

'Tele-Anesthesiology' May Allow More Efficient Use of Anesthesia Expertise



A study exploring patterns of messages to anesthesiologists supervising care in operating rooms (ORs) provides clues as to how hospitals might use "tele-anesthesia" technology to deploy anesthesia expertise and resources more efficiently, reports the April issue of *Anesthesia & Analgesia*, official journal of the International Anesthesia Research Society (IARS).

New research findings highlight "the large amount of 'out-of-OR' tasks that supervising anesthesiologists must regularly handle," according to a commentary by Dr Patricia A. Kapur of David Geffen School of Medicine at UCLA. Communication with other areas of the hospital—particularly where other patients are being prepared for surgery—"must be addressed as part of the considerations if technologically assisted, remote supervision tele-anesthesiology is to be adopted as part of an overall staffing paradigm in the future," Dr Kapur adds.

Patterns of Communication with Supervising Anesthesiologists

The study by Dr Bettina Smallman of State University of New York Upstate, Syracuse, and colleagues examined the types of messages sent to anesthesiologists supervising ORs in two hospitals using different kinds of communication systems. The analysis included more than 13,000 pages sent through an internal text paging system at hospital A, and about 900 calls made through an internal wireless audio system at hospital B.

The researchers were particularly interested in where the messages were originating. If anesthesiologists are supervising, rather than personally providing care in the OR, then they should receive about as many messages from outside of ORs as from inside the ORs they are supervising.

The results suggested that was the case. At hospital A, at least 45 percent of pages came from outside the OR—the largest group was messages from the holding area alerting the anesthesiologist that the next patient was ready. At hospital B, at least 56 percent of calls came from outside the OR.

At both hospitals, providers in the OR made few urgent calls to the supervising anesthesiologist. That suggested that the situation in the OR was under control and that the supervising anesthesiologist was free to coordinate other activities to keep all ORs running efficiently. Dr Smallman and coauthors conclude, "From the perspective of increasing anesthesia productivity, activities performed by anesthesia providers outside of ORs should be a focus of [communication] systems, not activities related to intraoperative workload."

Tele-Anesthesia Has Potential to Make OR Care More Efficient

Tele-anesthesia refers to emerging systems in which supervising anesthesiologists use technology to monitor activities from outside the OR—similar to the tele-monitoring approaches already widely used in intensive care units. In addition to video images and patient monitoring data, supervising anesthesiologists would also have access to software decision-support systems. In theory, this might allow them to identify developing problems more promptly than the busy providers working in the OR.

These monitoring and communication systems have the potential to help ORs work more productively and efficiently. As tele-anesthesiology systems are introduced, they may allow senior anesthesiologists to provide "knowledge input" almost immediately, and to supervise activities in more ORs than they could if they had to be physically present.

More research will be needed to evaluate and maximize the role of communication systems and tele-anesthesiology to deploy anesthesia resources more efficiently. As these systems emerge, expert anesthesiologists could provide "knowledge supervision" not only to ORs in the same hospital but also in more remote settings—for example, ORs in military field hospitals. Dr Kapur writes, "Exciting new considerations can be tested when this technology becomes more widely available."

Full article available at [Anesthesia & Analgesia Journal](#)

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