

MEDICAL MISSION UPDATE 2006

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The Podiatry Institute's medical mission program took further steps to improve the medical relationship with health officials in El Salvador, the local Rotary Club, and hospital personnel of Zacamil National Hospital in San Salvador during the last mission May 2005. Many positive changes were noted among the host country's appointed personnel and members of the "Small Steps" team, despite having to contend with the first hurricane of the season (Figure 1), which made a direct path for the country of El Salvador during the eight-day mission.

This was the team's third consecutive visit to El Salvador, and the 14th mission since 1992. The Greater Philadelphia chapter of Healing the Children and the Podiatry Institute cosponsored the mission. The Podiatry Institute was responsible for financial backing of each team member and lending appropriate medical personnel for the team including attendings and residents. Healing the Children continues to provide all the logistical implementation services for this particular team including air travel, food and hotel arrangements, local host country contacts, and in-country transportation for the 20 team members. Together, they offer further surgical services to the poor and indigent pediatric population, which is the primary goal.

POSITIVE CHANGES

The past 14 missions have been a collection of experiences for the current team, which have been incorporated into the actual team philosophy. These experiences are currently being translated into a Medical Mission Primer, which will be published in the next 18 months. One of the most positive changes that has occurred over the years is the organization of the local rotary and hospital personnel at the Zacamil Hospital to set up a computerized contact list of postoperative patients for continued followup. This has been the number one priority of this team since inception with many obstacles encountered along the way. With help from the local Rotary Club and hospital officials at Zacamil Hospital in El Salvador, a completely refined system was instituted in May 2005, and allowed the team to recall and evaluate 20 patients from the previous 2

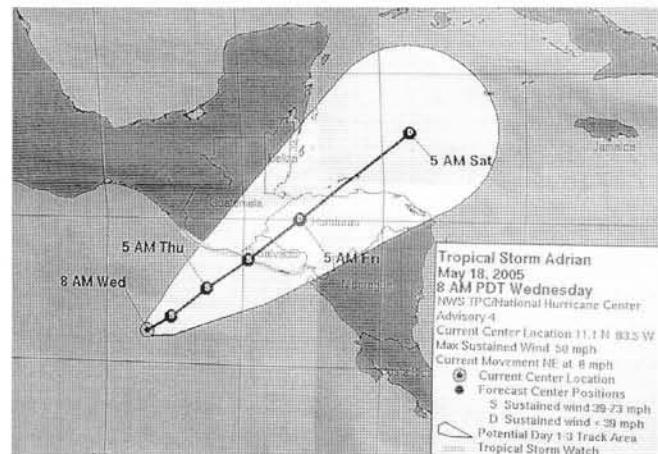


Figure 1. Storm path of Hurricane Adrian during the trip to El Salvador

missions. Postoperative results were captured via digital photography for comparison with the original preoperative deformities. This has yielded pertinent surgical technique information to the team surgeons who have been operating on these particular severe deformities since 1992, which ultimately leads to better results for future patients.

The other positive change is the continued organizational efforts of the team to streamline the efficiency during the days of operations. This begins with a structured meeting with the entire team upon arrival in the host country. The team is divided into 5 mini-teams with a charge person selected to lead each mini-team throughout the course of the day. These 5 mini-teams are as follows: surgery team, rounds team, operating room nursing team, anesthesia team, and PACU team. At the start of the day, the 5 leaders delineate responsibilities to the members of the respective mini-team.

Upon the team's arrival in the country, the next day is reserved for triaging of patients, which involves physician, resident, and anesthesia members of the surgical team. The operating room and PACU nurses organize shipped supplies and prepare the operating room for the first day's surgeries while triaging is being conducted. Surgeons and residents form 3 triage stations to evaluate approximately 150–200 patients in an 8-hour time frame. The children selected are evaluated by the

anesthesia team for medical history and physical. Any appropriate blood work or radiographs can be ordered at that time. All pediatric surgical patients and parents are instructed to return to the hospital when the triaging is complete; they are then given a day and time to arrive back to the hospital for admission prior to surgery. This sequence of events is important as it allows the surgeons to appropriately plan a surgical schedule based on the age of patient, health status, severity of deformity, and number of operating room hours in a day set aside for such operations.

