

SPINE EDUCATION AND RESEARCH FOUNDATION

# Activities Report of Operation Straight Spine 2014 Kolkata, India

Jeff McConnell, MD  
22 FEB 2014

Activities report for Operation Straight Spine during February 2014 in Kolkata, India. This report includes a description of the surgeries performed on patients with a variety of spinal maladies.

TEAM MEMBERS FOR OSS 2014:

INDIA: Ujjwal K Debnath, FRCS – Orthopaedic Spine Surgeon

UK: Caroline Davies, MD – Consultant Anaesthesiologist  
Meera Alexander, MD – Consultant Anaesthesiologist  
Priya Krishnan, MD – Consultant Anaesthesiologist  
Kate Masters, RN – Scrub Nurse  
Marian Barry, RN – Scrub Nurse  
Rachel Hunt, RN – Paediatric Nurse Specialists

US: Jeff McConnell, MD – Orthopaedic Spine Surgeon  
Ripul Panchal, MD – Neurosurgeon  
Denise Lawyer, RN – Scrub Nurse  
Johanna Ziegler, CST – OR Scrub Tech  
Chelsea Naddeo, RN, BSN – Neuromonitoring Specialist  
Dan Welsh – Globus Medical Representative

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Surgery Center of Allentown

07-08 FEB 2014

US team consisting of Jeff McConnell, MD, Denise Lawyer, RN, Chelsea Naddeo, RN, BSN and arrive in Kolkata from New York (via Dubai, UAE) on Emirates Airlines at 19:15. The team is met by Dr. Debnath at the airport and we travel to the Tollygunge Club where the team will stay for the coming two weeks.

09 FEB 2014

The UK team arrives to the Tollygunge club by 1200 and all take a rest before heading to the hospital. Ramakrishna Mission Hospital: The first day is spent gathering our supplies shipped from the US and organizing the store room with both new and old supply stocks. Unfortunately the implants from Globus Medical are held up in customs and are stuck in New Deli. Dr. Debnath is working hard, making multiple phone calls to customs and Globus to try and sort the situation out. He is required to write multiple emails and letters to customs in Deli to try to expedite the process. We make rounds on the various wards to assess the patients who are admitted for surgery over the next two weeks. Many of the patients have scoliosis. Two young children are patients we treated last year with growing rod constructs who will require lengthening of the instrumentation. Unfortunately, we need the 4.5 mm implant sets that are held up in Deli.

With as much sorting work that could be done that day we returned to the Tollygunge club to prepare for dinner.

10 FEB 2014

First Day of surgery at RKMSp.

1. Anushka Naha, 11 yo female with history of CP and developmental delay and a severe right thoracic scoliosis measuring 76 degrees . Surgery consisted of posterior correction and fusion with instrumentation T2 to L1. Surgery went well. She will remain intubated over night due to her history of behavioral problems and recent cough. She was producing heavy secretions so we wanted to protect her airway adequately through in the night in the ITU.

Due to the sterilizer being inoperable most of the morning we were not able to start our case until well after 14:00 hours. We finally finish with surgery around 19:30 and get back to the Tollygunge Club around 21:30 where we meet up with Dann Welsh from Globus who has just arrived from the US. Dann had to delay his arrival because his visa arrived later than anticipated.

11 FEB 2014

Still bad news on the implants and there is no definite date as to when they might be released form customs.

2. Adrita Dasgupta, 23 yo female with right thoracic scoliosis of 53 degrees. She had very small pedicles throughout her spine and therefore we could not use pedicle screws to help correct the deformity. Instead we used an all hook construct with two rods with fusion from T5 to L1. We actually achieved very good correction and the surgery went well.
3. Sujata Halder, 20 yo female with history of dextrocardia and a left thoracic scoliosis of 40 degrees. Surgery consisted of posterior fusion and pedicle screw, hook and rod instrumentation from T3 to T11. The Pediguard probe was instrumental in allowing us to insert the multiple 4.5 mm pedicle screws into the thoracic spine safely and accurately.

