

Surgical mission work: an inside perspective

MONICO SOLOMON, JR., BS, CAT

It has been my privilege to participate in many foreign surgical missions the past 12 years. My first experience was accompanying Dr. John Preskitt to the southernmost part of Mexico in 1990. I became intimately involved with the missions in 1991 when Dr. Craig Hobar founded the LEAP Organization (Life Enhancement Association for People), which now averages 3 or 4 excursions annually. I cannot say that every morning I wake up with an altruistic mind-set, but I am much more cognizant of the resources and means in my immediate work environment that are available for use in missionary efforts.

The purpose of this article is to provide an inside look at surgical mission work abroad and show the contributions of many people at different professional levels that make it all possible.

PREPARATION

Preparation is probably the most important aspect of missionary work. No defined outline or protocol for preparation exists because each mission has a unique origin and purpose. The first order of business is to determine what type of mission service is to be performed. After that is decided, a prospective team and all necessary personnel, equipment, and supplies can be assembled.

“Necessary personnel” begins with the physicians whose specialty is needed in a given locale, followed by a host of other volunteers who want to assist in the effort. Volunteers range from little children who run errands to highly specialized clinicians who perform a variety of duties. Assistance from local volunteers is vital, as they are essential in locating and identifying potential patients. The Peace Corps is also an invaluable resource when available in the country where the surgeries are to be performed, as we discovered early in traveling to the Dominican Republic. The corps is more in tune with the needs, such as lodging and transportation, of these very poor patients.

Core personnel can be divided into 3 categories: physicians, clinical support, and auxiliary support. Naturally, physicians involved are surgeons and anesthesiologists. Those providing clinical support are nurses (surgical, recovery, and intensive care), physician assistants, and surgical scrub technicians. Auxiliary personnel include specialized technicians like myself who provide equipment, onsite preparation, and troubleshooting of equipment used for the surgeries. Translators are a very significant part of the auxiliary group because the patients usually speak a different language, and information must be accurately conveyed and understood.

SUPPLIES AND EQUIPMENT

Arranging for supplies and equipment in mission work is very challenging. Not only is it physically demanding, it also requires someone with knowledge of all the supplies and equipment necessary to perform the surgeries. Someone must identify, procure, collect, organize, pack, store, transport, and unpack the supplies and equipment to be used for the mission. These supplies and equipment encompass a vast amount of material. Large organizations, such as Interplast and Operation Smile, have infrastructures to provide all necessary supplies and equipment. Smaller organizations and individually organized physician efforts generally need to gather their own supplies and equipment and depend on donations.

In the words of Dr. John Preskitt, “Our work is indirectly supported by hundreds of individuals who help assemble supplies. Baylor University Medical Center (BUMC) allows us to collect unused supplies throughout the year.” As stated by Gordon Guinn, manager of the Sterile Processing Department, BUMC Operating Room Administration, “When we donate supplies to your [LEAP] group, we consider it a great opportunity to utilize our supplies that would normally have been disposed of or discarded. To send them to countries and people in need fulfills Baylor’s mission of helping others and being good stewards of our supplies and equipment. It’s great to hear your stories of how the children were helped by your team’s efforts.” Occasionally, situations arise in which certain necessities are not available and physicians must rely on their creativity (*Figure 1*).

Usually each service area is responsible for acquiring its necessities; for example, surgery nurses obtain surgical supplies and postanesthesia care nurses obtain recovery supplies. Those of us who have gone on mission trips before realize the importance of supply conservation. I find myself routinely patrolling the operating room for unused supplies that will be discarded, collecting those supplies that not only we but others may use.

Proper equipment is critical to successful surgery. Virtually all of the equipment available in foreign theaters either is considered antiquated by our standards or is nonexistent, which essentially leaves a team with 2 choices. The first option is to utilize

From the Department of Anesthesiology and Pain Management, Baylor University Medical Center, Dallas, Texas.

Corresponding author: Monico Solomon, Jr., BS, CAT, Department of Anesthesiology and Pain Management, Baylor University Medical Center, 3500 Gaston Avenue, Dallas, Texas 75246 (e-mail: monicos@bhcs.com).



Figure 1. Craig Hobar, MD, makes a sling from his operating gown for a postoperative patient.

what is already on site, and the second is to bring your own. The first option is a huge struggle, requiring many adjustments by everyone involved with the surgical procedures, not to mention that it is very dangerous because individuals are working with unfamiliar equipment that usually does not function optimally.

