



# Asia Pacific Spine Society (APSS)

( Spine Section of APOA )

## APSS DEPUY SYNTHES SPINE CLINICAL FELLOWSHIP REPORT

17 MAY – 6 JUNE 2018

Fellow- **Dr. Shardul Madhav Soman**

Assistant Professor and Consultant Spine Surgeon, Dept Of Orthopaedics

Smt Kashibai Navale Medical College Pune

HOST- PROF GABRIEL LIU, NATIONAL UNIVERSITY HOSPITAL SYSTEM, SINGAPORE



Division of Spine Surgery, University Spine Centre  
Department of Orthopaedic Surgery, UOHC  
*APSS-NUH Spine Fellowship 2018*



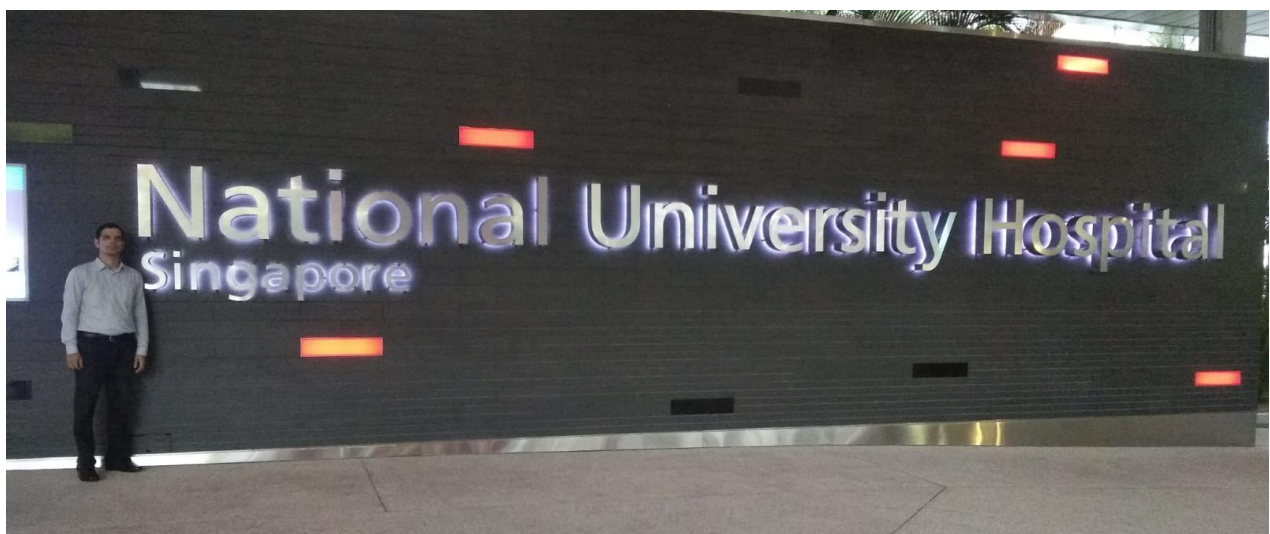
Front Row (Left to Right): Dr Dennis Hey, A/Prof Naresh Kumar, Prof Wong Hee Kit, A/Prof Gabriel Liu, Dr Lau Leok Lim  
Back Row (Left to Right): Dr Joel Tan Yong Hao, Dr Lin Shuxun, Dr Kimberly-Anne Tan, Dr John Ruiz, Dr Naing Lin Oo, Dr Kutbuddin Akbary, Dr Shardul Soman, Dr Jeremy Goh

Introduction :

“What the mind does not know the eyes do not see “this fellowship makes true sense of the saying. The Asia Pacific Orthopaedic Association (APOA)/ Asia Pacific Spine Society ( APSS) Deputy Synthes Clinical Spine Fellowship 2018 for me was scheduled from 17 May to 6 June 2018 at the National University Hospital System Singapore under the mentorship of Prof Gabriel Liu. I was elated to get the invitation and grabbed the opportunity with both hands.

