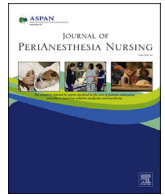




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## The Back Page

## Patient Handover in the PACU: When Less Can Be More



In the operating setting, my colleagues and I were often surprised to see that medical and nursing personnel of the anesthesiology department perceived the handover process of postoperative patients to be rather trivial. Both seemed to share the opinion that, because most patients did not stay in Phase I postanesthesia care unit (PACU) for more than just a few hours, and PACU nurses observed them to detect and prevent specific complications related to anesthesia or surgery, there was no need for nurses to be informed about each patient's complete medical history and intraoperative management. That is the reason that handover was omitted in several cases, and even if this was not omitted, information was handed over in a random pattern, based on the personal preferences of the attending anesthesiologist.

Patient handover has been defined as the real-time process of passing patient-specific information from one caregiver to another to ensure the continuity and safety of patient care.<sup>1</sup> Although information transfer is the key concept, handover further includes the transfer of responsibility and accountability for patients within teams and their work environments.<sup>2</sup> Considering the rapid alterations in postoperative patients' physical status, transferring responsibility and accountability for their care renders necessary the provision of information that guides personnel's attention to specific risks and assists them in establishing effective care plans.

According to the current literature, the negative effects of problematic communication in health care imply that handover is neither trivial, nor should it be inconsistent. Communication errors among caregivers are particularly common during handover and have been identified as a major cause of serious critical incidents in hospitals.<sup>3</sup> Specifically, handover errors by medical trainees accounted for 20% of malpractice claims in the United States.<sup>4</sup> In the perioperative environment, 14% of anesthesia-related incidents have been attributed to communication failure during postoperative handover,<sup>5</sup> whereas patients were found to be at a significantly higher risk for complications or death in cases of less information sharing among their surgical teams.<sup>6</sup>

Handover in the PACU has been described as usually being verbal, inconsistent, nonstructured, and incomplete.<sup>7,8</sup> In the event-driven and time-pressured PACU environment, where interruptions, attention distractions, and need for multitasking are common for personnel, verbal information may not be heard, understood, or remembered, resulting in poor quality of oral communication and breakdowns in information transfer.<sup>9</sup> When the PACU environment is combined with limited memory capacity of the human brain, it does not seem surprising that the percentage of

retained information during verbal handover was found to be only 47%.<sup>10</sup> In addition, inconsistent handover has been associated with missing or fragmented information that precludes continuity of patient care.<sup>8</sup>

Efforts to improve quality of postoperative handover have focused on how the omission of critical information could be prevented. Standardization of handover process through the use of predefined format and structured checklists has the potential to facilitate information flow between health care professionals by providing a consistent and nonrandom order in which information is communicated. The findings of studies that compared postoperative handover before and after the implementation of checklists have confirmed their positive effects in increasing the number of information items handed over from the operating room anesthesiologist to the PACU nurse, minimizing information loss and improving information accuracy.<sup>11–13</sup> Moreover, the use of a checklist has been linked to shorter length of patient stay in the PACU, and decreased unplanned admission to the intensive care unit and hospital mortality.<sup>14</sup> However, the effectiveness of checklists is expected to be limited in case of poor compliance with their use by personnel.<sup>12</sup>

Although the use of structured checklists improves information transfer during handover, the items that should be included in a checklist developed for the PACU are difficult to determine. To convey the anesthesiologist's existing knowledge, handover should include information about patient age, current diagnosis, preoperative status and comorbidities, anesthesia type and drugs, surgical procedures, and intraoperatively encountered disorders. To guide ongoing patient care and discharge plans, handover should further provide information about airway, respiratory and cardiovascular management, as well as management of common postoperative complications, additional drug administration, fluid balance, catheter and surgical wound care, and need for blood transfusion or diagnostic tests.<sup>9,10,15</sup> In this context, the true problem might be the selection of important information to be included in a checklist of functional length.

The aim of postoperative handover is not to provide an exhaustive list of patient data, but rather to communicate information considered to be critical in terms of care quality and patient safety. A checklist that contains too many items will probably fail to meet this aim because information overload could potentially disorient PACU personnel from identifying important elements, which can be dwarfed by less important or even irrelevant elements.<sup>10</sup> Moreover, the importance of keeping checklists short to be user friendly and encourage personnel's acceptance and compliance with their use has been previously underlined.<sup>16</sup> In a recent study,<sup>17</sup> an electronic checklist for intraoperative handover was developed based on the key consideration of containing the smallest number of absolutely necessary items. Assessment of its use revealed significant

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improvements in the relay and retention of critical patient information, communication among clinicians, and reported satisfaction of them. A short handover checklist would be ideal for daily use in the PACU, where numerous activities compete for personnel's attention, and clinical decision making requires personnel to focus on and retain critical information elements.

Another advantage of short checklists is that they contribute to brief handover duration. Besides the time-pressured nature of the PACU environment, postoperative patients are subject to a potential downscale in their surveillance during handover, which renders them vulnerable to omission errors and critical incidents.<sup>11</sup> For this reason, transfer of critical information is important to be completed within the shortest possible time and, although an appropriate time span is difficult to define for postoperative handover, limiting its duration without omitting critical information is expected to improve patient safety.<sup>15</sup>

A potential difficulty in designing a concise checklist could be the lack of consensus about which information is important to be communicated during handover. According to previous studies, physicians as information providers and PACU nurses as receivers have different opinions and expectations about the elements that need to be handed over.<sup>18,19</sup> Specifically, physicians focused on and reported items being important during anesthesia, whereas PACU nurses focused on items they considered important concerning patients' ongoing care.<sup>10</sup> Disagreements and differing priorities between physicians and nurses should be resolved through discussion in meetings, so that information considered critical by both groups will be selected for inclusion in the checklist.

The recommendation for item selection for postoperative handover checklists is that it is based on both international research data and local policies. Appropriately designed studies are needed for investigating how specific information, or its absence, is associated with quantifiable measures of care quality and patient outcomes. At the same time, there are remarkable differences among PACUs worldwide in terms of organizational issues, staffing, education level and task autonomy of nursing personnel, and admitted patient groups. Local features and needs must be taken into consideration for designing a functional checklist, instead of referring to one-size-fits-all solutions by using checklists that have been developed for other hospitals or countries.<sup>11,20</sup> For example, detailed information about the use of analgesics during patient stay in the PACU seems important to be included in case nurses lack autonomy in drug administration decisions.

In conclusion, postoperative handover needs to be structured and concise to prevent information loss, be easily applied, and guide personnel's attention on critical patient information. To guarantee personnel's high compliance with the handover checklist, its items must be adapted to local needs, and personnel must be persuaded that its use can make the difference in improving patient care and outcomes.

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