Patient transfer from the intensive care unit to a general ward


Abstract
The transfer of patients from the intensive care unit (ICU) to a general ward can present several challenges for nurses. Such patients are at high risk of adverse outcomes, including readmission to the ICU, and increased nosocomial infections and mortality, with a resultant increase in hospital costs. This article explores the challenges of transferring patients from the ICU and uses evidence to examine ways to address them to ensure optimal care for a complex patient group. Transfer time, factors affecting general ward care, handover processes, recognition of deterioration and education, intensive care outreach, and the psychological factors affecting these patients are examined.

Keywords
barriers to care, critical care, handovers, intensive care unit, patient deterioration, patient safety, patient transfer

AN INTENSIVE CARE UNIT (ICU), also known as an intensive therapy unit, is an area of a hospital dedicated to the monitoring and management of patients with life-threatening conditions (The Faculty of Intensive Care Medicine and Intensive Care Society 2013). For the purpose of this article, ‘patients in the ICU’ refers to any patients requiring high dependency or intensive care (Intensive Care Society 2009). Discharge of patients from the ICU to a general ward is associated with errors and adverse events (Hosein et al 2013). It is recognised that patients who survive critical illness are at increased risk of deterioration and death following transfer to a general ward (Story et al 2006). Contributing factors include breakdown in communication, suboptimal handover processes (Kowitlawakul et al 2015), and the lack of appropriate knowledge and skills of ward staff (Tabanejad et al 2014).

The potential adverse patient outcomes of suboptimal discharge and handover processes from the ICU include re-admission, increased nosocomial infections and increased mortality, leading to increased treatment and hospital costs (Tabanejad et al 2014). Thus, it is essential to ensure safeguards are in place to reduce potentially catastrophic outcomes for patients, their relatives and healthcare providers.

In 2007, the National Institute for Health and Care Excellence (NICE) published guidelines relating to patients who are acutely ill in hospitals and made recommendations about the transfer of patients from the ICU to a general ward. These guidelines were the subject of an eight-year surveillance study, published in 2016 (NICE 2016), which determined that the evidence provided from the original guidelines remains relevant. Consequently, the original guidelines are still in use and of clinical significance. This article examines the evidence that informs best practice to ensure the safety and well-being of patients following discharge from the ICU to a general ward.

Barriers to care in a general ward following discharge from the intensive care unit
There are several barriers to care that are associated with adverse patient outcomes...
following discharge from the ICU. One such barrier is that of nurse-patient ratios. On average, one ICU nurse will care for one to two patients on a shift (Aiken et al 2002). This is in contrast to the average nurse-patient ratio in an acute ward environment, in which guidelines note that there is an increased risk of harm in a ratio above one nurse to eight patients (NICE 2014).

Another barrier to care is that healthcare providers in general wards have fewer resources and time than ICU care providers to focus on patients (Häggström and Bäckström 2014). General ward nurses have reported feeling stressed when receiving patients from the ICU if they feel they do not have the time, or are inadequately prepared, to meet the needs of these patients (James et al 2013). In addition, the monitoring of vital signs occurs less frequently on a general ward than in the ICU. This is particularly evident during the night, with research suggesting nurses are reluctant to waken patients to record their vital signs, because they feel sleep is important following admission from the ICU (Nilsson et al 2008).

This article examines strategies for addressing such barriers to care in a general ward following discharge from the ICU.

**Time of transfer**

The time a patient is transferred from the ICU to a general ward is significant. Several studies have identified that transferring a patient overnight from an ICU to a general ward is associated with increased hospital-associated mortality (Beck et al 2002, Duke et al 2004, Priestap and Martin 2006, Tobin and Santamaria 2006). In addition, it has been identified that overnight transfers can lead to an increased ICU readmission rate (Duke et al 2004, Priestap and Martin 2006). A further study by Wood et al (2014) identified that many transfers occurred around general wards’ shift handover period – a notably busy time with reduced staffing.

The psychological effects on patients should also be considered, since patients may find it unpleasant being transferred from the ICU during the night (Hanane et al 2008). A rationale for premature transfer is pressure for beds in the ICU (NICE 2007). As a result, NICE (2007) guidelines recommend that once the decision to transfer patients from the ICU to a general ward is made, the patient should be transferred as early as possible during the day. If patients are transferred between 10pm and 7am, this should be documented as an adverse incident and should be avoided whenever possible.

**Handover process**

The handover process for patients who have been transferred from the ICU to a general ward is a vital component in the safe care and management of these patients (van Sluisveld et al 2015). Handover is defined as ‘the transfer of information and the responsibility of care for patients from one (or a group of) healthcare provider(s) to another’ (Lee et al 2015). The handover of patients and their care is a complex process, which is often only recognised when adverse events occur (Jorn et al 2009).