All personnel at the different facilities where we work are never as grateful as when we are able to donate needed equipment to them. If it is possible, bringing and using equipment with which everyone is comfortable minimizes the potential for problems and provides the highest quality service for the team. I remember 2 instances, one at Corazol Hospital in Belize and the other at Elias Santana Clinic in the Dominican Republic, in which we did not have enough anesthesia gas machines. The anesthetic was delivered via oxygen from a regulated cylinder through stand-alone forane and halothane vaporizers. Fortunately, some used anesthesia machines were donated to our organization, and I was able to ship them to those locales and assemble them there for future mission use (Figure 2). The outstanding benefit of that particular type of donation is that the receiving facilities get to use the equipment when we are not there, and we get to use it when we are there on missions. Sometimes a piece of equipment cannot be transported because of its size, so the team must find a way to downscale it, as we did with a microscope stand used for ear, nose, throat, and eye surgery. In other instances, we have to be creative (Figure 3). From an anesthesia perspective, I have found that equipment for monitoring vital signs is a requirement. The parameters that must be monitored to provide a decent comfort level for most anesthesia providers include electrocardiogram, pulse oximetry, blood pressure, end-tidal carbon dioxide, and temperature.

After all predeparture preparations are finalized, the team has to prepare the operating facility. Because time is so valuable in mission surgery, we strive to be as efficient as possible during our tenure. Sending an advance team at least 1 day before the arrival of the main team to prepare the operating room and recovery areas enables the surgical team to be as productive as possible.

PATIENT POPULATION

Determining the destination of a mission depends on several factors. The most important factor is the patient need in a given area and the availability of surgical services to address that need. Questions that must be explored are as follows: What are the



Figure 2. The author with a donated, reassembled anesthesia gas machine.



Figure 3. Two anesthesia machines supplied by one nitrous oxide tank.

characteristics of the population we will be serving? What current programs exist? Are other mission teams serving this country? If so, at what level of quality do they operate, and how committed are they to ongoing care? Are there reliable and reciprocal relationships between the mission group and the host country? According to Dr. Hobar, such relationships are “particularly important because there will inevitably be patients to take care of and potential suboptimal outcomes that will have to be dealt with after the team leaves, which can create animosity and even danger for the patient if not handled properly; therefore, we always establish beforehand who will take care of postoperative patients and how it will be done.”

SURGERY

The LEAP organization has all potential candidates arrive a day before surgery begins so they can be triaged. The triage process can sometimes be an overwhelming experience, as potential patients—sometimes numbering in the hundreds—begin arriving before sunrise (Figure 4).

We try to educate everybody concerning which patients we can and cannot help with the surgical services we are performing on that particular mission. For example, on Dr. Grant Gilliland’s first mission trip with LEAP, he primarily performed strabismus surgery and eyelid and orbit reconstructive surgery on children (Figure 5).

We constantly seek ways to make patient care better on a year-round basis. Our medical staff screens babies who show up,



Figure 4. Potential surgical candidates being screened at the military hospital, San Isidro, Dominican Republic.



Figure 5. Grant Gilliland, MD, performing eye surgery at Elias Santana Clinic, Dominican Republic.



Figure 6. Charles L. Black, MD (right) with Albert Schweitzer, MD (middle) in Africa, 1958.

many of whom are undernourished or have colds. We do not hesitate to withhold surgery if there are problems that could cause a negative outcome for the patient or the procedure. Parents of a baby born with a cleft lip or palate can plan on us being there in the near future to take care of it. By committing our organization to annual or biannual trips to a country, we know it won't be long before that baby gets another chance.

"We have a very clear understanding with the local and state authorities about how our work should be conducted. We provide only the surgical services that we provide in our own hospitals and only those procedures we feel are safe," says Dr. John Preskitt. The rule of thumb used by the LEAP team is to do the most difficult cases first so those patients can be observed and cared for postoperatively for a minimum of several days. We will either leave a small team behind or have one come in secondarily to help with postoperative care. On each trip, we make the commitment to return if there is a complication or follow-up is needed.

Because so many patients need attention and supplies are limited, we reuse as many of the supplies as possible for the surgeries. Therefore, proper technique, cleaning, and decontamination are essential to prevent infections. I suggest that anyone planning to perform surgeries abroad have a mechanism for sterilization and decontamination. Cidex is my "American Express card": I never leave home without it.

