The intensive care unit handover: the most stressful part of the shift

Introduction

Training in clinical handover skills is not widely given either to undergraduates or postgraduates in the UK. Since qualification in 2003 the first author has never had any formal training in clinical handover despite it being of great importance to safe practice and something performed daily at work.

However, the importance of good communication in clinical handover is gaining recognition (Roughton and Severs, 1996), as are the implications of poor communication (Zinn, 1995; Cook et al, 2000). In 2004 the British Medical Association collaborated with the National Patient Safety Agency to release a guidance document for general hospital handover. The Australian Medical Association released a similar document in 2006, while the World Health Organization identified effective handover as one of 'nine patient safety solutions' in 2007. Despite these efforts, there are not any clear national guidelines specific to the intensive care unit handover, where care of the most critically ill patients in the hospital is transferred between trainees daily, to varying degrees of effectiveness.

In the past intensive care units were covered by consultants and senior registrars. In recent years and certainly with the advent of Modernising Medical Careers, trainees on the intensive care unit have become increasingly junior with foundation year doctors also spending valuable training time on the unit. It is for this reason that foundation doctors and junior speciality trainees covering the intensive care unit should be aware of the importance of a thorough intensive care unit handover and how best to go about it. A template for handing over intensive care unit patients also provides junior trainees with a transferable skill to handover any critically ill patient effectively and concisely throughout their career, whether on the intensive care unit or not. This article explores the importance of the intensive care unit handover, provides insight into current practice and pitfalls and provides a suggested checklist for junior trainees who participate in intensive care unit handovers currently or in the future.

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Why is the intensive care unit handover so important?

The first intensive care unit in which the first author worked had a morning handover at 9 am where the 'night' trainee handed over to the 'day' trainee and consultant. The consultant on call overnight was also present. All notes and radiological imaging were available. The night shift began at 5 pm so handover took place again similarly between the trainees and consultants. The nurse in charge was always present. With this set up there were never any gaps in the handover of care and it was a thorough process with teaching and feedback.

The biggest challenge to this method of working is the change in trainee shift patterns following implementation of the European Working Time Directive. Owing to the timings of shift handover between trainees on the intensive care unit, consultant presence is variable at morning handover in many units and at night the consultant is invariably absent. This, combined with the fact that more junior trainees are covering the intensive care unit, makes the quality of handover between trainees even more critical.

The intensive care unit handover is thought by many to be a core skill, but there is no formal training, guidelines or assessment in its delivery. For many trainees it is the most stressful time of the shift. The incoming trainee puts a lot of faith in the quality of information handed over, as it is on the basis of this information that he/she formulates an understanding of each patient's condition, current problems and management plans. On the intensive care unit patients' clinical condition can change with such speed that it is vital that the incoming trainee has a clear 'handle' on each patient before the outgoing trainee leaves. If omissions or mistakes are made during this key period of intensive care unit care the patient is at risk.

An insight into intensive care unit handover practice, pitfalls and trainee satisfaction

The first author undertook an audit while working in an intensive care unit as a senior house officer in order to see whether doctors are handing over patients on the intensive care unit as well as they can and to see whether guidelines are necessary. It was a 30-day snap shot looking at handover practice within a busy 9-bedded district general hospital intensive care unit, and assessed trainee satisfaction with handovers received. Day and night handovers were observed (60 shift changes involving 361 individual patient handovers) and the incoming clinician filled out a questionnaire anonymously after handover and after he/she had gone round the patients so any important omissions or mistakes would be apparent. He/she was then able to note if areas were satisfactorily handed over or not.

Results

- The consultant was present for only 17 out of 60 handovers. The British Medical Association encourages consultant presence throughout.
- Most handovers took place over 30 minutes or more which is what the British Medical Association recommends, but six out of the 60 intensive care unit handovers took between 5 and 10 minutes. This is clearly unsatisfactory in a unit of any size, let alone one of 9 beds.
- In 42 out of 60 handovers the outgoing doctor used either a written or electronic memory aide as recommended by the British Medical Association, but

18 were handed over from memory. This is unsatisfactory and is how mistakes and omissions can be made.

- A total of 54 out of 60 handovers were interrupted for longer than 1 minute by either bleeps, visiting specialties or nursing queries. The British Medical Association recommends that the handover period be interruption free. Clearly interruptions halt the flow of the handover but in a critical care environment they may be unavoidable. Therefore interruptions were divided into those that could have waited and those that were emergencies. In the opinion of the clinician involved more than half could have waited. Therefore all should be aware that the intensive care unit handover period should not be interrupted unless it is an emergency.
- The intensive care unit handover lends itself to a system-based approach (e.g. cardiovascular, respiratory). The only system that was handed over satisfactorily in all patients was the respiratory system. The cardiovascular system was only handed over satisfactorily in 90%. All other systems were less satisfactory and the area handed over least well was microbiology results and antibiotic management, which was only done satisfactorily in 67% of handovers. In an intensive care unit handover all aspects of patient care must be handed over satisfactorily 100% of the time.

In this small project, receiving intensive care unit clinicians felt that they were not getting sufficient information from each other about patients at handover. This demonstrated that the intensive care unit handover needed improving to meet the standard necessary for transfer of care, and emphasized the need for a guideline and checklist for the process. For this reason training and guidance in the intensive care unit handover, particularly for any foundation trainees considering a career in intensive care medicine or the acute specialties, is imperative.

