



Terima kasih:

**Volunteer surgeon experiences
in the wake of the 2004
TSUNAMI**

**by
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Dr. Lal



Dr. Leckman



Dr. Pezzi



Dr. Vithiananthan



Dr. Yoder

**You have not lived until you have done
something for someone who can never repay you.**
— *John Bunyan*

On December 26, 2004, the Indian Ocean was rocked by an earthquake of 9.0 magnitude that generated a tsunami of astronomic proportions. Waves estimated at 60 feet high and moving at speeds up to 500 miles per hour rapidly descended on tens of thousands of oceanfront miles in 11 countries, killing more than 200,000 and injuring tens of thousands more, leaving more than 1 million people homeless.

In addition to being one of the most brutal geologic events in history, the scale, location, and politics of the affected areas made the response to this disaster particularly complex and challenging. Physicians and others who responded to the disaster in Indonesia, Thailand, and Sri Lanka experienced firsthand the intricacies of disaster response as they encountered resistance from local governments, vestiges of ongoing civil unrest, cultural and language gaps, and stark limitations in available resources. And yet, such obstacles did little to diminish the contributions

made by those responding or the profoundness of their encounters.

What follows are recollections—excerpts from diaries and e-mails—of five surgeons who took part in the relief efforts. Kenneth J. Yoder, MD, FACS, and Scott A. Leckman, MD, FACS, two general surgeons who responded to a request issued through Operation Giving Back, took part in the Project HOPE (Health Opportunities for People Everywhere) mission off the coast of the Banda Aceh province of Sumatra, Indonesia. Raj B. Lal, MD, MPA, FACS, a cardiovascular thoracic surgeon native to India, and Siva Vithiananthan, MD, FACS, a general surgeon and Sri Lankan native who had fled the country years ago during its civil war, were both prompted to travel to Sri Lanka by concerns that local politics might have an impact on the distribution of aid in the areas most affected by the tsunami. Christopher M. Pezzi, MD, FACS, a general surgeon, traveled with the World Surgical Foundation, which had previously planned a medical mission to the Philippines and rerouted its itinerary through Thailand to assist with disaster relief efforts.

Photographs courtesy of Drs. Lal, Leckman, Pezzi, Vithiananthan, and Yoder, and members of Project HOPE and the World Surgical Foundation.



Mass graves on Point Pedro Beach in the northeast region of Sri Lanka.



An aerial view of devastation at Banda Aceh, Sumatra, Indonesia, two months after the tsunami.



Abidini Hospital in Banda Aceh, after the tsunami.

Landscape of the disaster

With the epicenter of the earthquake nearest to the Indonesian island of Sumatra, the coastal region of Banda Aceh was hit the earliest and the hardest. Dr. Yoder describes the landscape: “The wave that hit Banda Aceh was estimated to be about 50 feet high, leaving three zones of destruction. The area closest to the water was completely destroyed with only an occasional palm tree standing. The next zone had about 50 percent of the houses leveled, with the remaining houses uninhabitable from water damage, debris, and mud. The third zone was farthest inland, where most houses just suffered water damage. The largest hospital in Banda Aceh was in the middle zone. Almost all of the 400 or so patients drowned when the single-story hospital wards were filled with water to the ceiling. Many of the physicians and

nurses also perished before they could escape. All the beds, furniture, and equipment were ruined, and the hospital wards had several feet of mud inside.”

Throughout the Indian Ocean basin, the destruction was so violent that the most appropriate comparison was to the ravages of war. Dr. Leckman observed, “The devastation closest to the beach reminded me of pictures I have seen of Hiroshima after the first atomic bomb.” Dr. Pezzi described the west coast of Thailand: “The physical damage to the country is massive, extensive, and some places will never be the same again, I am afraid.... We drove many hours along the coast, stopping along the way, past maybe 100 kilometers of destruction. I don’t believe a nuclear bomb could level such a long and vast area.”

