

APSS Depuy Synthes

Spine Travelling Fellowship

13th March – 1st April 2016

Kathmandu, Nepal

(13th March – 19th March 2016)

Host: Professor Rohit Pokharel, Tribhuvan University Teaching Hospital

Group Members:

Md Yousuf Ali (Bangladesh)

- **Assistant Professor of Spine Surgery, Department of Orthopedics, Bangabandhu Sheikh Mujib Medical University, Dhaka Bangladesh**

Ho-Jin Lee (South Korea)

- **Assistant Professor, Department of Orthopedic Surgery, Chungnam National University, Daejeon City, South Korea**

Qianyu Zhuang (China)

- **Associate Professor in Spine Surgery, Department of Orthopedics, Peking Union Medical College Hospital, Beijing, China**

Nur Aida Faruk Senan (Malaysia)

- **Spine Fellow, Sarawak General Hospital, Kuching, Malaysia**

Day 0

Sunday, March 13th 2016

We arrived in Kathmandu, Nepal all geared up for the travelling fellowship. Ho-Jin Lee had arrived two days earlier than the rest of us so he had familiarized himself with city. He was very touched that Professor Rohit, our host came to the hotel to meet him personally to make sure everything was all right.

The accommodation, Hotel Manaslu was clean and comfortable. Apart from Ho-Jin Lee having to change room once (it was too close to the kitchen, the smell being overpowering), the rest of us had no issues with the rooms. The hotel was a comfortable home for the rest of the week, and the free wi-fi provided allowed us to communicate with our family back home easily. The free breakfast was also tasty and kept us going throughout the morning. It was located right in the city, so it was very near the host hospital.



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Day 1

Monday, March 14th 2016

Dr Sushil, a surgeon with the spine team arrived at 9 am to bring us to the teaching hospital. We were greeted warmly by Professor Rohit Pokharel in the department office. He briefed us about the program for the rest of the week and also brought us for a tour of the hospital. He introduced us to the rest of the members of the spine team, namely Dr. Dinesh Kafle, Dr Rajesh as well as Dr. Sushil.

The hospital is the oldest teaching hospital in Nepal, and was built by the Japanese to withstand earthquakes up to 10 Richter, that was why this hospital was not damaged by the April 2015 devastating earthquake. It was a challenging time during the earthquake, where they were operating non-stop for a month. Many lives were lost and many more injured in the earthquake.

The agenda for the morning was clinics, where we sat together with Prof Rohit and Dr. Dinesh in their busy clinic to see patients. We saw cases of degenerative spine, post traumatic spine fractures as well as cases of prolapsed intervertebral discs. The clinic finished about 1 pm, and we adjourned to lunch at a nearby restaurant. There we were treated to a meal of Momo, which is the staple dish in Nepal- a fusion between a Chinese dumpling and served with special Indian spicy sauce. It was delicious!

After lunch we followed the ward rounds that also included the pre operative rounds for surgery the next day. The spine team not only manages spine cases but also share the load of managing the trauma patients. We saw a multitude of patients in the ward, mostly traumatic spine injury and spine infections. There were also many trauma patients with multiple fractures. We discussed about tuberculosis, as some of the other fellows are not exposed to many tuberculosis cases in their centers. As most patients are from a low socioeconomic background, they have difficulties paying for the surgery or implants, so the surgeons have to resort to using implants made in neighboring countries which are of international standard but much more affordable.

Another issue discussed was the late presentation of patients to the hospital. This is due to the challenging terrains in Nepal, and some patients have to walk through the mountains for 3 days before reaching a road that can bring them to the hospital.

We also saw the pre operative cases, one patient with radiating pain from L5 root irritation was planned for decompression of L4/5, using the restorative spinoplasty technique. Another patient was planned for anterior cervical discectomy and fusion (ACDF) C4/5 after he sustained a traumatic disc prolapse causing canal stenosis and tetraplegia.