After triaging, specific duties are assigned to physicians, residents, and nurses. Early morning and late afternoon hospital rounds are conducted by a "lead rounding surgeon" who is assisted by one additional surgeon, resident, and anesthesia team member. While morning rounds are being conducted, the rest of the surgeons and residents are prepping the operating room for the first cases of the morning so that operations may begin in a timely manner. This maximizes overall efficiency for both the preoperative and postoperative patients. Communication in this specific hospital has been enhanced over the last 2 years with a two-way radio system. Once the surgeons are ready to begin operations, this two-way radio system is used to contact the "rounding team" so that they may return to join in on the operations. The "lead" operating room surgeon will appoint other available surgeons and residents to specific cases throughout the course of that day. Before departing the hospital, x-ray review of the day's surgeries will be conducted for both surgeons and residents. Residents obtain both the preoperative and postoperative radiographs for that specific day for review. Later that evening, grand rounds at the hotel ensues utilizing laptop digital imagery for further review of the surgical cases of that specific day in addition to assessing the following day's preoperative surgical cases. Typically, PowerPoint lectures that have been prepared from previous mission's surgeries will also be presented during that time to correspond with the following day's surgical cases. This imagery of preoperative, intraoperative, and postoperative deformity is extremely valuable to the residents and other medical personnel who have not experienced this type of pathology and based on verbal feedback, is quite helpful in preparing for the surgery. This daily process ensues in the same manner and provides overall effective communication and efficiency for the team. Anytime a large team of 20 members can function in a foreign country with less confusion is an additional benefit.

TEAM COMPOSITION

The team members were kept to a minimum to help defray financial costs incurred by the local rotary club in El Salvador and the Podiatry Institute. This particular mission consisted of 20 individuals: 1 anesthesiologist, 3 CRNA, 4 operating room nurses, 2 recovery room nurses, 3 podiatric surgeons, 1 orthopedic surgeon from Guatemala, 3 residents, 1 prosthetist, 1 college premed student, and 1 administrator from the Healing the Children organization.

MISSION

The surgical case load of this mission was actually shortened due to the effects of Hurricane Adrian, the first Hurricane of the destructive 2005 season. Thirty-three pediatric patients were scheduled for surgery at the beginning of the week after triage but 14 had to be canceled due to the inclement weather. Operations were conducted Monday through Wednesday, but upon reports of the hurricane making landfall by late Wednesday night, the hospital operating room was closed down Thursday and Friday due to poor roofing infrastructure. Despite cancellations for these 14 patients, future plans have been made for these individuals to receive the first operations during the February 2006 return mission. A total of 151 patients were triaged during the screening session and throughout the course of the week. As previously mentioned, 20 of these patients were postoperative from the prior year, and each had impressive results: deformity and pain resolved, and structure and strength during ambulation restored.

The parameters for selection of surgical candidates includes: severity of deformity, medial clearance, rehabilitation potential, and acceptable prognosis. By the end of a shortened 3-day work week, 19 patients had received surgical intervention, and 29 extremities were operated on. The majority of the procedures were 8 clubfeet requiring traditional posterior medial and lateral releases. Some of the more challenging deformities treated included 5 painful flatfoot deformities, 2 neurological cavus deformities, and numerous major rearfoot fusions with tendon transfers for paralysis of the lower extremity due to neurological involvement.

CASE PRESENTATIONS

Case 1 is a 6-year-old female with neurologic clubfoot deformity secondary to Polio. Bilateral posteromedial and lateral releases were performed stepwise, then talectomies performed for final reduction. Preoperative views and 1-year postoperative views are shown in Figures 2-4.

Case 2 is a 21-year-old female with bilateral severe, neglected talipes equinovarus deformity. Appropriate surgical procedures were performed including posteromedial and lateral release with talectomy, and posterior tibial tendon transfer to the 3rd cuneiform. The patient is one year post-

operative in these photos and able to wear normal shoes with normal function, strength, and gait restored (Figures 5-7).

Case 3 is a 5-year-old patient with congenital, untreated right clubfoot. The patient lived in El Salvador and was originally bussed to Nicaragua in 2002 while our team was doing a mission in Nicaragua. At that time, posteromedial and lateral release was performed, with a calcaneal-cuboid fusion procedure and multiple Z-plasties medially for skin contracture. Figure 8 shows the preoperative view, and Figure 9 shows the 3-year postoperative view.



Figure 2. Preoperative view, case 1 (Left). Postoperative view (right).



Figure 3. Postoperative view, case 1.



Figure 4. Postoperative view case 1.