A common and worthwhile practice of the LEAP team is to identify eager physicians and nurses from the host team and incorporate them into our team. Dr. Hobar discovered that after their addition to the LEAP mission team, these hosting "teammates" are very willing to do their part, which is to take care of the patients after the visiting members are gone. "Ideally, we would like to train local doctors to take care of these patients, but the medical, social, and economic environment prevents these few qualified physicians from taking on the task. We seek ways to improve the environment, but it is the very reason we are needed," states Dr. Hobar. However, during its over 10 years of existence, the LEAP team has made some progress in advancing the quality and types of medical care available in the countries it visits. For example, LEAP has trained local technicians to make prosthetic eyes in the Dominican Republic and artificial limbs in Belize.

PERSONAL EXPERIENCE

The gratification and rewards I've experienced from participating in these endeavors have had an overwhelming effect on my life. Mission work is such a unique experience, accompanied by a wide variety of emotions. Cinda Lewis, RN, reveals, "I have been on 2 mission trips—one to the Dominican Republic and



Figure 7. John Preskitt, MD, performed minor surgeries in the back of this old school bus in 1982.



Figure 8. Dr. Preskitt's surgical mission team. Left to right: John Preskitt, MD, Marie Mumme, and Arturo Sanchez.

one to Vietnam. It is an eye-opening, life-changing experience. Completely changing the course of a child's life in 2 hours should be inspiration enough for anyone. If you have ever considered volunteering, don't wait—the world needs you!"

According to Heather Zachery, RN, "I was forced to be creative and resourceful and learned not to waste anything. I enjoyed relying on my basic assessment skills and not relying on modern equipment, which we all have become accustomed to. The most rewarding part of the trip was meeting the people. The mission trip was one of the most educational and positive experiences in my life."

Dr. Gilliland remembers seeing a 4-year-old boy with scleromalacia from a previous bout with meningococemia. The boy needed prompt surgery or was in danger of losing his eye. "My first exposure to medical missionary trips came as a young child watching my ophthalmologist father leave for rural Mexico once or twice a year," recalls Dr. Grant Gilliland. He continues, "On my most recent trip to Belize, I was fortunate enough to be able to take my father along with me. So, in a sense, my medical missions experience has come full circle."

Dr. Preskitt's missionary saga began with Dr. Charles L. Black, who had a lifelong interest in medical missionary work. In 1958, Dr. Black traveled to Africa to work with Dr. Albert Schweitzer

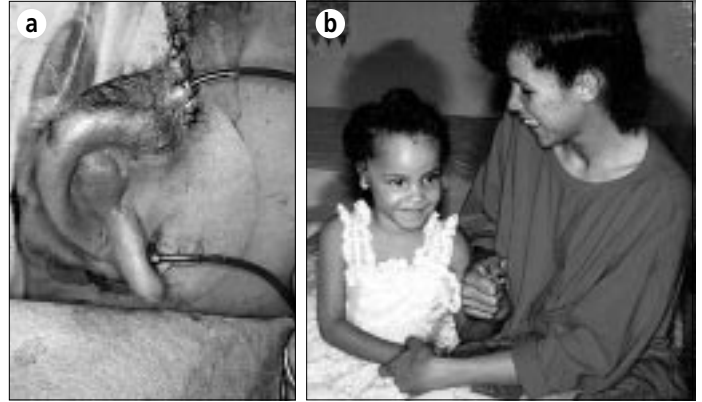


Figure 9. (a) Rocilla's ear surgery. (b) Rocilla after the operation.



Figure 10. Craig Hobar, MD, with the entire Joa family, all of whom have been recipients of surgical services during mission trips.

for 3 months (Figure 6). In the early 1970s, when the Mexican Indian Training Center of Niltepec, Oaxaca, asked for help with surgical services, Dr. Black, who was a member of their board, responded and began to take caravans of workers to the small community to provide surgery. Dr. Preskitt married Dr. Black's daughter, Rebecca, an operating room nurse. In the early years of the caravans, Dr. Black outfitted a bus with 2 operating rooms. He had a truck and camper built to be converted to an operating room. All were efforts to temporarily bring in surgical teams. Dr. Preskitt performed minor surgeries in the back of an old school bus during one of his first trips in 1982 (Figure 7). Contributions from supporters built a clinic in Niltepec in 1986 that was dedicated to Dr. Black. As he retired from regular visits, Dr. Black turned over the privilege and responsibility for these surgical missions to his son-in-law and his colleague Dr. Byron F. Cook, who trained in surgery with Dr. Preskitt at BUMC. Since then, the group has taken 2 or 3 mission trips each year (Figure 8). The clinic is now equipped for more complicated procedures.

