

Fellowship Report

It is my utmost pleasure to write Fellowship Report on the completion of my Fellowship. I was awarded APSS Medtronic fellowship in the year 2020 but meanwhile, COVID-19 pandemic halt the process. I thought times has lapsed and now this Fellowship will not be conducted but APSS kept on finding different options like online modules, other hosts, and options in my home country, and throughout the process, the secretariat remained in touch. Finally, after tiring efforts of the Secretariat, I was lucky enough to get a slot and start a fellowship at National University Hospital Singapore under the supervision of Prof Gabriel Liu.

It was a matter of Pride to work in Spine Surgery Department of National University Hospital Singapore. Spine Surgery Department has marvelous Team of Spine specialists. Each consultant in the group has thorough knowledge and skills in his field and all of them have proactive approach towards teaching and training. The department is fully equipped with all the latest technology and provides full range of spine services like Pediatric Spinal Deformity, Adult Spinal Deformity, Motion Preservation Surgery, Trauma, Tumor, Infection, and degenerative spine conditions.

Prof Gabriel Liu discussed with me my interest and fellowship targets before my arrival and tried to design my academic Fellowship roaster accordingly. There was a mandatory Grand spine round every Thursday where the whole dept. joins. All pre and post-op cases are discussed in meetings and fellows and residents are given the opportunity to participate in discussion.

I also attended mortality and morbidity meetings and business rounds of the Department which were very useful for me. These meetings helped me adopt new things from the administration and patient care point of view.

I was posted in Operation Theater the whole week which is the reason I was able to greatly benefit from fellowship. During My fellowship, I was able to assist in almost all cases during my tenure. Some of the interesting surgeries were

- vertebral Tethering
- AP FIX
- Anterior Scoliosis Surgery
- Correction Of Severe Scoliosis Deformity without Osteotomy
- Thoracoplasty
- Mobile Disc Arthroplasty
- Cervical Pedicle Screw Fixation
- Endoscopic Discectomy
- Cervical Laminar Screw Fixation
- Separation surgery for tumors
- Ant Lat Approach for TB
- C1-2 PISF
- MIS TLIF

During the fellowship, I was given the opportunity to join the Singapore spine society so I became an associate member of the Society. The fellowship allowed me to interact and learn from senior Travelling fellows of SRS. I got the opportunity to attend SRS and Singapore Spine Society Combine meeting which was a great learning opportunity for me. I also get a chance to work with AO Spine Fellow Dr Juntaro from Japan. His ideas and unique work in Cervical Spine helped me adopt new things in my practice.

Toward the end of my fellowship department arranged a farewell dinner for me and Dr Juntaro. In this social gathering, I get to know about the multicultural Singapore Society. Dr Juntaro shared about Japanese culture while I introduced Colleagues to the versatile culture and weather of Pakistan.

The Fellowship Report can never be completed without acknowledging my mentor and teachers who made my fellowship a great learning experience.

I am thankful to Prof H.K. Wong who is world known Spine Specialist and fatherly figure to me, for teaching pearls of scoliosis and mentoring me during my Fellowship. His teaching has changed my concept of scoliosis management. He taught me about cantilever technique of scoliosis correction, Vertebral tethering, and ant-scoliosis surgery. He always encouraged me during my Fellowship. He has had a great impact on my personality. I learned a lot from everyone but He is my mentor. I am proud to be known as Fellow of Prof Wong. Sir alot of Respect and prayers for you. It's only because of you that NUH has leaders in Spine who are known all over the world.

Prof Gabriel Liu I have no words to express my gratitude for your kind sympathetic behavior. Being the head of the department and engaged in many Societies his schedule is very busy but he is always available for teaching and to sort out issues faced by me during the fellowship. He used to share research articles every week for my reading like His innovative work on new techniques e.g. Subcrestal screws, microscope-assisted free hand C1 lat mass screw, Pediculotomy for reduction of retro pulsed fragment, muscle sparing C3 Dome Hybrid Open door laminoplasty He always makes sure that I should learn a new thing whenever I am with him in Operation theater.

