

Orthopedic Mission to Jinotega, Nicaragua January 2008

A Report

**Carried out under the auspices of Project Health for León
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Team Members

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Young Ae Kim (Anesthetist)
Jan Leo (Orthopedic Surgeon – Upper Extremity)
Vicki Moore (Anesthesiologist)
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Holly Robbins (Surgical Technician/ Wright Medical Product Representative)
Charlotte Westmoreland (Orthopedic OR nurse)

Contacts in Jinotega

Dr. Felix Balladeres (Ortopedista Hospital Victoria Motta)
Dr. Felix Gonzales (Ortopedista Hospital Victoria Motta)
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Dr. Raphael Trujillo (Ortopedista Hospital Victoria Motta)

The Location

Nicaragua is very poor as a result of the Sandinista war but seems to be recovering at a rapid rate with significant improvements noted each year when we return. Jinotega (the city of the mists) is located about 100 kilometers north of Managua, Nicaragua at an altitude of about 1,000 meters.

The drive from Managua now takes about two and a half hours, the first half on a portion of the Pan American Highway that is in very good condition but the second half is on a twisting mountain road. This second half was under repair during this trip and the initial portions of it had new pavement. The shortcut that enters the Jinotega valley from the west was open and we took it, but it was undergoing major construction and was very rough.

Like other tropical cities at higher altitudes Jinotega has a very pleasant climate year round. Though this trip in January falls in the dry season, it was actually rainier and cooler than any of our other January trips with several long rainstorms and temps that ranged from 60-75 degrees during our stay there.

Jinotega is placed in a small valley in the coffee growing mountains and has a population of about 120,000 people. We stay three blocks away from the hospital in the Hotel Café, a very nice facility which is very clean and had a fine restaurant. It even has Wi-Fi for laptops now! We went out to several other nice restaurants during our stay and they also provided good food. The tap water is apparently treated and other than some mild diarrhea, no one got seriously sick (however many of us were taking daily Doxycycline for Malaria and diarrhea prevention).

The Facility

The hospital is in the middle of the city and moderately old with large multibed wards in narrow wings for ventilation. There are some “private” wards with private rooms for patients with insurance but none of our patients this year were in them.

The operating theater has three rooms, of which they kindly allow us the use of the two largest. The third was mostly used for C-sections during our stay. Much of their equipment is in poor condition. Sterile practice is unusual to our way of thinking, as they place great emphasis on shoe covers and not leaving the OR in scrubs, but allow people in the OR with noses (and often mouths) out of their (cloth) masks. They are not careful about the sterile field and gowns and drapes often have perforations. They do not use sterile waterproof barriers on their back tables or surgical field. Circulators and Anesthesia Technicians (who provide the anesthesia) often leave the rooms for extended periods of time.

Their fluoroscope (Donated by Project Health for Leon) which had resulted in a huge improvement in the quality of the procedures we performed last year in the OR has broken down. We looked it over but were unable to determine how it might be repaired. We will try to obtain repair manuals for them.

We brought some battery powered Stryker 2000 and 4000 surgical drill-saw combos this year, however, they do not have a flash autoclave and so cannot sterilize the batteries (which still must be wiped with alcohol and covered with stockinette or a glove). They are still using Black and Decker drills, wiped down with alcohol for minor procedures. They have a video tower with which they have done a few arthroscopies over the past year using the arthroscopes and instruments we brought four years ago.

The Schedule

We traveled all day Saturday arriving in the evening.

We held clinic from 8 to 1 on Sunday

We operated from 8 to 3-6 on Monday – Thursday.

Friday we held a basketball game in the morning.

We left for Managua Friday at 11 and flew out on Saturday at 8AM.

The Patients

We saw about 60 patients in the clinic on Sunday with about 10 more “consults” during the week between surgical cases. Many of the patients had conditions that were untreatable or that we did not have the expertise to treat.

We performed 33 operations which are listed in the table below.