I wish I could share with you the many mission experiences that have touched my life. People often ask me which mission trip was my favorite. I honestly tell them I don't view the trips in that context, but if asked about a certain trip, I can recall moments so special I got goose bumps about them at the time. There was the first trip we made to the Dominican Republic when 5-year-old Rocilla, born without a right ear, underwent the



Figure 11. Raoul (a) before and (b) several years after surgery performed by a mission team.

first ear reconstruction surgery in the country and stole all of our hearts with her captivating smile (Figure 9).

Then there is the entire Joa family (Figure 10)—mother; daughter, age 14; and 2 sons, ages 8 and 12—who have all had surgery during our many trips to their country. I cannot describe my joy when they all made the long journey just to say hello when they heard we were back. To contribute to an effort that enhances the lives of an entire family is a monumental experience.

A young man named Raoul also comes to mind (Figure 11). Born with a bilateral cleft lip and palate, this young man was so ashamed of his appearance that he very seldom left his home. The other children called him “el pico,” or “the beak,” and when he did go outside, he wore a veil. Several years had passed after his surgery, and I had been thinking about him. Two years ago, I remained in the country a few days after we completed the mission, and I got up early one morning to rent a motorbike and headed out to find him. After finding the community where his family had lived when he had his surgery, I began showing his picture around and asking his whereabouts. A few people recognized him and said that his family, being migrant farm workers, had moved on. I also inquired in a couple of the neighboring towns to no avail, so I called it a day.

In January 2001, we operated at the military hospital in San Isidro, Dominican Republic, and I asked General Mendez, head of the base and hospital, if he could help me locate Raoul. After showing him Raoul’s picture, the general said he would put his men on it. The very next morning as he and his men marched in, he said in his loud military voice, “Where’s Monico? Here’s the boy he wanted!” It had been 10 years since we had seen Raoul, who now shares an apartment in Santo Domingo with a friend, has a job driving his own motorcycle taxi, and even has a girlfriend. As you can imagine, that was a very moving moment for Dr. Hobar and myself.

One young lady I’ve had the pleasure of meeting symbolizes the dedication and commitment required in true mission work. Ana Marie (Figure 12), born with neurofibromatosis or “elephant man’s disease,” has been called everything from a “freak” to a “demon” and was shunned by her society. Whenever she ventured out, she wore a hood and constantly looked down, turning away from those who approached her so they couldn’t see her face. The first time she came to see the LEAP team, we told her



Figure 12. Ana Marie after surgery at BUMC for neurofibromatosis. Before surgery, a large tumor extended from her forehead and covered her right eye and cheek.

there was nothing we could do, but every year she came back looking for a remnant of hope.

Knowing there was little we could do for her there, Dr. Hobar set the wheels in motion to provide her with as much medical attention as possible, beginning with securing airfare to the USA through a local Dominican charity organization, Heal the Children. After making arrangements with the Baylor Health Care System Foundation, Ana Marie was brought to Dallas, where she underwent testing and diagnostic procedures. A large tumor was attached to her brain and her right eye, necessitating a very complicated surgical operation. Surgeons Craig Hobar (craniofacial), Grant Gilliland (oculoplastic), and Ron Barnett (neurological); anesthesiologist Clark Saunders; and a surgical team performed a successful 13-hour surgery to remove the tumor.

Thanks to BUMC and a host of volunteers, Ana Marie now smiles every day, holds her head high, and graciously shares her reality of the “gift of life.” I can always count on seeing her at least once a year when I go to the Dominican Republic. She and her father embrace me with their hearts as well as their arms, and her father inevitably asks, “When will you come to my house so I can barbecue a goat for you?”