Getting an opportunity to work and learn different ideas and techniques at one the most reputed institution in Asia Pacific Region was once in a lifetime opportunity for me. I was very much excited as I had heard a lot of amazing things about the centre and the city from somemy senior who had learnt been there previously. Also being in the early stage of my carrier as a developing spine surgeon it presented to me a very good chance to know newer avenues and learn from the masters from the field of spine.

My fellowship schedule and all the previous formalities were very nicely arranged by APOA/APSS. Special thanks to the co-ordinators (Jenne and NUHS) for arranging such a hassle free fellowship. To add to the excitement I also had a chance to attend the APOA/APSS annual conference at Taipei City, Taiwan from 7 June to 9 June 2018. I also got a chance to present my fellowship report the conference.



Fellowship program:

I arrived at Singapore on the 16<sup>th</sup> May from where an airport transfer was already arranged for me to my accommodation place at Fragrance Hotel Riverfront. It was a 40 mins drive where I saw a glimpse of the city. The accommodation was very nice and was close to my workplace. Singapore has an amazing public transport that makes travelling very easy. NUHS was 15 mins by bus. Next day I was asked to report to the department of orthopaedics to Joanne. I was given the schedule for my fellowship which was nicely planned so I got a chance to learn from all the faculty of spine at NUHS.

Day	AM	PM
<b>Monday</b>	OT (Prof HK Wong)	OT (A/Prof Gabriel Liu)
<b>Tuesday</b>	OT (Prof HK Wong)	OT (Prof HK Wong)
<b>Wednesday</b>	OT (A/Prof Gabriel Liu or A/Prof Joseph Thambiah)	OT (A/Prof Gabriel Liu or A/Prof Joseph Thambiah)
<b>Thursday</b>	Spine round (Fellow is required to give an introduction and present his clinical/research works in one of the session)	OT (A/Prof Naresh or Dr Lau Leok Lim)
<b>Friday</b>	OT (A/Prof Naresh or Dr Lau Leok Lim or Dr Dennis Hey)	OT (A/Prof Naresh or Dr Lau Leok Lim or Dr Dennis Hey)
	KRW Clinic (Prof HK Wong)	KRW Clinic (Prof HK Wong)
	Scoliosis Specialist Clinic (HPB) (Fellow will join one session)	
	Clinic B (A/Prof Gabriel Liu)	Clinic B (A/Prof Gabriel Liu)



Week one (17- 23 May)

I joined the Thursday spine round where all the pre-operative and post-operative patients were discussed. It was interesting to discuss the various cases and the pre-operative planning done. The entire faculty gave their opinions and critical reviews on each case. On the first day there was an idiopathic scoliosis (Lenke type 1B) case operated by Dr Lau. I got a chance to scrub in and assist the case.

On Friday there was a fiesta of 4 cases under Prof Naresh Kumar, I got the chance to wash in all the cases as first assistant in all of them. The days started with MIS TLIF, the new K2M system was something I had not seen before and it seems very promising and would definitely try it in my practice. Then there was an ACDF case followed by a cervical root block. This was a new technique used for cervical root block in lateral position. The day ended with a lumbar root block. As his routine fellow was on leave we took the day's ward round and looked at the post operative patients. Professor then took me at his residence for dinner where I got to eat some local homemade dishes.

Over the weekend I had a chance to visit the local tourist attraction along with some of the fellow's there. We visited the Jurong Bird Park where the beauty of all the feather friends was once in a lifetime experience. The next week started with a debridement for an old operated case of thoracic spinal fusion and decompression. It was good to see that the infection protocols followed were almost similar to my setup in India. Then I got a chance to assist in the latest technique of surgery which was a four level OLIF using the NuVasive instrument system. This was the first time I was exposed to this technique having previously only seen it in conference workshops. Professor Gabriel Liu performed it very nicely and also explained us all the tricks and tips regarding the exposure and instrumentation.



