SAFE: Safer Anesthesia Through Education

An Anesthesia Safety Improvement Project in Rwanda

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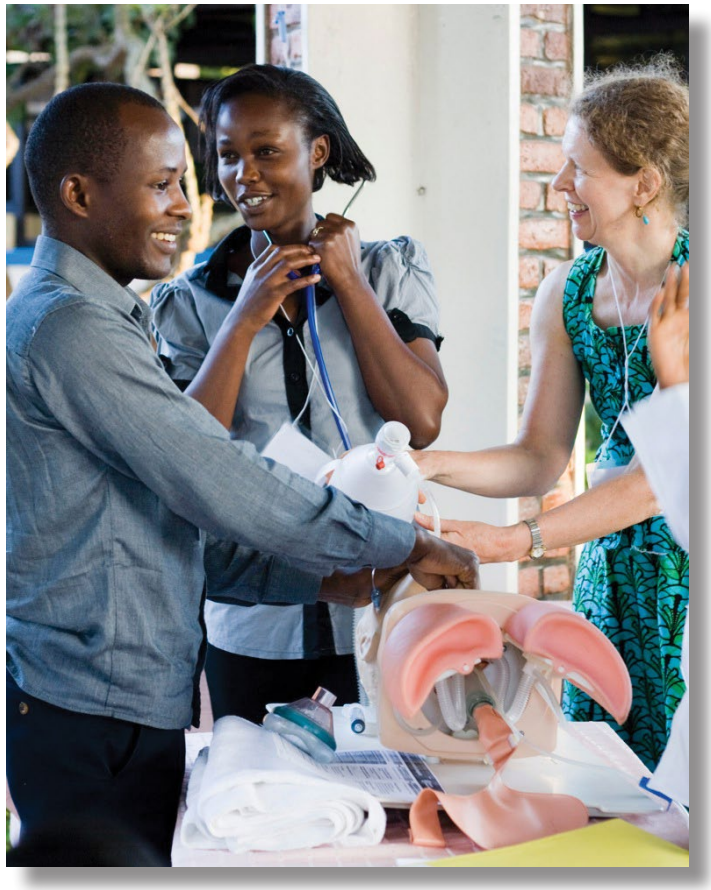
The ASA Committee on Global Humanitarian Outreach (GHO) is involved in a variety of projects, but anesthesiology training in Rwanda has been a particularly important focus for many years. ASA collaborates with the International Education Foundation of the Canadian Anesthesiologists' Society (CASIEF) in this long-term project that sends physician anesthesiologists to Rwanda each month to help train residents. Recently, an additional effort has been initiated: a project to help improve practice safety of anesthesia technicians who work independently in district hospitals and, therefore, provide the vast majority of the anesthetics in the country.

Anesthesia technicians have no more than three years training after high school; they also have virtually no opportunity for continuing education. Cesarean sections are the most common procedure performed in the district hospitals where they work. Maternal mortality in Rwanda is almost 20 times as high as in the U.S. Observations in a large district hospital showed frequent breaches of basic safety standards, such as lack of preoperative evaluation (95 percent) and general anesthesia with an unprotected airway (84 percent).[1]

The safety education program therefore focused on obstetrical anesthesia and comprised two steps. In the first, an assessment of Anesthetists' Non-Technical Skills (ANTS) was undertaken in order to identify important factors that would impact learning and implementation of the new knowledge in clinical practice.[2] Factors that prevented anesthetists from optimal practice were found to include resource shortages and a formal hierarchical structure in the O.R. environment that made it difficult to speak up for safety. Clearly, it is hard to maintain safety standards if essential equipment is routinely missing and if cultural habits prevent one from voicing concerns.



Dr. Livingston (right) teaching intubation drills.

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Dr. Angela Enright, OC, M.B., FRCPC running a simulated scenario.

These findings informed the second step of the educational effort: an obstetrical safety course, which was given in 2013 to 90 anesthesia technicians, representing about half of the district hospitals in Rwanda.[3] The course, Safer Anaesthesia From Education (SAFE), developed by the Association of Anaesthetists of Great Britain and Ireland,[4] teaches essential obstetric anesthesia knowledge and skills, management of critical events (e.g., airway difficulties, hemorrhage and preeclampsia) and non-technical skills. To maximize the likelihood that new knowledge would be incorporated into practice, the program was modified based on the ANTS findings to include active hands-on learning and dialogue between participants and mentors, as well as discussions around enablers and barriers to practice change. In fact, the day prior to the course was used for a workshop to reflect on current practice and identify strengths and weaknesses. Further, after the three-day course participants were asked to commit to concrete changes to make in their practice and they were provided with logbooks to track progress. The beginnings of a peer network (the Anesthesia Practice Network) were organized to support participants in practice change. In addition, Lifebox pulse oximeters were distributed and training provided.

In follow-up six month later, the model was shown to have worked. A sample of participants was visited and interviewed, logbooks were reviewed and the findings demonstrated that real change had happened: participants routinely performed preoperative assessment, prepared better for anesthesia, employed left lateral tilt and managed emergencies more systematically. In addition, they expressed greater confidence in speaking up for safety. However, resistance to change by colleagues who had not attended the course remained a problem, as were supply shortages.

Since this successful initial course, a second one has been held, which, by request, included surgeons, nurses and midwives. A few of the teachers of the second course were participants in the first SAFE course who had been trained as trainers. The hope is that the future will see smaller regional courses run by prior SAFE course graduates.

Teacher training during the SAFE Obstetric Anesthesia Course.

This experience shows that – as long as the cultural and logistical issues are carefully addressed – it is possible to achieve real improvements in patient safety with modest expenditures in low- and middle-income countries. In fact, when considered as a value proposition (impact per expenditure), an intervention such as the SAFE course ranks very high and, as such, this project is a model for other countries.

References:

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