



## SRS Global Outreach Mission Report Form

**Site:** Cali, Columbia

**Dates:** November 5 – 12

**Hospital:** Fundacion Valle del Lille

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### MISSION ATTENDEES

**Surgeons:** Steven Mardjetko, (Director); Anthony Rinella, (Co-Director); Matthew Geck (Austin, TX); Hooman Melomed (Los Angeles, CA)

**Nurses:** None

**Instrument Reps:** Shawn O'Leary, Medtronic

**SC Monitoring Tech/s:** Laura Muncie, Biotronics

**Administrative Personnel:** Karen Mardjetko

**Host Surgeons:** Mario Gonzales, Juan Uribe, Filipe Villota

**Surgeon Visitors:** Dr. Javier Ramirez, Guayaquil, Ecuador

### DATES

**Travel Dates:** same

**Dates for Next Trip:** Late April or May 2007

### FUNDING

**Trip Funding/Estimated Costs:** see attached budget

**SUBMITTED BY:** Steven Mardjetko, MD, FAAP

**DATE:** November 12, 2006

## CLINICAL ACTIVITY

**Days in Clinic:** 5

**No. of Patients Seen:** 41

**Patient/Dx list:** see attached Excel spreadsheet

Patients with complications from previous surgery:

- 1) Ramos Angulo, Consuelo (294849) complex cong. Scoliosis with direct SCI secondary to pedicle probe during 05-06 surgery. Almost complete recover of R Brown Sequard Syndrome, ambulatory with RLE hyperreflexia. No pain.

Patients needing revision surgeries:

- 1) Montenegro Calderon, Ana (7752) – Pseudo Veptr lengthening (11-06, 05-07)
- 2) Viafora Martinez, Ani (8493) – rigid residual congenital deformity, s/p insitu fusion with residual head tile (05-07)
- 3) Rivera Restrepo, Marlon (7633) – phocomelia with 50 degree L TL curve treated with ASFI T9-L2 at age 2 2004. Prgoression of thoracic kyphosis to 50 degrees and scoliosis to 55 degrees. Rec: PSFI T2-L3 next trip
- 4) Rozo Pena, Luis (0764) – Myelodysplasia s/p asf/psf/ with revision PSFI in 2005. Now demonstrates pseudarthrosis lumbar spine with iliac screw loosening. Recommend revision PSFI with BMP and second stage ASF via R lumbotomy approach.

## O.R. ACTIVITY

**Days in OR:** 4

**No. of Surgeries:** 10

**Surgical List:** Patient Name/Medical Record No./Age/Sex/ Dx/Procedure

- 1) Aristizabel Rodriguez, Deisy (323243) – 13 yo F AIS PSFI T3-L1
- 2) Betancourth Chacon, Nataly (8780) – 15 yo F AIS PSFI T11-L3
- 3) Salavarieta Vargas, Maira (6496) – 19 yo F Cong scoliosis s/p PVCR with pseudarthrosis repair. ASF T11 to L3
- 4) Ocora Angulo, Natalia (8340)(325126) – 14 yo F with post meningitis scoliosis PSFI T2-Pelvis
- 5) Jimenez Popayan, Paoli (7142) (325117) – 9 yo M with Myelodysplasia and diastomatomyelia s/p kyphectomy with infection and implant failure. Residual lumbar kyphosis and congenital thoracolumbar congenital scoliosis. L-4 vertebrectomy and T-12 hemivertebrectomy T4-pelvis PSFI
- 6) Ibarra Ramirez, Paola (8832) – 14 yo F with AIS. PSFI T5-L1
- 7) Obregon Zapata, Liliana (327267) – Congenital cervicothoracic scoliosis C7-T11 PSFI
- 8) Ochoa Rincon, Diana (325123) – Congenital hemivertebra L5 and L3. HV resection with T12 to S1 PSFI
- 9) Orobio Sanchez, Roman (5677) – Neuromuscular Scoliosis PSFI T2-pelvis
- 10) Montenegro Calderon, Ana (7752) – Congenital thoracic scoliosis with Thoracic insufficiency syndrome. Replace Pseudo Veptr rib-rib, lengthen rib to spine