Ward rounds with Professor Rohit and clinics at Tribhuvan University Teaching Hospital with Professor Rohit and Dr. Dinesh Kafle

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Ward rounds and group photo with (from left) Dr Rajesh, Lee, Professor Rohit, Aida, Dr. Sushil, Yousuf, Qianyu

Later that night we were treated to a dinner by the whole Orthopedic Department of the Tribhuvan Teaching Hospital. Here we met the Head of Department as well as the other senior and junior surgeons. They told us the history of the department that started with three surgeons, but now has quadrupled in number. The relationship between the junior and senior surgeons are very close. We felt very welcomed by their effort in arranging a hearty dinner for us.



Dinner with the Orthopedic Department of Tribhuvan University Teaching Hospital

Day 2

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Tuesday, March 15th 2016

We started the day by attending the morning handover with the rest of the doctors of the orthopedic department. There was also a presentation by the spine team regarding their statistics and we discussed interesting cases, among them was a neglected spine tuberculosis with severe kyphosis which was treated with corrective osteotomy.

We then went to the operating theatre and the first case was the L4/5 decompression using the restorative spinoplasty technique which Professor Rohit has published a paper on. Dr Lee assisted in this case. He explained his technique that allows the preservation of the posterior elements and allowing a bilateral decompression to be performed.

The next case was the ACDF which Dr. Qianyu and Dr. Nur Aida assisted. Professor Rohit explained step by step and the surgery was performed smoothly even without the Kaspar distractor and retractor. The implant used was donated by a European country during the earthquake.



Operating Theatre

That evening we finally met Dr Yousuf who arrived earlier that afternoon. That evening there was a meeting with the at the Manaslu Hotel and we all presented our presentations. Avid discussion followed thereafter, about the various issues that were presented, which was followed by a buffet dinner at the hotel.

Presentation titles were:

- Ho-Jin Lee – Efficiency and safety of demineralized bone matrix for lumbar posterolateral fusion
- Yousuf Ali – Early experience of MIS TLIF in low grade spondylolisthesis and degenerative disc disease with a single cage and bone graft by using traditional instruments
- Qianyu Zhuang – One stage posterior-only lumbosacral hemivertebrae resection with short segmental fusion. 2 year follow up experience
- Nur Aida Faruk – Ankylosing spondylitis with severe kyphosis – case review

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Dinner and Presentation with members of Association of Spine Surgeon Nepal (ASSN), Nepal Medical Association (NMA) and Nepal Orthopedic Association (NOA)

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Day 3

Wednesday, March 16th 2016

We started the day early by following the grand ward rounds. We also managed to see the post operative patients, who were doing well. We also met the hospital director Dr Dipak who is an Orthopedic arthroplasty surgeon. We were treated to tea at the Directors office.

Later, we were scheduled to visit two other nearby government hospitals. Dr Rajesh, a surgeon in the spine team accompanied us for our visits. The first hospital was the Trauma Centre. It is the sister hospital of Bir hospital – which is the oldest hospital in Nepal. In the Trauma Centre, only orthopedic, and surgical trauma cases are admitted. The hospital was built by the Government of India. It is a large and modern hospital. We went to the operation theatre where one spine case was being performed for a spine fracture.

We took a short walk to the Durbar Square, the old square which was heavily affected by the earthquake. We also went to the Kumari's house, which was situated in the Durbar Square. Kumari is a living goddess and is a revered figure in Nepal. Since it was almost lunch time, we stopped for lunch nearby and tried the local Dosai and Sweet desserts.

We continued our journey to the Civil Hospital, which was built by the Chinese government. (Most signs had Chinese translation too). This hospital was to cater for the civil servants but is also open for the general public. Here we were brought for a tour and we meet the three surgeons in the orthopedic department. We had lively discussions about the cases that were done and what are the challenges they face.



At the Trauma Centre



At the Kumari House with Dr Rajesh



At Civil Hospital

Day 4

Thursday, March 17th 2016

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Today we were scheduled to go to Dhulikhel Hospital, a teaching hospital for Kathmandu University. This hospital is situated 1000m above sea level and is surrounded by the mountainside. It is 30 kilometres away from Kathmandu City but the journey took about one and a half hours, due to the heavy traffic. We arrived about 9.30, and was greeted by Dr Dipak Shrestha, who is the head of the orthopedic department as well as the spine team. Like us, he too was an APSS travelling fellow back in 2014. He showed us around the hospital that is surrounded by beautiful landscape high in the mountains.