Room	Monday	Tuesday	Wednesday	Thursday
A1	Santo Gonzalez JL	Buenaventura Estrada JL	Santos Lopez JL	Jorge Altimirano JL
Info	26M L Flexor tenolysis at wrist small finger PIP release	38M L ulnar shortening	33M L Bankart	24M L Bankart
A2	Maria Estrada JL	Randy Rodriguez JL	Pedro Jankis BB	Carlos Gonzales
Info	54F excise mass thumb	26M L hand z-plasty & flexor tenolysis	15M L K scope, Plica excision	39M L K Scope, found LMT and ACL tear, ex LMT
A3	Agnes Ubeda	Edwin Jiron JL	Josco Rizo JL	Eduardo Chavarria JL
Info	48F R ring PIP capsulotomy	25M R ring DIP fusion	46M L MP capsulotomies	31M L long finger tenolysis
A4	?Name JL	Luis Guevara BB	Jose Gutierrez	Gerald Siles LD
Info	12 repair nerve and tendon R ring finger	30M Scope MMT and ACL repair	55M Infected nail out R femur	7M CRPP SC hum fx (w/o fluoro!!!!)
A5	Juan Arnulfo JL		Andres Mendez BB	
Info	30M op reduc 3 month old L shldr dislocation		10M ORIF DBFF	
B1	Miriam Caseras BB	Keila Zamora CJ	Yubelka Gutierrez CJ	Ronal Ruiz LD
Info	60F R TKR	19moF, R clubfoot PM release	9F B 6 th toe excisions	19M R iliac wing osteochondroma excision
B2	Victoriano Rivera LD	Rosibel Rivera LD	Samuel Perez CJ	Ehrling Garcia LD/CJ
Info	34M Op red 1 mo old L obdurator hip disloc	16F open tibia bone loss, apply Ilizarov for bone txport	34M R Cavovarus reconstruction (CMT?)	20M op fx distal tib, I&D Ex fix
B3	Maria Tomaso LD	Sergio Valle Centano LD	Jancew Perez LD	

info	77F Austin Moore for pathologic fem neck fx	23M R prox tib nonunion, plate and bone graft	20F Severe coxa vara fibrous dysplasia, valgus osteotomy	
B4		Jhoel Ortiz CJ	Ampara Martinez CJ	
Info		22M severe CP B release adds/hamstrgs	63F 1 st MTP fusion, 2 nd MTP release FTT Weil	
B5		?name JL	Sobeyda Norvasc	
Info		60+M Excise mass at wrist (Synovitis)	7F OI path femur fx, Enders nail	

We had one known complication on this trip.

Ehrling Garcia LD/CJ
20M op fx distal tib, I&D Ex fix

The preop film consisted of a single view which did not show that there was a sagittal plane fracture in the distal fragment. The distal pins of the ex-fix held this in a displaced position and Dr. Felix Gonzales was planning to ORIF that fracture after we left.

The Equipment

We took approximately 900 pounds of tools, supplies, medications, equipment and implants with us, most of which we left in Jinotega.

We expended a lot of effort in organizing the supplies that are there, especially in throwing away a large amount of material that will never be used

Results from the previous year's surgery

We saw one patient from the previous year's surgery. The doctors assured us that the others were all doing well (although this is difficult to believe).

Frances Zeladon SG	11F	R DDH shelf	The shelf procedure was done in August and the patient's hip was asymptomatic and looked much better on x-ray
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Overall

We all had a wonderful time with very gracious hosts, believe we did some good for the people of Nicaragua and are ready to go back next year.

NEXT YEAR

Equipment to take

- Richards Ambi sliding hip screw insertion instruments (they have a lot of implants but the insertion instruments are lost)
- Screws are desperately short especially
 - 4.5mm cortical screws!!!!
 - 3.5mm cortical screws!
 - 6.5 mm fully threaded screws! (There is an excess of 6.5 partially threaded cancellous screws)
- pliers, wire cutters, out of chrome cobalt so they will tolerate autoclaving
- Labelling equipment to help organize the back room, especially big labels such as 3x5”cards to label areas
- Clear plastic organizer (rectangular) tubs to sit on shelves and hold plates and other items and flat boxes with many compartments to sort screws into (should have covers that lock closed to prevent spillage).
- videotapes or books (in Spanish if possible) that demonstrate
 1. sterile technique, how to setup the back table and drape the patient
 2. AO technique
 3. Campbell’s

Equipment to invent

- Autoclavable impervious drapes for back table and “U” drapes for patient limbs
 - Tarps?
 - Plastic sheeting?