It is well documented that suboptimal communication processes are a significant factor in adverse patient outcomes (Spooner et al 2013, Kowitlawakul et al 2015, Bruton et al 2016). A further barrier to effective handovers is that discharge information is often provided to senior nursing staff but not communicated adequately to ward staff (Chaboyer et al 2012).

The National Patient Safety Agency* (2007) identified that effective communication is an important factor in ensuring optimal care for patients and improving clinical practice. Effective interventions to reduce adverse event risks include the use of structured handover forms that provide accurate and complete clinical information regarding the patient (van Sluisveld et al 2015). Furthermore, NICE (2007) guidelines recommend that nursing and medical staff should use a formal structured handover (Box 1) that is supported by a written plan. The use

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* On 1 April 2016 the statutory patient safety functions previously delivered by NHS England transferred with the national patient safety team to NHS Improvement.
of the SBAR (situation, background, assessment, recommendation) framework (Box 2) has been suggested to improve communication between healthcare staff (Leonard et al 2004, Beckett and Kipnis 2009), and provides a standardised tool for communicating urgent and non-urgent information (Tait et al 2012).

**Recognition and training**

One factor contributing to adverse patient outcomes following patient transfer from the ICU to a general ward is the lack of training and education of ward staff to care for such a complex patient group (Tabanejad et al 2014). The National Patient Safety Agency (2007) reported that failing to recognise deterioration, not communicating observations causing concern and not responding to these appropriately are factors that contribute to adverse patient outcomes. As a result, NICE (2007) guidelines recommend that staff caring for patients in acute hospital settings be competent in monitoring, measurement and interpretation of patients who are acutely ill, and the appropriate prompt responses.

The use of clinical track-and-trigger systems is common in UK hospitals. The primary aim of these systems is to monitor clinical deterioration in patients, thus alerting ward staff and enabling timely expert referral where necessary (Macintosh and Moore 2011). Track-and-trigger systems enable patients’ physiological measurements to be recorded (tracked), which triggers a warning if they fall outside the excepted range (Creed and Spiers 2010).

In the UK, the National Early Warning Score (NEWS) system is used as a standardised assessment tool to recognise those at risk of clinical deterioration (Figure 1). The NEWS system involves scoring six physiological parameters, including respiratory rate, oxygen saturations, temperature, systolic blood pressure, pulse rate and level of consciousness. The score reflects how extreme the parameter varies for the norm. The patient is assigned an aggregate score, enabling the identification of those at risk of deterioration. There are three trigger levels: a low NEWS of 1-4 indicates a low clinical risk of deterioration; a NEWS of 3 in any one parameter, or an overall score of 5-6 indicates a medium clinical risk of deterioration; and a NEWS of 7 or more indicates a high clinical risk of deterioration (Royal College of Physicians 2012) (Figure 2).

Tools such as track-and-trigger systems should be used alongside the nurse’s clinical judgement, their skills in identifying...
the signs of clinical deterioration, and a holistic and comprehensive approach to patient care (Tait et al 2012).

The use of a systematic approach to assessment provides healthcare professionals with a rapid framework for assessing the deteriorating patient (Smith et al 2002). The ABCDE (airway, breathing, circulation, disability, exposure) approach provides a simple, systematic and priority-driven framework to patient assessment (Creed and Spiers 2010). It initially assesses patient safety, and once safety has been established, it prioritises more in-depth assessment (Tait et al 2012).

The approach supports improved patient outcomes by encouraging healthcare professionals to focus on the most life-threatening clinical issues (Thim et al 2012). The use of the framework forms the basis of the Acute Life-Threatening Events Recognition and Treatment (ALERT) course, which was developed to enable practitioners to ‘predict, prevent and treat whilst communicating actions to the patient, carers and other medical staff’ (Smith et al 2012). This and similar courses adhere to the recommendation that staff working with patients who are acutely ill on general wards should receive education and training to recognise and understand the physical, psychological and emotional needs of patients who have been transferred from critical care areas (NICE 2007).