After a quick tea, we headed to the operation theatre. There was a case for ACDF for cervical myelopathy that Dr Lee and Dr Nur Aida scrubbed for the case. Dr Dipak shared the tips and tricks that he learnt from the neurosurgeon when performing this surgery. Once done with the surgery, we had many questions for him regarding his techniques and he shared with us what he had learnt from his other fellowships abroad, such as with Professor Abumi.

Due to lack of operating time, the second case was postponed to the next day. We had a delicious lunch at the canteen and then brought by the registrar Dr. Sabik to the Kali Temple. This temple is a lookout point and is 1600m above sea level. We did not realize that to reach there, we had to walk 1300 steps! It was quite an effort for us but we finally made it to the top, and we were amazed by the spectacular view of the serene mountains. After taking in the scenery and also many many photos, we made our way done.

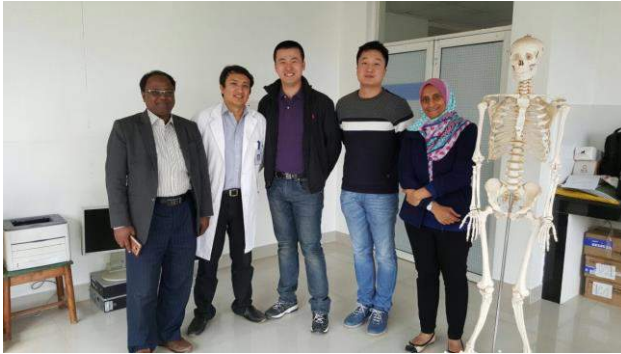
That night we had dinner in the Mirabel resort in Dhulikhel, which was our first group dinner alone. Here we chatted about our family and work and got to know each other better.



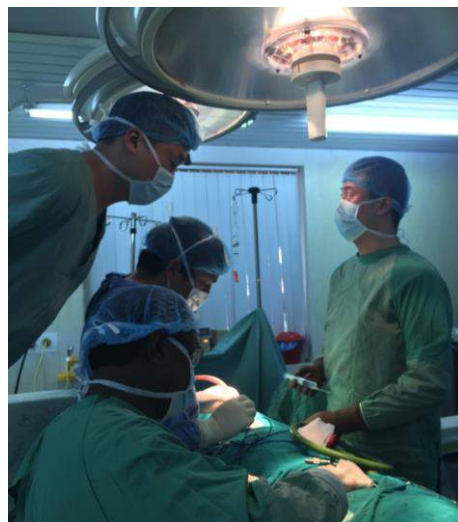
Dhulikhel Hospital and the view from the hospital

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With Dr Dipak Shrestha



Operation Theatre Dhulikhel Hospital

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Day 5

Friday, March 18th 2016

After breakfast, we set off back to the hospital. Dr. Dipak gave us a short presentation on the cervical spine and he taught us the Abumi technique of inserting cervical pedicle screws. He also showed us a video of an en bloc spondylectomy for a spinal tumor. It was a brave effort to be undertaken, and with a good surgical outcome. We continued our discussion with him in the operation theatre, where the second case was also ACDF but it was a post traumatic patient. Dr. Qianyu and Dr. Yousuf scrubbed in for the case. Iliac bone graft as used in lieu of a cage due to cost factor.

We headed back to Kathmandu after a Momo lunch, but stopped by the ancient city of Bhaktapur on the way back. It was the capital city in Nepal during the ancient times, and the buildings there are very intricate and beautiful. Unfortunately, most were damaged in the earthquake and are now in the process of being restored. The city is very pretty, lined with shops selling food, souvenirs and many other things.

That night we attended a dinner hosted by the Nepal Arthroscopy Assosication, as there was a cadaveric workshop going on. During this dinner we met more surgeons from Nepal as well as some whom we met earlier in the week. The all were very welcoming and happy to have us there. The dinner was a buffet dinner with very good local food. Since it was our last night In Nepal, we ate to our hearts content.



