

# **Orthopedic Mission to Jinotega, Nicaragua January 2011**

## **A Report**

### **Carried out under the auspices of**

Dickson-Diveley Orthopaedic Education and Research Foundation  
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### **Team Members**

Dahners Laurence Orthopedic Surgeon trauma  
Rhoades, Charles Orthopedic Surgeon hand  
Flood, David Orthopedic Surgeon general/sports  
Gilbert, Shawn Orthopedic Surgeon pediatric  
Gluck, George Orthopedic Surgeon resident  
Gramlich, Lisa Anesthesiologist  
Sullivan Kendell Anesthesiologist  
Rhoades, Carolyn Anesthesiologist resident  
Blackburn, Elizabeth RN  
Short, Jennifer RN  
Flood, Rosalee RN  
Llobet-Arce Jorge Surgical technologist  
Mueller, Billy Biomedical engineer  
Gluck, Melina translator  
Chen, Andrew translator, medical student

### **Contacts in Jinotega**

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

### **The Location**

Nicaragua was very poor as a result of the Sandinista war but continues to recover 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 one hour 45 minutes. Like other tropical cities at higher altitudes Jinotega has a very pleasant climate year round. This trip in January

falls in the dry season and it rained only one day but every day was very pleasant. Temperatures range from 65-80 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 has a fine restaurant. It even has Wi-Fi for laptops. We went out to several other nice restaurants during our stay and they also provided good food. The tap water is apparently chlorinated and other than some mild diarrhea and a couple of colds, 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 is mostly used for C-sections and other emergencies during our stays. Much of their equipment is in poor condition. Sterile practice is problematic as 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. They do not have a flash autoclave and so any instruments needing rapid sterilization are placed in a “sterilizing solution” (composition unknown, but perhaps cidex). They have very few infections though.

Circulators and Anesthesia Technicians (who provide the anesthesia) often leave the rooms for extended periods of time.

They have no fluoroscope or portable x-ray machine.

We brought some battery powered Stryker 2000 and 4000 surgical drill-saw combos, however, they do not have a flash autoclave and so cannot sterilize the batteries (which are wiped with alcohol and covered with stockinette or a glove). They are running low on batteries for these. They use Black and Decker drills, wiped down with alcohol for minor procedures and we brought another four donated by Home Depot.

They have a video tower with which they have done a few arthroscopies over the past year using the arthroscopes and instruments we brought. They were unable to find the shavers this trip though.

Unfortunately, they cleaned out the room where they have stored the equipment we have brought to the hospital over the years in order to make a recovery room out of that room. They put the equipment in several rooms around the hospital where it is disorganized and inaccessible. This created tremendous difficulties in finding equipment to do cases this trip. They have promised to try to fix this situation.

## **The Schedule**

We traveled all day Saturday arriving in the evening.

We held clinic from 8 to 4 on Sunday

We operated from 8 to 4-6 on Monday – Thursday.

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

### The Patients

We saw about 140 patients in the clinic on Sunday with about 8 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 or equipment to treat. There were a lot of back pain patients this trip because they knew that we had a “spine surgeon” not understanding that he was a pediatric spine deformity surgeon.

We performed 36 operations which are listed in the table below.

### Jinotega Surgery Schedule

	Room A	BlockA	Room B
Monday	Robleto, Diego 73y M, L Knee TKR #9 Dr. Flood	CSE	Rodriguez, Haniel 7y clubfoot osteotomy, Dr. Gilbert
Monday	Montenegro, Danilo 18y M FCR--> EDC Dr. Rhoades	Ax.Block	Martinez Lazo, Soruyda, 10y exfix, R STSG, L enders, Dr.
Monday	Herrera, Bedenia 30y F R elbow pos release and triceps transfer Dr. Rhoades	SPCB	Gonzales, Raul 24y M, R fem 1/3 lock distal only, Dr. Dahners
Monday	Salinas, Alexis 36y torn meniscus, R knee scope Dr. Flood	GEN	Arauz Castillo, Jairo 30y M C irrigation and debridement ar Dahners
Monday			Siles Morales, Uriel Right dis ORIF/ lateral plate, Dr. Flood
Tuesday	Francisco Solano, Juan 75y M, L TKR #9, Dr. Flood	Spinal	Lopez, Angeli 11mo Arthrygr CVT(Congenital Vertical Talu Gilbert
Tuesday	Lazaya, Carmen, 30y, Left Bankart reconstruction and/or capsular shift, Dr. Rhoades	Interscalene	Cruz, Morelia 14y pelvic fx, b with transiliac lengthening, D
Tuesday	Albertos Gomez, Carmen 44y M, R ring PIP Fx/dl Volar Plate Arthroplasty Dr. Gluck	IFCB	Yoselia Vilchez, 7 F Left Fem Dr. Gilbert
Tuesday	Lidia Rieque 69 F Left TKR #5, Dr. Flood	Spinal	Herrera Rodriguez, Armando femur fracture poss plate, Dr
Tuesday			Juan Guiteres, M, 31 Right ti Lateral plate. Dr. Dahners
Wednesday	Cruz, Victoria 55y F, Left TKR #7, Dr. Flood	Spinal	Rodriguez, Estraly 5.5y, cubi Right osteotomy, Dr. Gilbert
Wednesday	Chevez, Dareysa 12y, Left web skin graft, Dr. Rhoades	GEN	Chavarais, Jerem, 6y CP, Le femur osteotomy
Wednesday	Rivera, Lener 19y F, Right median nerve neuroma and ? Repair, Dr. Rhoades	GEN	Perez Casillona 59y F RA, L exfix, Dr. Dahners
Wednesday	Cortis, Joyce 49y, L knee scope, Dr. Flood	GEN	Salgado Degadillo, Jesus 15 fuson and left Ilizarov Dr. Da
Wednesday			Arauz Castillo, Jairo 30y M C place additional pin for ex fix

