

Lifebox: Train the Trainer

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Did you know that 35 million operations take place each year without life-saving pulse oximeters?¹ There is a global health crisis as a result of inadequate equipment and training to provide safe anesthesia to much of the developing world.

The ASA Committee on Global Humanitarian Outreach (GHO) is helping to address this crisis in low-income and resource-poor countries in collaboration with Lifebox and the ASA Charitable Foundation. The Lifebox Foundation www.lifebox.org is a not-for-profit entity with a vision of working for sustainable changes in perioperative practice that will raise safety and quality standards globally through key components of education, training and peer support. The founding organizations of Lifebox are the World Federation of Societies of Anaesthesiologists (WFSA), the Association of Anaesthetists



of Great Britain and Ireland (AAGBI), and the Harvard School of Public Health and the Brigham and Women's Hospital. Lifebox facilitates the distribution of pulse oximeters that exceeds the specifications developed by the World Health Organization (WHO) and WFSA for the most robust, high-quality and appropriate piece of equipment for a low-resource environment. The manufacturer, Acare Technology Co. Ltd, was selected as a result of a global tender in 2010 and delivers the oximeters at a unit cost of \$250. The price includes delivery of the device and educational material to the country designated by the donor. Further, in utilizing the WHO Surgical Safety Checklist in conjunction with providing oximeters and training, death rates may be cut by half in the developing world.² The GHO committee has committed to provide Lifebox-related education and training to Central American anesthesia providers over the next five years.³ In Latin America, 41 percent of operating theaters do not have pulse oximetry.



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The first ASA-sponsored Lifebox teaching trip sponsored in collaboration with the California Society of Anesthesiologists (CSA) took place in Guatemala and Nicaragua, November 11-15, 2013. Five physician anesthesiologists from the CSA and GHO committee traveled to Central America to teach the science of pulse oximetry and the WHO Surgical Safety Checklist. Education was provided to 365 workshop participants, and 250 Lifebox oximeters were delivered. One-hundred and ninety-eight Lifebox oximeters for this initiative were donated by U.S. academic departments of anesthesiology, and the CSA funded 50 percent of the oximeters for Nicaragua.



The Lifebox team members for the Guatemala and Nicaragua training initiatives were Berend Mets, M.B.,Ch.B., Ph.D., FRCA; Alexander Hannenberg, M.D.; Adrian Gelb, M.B.,B.Ch., FRCPC; Christina Menor, M.D.; and Pablo Guzman, M.D.

Training workshops were held in Guatemala City on November 11, 2013, in conjunction with the Asociación Guatemalteca de Anestesiología Reanimación y Tratamiento del Dolor; and in Managua, Nicaragua, on November 13-14, 2013, in conjunction with the Asociación Nicaraguense de Anestesiología y Reanimación; and Leon, Nicaragua, on November 15, 2013, also in conjunction with the Asociación Nicaraguense de Anestesiología y Reanimación.

Both the Guatemalan and Nicaraguan societies were highly effective in helping to coordinate the workshop venues and days and were able to achieve a very high participation rate representative of 80 medical centers across the countries (33 from Guatemala; 47 from Nicaragua). The logistics of the preparations and training workshops were a collaboration of the GHO committee, CSA, Lifebox, and the Guatemalan and Nicaraguan societies. Program participants included staff anesthesiologists, residents, nurses and anesthesia technicians – each of whom was an end-user of the Lifebox oximeters and a participant in the WHO checklist process.

Prior to our arrival in Central America, the training materials and videos as well as the schedules of workshops and day-to-day tasks were planned. On location, the day prior to the workshop, the U.S. physician anesthesiologists met with the host program to discuss the outline of the planned day of training.

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Preparation for printing and signing the program certificates was completed. Training session materials were printed on site ahead of our arrival for sessions, including the pre- and post-tests, program evaluations, checklist samples and program certificates. The Lifebox oximeters had already been delivered and were pre-charged by host programs and ready for use in small-group in-service training sessions.

The basic outline of a training session (which was adapted according to local needs) was organized in the following fashion: The hosts introduced the Lifebox trainers and the planned program. Then the Lifebox team leader presented a brief introduction and showed a WHO pulse oximetry video. Lifebox tutorials were then presented to small groups of eight to 10 participants. After a break, the Lifebox oximeters were unpacked and each small group instructed on the operation and use. Then five to eight clinical case scenarios, depending on the available time, were discussed that illustrated pulse oximeter use. The small-group session was concluded with the presentation of a logbook for use to monitor the implementation of Lifebox oximeters at local sites. Each new user of a Lifebox was asked to create a personal log of his or her first 50 cases in the logbook.

Finally, a large-group session was held to introduce the WHO checklist session, which was facilitated by Dr. Hannenberg as well as a local senior physician anesthesiologist. A Peruvian video demonstrating checklist implementation in a local hospital was first shown and then followed by animated discussion.

The Lifebox training session was concluded by a closing ceremony during which Lifebox trainers conferred a signed Lifebox Training Certificate on all participants. This certainly added to the conviviality of the training sessions for both the trainers and the participants.

Participants and their respective medical centers were identified and documented for future follow-up, and American physician anesthesiologists have now been scheduled to return to Guatemala and Nicaragua to monitor implementation of Lifebox use in these countries. A letter was also sent to the ministry of health in each country to inform them of the excellent work being done by the local anesthesia society in promoting perioperative patient safety. The respective ministries were asked to support his or her initiative as a simple and fairly cheap way of reducing perioperative adverse outcomes.

Our hosts, the national anesthesia society in Guatemala and Nicaragua, were very well organized and enthusiastic about this project. Besides the clear advantage it offered their patients, they also saw themselves as playing an important role in teaching surgeons, nurses and other perioperative providers about check-listing and pulse oximetry. Every physician anesthesiologist we met was welcoming and keen to use the opportunity to ask questions about anesthetic practice. We were impressed with how relatively well informed they were despite the fact that they very often did not have the equipment to use in the manner they knew would make a difference. Participating in the Lifebox project was very satisfying. All of us would happily return to Guatemala and Nicaragua or to similar countries to teach, to learn, and to make or renew friendships again.

References:

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