

Orthopedic Mission to Jinotega, Nicaragua September 1-8, 2012

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
Burgess, Scott Orthopedic Surgeon hand
Flood, David Orthopedic Surgeon general/sports
Jones, Carrol Orthopedic Surgeon foot/ankle
Draeger, Reid Orthopedic Surgeon resident
Kombrinck, Jonathan Anesthesiologist
Teleki, Lilli Anesthetist
Mills, Margaret RN
Oxendine, Cheryl RN
Barnes, Karen RN
Ricks, Marquee RN
Butts, John Surgical assistant
Holevas, Patricia Translator

Contacts in Jinotega

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 1980s 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 September falls in the rainy season but it only rained a couple of days. The temperature was

generally warm but pleasant. Temperatures 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 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 only of us got serious GI issues (which may have had something to do with a large number of Margaritas consumed the night before the onset of the illness - many 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. 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). However, they have very few infections.

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

They have no fluoroscope or portable x-ray machine.

We brought some battery powered Stryker System 5 and 4000 surgical drill-saw combos in previous years, 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). The 4000 system from last time only had the handle and drills, the rest of the attachments could not be found. They are running low on batteries for these. They use Black and Decker drills, wiped down with alcohol for minor procedures.

They have a video tower with which they occasionally do arthroscopies over the past year using the arthroscopes and instruments we brought. We received donations of a new Linatec shaver console and a decent monitor.

Last trip Tim, Randy and David put in shelves in the new smaller room they gave us to store equipment while Jules worked on organization of the equipment. This was still in good shape this trip and had not become disorganized in our absence.

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 1-5 on Monday – Thursday.

We participated in an orthopedic conference organized by the local orthopedic group on Friday with talks given by Drs. Flood and Jones. We left for Managua Friday at 1 pm and flew out on Saturday.

We saw 125 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.

We performed 40 operations which are listed in the table below.

<u>Monday</u>	<u>Daniel Villarga 53 M R TKR Dr. Flood Draeger</u>	-	<u>Juan Diaz Gonzalez 6 M R Neuro muscular Cavovarus Soft tissue release, PTT Jones</u>
<u>Monday</u>	<u>Danielle Castro 40F Frozen shoulder Flood</u>	-	<u>Maura Palacios Mairena 56F L 4th toe amp infection Jones</u>
<u>Monday</u>	<u>Elium Rivera 30F L knee scope ?MMT Flood</u>	-	<u>Wilson Gomez 26M L humerus nonunion Dahners</u>
<u>Monday</u>	<u>William Lopez Perez 23 F L ulnar N graft possible med nerve graft Burgess</u>	-	<u>Eddy Briones 29M R hip infection, debride Dahners</u>
<u>Monday</u>	<u>Heyling Picado 26F L plantar fascia release Jones</u>	-	
<u>Tuesday</u>	<u>Maria Auxialadore L Knee TKR Flood</u>	-	<u>Minam Castellum Soza 42F L hallux MPF - 2nd mtp debridement Jones</u>
<u>Tuesday</u>	<u>Luis Mercado 30M L chronic shoulder dislocation Flood Dahners</u>	-	<u>Maria Luna 63F L TN fusion PTT debridement Jones</u>
<u>Tuesday</u>	<u>Carlos Picado 11M L distal radius Debrided flexor tenolysis Burgess</u>	-	<u>Dima Alberto Zeledon 39M L tibia infected nonunion Ilizarov Jones - Dahners</u>
<u>Tuesday</u>	<u>Jose Francisco Gadea 55M L thumb web deepening with rotation flap and FTSG Burgess</u>	-	<u>Santo Herrera 38M L distal tibia ORIF plate Dahners</u>
<u>Tuesday</u>	<u>Oscar Palacios 40M L FCU to ECRL transfer Burgess</u>	-	<u>Rosa Centeno 54yo F L BKA diabetes Joneas</u>
<u>Wednesday</u>	<u>Santos Laguna 77 TKR Flood</u>	-	<u>Nesha Martinez Zelecon 2yo R clubfoot Jones</u>
<u>Wednesday</u>	<u>Orel Blandon M R ACL Recon mini open Flood</u>	-	<u>Solano Brugamo 42M L Tibia Valgus nonunion Dahners</u>
<u>Wednesday</u>	<u>Carmen Jose 35M R ant shoulder instability Burgess - Flood</u>	-	<u>Jerling Rodriguez 3M L clubfoot Jones</u>
<u>Wednesday</u>	<u>Karla Chavarria 34F L radius osteotomy Burgess</u>	-	<u>Darwin Reytez 14M Hallux Valgus Akin osteotomy Jones</u>
<u>Wednesday</u>	<u>Jeris Guides 2yoF L SC humerus fx Dahners</u>	-	<u>Boris ? Needle FB in foot Jones</u>
<u>Wednesday</u>		-	<u>?? L Thumb Extensor tendon repair Burgess</u>