In Sri Lanka, Dr. Vithianathan gives this vivid



Inset: the USNS *Mercy*. Large photo: The surgical staff of Project HOPE and the U.S. Navy (including operating room staff, surgeons, and anesthesiologists) on board the *Mercy*.

and poignant description: "...Nothing can quite prepare a person for the sight of a ghost town with every building in ruins. It looked like someone had dropped a big bomb in the middle of this neighborhood. It was eerily quiet except for the sea breeze and the sound of the still-unsettled waves. There was a famous local Hindu temple in which people came to worship from far away. The sanctum sanctorum was remarkably preserved. The floods had caused the drapes to fall over the deities' eyes, as if the gods too were closing their eyes against the death and destruction around the temple."

Getting to the disaster relief sites

With such profound damage affecting roads, harbors, beaches, and airstrips, the ensuing logistics of routine disaster response were thwarted. Coop-

eration became the essence of this massive global response. Aboard the U.S. Naval hospital ship (USNS) *Mercy*, surgeons and other volunteers with Project HOPE participated in an unprecedented, historic collaboration of military and civilian resources. Dr. Leckman explained, "This is the first time the *Mercy* has been used for a humanitarian mission in conjunction with civilian volunteers and the first time pediatric patients have been aboard. Lots of folks are looking to see how it goes."

After two days' orientation on the sister ship, USNS *Comfort*, Project HOPE volunteers were flown to Singapore where they boarded the USNS *Mercy*. "By the next day, we were on our way through the Straits of Malacca (famous for frequent pirate raids) to the Indian Ocean," Dr. Yoder recalls. "The ship had almost 1,000 beds, with four intensive care units, full-service radiol-

ogy and pathology departments, and 12 operating rooms. We were staffed to care for 250 patients at most on board and really had no idea what to expect as we headed west from Singapore.”

Dr. Yoder recounts an early setback: “The Navy had enlisted several active and retired officers to scout ahead in Indonesia and India to see which area would be best served by our mission. Banda Aceh was identified as the area with the most need and the best logistics for providing health care for the victims. We arrived off the coast of Banda Aceh in the middle of the night, and by the next morning were notified that we would not be allowed to anchor there. After extended negotiations with the Indonesian officials, it was finally determined that the ship would move back and forth off the coast in international waters, and patients would be transported by helicopter to and from the ship. We understood that this would greatly restrict the number of people we could treat because of the limited space in each helicopter and the limited number of helicopters we could use each day, but it was our only real option.”

Dr. Leckman suggested another aspect of the ship’s mission: “We are here, off the coast of Indonesia, as opposed to Thailand or Sri Lanka, for a variety of reasons. Relations between the two governments had been cut off by Congress about eight years ago. There have been essentially no foreigners allowed in this area of the country for quite awhile. The hope is that this operation will help in the public’s perception of the United States in Indonesia and the Muslim world in general.”

The challenges and successes of relief efforts

On arrival in each country visited, efforts were underway from local and international relief groups. In Indonesia, Dr. Yoder reported the situation on shore: “By the first week of January, a volunteer group from Germany arrived with a small hospital ship and set up a complete field hospital in the parking lot of the municipal hospital. A group of Australians arrived soon after and began cleaning the mud and debris from the hospital wards so they could set up operations there. By the time we arrived, about February 1, the Germans and Australians each had a single operating room running, and an emergency department had been revived by a small group of American volunteers.”

In Sri Lanka, Dr. Vithiananthan points to simi-



Project HOPE helicopter at the main hospital of Banda Aceh, waiting to transport patients to the USNS *Mercy*.



German field hospital, set up in the parking lot of the main hospital of Banda Aceh.

lar international cooperation: “There were many organizations providing medical care...local groups and international NGOs [nongovernmental organizations] like the Red Cross, UNICEF [United Nations Children’s Fund], and so on. There were also groups from governments such as Canada, Norway, Denmark, England, and Germany in the area. Similarly, armed forces from the U.S. and Canada were at hand helping out with the clean up and some medical care.... The war-ravaged ar-



Temporary camp in Galle, Sri Lanka.



