The Importance of Human Factors in the Operating Room

To the Editor:—We have read with interest the editorial on new frontiers in anesthesia research by Lanier and Warner.1 We support their contention that much of the success of prior generations of anesthesiologists resulted from their enviable position to observe anatomy, physiology, and pharmacology in daily clinical practice and that the future will demand a wider focus on the issues of outcome, delivery of high-quality health care, and cost containment. Anesthesiologists interacting with patients, surgeons, nurses, and support staff are in a unique position to use their observational skills to investigate personal, team, and organizational interactions in the operating room and to define the impact of these factors on quality, safety, productivity, and job satisfaction.

The methodology and the theoretical model to address these issues have been developed by Helmreich and Fausheec and their associates in the NASA/University of Texas Aerospace Crew Research Project for the space and aviation domain, which is a similar dynamic and demanding work environment. The anesthetic department of the University of Basel is collaborating with Helmreich to transfer the human research factor concept into the operating room.2 Medical Resource Management, an adaptation of the well-known Crew Resource Management7 used in aviation, is a new concept in training and education that combines technical and human-factor skills, such as communication, workload distribution, situational awareness, time, and team management. This training can be conducted in simulation environments or on the job, and it provides the necessary knowledge and techniques to enhance overall performance in the operating room. It has become obvious to us during observational studies that everybody working in an operating room could benefit from addressing human-factor problems at their source and that quality, safety, and economic performance could be improved greatly by training and educating medical personnel in the theory and application of professional group interactions. Addressing human-factor issues in anesthetic emergency situations has been described by Howard et al.3

We suggest going beyond the boundaries of professional groups, critical incidents, and accidents in the operating room by addressing the operating room team as a functional unit that is faced with personal, team, and organizational problems, not only in highly special and infrequently occurring circumstances, but in its routine performance. It is here where small improvements will lead to major benefits for health care and delivery. We do not want to discount the contribution of new technology based on advances of the space age and the age of molecular biology. However, it is our strong belief that, as long as human factors remain largely neglected in the medical domain, major progress in quality health care and cost containment is not forthcoming. By applying human-factor technology in the operating room, anesthesiologists can do more than merely observe the melting process of the “golden goose”; they can participate actively in shaping her new form.

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References


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