I am thankful to Prof Naresh Kumar who is renowned for his research work, especially his work on Metastatic Spine Disease. He engaged me in his different research projects. He would always discuss his surgery planning and will generate a debate to keep me involved before and during surgery. He also shared his research work on separation surgery and I was lucky to assist him in few cases of Separation surgery which was very useful for my learning. He helped me a lot when I was struggling to adjust in the beginning due to homesickness. He is the person behind the successful completion of my Fellowship.

Prof Joseph Thambiah is a very lively person and always open to discussion. He always boosted me up during surgery and encouraged me to ask questions. He believes in bilateral learning where he teaches fellows and also tries to learn from his team members. He always paid respect to his team. His words "Shahid I trust you" always gave me new energy. Thank you Prof Thambiah for being a wonderful teacher and colleague.

I pay my regards and gratitude to A/P Dr Dennis Hey the most thrilled, challenging, and innovative spine specialist. He is Heading Motion Preservation Department at NUH. He shared his research work on Intervertebral Disc Regeneration, Exosome Growth Factor enhanced Spinal Fusion, Spinal alignment studies in other postures, and formulating surgical strategies for adult spinal deformity. He changed my understanding of spine biomechanics with his innovative thought process. I learned Cervical and Lumbar Disc Arthroplasty, Endoscopic Discectomy, and Cervical Pedicle screw fixation. His results of Motion Preservation surgery encouraged me to add this to my practice. His unparalleled work and his temperament to teach always inspire me. On my request, he arranged lectures for me on Biomechanics and motion preservation. He is a wonderful surgeon, Mentor, and friend. I am looking forward to learning more from him in the future.

I am obliged To Dr Lau Leok Lim as well. I learned the use of O ARM and management of pediatric deformity from him. He is a strict Teacher but a kind human. He would discuss case before surgery and will keep on discussing different treatment options during surgery. He always keep on sharing his interesting cases with me which really was a source of great learning.

The 1st person I met in OR was Dr John Ruiz who is a senior consultant. He has great communication skills. No one can teach OT manners better than him. His working in OR is like a textbook. You see him working and you will find he never misses anything. He is very methodical and organized in OR. I request him to write his book on Methodological Approach in Operation Theater. I am sure he will do it someday so people around the globe can get benefit from him.

Alex Teu, thank you very much for being a great friend and colleague. Alex is Junior Consultant in Department. He always helped me whenever I was in trouble. I wish him the best of luck and I hope our bond of friendship will become stronger over time.

Dept has a hard-working team of Mos and some of them were close friends to me there like Angel Lim, Megan, Steven, Elliot, and Hema. Angel Lim helped me understand the workings of dept. She introduced me to dept MOs and residents. John Ruiz, Angel, Elliot ,and Hema also arranged a farewell Dinner for me. Thank you all of you.

This amazing experience of learning would never been possible without massive support from APSS especially Miss Jennifer who remained in touch and helped even out of office hours. I must appreciate Medtronic for funding my fellowship. This shows how sincerely Medtronic is involved in academic activities.



Learning Use Of Navigation



Sunday 14 May 2023 @ Shangri-La Hotel, Singapore



Putting Transpedicular Screw during Scoliosis Surgery under supervision of Prof H.K. Wong