A Sri Lankan classroom converted into a makeshift kitchen.

areas in the north and east of the country had been neglected during the last 20 years.... With medical teams and medicines being rushed to the tsunami-affected areas, some people who had not seen a medical doctor for several years were now able to get adequate treatment or assessment. They appreciated the fact that the rest of the world cared for them.”

Dr. Lal underscored the harshness of the political landscape. “Decades of discrimination have

deepened the hatred between Tamils in the north-east and the Sinhalese majority in the south...this area has not received proportionate aid because of local political circumstances. We found conditions considerably better in the southern regions of the island.” In the town of Galle, Dr. Lal said, “U.S. forces had supplied helicopters, Humvees, and troops to help clear the debris and begun rebuilding. We saw people housed in donated tents within their same community, many on the site of their former homes. We saw large numbers of local residents, now ‘employed’ by USAID, engaged in rebuilding efforts. We saw many homes repaired and occupied. We found businesses reopening and life beginning to bear some sense of normalcy for these people. This is an encouraging start for these people who have lost so much to the tsunami, but shouldn’t the people on the north end of the island have the same hope to resume their now shattered lives?”

Despite multiple obstacles, much was accomplished in a short period by all the surgeons who participated in the relief efforts. In Thailand, Dr. Pezzi encountered a far different political climate, and his group was received with official gestures of gratitude and even military police escorts to facilitate travel to the affected areas. Early in his trip, he reported, “We have been involved in acute surgical care at two local public hospitals. The local surgeons here we met were young, very busy, overworked, and, I suspect, underpaid. At one hospital, while they have an operating room, they did not have any surgeons.”

Dr. Pezzi’s brother, Tim Pezzi, MD, FACS, accompanied him on the mission. “Yesterday Tim and I performed an open cholecystectomy, a modified radical mastectomy for a 4 cm breast cancer, a sigmoidoscopy, and repaired a perforated duodenal ulcer in a man with a belly full of pus.”

Later in the mission, Dr. Pezzi’s caseload had ballooned. He said, “All week long, people were clamoring to be screened by our group and to try to get on our schedules. We, of course, could not take care of all of them in the end, and talking with some veterans of many prior missions, it is always like that. You do as much as you physically can do...no matter how many people I did operate on, I still felt for those I could not. We got up at the same time each morning, made rounds, and went to surgery to start all over again. There would be



Hospital ward aboard USNS *Mercy* before patients arrived.



Walkway between wards at the main hospital of Banda Aceh, after much of the mud had been cleared away.

a row of patients waiting in the hall outside of the operating room, just as there had been every day before that.... In the end, I think we did a total of about 175 operations this week alone. Not an overwhelming number, but for each of those people, we believe we made a difference in their lives.”

As for the routine in Banda Aceh, Dr. Yoder recounted, “Each day a group of several physicians and nurses, along with U.S. Navy personnel for security and logistics, would travel to the municipal hospital by helicopter. Rounds were made with the German and Australian physicians to identify any patients needing care beyond their capabilities. These patients were prioritized according to the severity of their illness and our ability to treat their condition. About five to seven patients each day could then be airlifted to the ship. Initially we took on many patients with tsunami-related problems such as long bone or facial fractures and pneumonia. There was a unique type of pneumonia seen mostly in children from inhaling the soil-contaminated water during the initial tidal wave or in the ensuing days while floating around, holding onto debris. This was marked by multiple abscesses in the lungs, empyemas, and eventually brain and liver abscesses. Because we were fortunate to have a burn specialist, we were able to take on some burn patients with longstanding contractures that had never been treated. One three-year-old boy

who had never walked because of severe leg burn contractures was taking his first steps by the time he left the ship.”

In Sri Lanka, Dr. Vithianathan describes a different scenario: “A wound care clinic was set up under a tree. Surgical patients, in this case mostly with leg wounds, made up about 8 percent to 10 percent of the patients. Half of these [patients] had seen a doctor in the local hospital but a majority had not received tetanus toxoid. We brought nearly 1,000 doses from Colombo for this purpose. Most walked around without footwear, because their belongings had been washed away, and were contaminating the wounds that were mostly on the feet.... Our day typically consisted of visiting two to three camps, and seeing on average more than 300 patients. Communication among the centers was difficult because the land telephone lines were either damaged or nonexistent.... Trying to deal with the ensuing confusion, we had to be flexible and creative. By day two, we were a seasoned team. At the time, there were close to 21,000 refugees housed in these camps and we attended to nearly 1,500 to 1,600 patients in the first five days.”

