



# Let's handover our patients to the highest quality of anesthesia care

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Effective communication is one of the most significant skills in medical practice and should be strongly emphasized and taught during pre- and postgraduate training. The World Health Organization has included communication during patient care handovers among its top five patient safety initiatives since 2006 (1). Although it is usually perceived as a 'physician to patient' interaction, the definition also includes the 'physician to physician' communication. However, the failure of healthcare professionals to communicate is a major problem worldwide. Most preventable adverse events in medicine are because of communication errors, while more than half of these occur in relation to patient handover (2).

Clinical handover is the transfer of professional responsibility and accountability of care for a patient to another physician on a temporary or permanent basis (3). It is easily perceived that handover is by definition a process necessitating good communication in order to ensure patient safety. Today, handover guidelines and tools have been developed and national handover policies exist in several countries (4). Nevertheless, poor communication between physicians remains a leading cause of serious adverse events and handover failure (5). Moreover, limited resources and the pressure for higher efficiency can also result in suboptimal handovers and the subsequent delivery of healthcare (4). Other causes affecting this process are poor health care provider training and expectations, language barriers, and

inadequate, incomplete or non-existent documentation (5).

In the operating room, handover involves the passing of care of a patient undergoing a surgical operation. In fact, there are multiple handover types, and multiple venues in which these handovers occur (6), but several studies have shown that intraoperative handovers are associated with significant increases in in-hospital mortality and major morbidity (7,8). In emergency surgery, handover may be even more dangerous; in this situation, accurate communication is required between the attending anesthesiologists who must accomplish transfer of care in no time while securing operating room efficiency (9).

In the latest issue of *JAMA*, Jones *et al.* (10) assessed whether complete handover of intraoperative anesthesia care is associated with higher likelihood of mortality or major complications compared with no handover of care. The authors conducted a retrospective population-based cohort study of adult patients aged  $\geq 18$  years undergoing major surgeries. The primary outcome was a composite of all-cause death, hospital readmission, or major postoperative complications, all within 30 postoperative days, while secondary outcomes were the individual components of the primary outcome. In this large study (313,066 patients), 5,941 (1.9%) patients underwent surgery with complete handover of anesthesia care. After adjustment, complete handovers were statistically significantly associated with an increased risk of the primary outcome [adjusted risk

difference (aRD), 6.8% (95% CI, 4.5% to 9.1%);  $P < 0.001$ ], all-cause death [aRD, 1.2% (95% CI, 0.5% to 2%);  $P = 0.002$ ], and major complications [aRD, 5.8% (95% CI, 3.6% to 7.9%);  $P < 0.001$ ], but not with hospital readmission within 30 days of surgery [aRD, 1.2% (95% CI, -0.3% to 2.7%);  $P = 0.11$ ]. The authors concluded that complete handovers of care were associated with serious adverse events and that their use should be minimized.

The results of Jones *et al.* (10) are very important and should be perceived as of great concern. However, the authors' recommendation to minimize complete handovers of care may be not the only solution to this problem. Although there has been an increasing focus by the Joint Commission in the United States of America on improving handovers (11) and several studies have already investigated transfer of care in the operating room (4,6,12-18), the study of Jones *et al.* (10) should be considered as a key starting point and a great chance for us to assess the underlying causes of poor handover and identify possible areas that can be improved through immediate interventions. In the United States, only half of the anesthesia teams have reported to use a standardized handover, with the process being insufficient in the majority of them (4). In the existing literature, the most commonly proposed solution for improving handovers is the implementation of protocols and checklists (12-19). These tools may be of value, but several concerns have been expressed about their complexity and the time required for using them, which seems to be main inhibitory factors for their wide implementation (2). Despite the reported limitations of handover protocols and checklists, the risks associated with a major or an emergency surgery may be magnified by a poor handover of care, and therefore, transfer of clinical responsibility should be optimal, formal, and a procedure that should be standardized through anesthesiology clinical competence, training, and quality assurance (20).

Anesthesia and surgical team members vary in their awareness of their own and their colleagues' teamwork skills, while the quality of teamwork decreases due to differences between skill level of team members (21-24). Furthermore, preventable errors are not only related to teamwork failure, but to inadequate training as well (4-6,12-19). This is very important because hospitals are experiencing an increase in the volume of acute care admissions and the number of patients with comorbidities and thus intraoperative handover will continue to be part of our practice. This is also reflected by the results of Jones *et al.*; in their study, the percentage of patients undergoing surgery with a handover of

anesthesiology care progressively increased each year of the study, reaching 2.9% in 2015 (10). Our population is unique and difficult to treat, and our efforts should not be limited on how to improve the transfer of important information to the anesthesiologist receiving the handover, but we should focus on finding permanent solutions that address the root causes. If we want to improve all aspects of patient care and survival rates, this means improving the anesthesiologists' competency and their ability to manage complex patients.

Today, we have a unique opportunity to optimize the quality of care of critically ill patients requiring surgery. We must examine our practices and their impact on our patients and design innovative ways that facilitate education and training in all aspects of anesthesiology. Our emphasis should be given on the time-sensitive and focused perioperative resuscitation of critically ill patients, based on the most up-to-date literature and practice management data (25). The integration of multiprofessional and multidisciplinary patient care from highly trained individuals that share a common scientific background will also contribute to better patient handover.

Two thousand five hundred years ago, Hippocrates put the patient at the center of medical care, not the practitioner. However, in an effort to make our practice easier, personalized medicine has been eroded by high tech laboratory tests, technical tools, and medical records. Although the study of Jones *et al.* (10) highlights the importance of patient handover, especially in case of non-elective surgery, we must always try to implement the Hippocratic doctrine "First do no harm". Undoubtedly, we should focus more attention on the process of handover, but most important, we must ensure that we handover patients to the highest quality of anesthesiology care.

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## Footnote

*Conflicts of Interest:* The authors have no conflicts of interest to declare.

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