## EDUCATIONAL ACTIVITIES

**Lectures:** Presenters/Authors/ Topics

Simultaneous Webcast 11/9/06 Spinal Deformity Symposium

- 1) 70 total participants from Cali, Medellin, Bogota, Baranquilla, Cartagena
- 2) Meeting Moderator: Filipe Villota, MD, Spine surgeon from Cali, Columbia
- 3) Steven Mardjetko: The Scoliosis Research Society – an International Society
- 4) Anthony Rinella: Apply the Lenke Classification to AIS

- 5) Matthew Geck: Spondylolisthesis: Management of High Grade Spondylolisthesis with Posterior Reduction and Monosegmental Circumferential Fusion
- 6) Hooman Melomed: Scheuermann’s Kyphosis: Current Concepts in Surgical Management
- 7) Steven Mardjetko: Current Concepts in the Management of Infantile/Juvenile Scoliosis

**Case Presentations:**

- 1) Thoracic Insufficiency Syndrome with VEPTR procedure
- 2) Infantile/Juvenile Scoliosis – Growth Rod Constructs

**Surgical Tutorials:** Faculty/Topics  
None

**Instructional Courses:** Faculty/topic  
See above

**RESEARCH ACTIVITIES**

SRS Outcomes forms collected:  Yes  No

Comments:

SRS M/M Reported:  Yes  No

Comments:

Other complications to report:  Yes  No

Comments:

FOCOS database completed/submitted for all clinic patients:  Yes  No

Comments:

**Other Comments:** FOCOS used for all 10 surgical patients. Trying to decide which database to use and make sure it is faithfully applied. I’m leaning towards the FOCOS database, which we applied to every clinical and surgical patient. Have some questions on customizing database to address pathology unique to Cali. Congenital pathologies, morquios, capture data on lower extremity deformities/contractures. Utilized paper versions of the SRS 22R in Spanish for appropriate pathologies.

Discussed the need to formulate research questions pertinent to the region. A large number of children with congenital spinal anomalies were encountered. Three new morquio’s patients were seen. Discussed either these topics as options.

**MISCELLANEOUS**

**Trip Budget:** No substantial changes from previous trip expenditures. Medtronic rep. Sean O’Leary brought the usual inventory; 5.5; 4.5 Legacy and 3.5 Vertex systems. Room and Board provided by Fundacion Valle del Lille. Airfare covered by mission participants. Medical costs managed by Case de

Colombia and Fundacion Ayedumos. Spinal cord monitoring was once again provided by underwritten by Laura Muncie and Biotronics.

**Hospital:**

**Implants:**

**Surgical:** Accuracy of pedicle screw starting points was once again an issue. A medial starting point was chosen on a concave pedicle of a segmented bar without consequence to the patient. We reinforced the importance of missing lateral and using the AP C-arm in determination of appropriate starting points in complex pathology.

**Equipment:** Need new curettes, rongeurs, osteotomes, Akbarnia set, heinig curettes

**Bone Graft:** used a large amount of the donated supply. Will need to replenish

**Anesthesia:** Great on this trip, in spite of some rather increases EBLs

**Post Op Care Issues:** All kids did very well in the early PO period

**Special Post Op Care Needed:** Revision of myelo kyphosis with pseudarthrosis. I recommend two months of bedrest. Needs pantaloon spica brace.

**Travel:** Delay from Cali to Miami; missed connecting flight, added four hours to return travel times. One physician was randomly selected for intense for screening upon arrival at Miami International

Airport. This resulted in a missed connecting flight.

**Safety:** None encountered; security excellent

**Housing:** Great! Stayed at hospital in four rooms 3-2-2-1. The visiting surgeons bought a new refrigerator for the call room, and a stereo system for the Operating Room.

**Food:** No problems

**Personnel:** Dr. Rinella agreed to take on responsibility as medical co-director. Need to select faculty for next trip.

