Postoperative handover: characteristics and considerations on improvement – a systematic review

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CRD summary
This abstract focuses on the effects of interventions for improving postoperative handover. The authors concluded that implementation of handover strategies should be considered carefully, and in context. This conclusion was loosely based on the evidence presented. Limitations in the review process were possible and the quality of the included studies is unknown; the reliability of the conclusion is uncertain.

Authors' objectives
To describe the characteristics and potential hazards to quality of care and patient safety, and evaluate the effects of interventions relating to postoperative handover. This abstract focuses on the effectiveness studies.

Searching
PubMed, EMBASE, and The Cochrane Library were searched for English-language papers published between March 2002 and March 2012. Some search terms were reported. The reference lists of identified papers were searched for additional studies. Abstracts were excluded.

Study selection
Eligible for inclusion were studies of interventions to improve postoperative handover in a post-anaesthetic care unit or intensive care unit.

In the included studies, the interventions were various handover tools or protocols, together with environmental changes. One study described a two-track clinical pathway (complicated versus uncomplicated patients) in addition to a structured handover. Most studies also described the implementation strategy. Most interventions were carried out in postoperative care units, receiving patients after congenital cardiac surgery; the remaining studies were in intensive care units, receiving adults after cardiac surgery. The most frequent outcome measures were information omissions, technical errors, quality of teamwork, handover duration, and patient-specific outcomes.

Two reviewers independently selected studies for inclusion. Disagreements were resolved by consensus.

Assessment of study quality
The authors did not report an assessment of study quality.

Data extraction
Descriptive data were extracted, with an indication of statistical significance. The authors did not state how many reviewers extracted the data.

Methods of synthesis
A narrative synthesis was presented.

Results of the review
Ten effectiveness studies were included (one exclusively described the development and implementation of one of its interventions). Six were prospective before-and-after studies, two were descriptive, and two were observational. The total number of participants was not reported.

Process outcomes: Handover tools or protocols, and environmental change, were generally associated with significant improvements in the number of information omissions (four studies) and teamwork performance (two studies). There was mixed evidence for the number of technical errors (three studies). Handover duration was generally unchanged as a result of using a tool (five studies), and one study reported a significantly shorter handover due to more effective communication and fewer distractions.
**Patient outcomes**: The two-track clinical pathway and structured handover for adults was associated with reductions in post-anaesthetic care unit stay, in-hospital mortality, and unplanned admissions to the intensive care unit.

**Authors’ conclusions**
Implementation of handover strategies should be considered carefully. It was important to supplement existing guidelines, with solutions for specific contexts, acknowledging the role of non-technical skills in the process for patient safety.

**CRD commentary**
The review question was clear. The inclusion criteria were broadly specified for study design, interventions, and participants. The authors acknowledged that this broad approach, with possible omissions in search terms, could mean that relevant studies were overlooked. The restriction to publications in English may have compounded this issue.

Attempts to minimise reviewer error and bias were reported for study selection, but other processes were unclear. There was no report of an assessment of the quality of the included studies, but their designs suggest that they were of low quality. Some study characteristics were reported, but the absence of patient details limits the generalisability of the findings. Generalisability was also limited by the clinical setting, as acknowledged by the authors.

The authors’ conclusion was loosely based on the evidence presented; its strength and reliability is uncertain.

**Implications of the review for practice and research**

**Practice**: The authors stated that small samples (not possible to verify from the paper), and the single-centre application of the interventions, mean that the generalisability of the findings beyond congenital cardiac surgery was uncertain.

**Research**: The authors stated that studies should focus on patient-specific outcomes, and be conducted in settings receiving patients from different surgical specialities. Exploration was needed of the impact of multiple handovers, often experienced during a course of surgical treatment.

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