

# Transitions of care in the perioperative period – a review

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## ABSTRACT

The perioperative period extends from the moment of contemplation of surgery through to recovery at home. Patients on a surgical pathway will experience multiple transition points in their care. As we move to more collaborative working and caring for increasingly medically complex patients, we must establish robust processes to mitigate against the potential for patient harm posed by these multiple transition points. This article reviews best practice and guidance on handover of care throughout the perioperative period. We will look at models of transition of care beyond the hospital environment and how better use of community resources can smooth the transition of care out of hospital for ongoing rehabilitation.

**KEYWORDS:** Perioperative, handover, discharge summary, shared care

## Introduction

A patient experiencing a surgical episode, planned or unplanned, will navigate a number of transition points in their care. The American Geriatrics Society defines transitions of care as ‘a set of actions designed to ensure the coordination and continuity of healthcare as patients transfer between different locations or different levels of care within the same location.’<sup>1</sup> During a simple elective surgical pathway, a patient may experience a minimum of seven transitions of care, rising to 15 for more complex patients requiring critical care, interhospital and rehabilitation moves. The transition points of care represent vulnerabilities in our system for increased mortality, morbidity, adverse events and delays in treatment, and lead to poor patient and carer experience. This has been recognised by the National Confidential Enquiry into Patient Outcome and Death (NCEPOD), the Royal College of Physicians (RCP) and the World Health Organization (WHO).<sup>2–4</sup> High-quality perioperative care seeks to redefine transition points as handover points, emphasising continuity of care.

This article will look at transitions of care along a perioperative pathway, and review available guidance and best practice. As the integration of perioperative care across our specialties develops, we must develop robust systems for handover of care, and have clear lines of accountability in the face of current systemic

pressures and interdisciplinary working. WHO recommends standardised documentation and agreement of information metrics, however, this might not always be easily achieved across a heterogeneous system. While there has been recent work on in-hospital handovers of care, there are fewer models at the latter end of the pathway, from hospital to the community, therefore we will look in more detail at this transition point.

## How can we optimise the transition points at the point of referral?

The referral from general practice to secondary care can be a highly complex interaction involving multiple steps, which, if accepted, results in the transfer of clinical responsibility for the patient. This can range from a simple referral to a surgeon to a referral on a suspected cancer pathway resulting in involvement of multiple clinicians and institution of a number of treatments prior to any decision on surgery. There are regional variations on the basic metrics required to complete a referral, which are beyond the scope of this article. From a perioperative point of view, we recommend that the referral should also contain basic information about conditions which may require optimisation prior to any surgical intervention. This would include a recent blood pressure measurement, haemoglobin level, height, weight and smoking status. While not all referrals will result in surgery, this information is valuable in triaging patients who may benefit from early prehabilitation, and will influence the decision-making process, streamlining care. Information included in a referral will also allow early consideration of discharge needs, which can be planned and coordinated from the preassessment stage.

The perioperative medicine clinic (including preoperative assessment) is an opportunity to consolidate information about a patient from a medical, physiological, psychological and social point of view. In many hospitals in the UK, an extended appointment is available, usually with an anaesthetist but increasingly with a geriatrician as part of perioperative care.<sup>5</sup> Here, a more in-depth review of the patient is carried out, which may include objective physiological assessment in the form of cardiopulmonary exercise testing. These consultations include risk assessment and risk communication, and form the basis for a shared decision-making conversation with the patient and their family. Written communication from these consultations can be a valuable opportunity to document basic metrics about the patient, but importantly, the patient’s wishes and expectations around risk, values and expectations of outcome from surgery. While there is an aspiration to have these consultations collaboratively, this is rarely possible. The clinic letter, therefore, forms an important part of handover.

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## What guidance exists for handover and transitions of care within the hospital?

Within the hospital, a number of handover points occur. Modern working patterns make this particularly challenging, with ward-based care models, shift-based working and lack of firm structure. Prof Sir John Lilleyman wrote: 'Handover of care is one of the most perilous procedures in medicine, and when carried out improperly can be a major contributory factor to subsequent error and harm to patients. This has always been so, but its importance is escalating with the requirement for shorter hours for doctors and an increase in shift patterns of working.'<sup>6</sup> Within the theatre complex, guidelines exist on the handover of patients in the post anaesthesia care unit (PACU), and checklists are in use to structure these handovers and ensure that information is not lost at a time during which there may be a number of distractions.<sup>7,8</sup> This is an interdisciplinary handover of care, which is less commonly encountered elsewhere in hospital medicine.