-	-	-	-
<u>Thursday</u>	<u>Maria Esme Portilla 81 LTKR Flood</u>		<u>Genesis Gutierrez 18monthsF L long finger tip amp with thenar flap Burgess</u>
<u>Thursday</u>	<u>Dories Mercedes 31 L MPFL Flood</u>		<u>Rosalta Genteno 22F R long finger recon central tendon Burgess</u>
<u>Thursday</u>	<u>Lydia Gonzalez L knee scope LBs Flood</u>		
<u>Thursday</u>	<u>Julio Herrera Garcia 47M L intrinsic releases sm/ring finger release Web deepening Burgess</u>		<u>Ana Gonzalez Olives 33F R lateral hindfoot osteotomy Staples Jones</u>
<u>Thursday</u>	<u>Keiluna Bairena Mendez 9yoF R SC humerus fx Dahners</u>		<u>Jose Benavides 19M L cavovarus recon Jones</u>
<u>Thursday</u>	<u>Ligia Espinosa 56yoF R infected humeral nonunion, debride, remove plate</u>		

We had no complications that we are aware of.

The Equipment

We took approximately 1000 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 one patient from previous years' surgery. The doctors assured us that the others were all doing well (although this is difficult to believe).

Morelia Cruz, a 15yo female patient with a very complex pelvic deformity post trauma who had a hip arthrodesis during our last trip. She was pain free and walking well for the first time and very happy.

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 TRIPS

Equipment to take

Desperate needs

MEDS

- Injectable steroids (Kenalog, Depomedrol, Aristocort)

IMPLANTS

- Steinman pins and K-wires
- Small Frag Screws – all sizes, but especially shorter ones
- Large Frag Screws - all sizes, but especially shorter ones
- cement, cement, cement

Other needs

TOOLS (THAT YOU CAN GET AT HARDWARE STORE)

- Pliers, wire cutters, pin/bolt cutters, and vice grips out of chrome cobalt that don't have rubber handles if you can find them so they will tolerate autoclaving
- Extension cords for OR
- Permanent Markers
- Bins to Organize Supplies
- "organizer trays" like for silverware or desk drawers that we can sort screws into,
- Baggies to sort things into
- Label Maker
- Cordless electric drills (Black and Decker type)
- 7, 10 and 11mm wrenches for them to use on external fixators
- wire cutters,

INSTRUMENTS

- Linvatec or Dyonics shavers
- Large self retaining retractors
- T handle chuck (big ass)
- Small Mallet
- Small Ronguers
- Scissors-Mayo and Metzenbaum
- wire cutters
- Mini Frag Screw Driver for 1.5 and 2.5 Screws
- Small Osteotomes - Hand
- Large Osteotomes – Narrow Widths
- Currettes – Small Sizes

DISPOSABLES

- Coban
- Ace Bandages
- Sterile stockinettes for draping
- Fiberglass Casting Material
- Sterile Webril
- Sterile Esmarchs
- Steri Strips and Benzoin
- Suture, ALL TYPES but especially large such as #2 nylon, 0 vicryl, #5 ethibond, also monocryl 2-0, 3-0, 4-0, 5-0.
- Cautery Pencils
- Suction Tubing

- Sterile Yankauer and Neuro Suction tips
- Sterile Gloves
- Knee Immobilizers – all sizes
- Alumi Foam finger splints
- Arm Slings
- 4 x 4 and 4 x 8 Gauze for Dressings
- Laps
- Tape and dressing supplies, especially 3" tape

REUSABLES

- Cloth Gowns
- Cloth Drapes

TEACHING

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
- 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)

Equipment to invent

- Autoclavable impervious drapes for back table and "U" drapes for patient limbs, Tarps?