The benefits of a good intensive care unit handover

Good handover benefits patients

- Safety is protected – lapses in information handover can, and do, lead to mistakes being made. This increases morbidity and mortality
- Greater continuity of care – poor handover can lead to fragmentation and inconsistency of care
- Decreased repetition – patients and relatives dislike having to answer the same questions over and over again (Krogstad et al, 2002). Different individuals providing care will be accepted as long as existing knowledge is retained
- Increased service satisfaction – every doctor attending a patient can begin where the last one left off. Patients' and relatives' perception of professionalism is reaffirmed and improved
- Increased efficiency of the health-care system and improvement to patient care through timely investigation and diagnosis, management and discharge.

Good handover benefits doctors

- Professional protection – accountability has become more prominent with the move toward a more litigious culture within health care. Clear and accountable communication can protect against wrongful attribution of responsibility for errors that occur
- Reduction of stress – feeling informed and having up-to-date information enables doctors to feel more confidently in control of a patient's care. Doctors have found that handover can be a useful experience that gives them the opportunity to involve appropriate specialties early (Australian Medical Association, 2006)
- Educational – handover provides development and practice of communication skills and a well-led handover session provides a useful setting for clinical education (Talbot, 2000)
- Job satisfaction – providing the best possible quality of care is highly rewarding and is fundamental to a doctor's sense of job satisfaction (British Medical Association, 2004; Australian Medical Association, 2006).

Figure 1 gives a suggested trainee guideline and checklist for an intensive care unit handover.

Recommendations

- The consultant should be present for morning handover
- If the consultant is not present at night handover, he/she should be contacted by the night trainee following handover to discuss each patient over the telephone
- The handover should take place on the main unit or in the intensive care unit office where patients' charts and imaging can be accessed – handover should not take place off the unit, e.g. not in the emergency department
- Handover on the intensive care unit should take a minimum of 30 minutes, and should be uninterrupted with the exception of emergencies
- The nurse in charge should be present at the handover
- Handover should be given and received using either written or electronic aides (Harrison, 2005)
- Handover of individual patients needs a common format for communicating critical information (World Health Organization, 2007). A checklist such as the one in *Figure 1* should be used, with both parties responsible for ensuring all areas are covered. The handover is a two-way process.

Conclusions

The intensive care unit handover is still an area where the process and its efficiency varies between units and individuals. In the first author's audit too often areas were unsatisfactorily handed over. The intensive care unit handover is not formally taught or assessed despite proficiency in its delivery

KEY POINTS

- The intensive care unit handover is not formally taught or assessed despite proficiency in its delivery being expected in all trainees covering the intensive care unit regardless of level.
- An incomplete handover can have disastrous implications.
- The results of an audit undertaken by the first author indicated that intensive care unit handover effectiveness could be improved.
- In an age of regular shift changes and variable consultant presence performing a safe, accurate handover should be taught at the earliest opportunity to foundation and junior trainees covering the intensive care unit.
- Using the suggested intensive care handover checklist could improve transfer of care between trainees.

being expected in all trainees covering the intensive care unit regardless of level. The implications of an incomplete intensive care unit handover could be disastrous. Therefore in an age of regular shift changes and variable consultant presence performing a safe, accurate handover should be taught at the earliest opportunity to foundation and junior trainees covering intensive care unit as it will serve them well throughout their careers, whether they ultimately work in intensive care or not. National guidelines are required in the specific area of the intensive care unit handover in order to standardize the process, therein improving training, education and patient care on the intensive care unit. **BJHM**

Conflict of interest: none.

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Further reading

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Figure 1. A suggested trainee guideline and checklist for intensive care unit handover.

The following should be handed over in every patient	
General	Age and sex
	Past medical history
	Reason for admission
	Diagnosis where available
	Summary of intensive care stay
	Involvement of other specialities
Central nervous system	Clinical findings
	Sedative drugs and changes
	Muscle paralysis and changes
	Relevant imaging results
	Computed tomography scan results
	Problems highlighted
Cardiovascular system	Clinical and echo findings
	Cardiac rhythm and changes
	Blood pressure targets and changes
	Central venous pressure targets and changes
	Cardiac output studies and values
	Inotrope requirements, cardiac drugs and changes
	Problems highlighted
Respiratory system	Clinical findings
	Ventilation mode, settings and changes
	Oxygen saturations and arterial blood gas result trends
	Computed tomography scan or X-ray results
	Therapies (chest tube, nitric oxide, prostacyclin, prone)
	Tracheostomy and/or endotracheal tube days
	Problems highlighted
Gastrointestinal system and nutrition	Clinical findings
	Relevant surgery or stomas
	Feeding strategy: total parenteral nutrition or enteral (absorbing?)
	Computed tomography scan or X-ray results
	Trends in liver function tests, albumin and glucose
	Problems highlighted
Renal system	Fluid balance
	Urine output adequacy
	Fluid management strategy
	Urea and electrolytes trends and changes
	Haemofiltered
	Problems highlighted
Haematology	Clotting and full blood count studies
	Trends
	Transfusion and products
Microbiology	Temperature changes
	Trends (white cell count, C-reactive protein)
	No of days lines in situ
	Culture results
	Antibiotic therapy, changes and rescue plan
Musculoskeletal	Injuries
	Specific weakness, i.e. critical illness neuropathy
Treatment limitations	Ceilings of treatment
	Resuscitation status
	Relevant family discussions
Ensure tasks requiring completion or chasing up are handed over	
Outlying patients are handed over	