Discharge from PACU is protocolised. The Royal College of Anaesthetists' (RCoA's) Guidelines for the Provision of Anaesthetic Services (GPAS) set out the requisite clinical information and targets required in the postoperative phase including blood pressure, urine output, fluid management, analgesia and instructions on management of intravenous and arterial lines to ensure there is good documentation of the postoperative plan.<sup>9</sup> In many hospitals this is pre-printed for completion by the anaesthetist. A common problem is that the anaesthetic chart is usually filed separately from the main clinical notes, and non-anaesthetists are unaware of the information it contains.

For patients going to critical care, the Faculty of Intensive Care Medicine has clear standards designed to improve patient safety around discharge from critical care.<sup>10</sup> It requires structured communication of clinical information, results of investigations, procedures, priorities for ongoing care, decisions on future care and escalation of care, and decisions on medication management. It is accompanied by a verbal handover to the receiving team. These standards also include guidance on timing of discharge, emphasising that it is poor practice to discharge patients from critical care overnight, and also references the National Institute for Health and Care Excellence (NICE) guidance on rehabilitation of critically ill patients in hospital.<sup>11</sup> There is an expectation of multidisciplinary handover, reflecting the input from all teams in the rehabilitation phase, and includes information on longer-term rehabilitation, psychological, cognitive and emotional goals and follow-up. These latter domains are often lost by the time of hospital discharge summary completion.

## What about shared care?

Braude *et al* wrote about the challenges posed by multidisciplinary working and shared care models, which are increasingly common in perioperative care pathways.<sup>12</sup> They highlight the conflicts between the requirement for clear lines of accountability ('name above the bed') as recommended by the Department of Health, the General Medical Council and the Francis Report versus a holistic, patient-centred model of care which is central to interdisciplinary working, encouraged by NCEPOD, the National Emergency Laparotomy Audit, *The NHS Long Term Plan* and

the National Collaboration for Integrated Care.<sup>13–16</sup> Indeed, the advent of integrated care systems seeks to promote these ways of working. Guidance on the practicalities of handover here is lacking, and solutions may lie with technology. Regardless of the method of communication, it is fundamental that it happens clearly and cogently between clinicians, the wider multidisciplinary team and the patient.

## The ultimate hurdle – transition from hospital to community

Discharge from an acute hospital setting to the community is a particularly vulnerable point in the perioperative pathway and, at worst, leads to readmission. The culture in hospital, particularly in a perioperative pathway, focuses on discharge from hospital as the goal. While this is clearly important, rehabilitation from a major surgical insult does not end as the patient leaves hospital. The perioperative medicine community has recognised for some years that metrics such as in-hospital mortality, 30-day mortality and 30-day readmission rates are poor indicators of outcome, and focus has shifted to evaluating morbidity and patient-centred outcomes.<sup>17</sup> Enhanced recovery programmes embedded in the last 15 years have emphasised early return to function and reduction in hospital stay as important outcomes, however, maintaining this success requires close collaboration with our primary care colleagues and community services who take over responsibility for care ever earlier.<sup>18</sup>

## Discharge planning – starts at preassessment

Eighty per cent of discharges from hospital are 'simple'. However, patients who have undergone major complex surgery in the context of multimorbidity, particularly following an emergency admission, are more likely to fall into the 20% of complex discharges. NICE guidance on discharge planning recommends that planning commences at the point of admission.<sup>19</sup> In elective surgical pathways, the preoperative assessment phase is a key opportunity to consider what extra needs a patient may have following major surgery. Models of care such as the proactive care of older people undergoing surgery (POPS) have highlighted deficiencies in the traditional surgical preassessment process, partly because of lack of awareness of and access to services available for discharge of complex patients, which is the daily work of geriatricians and acute physicians.<sup>20</sup> The POPS team has demonstrated how comprehensive geriatric assessment can identify these needs early and plan for discharge accordingly, reducing hospital length of stay and improving outcomes for patients.

## Common frustrations – easily addressed

The discharge summary is the most important record of communication between the hospital and community. It is the only source of information for the general practitioner (GP) on what has happened to the patient and the goals for ongoing care. Junior doctors receive minimal training on writing discharge summaries and their completion is considered a chore, which must be done within a target time. In perioperative care, it falls to the most junior member of the team, and may often be completed from the notes rather than by someone who has been directly involved in the patient's care. These frustrations have been

observed at a local level during a perioperative ward-based quality improvement project. Minimum information on a discharge summary should include:

- > diagnosis
- > operation type, date, by whom
- > complications in the perioperative period
- > active medical problems
- > changes to medication, with rationale and plan for re-prescribing and deprescribing
- > anticipated post-discharge course, specific information regarding wound care, mobilisation advice, driving and nutrition
- > discussions (where applicable) of escalation of care, suitability for readmission, critical care opinion if given
- > most recent blood results and requests for ongoing monitoring
- > safety-netting, including who to contact for more information.<sup>21</sup>

The patient is the constant during these multiple transitions and should be involved wherever possible. They should understand what is written in the discharge summary and be given written information, including contact details, for troubleshooting.