The conditions in local hospitals made a profound impression. Dr. Leckman describes a day at an Indonesian military hospital that he toured with the chief of surgery, Dr. Taufiq, who wears



Young and old lining up for medical care in Sri Lanka. Each family's space is defined by a floor mat in camp.



Hospital ward with tsunami victims (Sri Lanka).

battle fatigues and carries a gun and knife to do rounds. "Today I got to go ashore to the TNI Hospital. The TNI is the Indonesian military, which has control of Banda Aceh but not the rural areas in this region, which are apparently in control of the rebels. Many of the doctors and nurses (other than the military) are working without pay but I understand they are hopeful of being paid by the government in the future.... The operating room is very basic. I scrub my hands with Lux dishwater soap. The nurses then pour alcohol over my hands. The gowns are thin as rice paper. They have real gloves, masks, and head coverings. Oh, and the expected footwear are flip-flops! The patient being operated on for goiter had the largest thyroid I've ever seen. They prepped the skin with an iodine solution and had sterile cloth drapes, a single light, and rudimentary anesthesia equipment. All the instruments at our disposal fit on one Mayo stand. I suspect that everything that can be reused is reused. There were also a few flies and mosquitoes."

In Sri Lanka, Dr. Vithianathan visited the only tertiary care hospital in the region, in Batticaloa. He said, "The hospital consisted of crumbling buildings, half-completed ones and, within the walls still standing, equipment being used well beyond its intended life. The effects of

war were quite visible. But the staff were enthusiastic and proud of their institution, and kept it spotlessly clean."

Dr. Lal provided a bit more insight into the Sri Lankan medical infrastructure:

"We saw patients in the surgical clinic of the University of Jaffna Hospital, a teaching institution that services 4 million inhabitants, mostly Tamils. It, too, is woefully undersupplied and staffed...no neurosurgery, cardiology, thoracic, or cardiac surgical services for over 20 years. These unfortunate cardiac patients have no alternative but to succumb to the natural history of their diseases in the long run."

In Thailand, Dr. Pezzi commented, "Surgically, we are taking care of some of the very poorest people of this island at two public hospitals in Patong and Phuket City. When they come to the hospital, they pay 30 baht, which is about 80 cents, to the hospital no matter what they need done. It doesn't matter if we sew up a small laceration or perform a major operation and they stay for a week—it is 30 baht. The patients are very appreciative of our care and they never complain about pain or anything else. The hospitals are like a time warp to the 1950s, with huge wards and up to 50 patients in one big room. Most rooms are not air conditioned and mostly very 'low tech.' The nurses are excellent, meticulous, and do all of the dress-



A debridement in the operating room of Batticaloa Hospital, Sri Lanka.



In Banda Aceh: A three-year old boy's leg. Burned as an infant, the severe contractures kept him from walking. The child took his first steps after his burn contractures were excised and grafted by Dr. Rob Sheridan of Massachusetts General Hospital.



Incision and drainage of abscessed wound in open-air clinic (Sri Lanka).



A patient with a massive goiter (Thailand).

ing and wound changes. I really see and appreciate the importance of nursing and will always look at nurses and nursing with an even greater respect.”

The lasting impression of giving back

The impact of the efforts of these volunteer surgeons will be felt for years to come, with many donated supplies left behind, as reported by Drs. Lal and Vithiananthan, and as described by Dr.

Pezzi as follows: “We brought a ton of stuff, with a total of about 30 bags weighing about 60 pounds each. Most of it is medical supplies, a portable anesthesia machine, sutures, medications, and so on, and the best part is we will leave much of it here.”