Sunrise at Dhulikhel



Operation theatre Dhulikhel Hospital



Dinner at Nepal Arthroscopy Association Meeting

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Day 6

Saturday, March 19th 2016

Professor Rohit came to meet us to bid us farewell and we thanked him profusely for all this teaching and for being a wonderful host. We spent the day getting ready for the night flight to Melbourne. The host was kind enough to arrange airport transfers for all us as we travelled at different times

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Melbourne, Australia

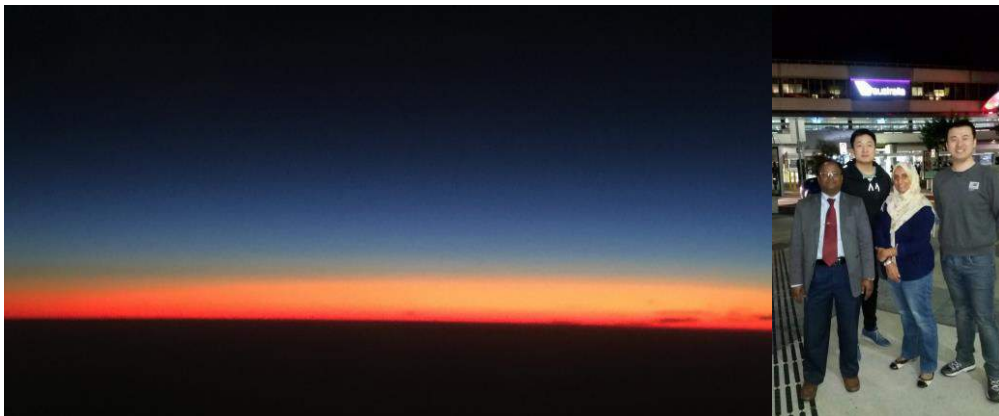
Host : Mr. Michael Johnson, Royal Children's Hospital, Melbourne

DAY 0

Sunday, March 20th 2016

We arrived in Melbourne late night on Sunday. It was an almost 20 hour journey for us as we had to take transit flights from Nepal to Melbourne. Nevertheless, Melbourne welcomed us with nice weather! The host had informed us earlier about the accommodation arrangements and also the airport pickup, so we were shuttled by a minivan to The Larwill Studio, which would be our home for the next 9 days.

We were pleasantly surprised with the accommodation provided, because it was right next to the Royal Children's Hospital and it was also just recently opened. The creative design was very pleasant and the beds were so comfortable, it was a difficult task to get out of bed in the morning.



Sunset down under upon arrival at Melbourne



The Larwill Studio

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DAY 1

Monday, March 21st 2016

We were thankful that Mr. Johnson scheduled to meet us at 9.30am, as we were still jet lagged and recovering from the long day of travel the day before. We were already given a copy of our itinerary for the week, prior to our arrival. He welcomed us warmly and brought us next door to the newly opened Royal Children's Hospital, the biggest children's hospital in the southern hemisphere.

The hospital is truly a hospital built with children in mind! It is situated at a fringe of a park, and is a modern, state of the art, 330 bedded hospital. We were brought to see the wards, clinics and the operating theatre and later briefed on the medical health care practice in Australia. We also saw two of his patients in the wards, both recovering from complex spinal deformity surgery, and we discussed possible management options for those two patients. We had lunch in one of the many cafés at the hospital, and after lunch we walked over to his private clinic across the road. There were 20 patients scheduled that afternoon, and all pediatric scoliosis cases. We were able to see a variety of scoliosis cases, some with smaller curves which were treated conservatively, and also post operative cases. We also listened to how he counseled patients and explained to them about their condition.

The clinic finished about 5.30 pm, and we headed out for dinner at a Malaysian restaurant called Mamak, in town. There was a variety of Malaysian food, which was authentic and tasty.



The Royal Children's Hospital, with Mr. Michael Johnson at the EOS scanner lab

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Day 2

Tuesday, March 22nd 2016

We were divided into two groups today, the first group would be in the RCH operating theatre the whole day, while the second group would be in the RCH clinic in the morning and the Royal Melbourne (adult hospital) operating theatre in the afternoon.