We finally left RKMSp around 21:30 and return to Tollygunge Club. We get Chinese take away for dinner.

12 FEB 2014

4. Mousumi Das, 21 yo female with 65 degree right thoracolumbar scoliosis from T10 to L4. There was a compensatory left thoracic curve of 50 degrees. Surgery consisted of posterior correction with all pedicle screw and rod instrumentation and fusion from T9 to L4.
5. Sahajin Ali, 28 yo male with history of TB affecting the L3-4 disc space. He had prior L3-4 anterior debridement and interbody fusion with anterolateral instrumentation. Despite medication he had recurrence of the TB infection and a painful abscess had formed around the anterior aspect of the L3-4 disc and had spread to form two other collections in the retroperitoneum and subcutaneously in the left buttock region. Surgery consisted of a lateral, retroperitoneal approach from the left to access, drain and debride all areas of abscess. A large drain was placed.

Priya Krishnan (anaesthesia) arrives from the UK at 15:30 to join our team. She came straight from the airport to RKMSp just in time for our second surgical case of the day. This is Priya's first time with OSS and so she gets oriented to the hospital and the surgical routine.

13 FEB 2014

6. Sulata Mondal, 17 yo female with left lumbar scoliosis T11-L3 of 45 degrees. She also had a leg length discrepancy and pelvic obliquity. Surgery consisted of posterior correction, instrumentation and fusion from T11 to L3 with all monoaxial screw construct.

We were not able to complete a second case today due to the fact that the implants from Globus are still stuck in New Delhi. Dann Welsh, Dr. Debnath and Mr.

Nizamudeen Showkatali (regional Globus representative) continue to work hard in getting the implants released from customs.

It is Meera Alexander's birthday and to celebrate we all have dinner at the Kolkata Golf Club which is the second oldest golf club in the world behind St. Andrews in Scotland.

14 FEB 2014

7. Ranjan Bhatt, 66 year old female with tuberculosis involving T11 and T12 vertebrae. This area has been problematic for quite some time. She initially had what was thought to be an osteoporotic compression fracture of T12 which was treated with vertebroplasty. Pain and progressive vertebral collapse continued and she was subsequently treated with a posterior surgery to fuse and stabilize the area with screws and rods. She improved for a while and then the pain came back and she was subsequently diagnosed with Tuberculosis of the spine. She developed spinal cord compression and weakness in the legs. She had a second surgery to drain the abscess from an anterior approach, remove the collapsed vertebra and stabilize the area with anterior rods and screws from T10 to L1. Unfortunately this procedure failed as the anterior cage migrated, the screws loosened and she developed recurrent cord compression and severe weakness in the legs. A third surgery was performed where the anterior cage and rods were removed from a posterior approach, recurrent abscess drained and the posterior instrumentation extended from T8 to L5 to stabilize her spine. Unfortunately by this point she was now completely paralyzed and was being kept on bed rest because of the concern of instability of the spine due to the large defect left after the debridement and cage removal.

It was now decided to reconstruct her spine with additional surgery which consisted of an anterior approach through the prior thoracotomy incision. Scarring around the lung was minimal and access to the spine relatively easy. The area was drained of persistent TB abscess and debrided of additional bone, disc material and cement from the vertebroplasty. An area of cord compression was relieved. The anterior defect was then bridged with an expandable titanium cage and rib strut grafts, RhBMP2, and iliac crest bone graft were placed for fusion. A second stage procedure was performed to revise the posterior instrumentation with extension up to T5 with additional screws placed at L1 and L2.

15 FEB 2014

8. Arman Sardar, 13 yo male with severe right thoracic scoliosis measuring 85 degrees from T6 to L2. The curve was very stiff. Surgery required posterior instrumentation and fusion from T4 to L3 with Ponte osteotomies and apical, concave rib osteotomies to help mobilize the spine for better correction. An all

screw construct supplemented with 4 sublaminar cables placed around the apex of the curve was utilized. Reasonably good correction was achieved .

The UK team departs for home. We will miss them.

16 FEB 2014

A day of rest for the team.

