U·P·O·J

Haiti Earthquake Relief in Collaboration with Partners in Health

Derek G. Dombroski, MD[1]

Excerpts from travel blog:

Samir Mehta, MD[1]

[1] Department of Orthopaedic Surgery, University of Pennsylvania, Philadelphia, PA

On January 12th, 2010 at 4:53pm, an earthquake struck the country of Haiti. Centered 10 miles outside Port-au-Prince, this 7.0 magnitude earthquake devastated the capital city and its two million inhabitants. The death and damage the earthquake relinquished on these people was on a catastrophic scale. Current estimates are over 230,000 Haitians died. This impressive figure diminishes the actual effect on the people of Port-au-Prince and Haiti. The earthquake affected everyone. The structural damage to the city was as devastating as it was symbolic. In addition to ruining hundreds of thousands of homes, schools and the main hospital in Port-au-Prince, some of the city's most prestigious and historical buildings were destroyed as well, including the Cathedral of Port-au-Prince, the Presidential Palace and the Parliamentary Palace. Many of the buildings will never be rebuilt. The damage to the people of Haiti will be forever, too. While some people died immediately, some Haitians who were rescued died a few days later. Of those who survived the earthquake, many people survived at the expense of an arm or leg. Even the uninjured did not escape unscathed. Every Haitian had a family member or friend who was injured or worse in the earthquake. In one brief moment, this impoverished nation was pushed further back from reaching anything resembling contemporary standards in infrastructure, education, and healthcare.

In an immediate response to this disaster, health care workers from countries all over the world mobilized to help the Haitian people. The first wave of volunteers reached Port-au-Prince with no order or system in place to begin to manage the devastation and chaos. With time the United Nations, international volunteers and non-governmental organizations (NGO) worked in concert to create a hospital at the site of the nonfunctional hospital in Port-au-Prince.

There were other hospitals outside of Port-au-Prince, including an established hospital in the town of Cange. This former shantytown is roughly 60 kilometers from Port-au-Prince and its hospital was established through the work of Partners in Health (PIH). PIH, an NGO based out of Boston, MA, has been working in Haiti since the mid-1980's. Through the work of University of Pennsylvania and PIH volunteers, our team from Philadelphia was deployed to Haiti with the intent of assisting the hospital in Cange address its newfound needs. Our team consisted of nine members. Samir Mehta, MD, an attending physician in trauma, and I were from the Department of Orthopaedics. Michael Ashburn, MD and Thomas Floyd, MD represented the Department of Anesthesiology. Babak Sarani, MD was from general surgery trauma along with Erica Domingo, RN and Amy Kim, RN from critical care. Azura Ahmad, RN and Malcom Waddell were from the operating room.

"In a country devastated, I can only imagine what these people were thinking as we made our way through their streets with hundreds of thousands of dollars worth of supplies and food and potential life saving equipment for their loved ones. The stares were daunting and I was embarrassed because of what we take for granted on a daily basis – food, water, sterility, air conditioning, safety."

The Cange Experience

The hospital in Cange routinely treats patients with infectious disease problems such as malaria, tuberculosis, and HIV/AIDS and women's health issues. The facility was not prepared to receive 100+ patients from Port-au-Prince, but with the mission of the hospital and PIH to do "whatever it takes," the hospital turned no patient away. As a consequence, the church on the hospital grounds was converted to a patient ward by placing 40 to 50 patients on the floor.

By the time our team reached Cange, two weeks had elapsed since the earthquake. The hospital was at full capacity and the majority of the patients had their injuries identified though few were completely treated. The previous team in Cange was from California and they did a tremendous amount of work to stabilize the patients medically and surgically. The interaction between our teams was less than 30 minutes with a meet and greet and no formal handoff of patient information. We quickly understood that shear volume of patients meant that there was still a lot of work to be done. The first response of our team was to assess the workload.

Corresponding Authors:
Derek G. Dombroski, MD
Samir Mehta, MD
Department of Orthopaedic Surgery
University of Pennsylvania
3400 Spruce Street, 2 Silverstein
Philadelphia, PA 19104
Derek.Dombroski@uphs.upenn.edu
Samir.Mehta@uphs.upenn.edu

"We are in disbelief of what these people have endured so far, disbelief of the injuries sustained, and disbelief of the conditions here. Despite certain limitations, the facility, the staff, and the volunteers clearly care about their patients and their country."

