverse events that can occur but within the safety of simulated learning.
- Utilising a simulated ambulance provides opportunity to be in an environment that may not have been previously experienced, and allows delegates to understand the physiological effects on the body.
- Brings an awareness of roles within the team, communications and decision making.
- Debriefing for the team immediately post simulation offers the chance for greater learning and reflection on decisions made.

Conclusions
- Simulation based learning is a widely accepted educational technique that allows teams to work together.
- Simulation has been shown to improve team performance in the workplace, including individual performance within a team.
- Transfer of a patient should be undertaken by staff experienced in critical care transfers which are often logistically and medically challenging.
- There is limited opportunity to experience these transfers, or their adverse events, prior to a real transfer.
- Simulation of a transfer allows individuals to perform a realistic critical care transfer in a safe manner.

Development of the Critical Care Transfers course using simulation
- The Intensive Care Society requires anaesthetic trainees to complete a transfer course.
- Nursing bodies recommend intensive care nurses should be competent in critical care transfers and expected to undertake a practical assessment of this skill7.
- Frimley Park Hospital developed a transfer course in 2014 following a gap in this training provision in the network.
- The new transfer course utilises workshops and simulation & debriefing to underpin much of the learning.
- Pre-course reading provides more theoretical learning and there is minimal didactic teaching on the course.
- The course is aimed at the multidisciplinary team of critical care and emergency trainees, nurses and ODPS.
- Run by a multidisciplinary faculty consisting of intensive care & anaesthetic consultants and registrars; senior ICU nurses and senior ODPS to ensure a well rounded approach to the course.
- A close working relationship with QuEST (Quality Education through Simulation & Technology) at Frimley Health NHS Foundation Trust and a high faculty to delegate ratio (1:2) allows the simulations to run effectively.
- Delegates undertake three simulations using high and low fidelity mannequins and real individuals.
- Each simulation provides separate and clear learning outcomes.
- Several realistic locations are accessed throughout the hospital including the emergency department, the scanning department and a simulated ambulance ‘Simbulance’ (see photos)

Delegate feedback
- Evaluations are completed by each delegate on each aspect of the course and the faculty.
- The course has maintained an average 94% score over the 3 years from January 2015 to November 2017.
- The graph (figure 1) shows the consistently high percentage scores for the simulations against the whole course.
- Free flowing text allows for specific feedback which provides insight into the learning achieved: ‘Simbulance was brilliant. Very well equipped and good to work with crew.’
‘Very good and life like’.
‘Very useful, as transfers to CT are so common, and so many bits of the kit to think about.’
‘Good, realistic scenario, realistic problems’.
‘Excellent! Good for troubleshooting and problem solving.’
‘Good experience in managing situations where ventilator fails.’

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References

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