**Critical care outreach teams**

A further support system for ward staff following patient transfer is the critical care outreach team (NICE 2007). Critical care outreach teams were developed in 2000, with the purpose of reducing ICU admissions, facilitating patient discharges from the ICU to general wards and involving the sharing of critical care skills with ward-based staff (Department of Health 2000). These teams were designed to empower staff on wards in the care

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**Figure 1. National Early Warning Score**

<table>
<thead>
<tr>
<th>PHYSIOLOGICAL PARAMETERS</th>
<th>3</th>
<th>2</th>
<th>1</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Respiration Rate</td>
<td>≤8</td>
<td>9 - 11</td>
<td>12 - 20</td>
<td>21 - 24</td>
<td>≥25</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oxygen Saturations</td>
<td>≤91</td>
<td>92 - 93</td>
<td>94 - 95</td>
<td>≥96</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Any Supplemental Oxygen</td>
<td>Yes</td>
<td>No</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Temperature</td>
<td>≤35.0</td>
<td>35.1 - 36.0</td>
<td>36.1 - 38.0</td>
<td>38.1 - 39.0</td>
<td>≥39.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Systolic BP</td>
<td>≤90</td>
<td>91 - 100</td>
<td>101 - 110</td>
<td>111 - 219</td>
<td>≥220</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Heart Rate</td>
<td>≤40</td>
<td>41 - 50</td>
<td>51 - 90</td>
<td>91 - 110</td>
<td>111 - 130</td>
<td>≥131</td>
<td></td>
</tr>
<tr>
<td>Level of Consciousness</td>
<td>A</td>
<td>V, P, or U</td>
<td></td>
<td></td>
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</tr>
</tbody>
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(Reproduced with permission from Royal College of Physicians 2012)
of adult patients who are acutely ill by offering education and support (Creed and Spiers 2010).

The contemporary model for a critical care outreach team is a team comprising ICU nurses who are experts in their field. These nurses have a clear function of providing ward staff with the required skills, knowledge and support they require to deliver appropriate care to patients who are deteriorating (Box 3) (Macintosh and Moore 2011). Harrison et al (2010) identified the benefits of critical care outreach team follow-up visits following discharge from the ICU, with reduced hospital-associated mortality and shorter stays in hospital. These teams have also been associated with reduced cardiopulmonary arrest and mortality (Winters et al 2013).

**Patient psychological considerations**

Surviving critical illness can have significant psychological effects (Adamson et al 2004). Relocation stress is defined as, ‘a state in which a person experiences physiological and/or psychological disturbances as a result of transfer from one unit to another’ (Carpenito 2013). Frequently patients can find it challenging to adjust to the reduced proximity of nursing care offered on general wards in comparison to ICU nursing care (Odell 2000, McKinney and Melby 2002, Beard 2005). This can lead to patients experiencing anxiety and depression following transfer (Odell 2000, Strahan and Brown 2005). Furthermore delirium, characterised by disturbed consciousness and a change in cognitive function or perception that develops over a short period, may occur in patients in the ICU (NICE 2010).

Following transfer from the ICU, patients require the provision of follow-up services that offer psychological and cognitive assessment, and psychiatric and psychological support (Ramsay et al 2014). It is important for patients to be offered information about their condition, and to encourage them to participate actively in decisions that relate to their recovery. If the patient agrees, their family and carers should be involved actively in that process (NICE 2007).

Chaboyer et al (2005) identified that patients’ relatives fluctuated from feelings of pleasure that their relative was well enough to be transferred, to fear and doubt they should be transferred and the implications of the transfer. General ward staff who are working with patients who are acutely ill should also be able to recognise not only the physical, but also the psychological and emotional needs of patients who have been transferred from the ICU (NICE 2007).

**Conclusion**

The transfer of patients from the ICU to a general ward presents several challenges and risks. The timing of transfer should be carefully considered. Night-time transfer should be avoided where possible. The reduced nurse-patient ratio on a general ward in comparison to that of the ICU can...
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Put patients at risk of adverse outcomes.
Robust handover processes at the point of patient transfer are required to ensure their smooth and safe transition from the ICU to a general ward. Critical care outreach teams have an essential role in the care of patients following transfer to a general ward.

Nurses in wards should receive the training and education to equip them with the knowledge and skills required to care for this complex patient group. Tools such as track-and-trigger systems can support nurses in identifying deteriorating patients. However, these tools should be used alongside their clinical judgement. The psychosocial needs of these patients and their families must be addressed since patients are at a high risk of relocation stress and delirium.

References

National Confidential Enquiry into Patient Outcome and Death (2005) Acute Illness in Adults in Hospital: Recognising and Responding to Deterioration. NICE, London.
transitions and role development among critical care outreach services. Journal of Clinical Nursing. 23, 5-6, 605-615.


The Faculty of Intensive Care Medicine, Intensive Care Society (2013) Core Standards for Intensive Care Units. The Faculty of Intensive Care Medicine, Intensive Care Society, London.


Wood SD, Coster S, Norman I (2014) Comparing the monitoring of patients transferred from a critical care unit to hospital wards at after-hours with day transfers: an exploratory, prospective cohort study. JANE. 70, 12, 2757-2766.