The RCP has developed an e-learning module for junior doctors and other healthcare professionals completing discharge summaries, based on work done by one of its chief registrars.<sup>22</sup> We would recommend extension of this resource for use by all junior doctors to encourage consistency and continual updating of the discharge summary as part of the ongoing clinical care record. In perioperative care, multiple specialties may contribute to a patient's care during the episode, and their advice and interventions should be included. For example, critical care may stop a diuretic because of an acute kidney injury, which needs to be re-introduced carefully after recovery. There is also a particular problem with opioid deprescribing, which is covered elsewhere in this issue.

Possible solutions may include prompts on ward rounds to contemporaneously update the discharge summary, and collaborative working with pharmacists to improve communication around changes to medication. The majority of hospital discharge summaries are electronic, making them amenable to insertion of changes as simple as prompts or more complex such as mandatory fields for completion (eg latest blood results, resuscitation and escalation of treatment decision making).

### How can we best provide ongoing rehabilitation following major surgery?

As mentioned above, there is a drive to discharge patients early after surgery, with promotion of home as the best place for rehabilitation following any inpatient stay. The physiological insult following major surgery results in a complex cascade of proinflammatory and catabolic changes, which, in the context of comorbid disease and deconditioning, can have profound consequences for the ability to rehabilitate to previous levels of function, particularly after an emergency admission. There is a strong argument that some ward-based interventions could be better provided outside the hospital setting, for example, physiotherapy, nutritional support, occupational therapy and antibiotic therapy. Indeed, this is preferred by patients. An example of this is the Discharge to Assess (D2A) team in Plymouth, UK.

### Case study: D2A team

*The D2A team is a community-based team in south-west England, comprising a GP, physiotherapist, occupational therapist, social worker and registered nurse, with a wider network of community-based services. Their role is to provide medical care, rehabilitation and respite for patients who have been in hospital. Patients are medically well enough to be discharged from hospital, however, they are not in a position to be discharged home, therefore, they are placed either in a residential or nursing home with specialist services in managing complex rehabilitation needs. Increasingly, D2A manage postoperative patients who have complex comorbidities requiring ongoing management or patients who have had major complex surgery. D2A also look after patients who have had a palliative procedure, typically surgery for fractured neck of femur, who may require palliative care or planning for the last days of life.*

*Another component of D2A work is to provide crisis care for patients in the community by using the nursing homes they cover to prevent admission to hospital. They have the ability to manage intravenous fluids, antibiotics and other interventions with referral for imaging, such as chest X-ray on the understanding that the patient will return to their care in the community.*

*The benefits of the D2A approach in managing postoperative patients are that they are experts in rehabilitation, in medical management and see patients regularly enough to reintroduce medication, titrate doses and monitor closely. A typical example might be the patient who had their ACE inhibitor and diuretics stopped perioperatively because of an acute kidney injury. The main aim is to rehabilitate patients to go home independently or with a care package. However, a number of patients find long-term placement when unable to go home.*

*In the nursing and residential setting, there is a continuity of care provided by the team, who can have conversations about readmission, resuscitation and escalation of care, and in doing so prevent unnecessary admissions to hospital. They have shown that they are able to increase flow of patients by facilitating an increased number of discharges from hospital. The service has been nominated for a community patient safety award.*

Models such as D2A are becoming increasingly common in integrated care systems and, used well, would improve patient safety and continuity at this transition point. It would be ideal for management of postsurgical patients who have ongoing rehabilitation needs by bridging the transition to home. We have made good progress in improving perioperative care earlier in the pathway, however, we are less consistent at the later after-surgery phase, which is nicely addressed in this example.

### Conclusions

The Centre for Perioperative Care (CPOC) aims to draw on expertise across the specialty divide to improve perioperative care. Medicine has often been ahead of surgery in complex discharge planning and communicating with GPs; surgery has used multidisciplinary team approaches to disease management for years; and anaesthesia and intensive care have improved patient

## Key points

Complex surgical patients will experience multiple transitions of care during their perioperative journey. These are vulnerable moments but provide opportunities to consolidate and summarise care, and highlight plans for ongoing management.

Discharge planning should begin early in the preoperative phase and consider making use of interventions used in medicine, including comprehensive geriatric assessment.

The discharge summary should be considered a continuation of the medical record and effective patient care relies on a high-quality summary. This task should be prioritised and training should be provided to all.

Standardisation of documentation processes at all points should be coproduced to minimise omission of information.

handover with structures and processes enshrined in their college and faculty guidance. Smoothing of the transitions of care requires recognition of their significance. We need a collaborative approach to establish structures and processes to address this patient safety issue and improve patient experience at these vulnerable points in the pathway. ■

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