But the memories and stories are certain to last even longer. Dr. Leckman recounts one poignant situation: “As we were preparing to leave the hospital to catch the helicopter back to the ship, we faced a crisis of sorts. A baby was born just four



Pharmacy and wound care in camp with doctors in background (Sri Lanka).



Drs. Christopher Pezzi and Tim Pezzi in surgery in Phuket, Thailand.

hours ago [with] aspirated meconium [and] suffered a pneumothorax. A volunteer neonatologist from Singapore placed a chest tube...a feeding tube hooked to a bottle of water.... Our pediatrician did not want to leave because she feared the baby would die. There are no Indonesian pediatricians here at this hospital now. We could not leave for ethical reasons, [but] we are not allowed to stay ashore overnight. Fortunately, an ambulance arrived after arrangements were made to transfer the baby to the “university” hospital. [The pediatrician] accompanied the baby and caught a helicopter leaving from there later in the afternoon.... I couldn’t help but think about the ethics of leaving the baby without appropriate care. But then we are leaving in a few days, [and there is] not just one baby but so many more.”

Dr. Pezzi summarized his trip as follows: “Less than a month after this unique tragedy, we could not push the wave back into the sea or reverse the incredible magnitude of its destruction, but we came to do what part, however big or small, we could do. We witnessed the aftermath up close and helped heal some of the lingering wounds. Years from now, I will never forget coming to this place and especially will remember the people. We leave feeling much better about the

tsunami and how the area is recovering. It is recovering and it will. In just one week, things have improved. Each day a few more tourists come to the hotel and the beaches, and things get a little more cleaned up. Life goes on, as it must. The psychological damage to those directly affected here, the dislocation of so many people, and the physical damage to the coastal region will take a lot more time to heal and is beyond our ability to affect at this moment.... While we went to try to help others, and I think we were successful, we ourselves also benefited greatly. I would love to bring one of our residents next time, as it was a great learning and growing experience for the residents and fellows who came along.”

In an editorial printed in the *New England Journal of Medicine*, February 3, 2005, Sen. William H. Frist, MD, FACS (R-TN), commented on his impressions after visiting the devastation, stating that “individual contributions of medical assistance can rank among the world’s most precious and meaningful currencies.”

Dr. Lal witnessed these contributions firsthand in Sri Lanka and observed, “As physicians, we have no control over the politics; however, we do have means to help the patients irrespective of their locations as global citizens. Our




In the hospital ward of the USNS *Mercy*. The guitarist, the “barber of Banda Aceh,” had a femur fracture with non-union and was flown to the ship and treated—which prevented him from being crippled for life.



Missing persons postings in Thailand.

humanitarian efforts should also be looking for opportunities to bridge the political differences and our ‘soft power’ may finally bring the peace in the region. Let the tsunami tragedy heal the wounds of distrust, animosity, and hatred and sow the seeds of reconciliation to rebuild the devastated areas in a collaborative way. This is the best we can hope for.”

Dr. Leckman forwarded an excerpt from a speech made by Tamalia Alisjahban, the Indonesian interpreter to the Project HOPE/USNS *Mercy* crew, that seems to crystallize the experience: “I don’t know if you’re aware of this, but since the tsunami, the aid the Americans have given, starting with the helicopters bringing in the food, the newspapers when I left Jakarta there were saying there was a 70 percent change in Indonesian public opinion toward the Americans. We see these big war machines being used to help people bring aid. You were first greeted with suspicion and then puzzlement and then great fondness.... Nearly all the patients were saying how grateful they were and that we really couldn’t thank you enough and there’s nothing that we could give to repay your kindness and your care, and it will have to be God who repays you.... In Indonesian we say ‘terima kasih,’ which

literally means ‘accept love,’ because what it is to thank someone is to give a bit of love. Please do accept our love.” 

The College would like to acknowledge all of the surgeons and other volunteers who took part in providing aid to the people affected by this tragedy. To learn more about volunteer opportunities for surgeons, please visit www.operationgivingback.org, or contact Dr. Casey at kcasey@facs.org, tel. 312/485-9534.

Dr. Casey is a general surgeon and Director of Operation Giving Back.