Dr. Qianyu and Dr. Yousuf were in the group who was in the operating theatre. They observed two cases, both adolescent idiopathic scoliosis. They were operated on by Mr. Johnson and Ms. Susan Liew. Here they observed the pedicle screw insertion, as well as the usage of the 'smartlink', to facilitate the insertion of the rod into the curve. They had discussions with Mr. Johnson regarding management of scoliosis especially congenital scoliosis.

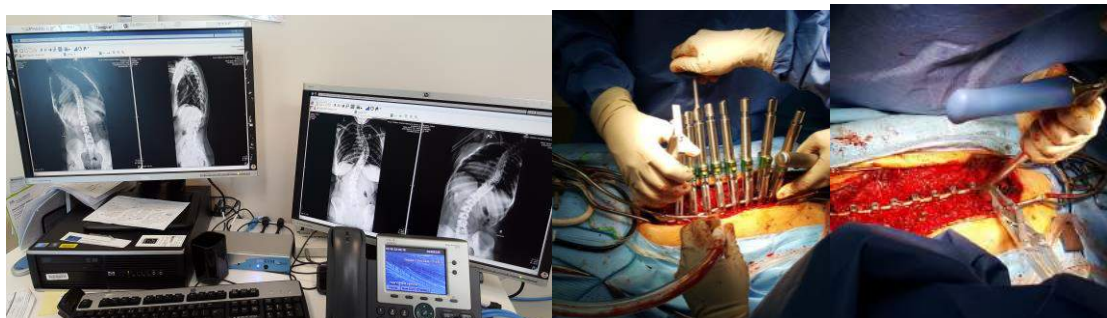
Dr. Lee Ho-Jin and Dr. Aida saw many pediatric scoliosis cases in the RCH clinic, together with Mr. Kris Lundine. There were also many complex cases, those with challenging deformities that have been treated there.

In the afternoon, they took a walk down the road to the Royal Melbourne Hospital, where they were met by Mr. Peter Turner. Here they observed two cases, the first was anterior lumbar interbody fusion of L5/S1. They saw an interesting method of bone graft harvesting from the iliac bone using the acetabular reamer. This provided large amounts of bone, relatively fast. The second was a chance fracture the thoracolumbar junction, which was fixed posteriorly.

In Australia, all patients have health insurance, so the cost of medical care including implants are all borne by the medical insurance.



Surgery at Royal Melbourne Hospital



Scoliosis surgery at Royal Children's Hospital

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Day 3

Wednesday, March 23rd 2016

We started the day early, as there was grand ward rounds presentation today. The whole pediatric department would present the census for the week as well as present the cases that were to be operated on the following week. This meeting was attended by all the consultants in the department as well as the registrars and some clinic staff.

Dr Qianyu presented his topic on short segment fusion in congenital lumbar hemivertebra during this meeting. We also saw one long case discussion, in a young boy who had healed spine tuberculosis and now developing severe kyphosis. A debate ensued on the suitable timing of the corrective surgery as the child was asymptomatic, and clinically normal except for lower limb hyperreflexia. Tuberculosis is not endemic in Australia, so it is a rarity to see such cases.

After the meeting, we were taking to view the facilities there, such as the spacious gait lab. There is extensive study on cerebral palsy in RCH, so this lab helps in assessing their gait. We headed to the Royal Melbourne for the afternoon session of operating theatre. There we managed to see two cases of posterior fixation for thoracic fractures.

That evening, we went to the night market at the Queen Victoria market to have dinner.



Grand Ward Rounds presentation and The RCH pediatric orthopedic team



The gait lab

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Day 4 **Thursday, March 24th 2016**

We visited the Austin Hospital in the morning. It is about half an hour from the RCH. We were briefed by Professor Andrew Nunn, on the rehabilitation services in the region. We also attended the grand ward rounds of the spine team. We met Mr. Gerald Quan, who gave us a short presentation on his experience in treating spinal tumors, which is his interest. He too was a travelling fellow under the APSS program many years ago. There was also a radiology conference and census on the cases performed that week and the following week. The cases were mainly degenerative as well as trauma.

We followed the ward rounds and then later attended the clinic that was located in another hospital, about 10 minute drive away. In the clinic we saw degenerative lumbar cases as well as some spinal tumors.