After Attending Lecture of A/P Dr Dennis Hey



Learning Use of Microscope in TLIF



After a long surgery with Nursing Staff



Farewell Dinner By Prof Gabriel Liu



Farewell Dinner

Log Book

Sr#	Name	Age	Diagnosis	Proceedure	surgeon	status
1	25-04-23	75/M	L3-4,4-5,5-S1 spondylolisthesis	L2-S1 PISF + TLIF L3-4,L4- 5,L5-S1	Prof H.K Wong	Assistant
2	26-04-23	64/F	L4-5,L5-1 DDD with stenosis	L4-S1 LAMI + PISF	Prof Naresh Kumar	Assistant
3	26-04-23	73/m	Pathological # L2	MIS PISF carbon fiber	Prof Naresh Kumar	Assistant
4	27-04-23	12/f	Scoliosis Lenke b	AP FIX	Prof Gabriel Liu	Assistant
5	27-04-23	69/m	L4-5 Grade I Spondylolisthesis	L4-5TLIF	Dr Lau Leok Lim	Assistant
6	28-04-23	65/m	Metastatic disease	T12-L4 MIS PISF	Prof Naresh Kumar	Assistant
7	28-04-23		L4-5, L5-S1 stenosis e DDD	L4-5, L5-S1 LAMI+PISF	Prof Naresh Kumar	Assistant
8	29-04-23	53m	C2-3, 3-4 ,4-5 stenosis	C3 + C6 Lami, C4,C5 Laminoplasty	Prof H.K Wong	Assistant
10	02-05-23	85/F	Cervical mylopathy	C3-T1 Lami + PISF	A/p Dr Dennis Hey	Assistant
11	02-05-23	62/M	Cervical myelopathy	C3-7 Lami + PISF	A/p Dr Dennis Hey	Assistant
12	03-05-23	42/M	C3-4,C4-5,C5-6 Disc Herniation	C3-4,4-5,5-6 ADR	A/p Dr Dennis	Assistant
13	04-05-23	28/F	PJF	EXTENSION OF FUSION	Prof H.K Wong	Assistant
14	06-05-23	82/F	Multiple Myeloma e Pathological # T4 T6 L5	MIS PISF	Prof Gabriel Liu	Assistant
15	08-05-23	14/F	Scoliosis Lenke 1C	Corrective surgery	Prof H.K Wong	Assistant

16	08-05-23	36/M	L4-5 disc herniation	L4-5 Disectomy	Prof H.K Wong	Assistant
17	09-05-23	14/F	Lenke 1C	Selective fusion T3-T12	Prof H.K Wong	Assistant
18	10-05-23	13/F	Scoliosis	PISF	Prof Gabriel Liu	Assistant
19	11-05-23	60/M	Degen Scoliosis	L3-S1 PISF, L3-5 Lami	Prof Joseph Thambiah	Assistant
20	12-05-23	65/M	Cervical Myelopathy	Cervical Lami + Lat. mass fixation	Prof Naresh Kumar	Assistant
21	13-05-23	73/M	Metastatic fracture T1	C5-T6 PISF+ Separation surgery	Prof Naresh Kumar	Assistant
22	15-05-23	14/M	scoliosis	APFIX	Prof Gabriel Liu	Assistant
23	16-05-23	46/M	C3-4 Disc Herniation + C4-5 OPLL	C3-4 ADR, C4-5 ACDF	Prof Naresh Kumar	Assistant
24	16-05-23	74/M	L3-4 Spondylolisthesis L4-5 DDD e Stenosis	L3-4, L4-5 TLIF + PISF	Prof Naresh Kumar	Assistant
25	17-05-23	68/M	C3-6 stenosis + myelopathy	Lat mass screws with decompression	Prof Naresh Kumar	Assistant
25	18-05-23	65/M	C4-5,C5-6 disc herniation	C4-5,C5-6 ACDF	Prof Naresh Kumar	Assistant
27	19-05-23	65/F	C5-6,C6-7 Traumatic Injury	C5-6,C6-7 ACDF	Prof Gabriel Liu	Assistant
28	22-05-23	15/F	B/I L5 pars	Direct pars repair	Dr Lau Leok Lim	Assistant
29	23-05-23	83/F	C5-6 Traumatic injury	C5-6 ACDF	Dr John Ruiz	Assistant
30	24-05-23	37/F	C3-4 Disc Herniation	C3-4 ACDF	Dr John Ruiz	Assistant
31	26-05-23	67/M	L4-5 ,L5-S1 STENOSIS	L4-5,L5-S1 TLIF	Prof Naresh Kumar	Assistant