Ripul Panchel, MD arrives form the US to join the OSS team for the second week of our trip.

17 FEB 2014

9. Dipa Malakar, 36 year old female with tuberculosis of the spine involving the L5–S1 and L4–5 disc spaces. This infection was chronic having been present for about 6 years . The L5 vertebra was nearly completely destroyed as well as part of the S1 segment. She was now developing pain and weakness in the right leg due to compression of the L5 and S1 nerve roots. There was kyphosis at the lumbosacral junction and there was now spontaneous posterior fusion of L4 to S1. A large abcess with dystrophic calcification was present anterior to L5 and extending into the pelvis anterior to the sacrum. Surgery was performed in two stages with the first stage being done from posterior with Ponte osteotomies at L3–4 and L4–5 and placement of posterior instrumentation with pedicle screws at L3 and L4, bilateral iliac bolts, and dual rods. The second stage consisted of an anterior retroperitoneal approach from the right and drainage of the large abcess. The remainder of the L5 vertebra was removed and the cavity debrided of all necrotic material and dystrophic calcification. An expandable titanium cage and bone graft was placed from L4 to S1.

18 FEB 2014

10. Rukhe Jeba, 9 year old female with congenital right thoracic scoliosis. Surgery consisted of a right thoracotomy and T5–6 and T6–7 discectomy followed by posterior distraction instrumentation using Protex–C from T5 to T12. She is admitted to the ICU for postoperative observation.

19 FEB 2014

11. Asis Saamal, 36 year old male with history of L2 burs fracture which occurred a result of a fall ten years earlier. There was retropulsion of bone into the canal and compression of the thecal sac. There was kyphosis at the fracture site and over time he developed increasing stenosis and neurogenic claudication in the lower extremities. Surgery consisted of an anterior left retroperitoneal approach with L2 corpectomy and removal of the retropulsed bone into the spinal canal to decompress the nerve sac. The defect was filled with an expandable titanium

cage and bone graft from the vertebral body and the removed rib was applied for fusion.

12. Rukhe Jeba is returned to the OR to place a chest drain on the left side. She had developed some respiratory difficulty over night and a chest x-ray showed a pneumothorax on the right. The procedure was brief and the lung was successfully treated by the procedure.

20 FEB 2014

13. Basanti Sen, 84 year old female with a history of a fall 3 weeks ago where she sustained an extension-distraction fracture of the L1 vertebra. She had severe back pain and weakness in her legs left greater than right side. She required medical evaluation due to her history of surgery. Surgery consisted of posterior correction of kyphosis and instrumented fusion from L1 to L2.

Sadly we were not able to complete the revision surgeries for Tithi Pan and Dipankar Halder, two 7 year-old females with early onset scoliosis. We have operated on both girls the year before and placed growing rod constructs and it was now time to perform revision surgery and provide further lengthening of the spine. Unfortunately the 4.5 mm rod system from Globus was not able to clear customs in Delhi in time for us to complete the surgeries. With heaviness in our heart we had to discharge the two girls from the hospital without being able to accommodate their surgeries. Dr. Debnath plans to return to Kolkata in the coming months to complete their surgeries when/if the implants are released from customs in Delhi. It is absolutely critical their procedures be completed in the next several months to assure that their spines remain flexible thereby providing the opportunity to achieve further correction of the spine.

21 FEB 2014

We return to the hospital for the last time. We make rounds on all the patients and discuss further post-operative care with the resident orthopaedic staff and Dr. Debnath. All the patients are doing well. We are able to pull the chest drain on Rukhe Jeba and the lung has successfully re-expanded. We identify that Arman Sadar had developed a reactive pleural effusion in the left chest and arrangements are made to have the collection drained via ultrasound guidance. The team packs up supplies and instruments and return them to the store room.

We return to the Tollygunge club to pack our personal belongings and begin the journey to the airport and finally back to the US. We are happy to be going home but sad to leave our patients. We all look forward to returning next year to see the progress our patients will make. We leave feeling very gratified with the work we have done and the lives we have changed in such a positive way.

Jeff McConnell, MD