That evening, we were brought by the host to watch the first game of the Australian footy at the Melbourne Cricket ground. It was a unique experience for all of us, as we had never been to a footy game before. The game was exciting and we enjoyed the whole experience, together with the 85 000 people in the stadium.



With Mr. Gerald Quan

Day 5 **Easter Holiday** **Friday, March 25th 2016**

Easter holiday was a long four-day weekend, and we took the opportunity to take a day tour. The tour was breathtaking and we were lucky to enjoy good weather throughout the journey.

Day 6 **Saturday, March 26th 2016**

Mr. Johnson had planned an outing for us at the Healesville Sanctuary. The journey there took an hour, and he drove us there from the city. We saw all the local animals such as the kangaroo, wombat and koalas. We also enjoyed the heart stopping birds of prey show, where well trained birds will fly right by the audience! That evening he graciously invited us to his home for a traditional Australian barbeque. We were very touched because he and his wife had sourced for halal meat for the two Muslims in the group. Mrs. Johnson cooked up a feast for us! We had lamb, salad, potatoes

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and even two different desserts! We ate to our hearts content and were very thankful to Mr. and Mrs. Johnson, who opened their house to us.

Day 7 **Sunday, March 27th 2016** **Free day**

We had a free day, which was spent seeing the city.

Day 8 **Monday, March 28th 2016**

Mr Johnson invited us to go for a ride on his sailboat from the Docklands to Williamstown.

Day 9-12 **March 29th to April 1st 2016** **APOA congress, Melbourne Exhibition Centre**

We attended the Asia Pacific Orthopedic Association congress at the Melbourne Exhibition Centre. During the meeting, we met many great legends in orthopedics as well as in spine surgery. We listened to keynote lectures, debates as well as free paper presentations. Dr. Nur Aida also presented our groups experience during the last two week, as did other clinical and travelling fellows. We also got to know the other fellows for the other group as well as the clinical fellows. This meeting provided us with great networking and friendship, and a once in a lifetime opportunity to travel and learn from many different people. We are thankful for this opportunity and are honored to be the pioneer group of travelling fellows in Nepal and the RCH.

We would like to especially thank

- Committee of the Asia Pacific Spine Society and APOA for allowing us this once in a lifetime opportunity
- Professor Rohit Pokharel and Mr. Michael Johnson who were excellent hosts, taking time to share their knowledge and experience with us.
- Our respective head of departments for allowing us the time off work to attend this meeting
- Professor Kwan Mun Keong and Professor Chris Chan who were in touch with us throughout the fellowship, guiding us along the way.
- Ms. Jenny Wong who tirelessly arranged our itinerary and was constantly making sure we were well taken care off.

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With the other clinical and travelling fellows



With Professor Abumi

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With Professor Kenneth Cheung

With Mr. Wong Chung Chek

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Age	Centre	Diagnosis	Surgery	Surgeon
37	Tribhuvan Teaching Univeristy Hospital	Prolapsed Intervertebral Disc L4/5	Restoratic spinoplasty L4/5	Prof Rohit Pokharel
45	Tribhuvan Teaching Univeristy Hospital	Traumatic C6/7 disc prolapse	ACDF C6/7	Prof Rohit Pokharel
56	Dhulikhel Hospital	Cervical myelopathy with C3/4 stenosis	ACDF C3/4	Dr. Dipak Shresta
26	Dhulikhel Hospital	Post traumatic C5/6 subluxation	ACDF C5/6	Dr. Dipak Shresta
15	Royal Childrens Hospital	Adolescent Idiopathic Scoliosis	Posterior Instrumentation and Fusion	Mr. Michael Johnson
13	Royal Childrens Hospital	Adolescent Idiopathic Scoliosis	Posterior Instrumentation and Fusion	Mr. Michael Johnson
35	Royal Melbourne Hospital	Soft tissue chance fracture T11/2	Posterior Instrumentation T11/12	Mr. Peter Turner
			Anterior Lumbar Interbody Fusion L5/S1(first stage surgery)	
26	Royal Melbourne Hospital	Lumbar Scoliosis with S1 radiculopathy		Mr. Peter Turner
37	Royal Melbourne Hospital	Burst fracture T4	Posterior Instrumentation and Fusion	Mr. John Smith