With Prof Gabriel Liu and Dr Niang( APSS fellow); With Prof Wong

Next day was a chance to learn from Prof Wong past president of the APSS. It was new technique were he used differential rod contouring in an AIS Lenke type 1B to achieve correction. He explained us the principle of differential rod contouring and also tips to achieve good correction by selective thoracic fusion. Also for the day we had couple of routine lumbar degenerative cases. The pre-operative planning and thought process in even the most routine cases was appreciated. The first week ended with the posterior instrumented MIS fusion of the previously operated OLIF case. We did a T11 to iliac fusion; I also got a chance to see the use of MIS for iliac screws. Professor Gabriel explained us the technique pre-operatively.

Week two (24- 30 May)

We had the Spine round as usual on the Thursday which was followed by the Spine Journal Club were 5 latest articles from the Spine Journal were presented and discussed thoroughly by all the faculty members. Also Prof had arranged for a department photograph with the entire faculty and gave me a copy of the same frame mounted. It made feel that I was part of the NUHS spine team. We had four cases under Prof Naresh that day. Again I got to learn a new technique of use of radiofrequency ablation using disc fix for L5-S1 disc herniation. He explained the indications and efficacy of the technique. Also I got to observe couple of cervical root block done using his technique in lateral position. Surely this was something that I can incorporate into my clinical practice.

Next day was an interesting case of adult dynamic thoracic kyphosis with the patient having mechanical pain with significant change in kyphosis on dynamic views, since all the conservative trials had failed the plan was to do a T2-T11 spinal fusion. In the evening a fellow dinner party was arranged for me by Prof Gabriel Liu at one the famous crab restaurants in the city. I had never had a taste of crab before so it was a new and amazing experience. Thanks to Prof Gabriel for this, also Prof Wong took time during his busy schedule to come for the dinner.

On Saturday I got a chance to attend the APSS Basic Spine Course along with the saw bone model workshop were I got a chance to practice cervical laminoplasty which is not common in our country. The course was very nicely arranged and conducted by the NUH spine team. On Sunday there was a long case of a metastatic tumor were Prof performed C6-T2 corpectomy followed by C3-T6 posterior spinal fusion. After the long case finished at midnight prof dropped me at my hotel after a dinner at local restaurant. Midnight dinners always remind one of the orthopedic residency days.

On Monday another chance to scrub in and learn from Prof Wong a case of lumbar interbody fusion. Then one deformity case was scheduled under prof Gabriel. Pt was planned to do a selective thoracolumbar curve correction leaving the flexible thoracic curve. Also got a chance to see the derotation technique by K2M instrumentation. Tuesday was a public holiday and a chance to visit the local tourist spots. Along with the APSS fellow posted we went to visit the Universal Studios and had an amazing time. Over the remaining day of this week was a case of tandem stenosis were a cervical laminoplasty along with a lumbar spinal decompression was done. It was good to learn cervical laminoplasty as it not a routine procedure done in my place.



Patient with multilevel metastatic collapse operated in a single stage by C6-T2 corpectomy followed by C3-T6 posterior instrumented fusion. Demineralised bone matrix was used as bone graft.

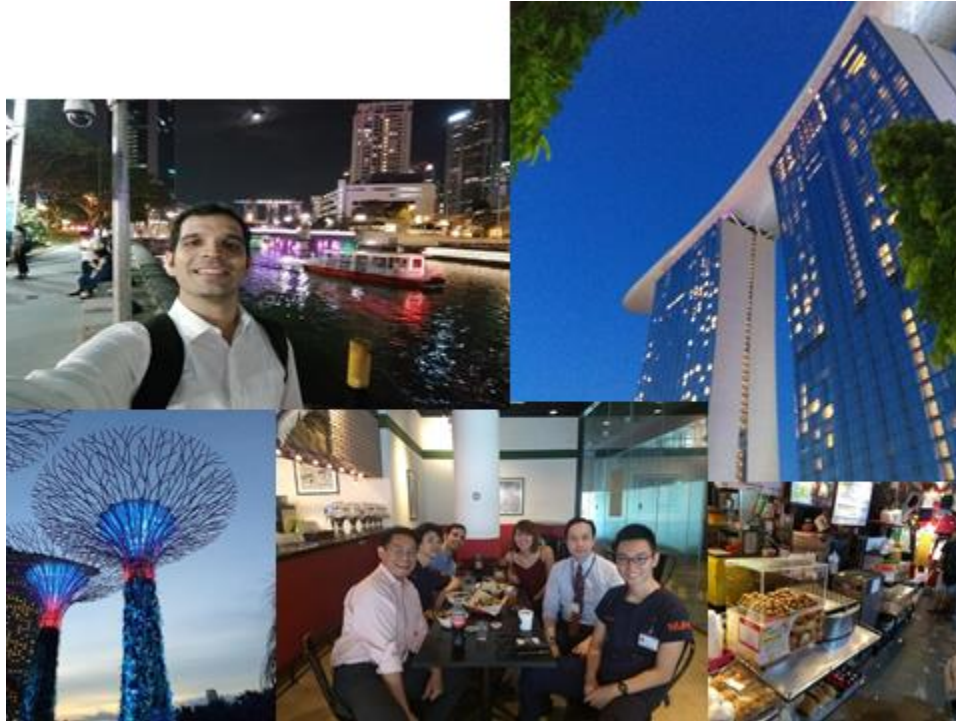
Week three (31 May- 6 June)