32	26-05-23	71/M	C5-6 Disc herniation	C5-6 ADR	Prof Naresh Kumar	Assistant
33	27-05-23	14/M	Discogenic Disc Disease	L5-S1 ADR	A/P Dr Dennis Hey	Assistant
34	27-05-23	58/F	C6,7 Three Column # e Skeletal Dysplasia	C3-6 Laminar Screws+T1-T3 TPS	Dr Lau Leok Lim	Assistant
35	28-05-23	63/F	L5-S1 Stenosis	L5-S1 laminectomy	Prof Naresh Kumar	Assistant
36	29-05-23	63/F	L4-5,L5-S1 spondylolisthesis	L4-5,L5-S1 TLIF	A/P Dr Dennis Hey	Assistant
37	29-05-23	14/F	AIS Lenke 1c	PISF	Prof H.K Wong	Assistant
38	29-05-23	54/F	L4-5 spondylolisthesis	L4-5 TLIF	Prof H.K Wong	Assistant
39	30-05-23	63/FF	L4-5 spondylolisthesis	L4-5 TLIF	Prof H.K Wong	Assistant
40	31-05-23	19/F	AIS Lenke B	PISF	Prof H.K Wong	Assistant
41	31-05-23	55/F	L4-5 DDD with stenosis	L4-5 TLIF	Prof H.K Wong	Assistant
42	01-06-23	73/M	L4-5, L5-S1 stenosis with DDD	L4-4,L5-S1 TLIF	Prof Joseph Thambiah	Assistant
43	01-06-23	59/M	L5-S1 rt Sequestered Disc Herniation	L5-S1 rt microdisectomy	Prof Joseph Thambiah	Assistant
44	01-06-23	72/M	Adjacent segment disease, s/P L3-S1-5 TLIF	Extension of Fusion to L2	Prof Joseph Thambiah	Assistant
45	03-06-23	72/M	S/p L4-5 TLIF , Adjacent segment disease	Extension of fusion L3+ TLIF	Prof H.K Wong	Assistant
46	05-06-23	13/F	AIS Lenke 1C	T2-L2 PISF e Ponte Osteotomy	Prof H.K Wong	Assistant

47	06-06-23	12/F	LENKE 1C	Vertebral tethering	Prof H.K Wong	Assistant
48	07-06-23	73/F	Metastatic # L1	MIS PISF + decompression with debulking tumor L1	Prof Joseph Thambiah	Assistant
49	08-06-23	78/F	L4-5, L5-S1 Lt stenosis	L4-5,L5_S1 Lt foraminotomy	Dr Lau Leok Lim	Assistant
50	09-06-23	12/F	AIS	T4-L4 PISF	Prof Naresh Kumar	Assistant
51	09-06-23	64/M	D12-L1 TB spondylodiscitis, S/P D12 lami + PISF	D12-L1 VCR with allograft through Any lat approach	Prof Naresh Kumar	Assistant
52	10-06-23	63/M	L2-5 DDD with Stenosis	L2-5Lami + PISF+ L2-3, L3-4 TLIF	Prof Joseph Thambiah	Assistant
53	12-06-23	79/M	S/p L4-5 TLIF Adjacent segment disease	Extension of Fusion to L3 with TLIF	Dr John Ruiz	Assistant
54	13-06-23	30/F	AIS LENKE 1C	T4- L4 PISF with Ponte Osteotomy	Dr John Ruiz	Assistant
55	14-06-23	31/F	L5-S1 disc herniation with extrusion of fragment to S1-S2	TUBULAR Disectomy	Prof Gabriel Liu	Assistant
56	15-06-23	22/F	AIS Cobb angle 95 Degree	Hallo application	Prof Gabriel Liu	Assistant
57	16-06-23	63/M	C3-6 OPLL with Myelomalacia	C3-6 Laminoplasty	Prof Naresh Kumar	Assistant
58	16-06-23	74/M	C3-5 stenosis	C4 corpectomy + fusion	Prof Naresh Kumar	Assistant
59	16-06-23	65/F	Pathological # C5	C5 Corpectomy+ Ant. fusion	Prof Naresh Kumar	Assistant

