Orthopedic Mission to Jinotega, Nicaragua August 2006

A Report

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

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Contacts in Jinotega

Dr. Felix Gonzales (Ortopedista Hospital Victoria Motta)
Dr. Felipe Paredes (Ortopedista Hospital Victoria Motta)

The Location

Nicaragua is very poor as a result of the Sandinista war but seems to 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 begins on a badly potholed, twisting mountain road. The second half now finishes on a dirt road that makes a significant shortcut and therefore lowers the travel time despite being poor quality. Like other tropical cities at higher altitudes Jinotega has a very pleasant climate year round. Though we had worried that the weather would be unpleasant during this, our first trip in August during the rainy season, it was actually wonderful with brief showers and temps that ranged from 65-75 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 was very clean and had a fine restaurant. 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 (associated with eating lettuce), no one got seriously sick (however most of us were taking daily Doxycyline 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. They installed new lights in the two main rooms last year but they still weren’t working in one room. 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.

They now have a fluoroscope (Donated by Project Health for Leon) and this resulted in a huge improvement in the quality of the procedures we performed this year in the OR. The two Black and Decker and Skil brand drills be brought in years past are breaking down. We brought some battery powered Stryker surgical drill-saw combos in 2004 and they are still using them, 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 have a video tower with which they have done a few arthroscopies over the past year using the arthroscopes and instruments we brought three years ago.

The Schedule

We traveled all day Saturday arriving in the evening.
We held clinic from 8 to 3 on Sunday
We operated from 8 to 3-5 on Monday – Thursday.
Friday we did two cases.
We left for Managua Friday afternoon and flew out on Saturday at 8AM.

The Patients

We saw about 75 patients in the clinic on Sunday with about 15 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 30 operations who are listed in the table below.

Nidia Castello	68	DJD knee	R Total Knee Replacement
Mireya Blandon Rivera	35	R MMT	R Arthroscopic meniscectomy
Cledis Castro Rivera	45	R Shoulder Impingement	R shoulder acromioplasty
Luis Cruz Ramos	23	L femur and tibia fracture	IM nail L femur and tibia
Adrane Soblaurro Villagra	12	R foot deformity	R triple arthrodesis
Alejandro Blandon Adecios	11	L peroneal spastic flatfoot flexible	EUA, reconstruction of peroneal groove and casting
Paula Dios Soto	13	R accessory navicular	Excision accessory navicular
Sandro Reyes Arauz	6	L supracondylar humerus fx	CRPP L supracondylar humerus
Marcia Meneses	33	RA R knee	R TKR
Glen Gonzales	20+?	R LMT	R knee scope excise meniscus
Cesar Ramirez	28	R posttraumatic tibial bone loss	R tibial ilizarov with corticotomy for bone transport
Deyana Mandirez Cruz	12	R distal radial growth arrest (traumatic Madelung's)	R distal radius/ulnar epiphyseodesis and osteotomy
Gema Ferrofino Blandon	6	CP with B dynamic equinovarus	B TAL and posterior tibial transfer
Milena Morales Charavisc	46	L knee DJD	L TKR
Marwell Arauz	32	L knee MMT	L knee scope, meniscectomy
Dirian Castro	19	R ACL tear	R ACL recon
Cervania Reyes Rivera	11	R recurrent Coxa Vara	R femoral neck osteotomy (intertroch osteotomies had failed X2)
Kenia Gutierrez	19	Old open R tibia fracture with failing Ilizarov	Revise R tibial Ilizarov
Elia Porada Flores	70	L post tibial tendon rupture with hindfoot DJD	L triple arthrodesis
Jorge Picado	30	Chronic L triceps rupture	Reconstruction L triceps
Enminia Castro Sanara	62	DJD L knee	L TKR
Scarleth Blandon	31	R knee MMT	R knee scope meniscectomy
Blanca Sanchez Hernandez	67	L DJD knee	L TKR
Juan Chavarria Herrera	14m	R talipes equinovarus	R clubfoot release Cincinnati
Maria Revera Mairena	6	SBC with subluxing hips	B varus PFOs

Rogelio Solorzono Palacios	15	L foot coalition with flatfoot	L foot release calcaneonavicular coalition and talonavicular fusion-medial column shortening
Gilna Sozo Suarez	27	B adolescent bunion	B MTP fusions
?	10	R Colles fx	Closed reduction casting with fluoro
Lino Lanuza Blandon	9	L congenital patellar dislocation	L knee lateral release and VMO advancement
Felipe Rugana Centno	62	L chronic shoulder dislocation	Open reduction L shoulder

We had no known complications on this trip.

The Equipment

We took approximately 1000 pounds of tools, supplies, medications, equipment and implants with us, most of which we left.

Results from the previous year's surgery

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

Rogelio Solorzono Palacios	15	R foot coalition with flatfoot	R foot talonavicular fusion-medial column shortening. Though Dr Jones recommended a better operation on his L foot, the patient was satisfied with his R foot and insisted we do the same operation again
Cervania Reyes Rivera	11	R recurrent Coxa Vara	R intertrochanteric osteotomies had failed once before and had failed again. This led to the difficult decision this time to excise the femoral neck nonunion and do a valgus osteotomy through the femoral neck despite the risks to the blood supply of the femoral head

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

- Exension cords for lights.
- Bring a grinder and teach them to use it to sharpen drills, scissors and osteotomes.
- Gowns and towels. Perhaps we can get Sterile Recoveries to donate some old gowns/towels.
- 3.2 and 2.5mm drill bits
- Steinman pins and K-wires
- pliers, wire cutters, out of chrome cobalt so they will tolerate autoclaving
- pin/bolt cutters
- 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?
- Method for sterilizing inside of unsterile drill chucks
    - Swab out with Qtip and alcohol?