Thursday	Pastura, Maria, R TKR #7, Dr. Flood	Spinal	Chevarria, Clemente 43y M, valgus osteotomy distal tib, L
Thursday	Jose Cruz Torres, Wendell 14y M, SCFE, screw fixation, Dr. Gilbert	GEN/EPI	Romero, Juan 20y M, L Non plate, local graft, Dr. Dahners
Thursday	Matute, Daimi 12y cubitus varus, R elbow osteotomy, Dr. Gilbert	SPCB	Pozo, Benjamin L Hip fx Sul Dr. Dahners
Thursday	Luz Castro, Ada 49 y Torn medial meniscus, L scope, Dr. Flood	GEN	Herrera Freddy 53M. Right F with plating. Dr. Rhoades
Thursday	Jose Cruz Torres, Wendell 14y M, SCFE, adjust screw fixation, Dr. Gilbert		

We encountered no known complications on this trip but did have to take two patients back to the OR, one for an unrecognized fracture which was not sufficiently stabilized by his external fixator and one whose X-rays showed the SCFE screw was slightly too deep so it had to be backed out a couple of turns.

### The Equipment

We took approximately 1400 pounds of tools, supplies, medications, equipment and implants with us, almost all of which we left in Jinotega.

### Results from the previous years' surgery

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

A patient status post a Dupuytren's release in January, doing well, wanted the other hand done but didn't show for the surgery.

A patient status post a TKR two years ago, doing well, had her other one done this trip.

A patient status post a knee arthrodesis 1 yr ago, doing we

A patient with a very complex pelvic deformity post trauma and status post adductor release for adduction contracture of L hip which was ineffective.

### 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

## Injectable steroids

- pliers, wire cutters, out of chrome cobalt so they will tolerate autoclaving
- pin/bolt cutters
- videotapes or books (in Spanish if possible) that demonstrate

sterile technique, how to setup the back table and drape the patient

## AO technique

### Campbell's

dyonics shavers linvatec shavers Linvatec machine often needs to be rebooted

#2 ethibond

large self retaining retractors

cement, cement, cement

extension cords for OR

Power and batteries for Styker ref 4115

O vicryl

2" ace wrap

T handle chuck (big ass)

3" tape

sterile stockinette

coban

slings

staples

richard staples - have inserter?

- Small Frag Screws – all sizes, but especially shorter ones
- Large Frag Screws - all sizes, but especially shorter ones
- Instruments for Angled Blade Plates and more plates various sizes
- Fiberglass Casting Material
- Sterile Webril
- Sterile Esmarchs
- Small Mallet
- Steri Strips and Benzoin

- Small Ronguers, wire cutters
- Scissors-Mayo and Metzenbaum
- Ace Bandages
- Suture – Ethibond and Monocryl
- Mini Frag Screw Driver for 1.5 and 2.5 Screws
- Cautery Pencils
- Suction Tubing
- Sterile Yankauer and Neuro Suction tips
- Sterile Gloves
- Fiber Wire
- Knee Immobilizers – all sizes
- Alumi Foam finger splints
- Arm Slings
- 4 x 4 and 4 x 8 Gauze for Dressings
- Laps
- Cloth Gowns
- Cloth Drapes
- Small Osteotomes - Hand
- Large Osteotomes – Narrow Widths
- Currettes – Small Sizes
- Rasps
- Permanent Markers
- Bins to Organize Supplies

- Label Maker

Equipment to invent

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

Medical textbooks that are only 1-2 editions out of date (spanish texts are great if you can get them but english are helpful too, and we can read them when we're stumped)

If you feel like spending some money at the store, bring some

"organizer trays" like for silverware or desk drawers that we can sort screws into,

Cordless electric drills (Black and Decker type) 7, 10 and 11mm wrenches for them to use on external fixators

wire cutters, pliers and vice grips that don't have rubber handles if you can find them

Baggies to sort things into