On Thursday along with the spine round Prof Gabriel gave me and the other APSS fellow to introduce me and also got a chance to discuss the research work I have been involved. This was a unique opportunity to listen to the critical review on the research work I have been involved. After the spinal round there was a case of idiopathic scoliosis performed by Dr. Lau.



Presenting and discussion on my research during spine round.

On Friday again two cases with Prof Naresh one of which was a cervical disc arthroplasty again something not that frequently performed in our setup. Prof explained me the pros and cons and proper selection of cases in having a successful outcome in CDR surgery. Over the weekend there was some time to visit the picturesque gardens by the bay and the marina bay sands. The laser show especially at the Marina bay sands was very amazing.



Some pictures of the beautiful city of Singapore

Over the last week there few more cases were lined up as Prof Gabriel made sure that I get to observe as many cases as possible during this short term fellowship. One case I got to scrub with Prof Wong and learn a two level cervical corpectomy. He shared a lot of tricks and tips regarding the surgical technique.

After the amazing experience of Singapore and NUH I also had a chance to attend the APOA/APSS annual meeting at Taiwan. As usual APSS had organized everything for the fellows including airport transport and accommodation. At the gala dinner I was awarded the certificate for completion of the fellowship by the President of APSS Dr Shivanathan along with the master himself in Prof Kuniyashi Abumi. It was a matter of pride to receive the certificate from these esteemed personality. It also gave me a chance to interact with other fellows of APSS and make new friends. Last day of the fellowship was a chance to express my thanks to APSS and NUHS by presenting my experience of the fellowship.

Overall it has been a very fruitful experience that has helped learn many new things and ideas along with getting a chance to interact directly in person with some of the best in the field of spine surgery. Thanks again to APSS for making this possible and also for such a great organized fellowship program.

Fellowship log book:

Date	Sr. No	Patient details	Diagnosis	Surgery	Surgeon	Myself
17/5/18	1	14 F	AIS	T3-L4 spinal Fusion with derotation	Dr. Lau Leok Lim	Observer
18/5/18	2	67 F	L4-5 gr 1 spondylolisthesis with L5-S1 extraforaminal disc herniation	L5-S1 extraforaminal discectomy with L4-5 MIS TLIF	Prof. Naresh Kumar	2 <sup>nd</sup> Assistant
18/5/18	3	60 M	C5-6 stenosis with myelopathy	C5-6 ACDF	Prof. Naresh Kumar	1 <sup>st</sup> Assistant
18/5/18	4	50 F	C6-7 disc herniation with rt upper limb radiculopathy	C7 Rt nerve root block	Prof. Naresh Kumar	Observer
18/5/18	5	24 M	L4-5 foraminal and extraforaminal disc herniation	Lt L4 nerve root block	Prof. Naresh Kumar	Observer
21/5/18	6	75 F	Thoracic spine fusion with decompression with infection	Wound debridement and primary closure	Dr. Dennis Hey	Observer
21/5/18	7	70 F	Adult degenerative scoliosis	L5-S1, L2-3,1-2,T12-L1 X-LIF ( NuVasive )	Prof. Gabriel Liu	2 <sup>nd</sup> Assistant
22/5/18	8	16 F	AIS	T2-T11 post fixation and fusion using differential rod bending technique	Prof. Wong	Observer
22/5/18	9	40 M	L4-5, L5-S1 Disc herniation	L4-5,L5-S1 Rt Laminotomy decompression	Dr. Dennis Hey	Observer
22/5/18	10	43 M	L4-5 (Lt ) L5-S1 (Rt)	L4-5 Lt discectomy and L5-S1 Rt discectomy	Prof. Gabriel Liu	1 <sup>st</sup> Assistant
23/5/18	11	71 F	Adult degenerative scoliosis	T11-Iliac posterior fixation MIS ( Synthes )	Prof. Gabriel Liu	2 <sup>nd</sup> Assistant
24/5/18	12	43 F	L5-S1 Rt paracentral disc herniation	Radiofrequency treatment with fragmentectomy for L5-S1 (Disco-FIX)	Prof. Naresh Kumar	Observer
24/5/18	13	65 F	C5-6 disc herniation	C6 Lt nerve root block	Prof. Naresh Kumar	Observer
24/5/18	14	38 M	C5-6 disc	C6 Rt nerve root	Prof.	Observer



			herniation	block	Naresh Kumar	
25/5/18	15	26 M	L4-5 foraminal disc herniation	L4-5 foraminal steroid injection	Prof. Naresh Kumar	Observer
25/5/18	16	70 F	Dynamic kyphosis at thoracic spine	T3-L1 posterior instrumented fusion	Prof. Naresh Kumar	2 <sup>nd</sup> assistant
27/5/18	17	71 F	Multiple cervical pathological fracture in k/c/o breast carcinoma stage 4 with hot spots on bone scan and pleural effusion	C6-T2 anterior corpectomy with instrumented fusion and C3-T6 posterior fixation	Prof. Gabriel Liu	1 <sup>st</sup> assistant
28/5/18	18	64 F	L4-5 grade 1 spondylolisthesis	L4-5 TLIF	Prof. Wong	2 <sup>nd</sup> assistant
28/5/18	19	14 F	Idiopathic scoliosis	Selective T10-L3 fixation and fusion with derotation ( K2M )	Prof. Gabriel Liu	1 <sup>st</sup> assistant
30/5/18	20	74 M	Tandem stenosis	Cervical laminoplasty with lumbar L2-S1 decompression	Prof. Gabriel Liu	2 <sup>nd</sup> assistant
30/5/18	21	32 M	L5-S1 disc herniation	L5-S1 tubular discectomy	Prof. Gabriel Liu	1 <sup>st</sup> assistant
31/5/18	22	16 M	Idiopathic scoliosis	T3-L3 spinal fusion and posterior instrumentation	Dr. Lau Leok Lim	2 <sup>nd</sup> assistant
1/6/18	23	70 F	L3 pathological fracture? mets with primary lung adenocarcinoma	L1-L5 MIS posterior fixation with B/L L3 pediclectomy	Prof. Naresh Kumar	2 <sup>nd</sup> assistant
1/6/18	24	43 M	C3-4,4-5 disc herniation with C5-6 stenosis with myelo-radiculopathy	C5-6 ACDF and C4-5 CDR	Prof. Naresh Kumar	2 <sup>nd</sup> assistant
4/6/18	25	54 F	C4,5 cervical stenosis with myelopathy	C4,5 Corpectomy with C3-6 fusion	Prof. Wong	2 <sup>nd</sup> assistant
5/6/18	26	16 M	Idiopathic scoliosis	T3-L2 spinal fusion and instrumentation with deformity correction using	Prof. Wong	2 <sup>nd</sup> assistant

				differential rod technique		
6/6/18	27	68 F	L4-5 grade 2 and L5-S1 Grade 1 listhesis in old L4,5 laminectomy	L4-5,L5-S1 TLIF	Prof. Gabriel Liu	2 <sup>nd</sup> assistant