**Interpersonal:**

**Health:** Juan Uribe (host surgeon) developed gastroenteritis on Monday, and Steven Mardjetko developed gastroenteritis and missed surgery all day Thursday. Thanks to the young members on the teams, all the cases were expertly managed.

**Special Activities:** Webcast, Visit to Los Nubos, shopping

**Miscellaneous concerns/comments:**

- 1) Great and lucky idea to bring at least two visiting surgeons. When I got sick we had the manpower to maintain the surgical schedule.
- 2) The webcast to multiple site in Colombia was arranged by Dr. Villota and perfectly executed thanks to the IT skills of individuals at Fundacio Valle del Lille Hospital. This included four presentations from SRS members who attended.
- 3) Dr. Javier Ramirez from Guayaquil, Ecuador, attended this mission. He scrubbed in on cases. He is a pediatric orthopedist with very little spine surgery experience. He relates that very little spine surgery is done at his hospital. The establishment of a program at Guayaquil, will require

additional technical spine deformity training for him. This can be done “on site” by Dr. Schwend’s team. Additional training at US centers may want to be considered.

- 4) Need to get Jackson table to Cali or alternatively to Managua, Nicaragua.
- 5) Implant shipping costs were in the range of \$3000. Have no good answer for this.
- 6) Spine and Neurosurgery services at Valle del Lillo Hospital are not doing spinal cord monitoring routinely. Need to explore the reasons for this.
- 7) Invited to speak at the Columbian Orthopaedic National meeting in Baranquilla, Colombia, February 2007; would like to develop a symposium on the “growing spine”.
- 8) Reinforce the importance of maintaining respect for security situation in Cali, Colombia to all trip participants.
- 9) Continually need to encourage the importance of accurate pedicle screw positioning and the techniques to achieve this, to prevent iatrogenic complications.

#### **NEXT TRIP:**

Prospective Dates: TBD probably 4<sup>th</sup> week in April, 2007, immediately after the pediatric orthopaedic trip

#### **Potential Surgical Cases For Next Trip:**

- 1) Montenegro Calderon, Ana (7752) Congenital thoracic scoliosis with Thoracic insufficiency syndrome. lengthen Pseudo Vepr rib-rib, lengthen rib to spine. Need vertex and 4.5 rod system.
- 2) Viafara Martinez, Ani Paoli (8493) S/P T1-9 psf for cong scoliosis. Residual head tilt. KFS, progression of curve below T-9, “adding on”. Plan: T1 hemivertebra excision extension to occiput or C-2 to T12. change to 4.5 system distally. Stay with 3.5 into cervical spine. Will need 3.5 to 4.5 rod to rod connectors.
- 3) Rendon Molina, Lina Marcella (5/6/87) Severe idiopathic scoliosis R TL T8-L3 120 degrees with 90 degree kyphosis. MRI negative. Plan- anterior release/corpectomy, traction for 2 weeks prior to trip. Then definitive PSFI with 5.5 legacy.
- 4) Balocco Barrios, Angela Lucia (8/4/88) s/p chondrosarcoma excision t12 to L4 laminoplasty with progressive kyphoscoliosis and instability. R lumbar scoliosis 37 deg. Lumbar kyphosis L2-4 40 degrees Plan: CT scan, bending x-rays f/e x-rays. Plan on PSFI if flexible, with ASFI second stage. If not will do anterior release/fusion/cages on Monday, followed by PSFI with 5.5 legacy on Friday.
- 5) Rivera Restrepo, Marlon (7633) phocomelia with 50 degree L TL curve treated with ASFI T9-L2 at age 2 2004. Progression of thoracic kyphosis to 50degrees and scoliosis to 55 degrees. Rec: PSFI with 4.5 mm legacy T2- L3 next trip
- 6) Roza Pena, Luis (0764) Myelodysplasia s/p asf/psf with revision PSFI in 2005. now demonstrates pseudarthrosis lumbar spine with iliac screw loosening. Recommend revision PSFI 5.5 legacy with BMP, and second stage ASF via R lumbotomy approach same day or later in the week. NEED BMP! 4 large infuse2
- 7) Valencia Valenzuela, Virggy Tattiana (8872) 13 yo F Marfan’s syndrome with rigid progressive kyphoscoliosis L PT 40, RT 82, LL 65 with minimal correction on bending. Recommend ASF from right sided double thoracotomy with anterior release from T6 to L4. May need L1 corpectomy. Do this one week prior to PSFI with 5.5 legacy. Needs c-spine with f/e, MRI, traction, benders.
- 8) Vasquez Mercado, Juan Camillo (6442) 5 yo with proximal thoracic TB kyphosis. Progressive kyphosis noted on x-ray, but CT looked severe years ago. Possible development of pathologic reflexes of lower extremities. Recommend return on Sunday with new CT and MRI and new scoliosis x-rays. May consider PVCr with PSFI with 3.5 or 4.5 mm rod system
- 9) Trivino Torres, Luis Fernando (302467) 9 yo with CP community ambulator. Progressive Left Lumbar curve of 55 degrees in spite of bracing. Rec PSFI T2-L4(or pelvis) with 5.5 mm Legacy system
- 10) Paz Mamlanda, Gustavo Adolfo 19 yo male with KFS and overt neural deficits. Normal intelligence. B CF surgery with severe residual deformity. UEs weaker than lower extremities. R thoracic scoliosis 72 degrees. Recommend repeat MRI brain/cx/thoracic. Consider PSFI with 5.5 legacy. May need ASF