Each mission trip is unique and brings with it experiences and challenges for which one may or may not be prepared, as was the case 2 years ago in San Pedro, Dominican Republic. Prepared only to do plastic surgery and hand cases, we were asked to look at a boy named Wilkin, who had been run over by a train and lost one arm and one leg, with the remaining arm severely damaged. He was fever ridden and badly infected, and the people there had given up hope. The team responded that we couldn’t



Figure 13. Wilkin after receiving surgical care and prosthetics from the mission team after a train accident left him without both arms and one leg.

promise anything but would do all we could, and after we irrigated and debrided all of his wounds in the operating room, Wilkin began to recover. Our physicians showed the hospital staff how to properly care for him, and Dr. Hobar vowed to return in a few weeks for any necessary follow-up. Upon return, we found that the bone in his remaining arm was infected and had to be amputated. The amputation was devastating for him: he did not want the arm removed because it symbolized his only hope of independence, but there was no other choice.

After the arm was amputated above the elbow and had healed, Rob Kirstenberg, head of prosthetics for LEAP, assessed Wilkin's condition and determined that he could be helped. Wilkin was also brought to Dallas where a new leg and 2 arms with harnesses were custom made for him. I went by the clinic the day of his final fitting, and I was amazed. Not only did he stand and walk, he also drank from a cup. As he walked across the parking lot to the car, his mother could not hold back the tears, as it had been 2 years since his accident and she never thought she would see him walk again. Thinking it would be good therapy for him, a week later I took Wilkin to a Dallas Mavericks game. I was in awe because every time I offered to help him, he would say, "No, I got it." He had all but mastered his new limbs (*Figure 13*). The only thing he let me do for him the entire night was to buy him a Michael Finley jersey. Needless to say, that young man taught me a lot about character and determination.

My most recent trip will probably be my most memorable because it introduced new emotions and challenges for which no one could have been prepared. Our primary patient was a 5-year-old girl named Melissa. We had attempted to perform surgery on



Figure 14. Five-year-old Melissa scrubbed and prepped for surgery after a severe burn.

her the trip before, but we chose to cancel because we were not as prepared as we needed to be. This little girl was so severely burned that her chin was contracted to her chest; the fact that she survived such severe burns is a miracle itself.

It was the morning of September 11, and we were just inducing anesthesia for Melissa's surgery (*Figure 14*) when it was announced that we were under terrorist attack back home. Words cannot adequately describe the emotions that engulfed all of us. The team shared feelings of fear, anger, despair, and sorrow. I personally felt a sense of helplessness that I have never known before, being far away from home and not knowing when I would return. We struggled through the day, and after 8 hours of surgery, the first "free-flap" microsurgery by a mission team had been performed in the Dominican Republic.

That week was one of the most trying times of my life. I was able to cope only through my faith in God and my focus on the work itself: taking care of the patients who put their faith in us as a means to a better life and understanding that the ultimate goal and reward is enhancing and saving life, not destroying it. Returning home that following weekend was indeed an odyssey in its own right; for all of the team members, "going home" had a new meaning. The decision to take a small follow-up team 2 weeks later had to be made, and it was a very difficult one considering the flight situation. After some soul searching, we returned and attended to what few patient needs there were. When Melissa was examined, she was frightened and withdrawn, asking her mother what she had to do next. I wish everyone could have seen her expression when she was told that all she had to do was go play now. Her face displayed the joy of a child on Christmas morning. That was a defining moment for me, because I realized the decision to return wasn't a difficult one, it was the right one!



Figure 15. Other children helped on mission trips. **(a)** A 5-year-old girl after hand surgery. **(b)** Identical twins after cleft lip surgery. **(c)** A young girl after reconstructive surgery on a severely deformed nose.

LOOKING TO THE FUTURE

My past mission experiences have had a dramatic effect on my life, and I consider myself to be extremely blessed. I do not know what the future holds for me, but I do know my plans include contributing to the mission effort in whatever way possible. In the next 6 months, I will participate in 3 surgical mission trips: to the Dominican Republic in April, Belize in June, and Mexico in July. I wish everyone could experience just once what it is like to return a child to his mother's arms after surgery and have goose bumps of joy cover your entire body (*Figure 15*). The feeling is phenomenal! I would not only like to see more people involved, I would also like to see Baylor Health Care System more involved, because the humanitarian rewards to be reaped are tremendous. I believe that the true measure of greatness for any human being or entity is how well he, she, or it reaches out to and cares for those who are less fortunate.

So if you see me and ask me how I am doing, I'm going to tell you that I'm blessed. This is not just a salutation with which I reply, it is a reality for me.

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