60	17-07-23	15/F	Scoliosis/ Failure of vertebral tethering	PISF	Prof H.K Wong	Assistant
	19-06-23	14/F	Lenke 1C AIS	PISF	Prof H.K Wong	Assistant
63	20-06-23	63/M	Cervical myelopathy e C5-6,C6-7 Stenosis	C5-6,C6-7 ACDF	Dr Lau Leok Lim	Assistant
64	20-06-23	20/M	b/l pars defect	Direct pars repair	Dr Lau Leok Lim	Assistant
65	21-06-23	61/M	L5-S1 DDD	L5-S1 TLIF	Dr Lau Leok Lim	Assistant
66	22-06-23	65/M	L4-5 spondylolisthesis	L4-5TLIF	Prof Gabriel Liu	Assistant
67	22-06-23	54/M	L4-5 disc herniation	L4-5Disectomy	Prof Gabriel Liu	Assistant
68	23-06-23	51/F	OPLL+ S/ P c5-6 ACDF	C4-6 Lami+ C4-7 PISF	Prof Gabriel Liu	Assistant
69	24-06-23	76/M	C4-7 stenosis	C4,6,7 Laminoplasty	Prof Naresh Kumar	Assistant
70	24-6-23	71/F	L4-5 Stenosis e Spondylolisthesis	L4-5 Lami+ interspinous device	Prof Naresh Kumar	Assistant
71	25-06-23	72/F	L4-5,L5-s1stenosis	L4-5 laMi + TLIF	Prof Naresh Kumar	Assistant
72	03-07-23	18/F	Scoliosis Lenke 1C	Pisf+ Ponte Osteotomy	Prof H.K Wong	Assistant
73	04-07-23	17/F	AIS LENKE 5C	AISF	Prof H.K Wong	Assistant
74	04-07-23	38/M	L4-5 Rt Disc Herniation	L4-5 Rt Disectomy	Prof H.K Wong	Assistant
75	05-07-23	28/F	Scoiliosis Lenke I	T2-11 PISF	Prof Gabriel Liu	Assistant
76	07-07-23	65/M	Metastatic Disease	T1-T6 PISF e Separation surgery	Prof Naresh Kumar	Assistant
77	07-07-23	61/F	L4-5,L5-S1 RT Disc Herniation	L45-5,L5-S1 RT Microdisectomy	Prof Naresh Kumar	Assistant

78	10-07-23	60/M	C4-5, C5-6 Disc Herniation	C4-5,C5-6 ACDF	Prof H.K Wong	Assistant
79	10-07-23	38/F	Implant Loosening	Removal Of Implant	Prof H.K Wong	Assistant
80	11-07-23	59/F	L2-3 Disc Herniation	L2-3 Disectomy	Dr John Ruiz	Assistant
81	11-07-23	18/F	Scoliosis Lenke 1C	T2-L1 PISF	Dr Jhon Ruiz	Assistant
82	12-07-23	68/F	Drop Neck Syndrome	C2-T3PISF	Prof Gabriel Liu	Assistant
83	14-07-23	21/F	Scoliosis	T9-L4 PISF	Dr Lau Leok Lim	Assistant
84	17-07-23	21/M	Scoliosis Lenk1C	T2-L2 PISF	Prof H.K.Wong	Assistant
85	18-07-23	65/M	L3-S1 Stenosis with Degen. Scoliosis	L2-S1 TPS + L2-3 Post.Lat Fusion+L3-4,L4-5,L5-S1 TLIF	Prof H.K.Wong	Assistant
86	19-07-23	37/M	L4-5 Rt Disc Herniation	L4-5 Rt Disectomy	Prof Gabriel Liu	Assistant
87	19-07-23	67/M	L5-S1 DDD with Lt Foraminal Stenosis,S/P L4-5 TLIF	L5-S1 LT TLIF + L4-5 Post.Lat Fusion	Prof Gabriel Liu	Assistant