**Issues to Consider on Next Trip:**

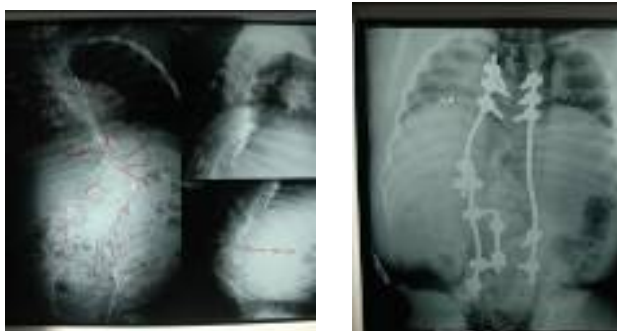
- 1) Need to develop some research projects for the host surgeons, and participate in these. Abstract date is 2-1-07 for SRS and IMAST
- 2) Need Mario Gonzalez and Dr. Juan Uribe to apply for SRS membership
- 3) Work on getting a Spinal cord monitoring service organized for Valle del Lille hospital.
- 4) Consider bringing Amy Miller and or a second SC monitoring person. They can also aid in data entry, though this is the physician's responsibility.
- 5) Advance Dr. Rinella to medical co-director. He will pilot the next trip. I May be able to do some anterior releases the week before during the Buga ped.ortho trip.
- 6) Try to decide on which database to use, and make sure it's faithfully applied. I'm leaning towards the FOCOS database, which we applied to every clinical and surgical patient. Have some questions on customizing database to address pathology unique to Cali. Myelodysplasia and Congenital pathologies, Utilized paper versions of SRS 22R in Spanish for appropriate pathologies.

**TRIP PICTURES:**

6 month follow-up of myelo kyphectomy in 4 yo M. operated in may 06.  
Doing well, with no complications



9 yo male with previous attempt at kyphectomy with infection and pseudarthrosis  
Underwent PVCr lumbar spine and hemivertebra excision T12. no signs of active infection. tolerated well. Recommend 2 months bedrest.



14 yo female with AIS 65 degree right thoracic curve treated with PSFI  
Standing up on POD #3



**Educational/Social:**

Host Mario Gonzalez with Hooman Melomed, Anthony Rinella, Matthew Geck, and myself in clinic and on the pediatric ward.



Research team Laura Muncie and Karen Mardjetko recorded clinical and radiographic data real time in clinic. Laura Muncie from Biotronics did SSEP/MEPS/EMGs in the operating room



Spinal Deformity Symposium Webcast lecture on High Grade Spondylolisthesis by Matthew Geck with 70 participants nationwide.



Saturday/fun day at Los Nubas

