

Smiles, Kudos, and Comments

INSTINCTIVELY, voluntary humanitarian medical interventions are good. Many professional organizations within the medical community sponsor or support voluntary medical services. Countless individuals donate their time and expertise to provide medical services to people around the globe who otherwise would not have access to corrective or palliative care. Anesthesiologists and nurse anesthetists from many countries, especially those countries with strong economies, often participate in surgically oriented missions to provide care in areas with less affluence—those who have, sharing with those who do not. It sounds good; it feels good; and for many recipients of this care, it is good. But it is not perfect. Fisher *et al.*¹ provide compelling evidence in their article in this issue of ANESTHESIOLOGY. Their information is unique—surprisingly few outcome studies, surgical or otherwise, have been performed in populations receiving medical services provided by voluntary charitable organizations abroad.

Operation Smile is one of many surgically oriented humanitarian efforts worldwide. The report by Fisher *et al.*¹ provides interesting and valuable insights into real and potential perioperative morbidities and risk factors in Operation Smile's population of primarily pediatric patients with cleft lip and palate deformities. With great credit to the authors and this international charitable organization, a group of anesthesia providers developed and initiated a prospective quality assurance–outcome study of more than 6,000 cases performed during an 18-month period (1998–1999). They have reported remarkably good outcomes in difficult conditions. Less than 2% of these patients, most undergoing cleft lip and palate repairs, had significant morbidity. More than half of these complications were postoperative bleeding that required additional surgical interventions. There were typical anesthetic-related complications, most notably airway problems with laryngospasm, bronchospasm, and inadvertent extubation, especially in younger children. The authors offer interesting assessments of these complications in this unique surgical population. For example, they note that commonly used preformed RAE® endotracheal tubes (Mallinckrodt, St. Louis, MO) in children who often are malnourished and short compared with children of similar ages in wealthier coun-

tries may be too long and may either stimulate bronchospasm or increase the opportunity for one-sided ventilation and hypoxemia.

For all of its merits, there are methodologic problems with this report, and the results must be interpreted with a degree of caution. Reporting of data was not mandatory, and the resulting data likely were incomplete. Standard monitoring was not required, and major events, such as dysrhythmias, may have been missed. Therefore, frequencies for a variety of their reported outcomes are suspect, at best. In their Discussion,¹ the authors have placed considerable emphasis on these frequencies when, in fact, the most important information obtainable from this study may be their anecdotal reports of unusual events and possible solutions.

These insights about surgical and anesthetic outcomes undoubtedly pertain to other similar organizations. Ironically, these insights also raise more questions about the merits, risks, and outcomes of voluntary surgical ventures than they answer.

What Is the Best Method to Deliver Voluntary Services to Developing Countries?

The system examined in this report consists of multiple, geographically dispersed, short-term medical missions. A goal common to many organizations with short-term voluntary surgical missions is to perform as many operations as possible, constrained primarily by resource availability and safety issues, within a limited time period. A different approach is to provide long-term, consistent care and training of local medical personnel at fewer geographic sites. The American Society of Anesthesiologists Overseas Teaching Program takes this tack. Both approaches have merits and drawbacks. Short-term missions provide much needed care to individuals but may fail to develop long-term care for the ongoing oversight and guidance of these patients. They also bring care within realistic distances of populations that otherwise could not afford or negotiate travel to distant points of care. In contrast, long-term missions work to assure the development of local teams that can provide continuous healthcare contact. Their positive impact on care in each locale is gratifying, but their limited geographic dispersion renders access to this care impossible for many who live distant to these sites.

Who Should Provide This Care?

The selection and education of volunteer anesthesiologists is critical to the success of all of these surgically oriented missions. Experienced, competent physicians

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who have always worked in the relatively plush environments of well-supplied operating rooms and as members of well-established surgical teams may have great difficulty adapting to austere environments, fewer resources, rapidly paced and heavy workloads, and unfamiliar colleagues. Unfortunately, as noted by Fisher *et al.*,¹ the selection process is usually limited to only superficial review of paper credentials for volunteers, and preservice education and orientation processes are often deficient.

Who Should Receive This Care?

Patient selection and preoperative evaluation can and must be improved. The paucity of clinical outcome studies in these populations dramatically hinders the ability of anesthesiologists and surgeons to determine which patients have high risks for poor outcomes. Information for both surgical and anesthetic outcomes is lacking. Fisher *et al.*¹ are to be congratulated for an excellent initial attempt to document perianesthetic outcomes and postulate risk factors in this diverse study population. Although there are many methodologic problems with their study, it nonetheless provides compelling, believable data that can be used as background information in future studies of this mission population and others.

Many factors can contribute to suboptimal patient selection or evaluation. Misunderstood cultural beliefs and language barriers impede communication and hinder proper preoperative assessments. Patients often are afflicted with diseases and conditions uncommon in the countries of origin of volunteer physicians. These include malnutrition, chronic anemia, and parasitic infections. Most are impossible to correct before surgery, and it is not clear how their presence influences the anesthetic and surgical outcomes of these patients. In addition, families occasionally hide health problems about their children and adult family members to avoid cancellation of procedures. Improved understanding of clinical outcomes, risk factors, cultural and language barriers, and the impact of various conditions not routinely encountered by volunteer physicians will lead to improved care.

What Steps Should Be Taken to Improve Anesthetic Services, Especially for Short-term Missions?

Fisher *et al.*¹ should be commended for highlighting a number of specific issues that, if addressed with thoughtful review, might lead to improved perioperative outcomes.

Lack of team building. Short-term missions rely on the expertise and experience of their volunteers and co-

ordinators. Team building, an important factor in improved delivery of acute medical care, rarely is a primary focus of preservice orientations.

Lack of thorough volunteer screening. Can improved screening criteria and tools be developed to select only volunteers who have temperaments, personal and professional qualities, and adequate time to best serve patients in specific environments?

Lack of accountability. Most short-term medical mission organizations have little sanction redress for underperforming volunteer physicians. There are few educational programs to foster long-term commitments in these volunteers for program success and continuous improvement activities.

Lack of standards of care. Clearly, it is difficult for short-term missions to establish the resources and environments needed to impose or require standards of care commonly used in affluent countries. However, Operation Smile is considering adopting the Standards for Basic Anesthetic Monitoring of the American Society of Anesthesiologists. This move will be difficult in many situations, but the effort should be commended.

The Operation Smile report provides a number of excellent clinical pearls and tidbits. Although the lack of consistent documentation markedly hinders the authors' ability to report frequencies of events and to evaluate risk factors for morbidities, it provides sufficient information to permit generalizations that may be useful to anesthesiologists who are contemplating voluntary short-term surgical mission work.

Fisher *et al.*¹ have reported information useful to organizations and individuals who provide surgically oriented volunteer services to populations in countries with poor or developing economies and medical systems. The concept of voluntary humanitarian medical interventions is good, but individual patients deserve the best care that we can provide given difficult circumstances. We should push to develop organizational cultures of continuous improvement, improve provider selection for these unique medical care environments, and better understand perioperative risk factors so that we can improve our selection of patients and procedures.

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Reference

1. Fisher QA, Nichols D, Stewart FC, Finley GA, Magee WP Jr, Nelson K: Assessing pediatric anesthesia practices for volunteer medical services abroad. *ANESTHESIOLOGY* 2001; 95:1315-22