After our first round, the team had identified over 40 patients who would require surgery. Some of these patients would need multiple procedures. We had to prioritize our two operating rooms taking into account our multiple goals. The most obvious goal was to provide patient care to the earthquake victims. But another goal was to teach the Haitian physicians as much about orthopaedics and trauma as possible. Though extensive education was beyond the scope of our visit, teaching the basic principles of treatment was a realistic goal. Our work then began.

Our first operative day began at 6:30 am with rounds. Every patient was seen, followed by a spaghetti and hot dog breakfast. The operating room started at 9:00 am and consisted of a whirlwind of cases. We had a mix of orthopaedics and general surgery cases. From an orthopaedic standpoint, we mainly did irrigation and debridements and external fixation of fractures. An early lesson learned was that disease has a basal rate. Earthquakes do not stop the hernias from incarcerating, the epidural hematomas, or the cancer from presenting. In all, we did 14 procedures on 10 patients that first day. We finished in the operating room around 10:00 pm that night. Having felt as if we had not made a dent in our case list, everyone on the team understood the job in front of us.

"The pace has been hectic. I look at the Haitian doctors, nurses, OR staff, and PIH volunteers who have been running at this pace since the Earthquake. I don't know how they have been able to sustain it."

The following days for the rest of the week were similar to our first day. We started with rounds every day before the operating room. The only exception was the addition of wound rounds as a component to our day. With the help of our anesthesia colleagues, the patients who could not tolerate bedside dressing changes—open wounds and children – received conscious sedation at the bedside with one of the team members changing the dressing and evaluating the wound.

"I wonder what it is that we do here – how it even makes any bit of difference when there is no follow-up, no prosthetic care, no therapists to do crutch-training, fly swatters in the corners of the operating room. Is there really any benefit to what we are doing or is it simply a drop of water in an ocean of wreckage?"

Including the wound rounds, our team easily did 20 to 30 procedures a day that first week. We owed much of the credit to the Haitian volunteers who transported patients, turned over the operating room, and the operating room staff who were part of program for nurse anesthetists. Of particular note, Dr. Guy, an anesthesia attending from Ghana and Doctors without Borders, was instrumental in keeping the operating room rolling at an efficient pace always with a smile and nod. We later found out that Dr. Guy's son was starting chemotherapy for Hodgkin's Lymphoma back in Africa. He was the consummate altruistic volunteer. Without all of work of these people, our efforts would have been decimated.

Sunday was the only exception to our daily ritual. We knew it was Sunday in that the Haitians in Cange wore their best clothes that day. They were no longer wearing T-shirts imprinted with various American sports team logos, but this day, they wore clean pressed button-down shirts and slacks.

We only did three cases that Sunday, partly because when we arrived to the operating room that day, the floor was under two inches of water. Despite the delay in the flooding, we finished our day in the early afternoon. This break allowed the team a chance to recharge. Some people took naps, some read books, and others went for a hike. By the end of our first week, the team began to feel as if we were making progress.

Something we noticed was that a few patients were getting discharged. Often at the end of the day, one of the physicians would find us and say there was a new patient with an open tibial fracture who arrived that day. This was a regular occurrence with about one to two new patients a day. We felt it would have been more, except that the rate limiting step was creating beds for new patients. Even patients who had received their definitive treatment—cast, external fixation, internal fixation, or amputation—many of them did not have a place to go, or they were not safe to go home. There were no rehabilitation facilities, even before the earthquake. This disposition and rehabilitation problem was yet another obstacle in the rebuilding of Haiti and its people.

"I'm not sure how I feel about leaving. I have no idea what will happen to these patients, who will take care of him, who will pack their wounds daily, who will check for infection, what their x-rays will look like, and who will be assessing them. I am worried."

By the end of second week, our caseload was dwindling. We were still doing the same procedures, but the number of cases was dropping. Either the patients had all been treated appropriately, or they were not getting to Cange. Most likely the latter was true, but we cannot be sure. We felt we had accomplished the job we set out to do, but nobody felt the job was done. In fact, we realized the rebuilding of Haiti had barely begun.