Orthopedic Mission to Jinotega, Nicaragua August 2007

A Report

Carried out under the auspices of Project Health for León
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Contacts in Jinotega

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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. This road was under repair during this trip and large portions of it had had the pavement removed. Instead of the shortcut that we took last year, we again went through Matagalpa and the road from Matagalpa to Jinotega had been recently paved so that part of the trip was nice. Like other tropical cities at higher altitudes Jinotega has a very pleasant climate year round. Though we had anticipated that the weather would be pleasant during this, our second trip in the August rainy season, it was actually warmer than any of our other trips with several long rainstorms and temps that ranged from 70-85 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 one episode of probable food poisoning that had two people vomiting and some mild diarrhea, 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 two years ago but they still weren't working in one room last year – they were this time though! 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. We brought some battery powered Stryker surgical drill-saw combos in 2004 and new batteries this year. 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 four 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 noon.

The Patients

We saw about 80 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 37 operations who are listed in the table below.

Room	Monday	Tuesday	Wednesday	Thursday	Friday
A1	**Karen Portillo DM**	**Dora Estrinoza DM**	**Irma Sanches DM**	**Juana Francesca Martinez DM**	**Berlise Moreno CR**
Info	41F R TKA	81F L TKA	62 F R TKA	56 R TKA	32 EIP to EPL txfr
A2	**Francisco Rivera CR**	**Milagras Gonzales CR**	**Jasmer Rivera SG**	**Maria Milegros SG**	
Info	61 Median N rep PIP tenolysis	8 Tendon transfer FCU to ECU & PL-FPL	7 R TAL, ATTT, PT length	7 B Achilles FDR/FHL tenotomy	
A3	**jose Fuertes CR**	**Julio Espinoza DM**	**Ana Julio Poveda DM**	**Lucea Meza CR**	
Info	18 Bone graft prox phal	57 F L TKA	53F R TKA	64F L colles, osteotomy vs Ulnar resection	
A4	**Gorgonia Sobalcor CR**	**Augostin Rivera CR**	**Francisco Holman SG**	**Francisco Blandon DM**	
Info	42 multiple tendon lacs	38 PL-FDP Txfr	14 R TAL HS length	30 L TKA	
B1	**Juan Anges Romero LD**	**Fabiolo Jissel SG**	**Gerardo Contreras SG**	**Jose Gonzales CR**	**Marcos Herrera LD**
Info	17M L tib fib ex-fix	2.5 F CVT B	6F B Medial fem staple/plate	24 R hand lac machete	44F L humeral nonunion OI
B2	**Jakelin Adriana SG**	**Josling Rivera SG**	**Ubania Reyes LD**	**Norma Perez CR**	
Info	6F R pt tend length/calc osteotomy	12F R fem condyle osteotomy	12 F R hip pin out	47F R shldr disloc	
B3	**Adriana Sobalvario SG**	**Frances Zeladon SG**	**Rogelio Solorzano LD**	**Jimmy Siles CR**	
info	13F L TN fusion calc length	11F R DDH shelf	17 F L talonavicular shortening	22F R ORIF 5th finger prox phalanx	
B4	**Andrea Rivera LD**	**Maura Salinas LD**	**Franklin Peralta LD**	**?**	

Info	36F L tib nonunion/ankle fusion	65 L IT fx	28 F L hip disloc	45 reduce R shoulder dislocation	
B5			**? Lobos**	**Raymundo Navarette**	
Info			5 SC humerus fx	52 reduce l shoulder dislocation	
B6				**Arnoldo Ramos SG**	
Info				7 CR L distal DBFF	

We had no known complications on this trip.

The Equipment

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

Results from the previous year's surgery

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

Rogelio Solorzano LD	17	Tarsal coalition with severe rigid flatfoot	L foot talonavicular fusion-medial column shortening. We had done this last august but the shortening was insufficient and the patient was unhappy
Ubania Reyes LD	11	R recurrent Coxa Vara	R intertrochanteric osteotomies had multiple times. This led to the difficult decision 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. She appeared to be healed and was ambulating well but was noted to have significant scoliosis

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

- 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?