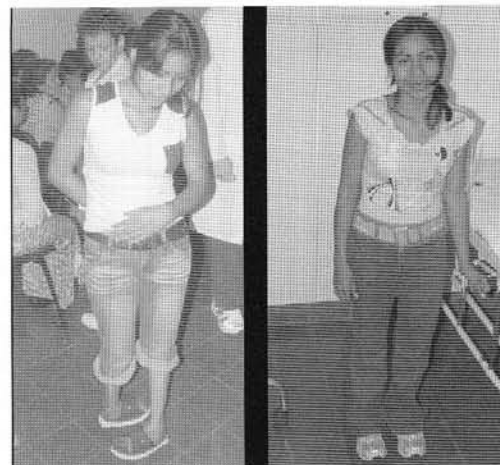


Figure 5. Preoperative view, case 2 (left). Postoperative view (right).

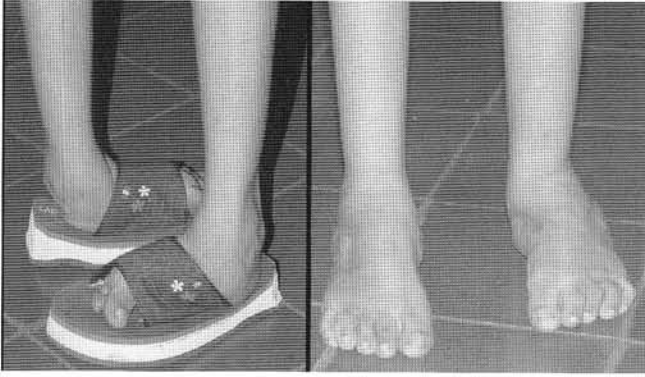


Figure 6. Preoperative view (left). Postoperative view, (right) case 2.

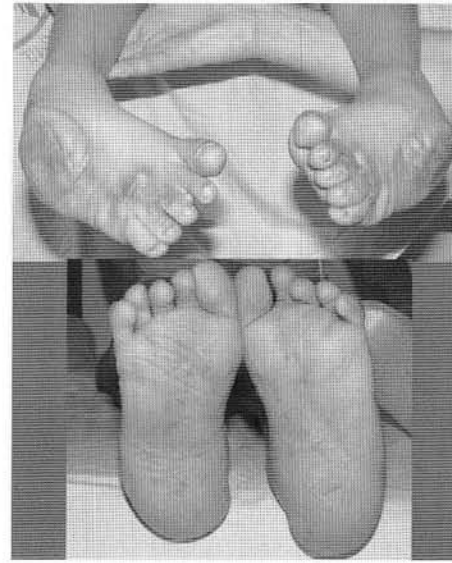


Figure 7. Preoperative view (top). Postoperative view, (bottom) case 2.



Figure 8. Preoperative view, case 3.

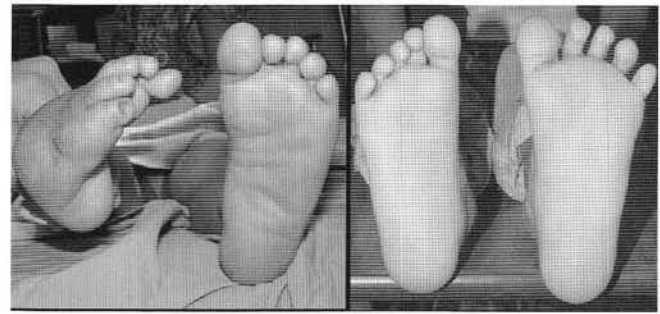


Figure 9. Preoperative view (left). Three-year postoperative view, (right) case 3.

CONCLUSION

A third consecutive mission to El Salvador co-sponsored by Healing the Children, Greater Philadelphia chapter and the Podiatry Institute was conducted May 2005. For the past three years, this particular team has been providing consistent care every 8 months to the children of El Salvador. Frequent and consistent trips reinforce the team's philosophy: long term followup of postoperative procedures allowing our team to track results of these specific surgical services. A shortened work week resulted in nineteen children receiving surgery and ten of these nineteen children had bilateral lower extremity deformities. The majority of deformities were congenital or neurological in nature.

This team has received overwhelming inquiries to volunteer for its missions. We continue to encourage not only inquires, but also the donation of medical equipment, medical supplies, money, and personal time. All donations are tax deductible through the Podiatry Institutes 501-C-3 tax exemption number. The same site and hospital location will be revisited in February 2006 to provide similar surgical services to the poor and indigent population of El Salvador. This will allow the team a tracking mechanism for the postoperative followup over the last 3 years. Ultimately, the success and failures of procedures performed can be recorded both via digital photography and computer program, allowing a fine tuning process of procedural selection.