

# APSS Medtronic Fellowship Report

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**Mentor – Assoc.Professor Gabriel Liu**  
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Singapore.



**Host Center – University Spine Centre**

Department of Orthopaedic Surgery  
National University Hospital  
Singapore.

**Fellowship Period – 1 September 2023 to 30 November 2023 (90 days)**

I am very much thankful to the APSS that they provided me with the chance to perform my fellowship in University Spine Center, National University Hospital System headed by Associate Professor Dr. Gabriel Liu, a world class spine center.

On the very first day I had an orientation session. After that I met my mentor Dr. Gabriel Liu, he welcomes me in a very cordial manner that I will never forget. A Prof. Dr. Gabriel is very keen to teach the fellows and other subordinates in a gentle and effective way. Before every operation he studies the case very thoroughly and make the preoperative and per operative plans very meticulously and always teaches us, the fellows the things very clearly. During operations he always notices whether fellow is scrubbing or not and during operation he demonstrates the operation step by steps. He also very much concern about whether the fellow facing any problem in his residence or other things. He arranges dinner for the fellows regularly and been always careful about my halal food habits. He also shares with the fellows the research work of the University Spine Centre and encouraged us, fellows to participate in clinical and research activities.



*Figure- Me with my mentor A Prof. Gabriel Liu.*

He makes the environment very much student friendly and always notices that we can learn some thing very effectively. In a nut shell he is a wonderful teacher, good leader and a very good mentor.

Prof. Wong Hee Kit, the pioneer of Spine Surgery in Singapore, is the backbone of academic activities in Spine Department. He is the key person of the weekly grand round held in every Thursday morning. He explains every thing on the basis of his huge knowledge and experiences and gives decisions of the most complicated cases in a very simple way that makes the spine surgery simple. He teaches the operations to the fellows very systematically and efficiently. At the end of my fellowship APSS President, Prof.Dato Dr.Mun-Keong Kwan visited NUH to observe Thoracoscopic Anterior Surgery for scoliosis beautifully executed by legendary this surgeon.



*Prof. Wong Hee Kit, APSS President Prof.Dato Dr.Mun-Keong Kwan, A Prof. Dr. Kunbo Park & Me.*

Among other surgeons in NUH Associate Prof. Naresh Kumar is one who is well known for his spinal tumour works. He also perform some local procedure like transforaminal injections very well. I learned from him how to use operative microscope.

Associate Prof. Joseph Thambiah is a cool and well mannered surgeon among all. He is very helpful and friendly surgeon.

Dr.Lau Leok Lim is a very methodical and out of the box surgeon. He is also helpful for the learners. Dr. Dennis Hey Hwee Weng is good for endoscopic and motion preserving surgeries. His techniques are less modern equipment based and for suitable to reproduce in our settings. Dr. John Ruiz is very much helpful for the fellows and he is good in navigation, which he likes to teach fellows. Dr. Jonathon and Dr. Alex Teo are very good friends for the fellows and help to overcome different problems faced by the fellows. All the medical officers and residents are well behaved and helpful in particular Dr. Jonathon, Dr. Zhang Siyuan, Dr. Tan Jun Hao, Dr. Awshmin, Dr. Angel Lim had been always helping me as a resident in maintaing log book and other official



*Photograph of Robotic Surgery in NUH OT.*

matters. NUH official staff I came in contact were always helpful in particular Su Hui Ong, Jenni and Si Min, all are cordial and efficient.

Finally I am fortunate to have my fellow friends like Dr. Ali Mazhar from Pakistan, Dr. Arihiko Tsukamoto from Japan, Dr. Vishal from India. We all worked together and explore different places and food of Singapore, that really made our days wonderful away from our home. I also met some fellows for very short time. Among them Dr. Kunbo Park from Korea, Dr. Takashi Yurube and Dr. Juichi Tonosu from Japan, Dr. Rohan from India, all are very wonderful personality.

The operating room environment was excellent. The OR sisters are very much careful and strict in maintaining sterility. The operating room staffs always keeps the floor tidy. All the staffs are very efficient and helpful.



*Photo-Artificial Lumbar Disc Replacement is going on with Dr. Dennis Hey Hwee Weng*

The only shortfall I faced in NUH is that there my main activity was only in the operating room every day and on Thursday morning grand round, that helped me a lot to assist and observe the different techniques of the different surgeons and improve my own skill, but I was not involved any patient's evaluation, diagnosis, preoperative preparation and postoperative management. So if I was involved in different stages of patient management, that would be a added advantage for me.



*Photo- Once I met my mentor in Outpatient Department.*

From the side of APSS the most difficulties I faced in hiring my residence. I preliminarily hired a place, made an agreement, sent to APSS, they gave some conditions to add in the agreement, the land lord corrected and resend to the APSS. APSS added further correction, I requested for that, but the land lord refused to correct. Finally at the eleventh hour I managed to get a condo, confirmed it, again APSS several times rectified the leasing agreement. This time the land lord was kind and patient enough to comply with that. Finally when I reach there it seemed to me that I had enough time I could have a better place to live.

I also face difficulties in managing my expenses because Singapore is much more expensive than I took the cash and credit with me for these months.



*Photo- Dinner offered by my mentor*

### *Recommendations:*

1. Fellows should be involved in every step of patient management including receiving the patient, evaluation, planning investment, proposing operation, postoperative management.
2. APSS should manage to rent the house itself or give the allocated rental payments to the fellows, may be in installments, instead of too much focusing on the conditions of the leasing terms and conditions.
3. The allowance and air fare should be provided at the commencement of the training.



*Photo-Farewell dinner by the deapartment*

Log Book of  
Learning Cases and Procedures

For Conditionally & Temporarily  
Registered Doctors



# Record of operations

Date	Unit Number	Age	M/F	Diagnosis	Operation	1 2 or 3
8/9/23	1. Prof Naresh	49	M	Cervical Myelopathy	ADR C4/5 ACDF C5/6,6/7	3 <sup>rd</sup> Assistant
	2. Prof Naresh	75	M	L stenosis	TLIF L4/5	3 <sup>rd</sup> Assistant
09/09/23	Prof. Naresh	35	M	Acute cervical dislocation C6/7	Fixation with application of cervical pedicle screw and rod at c 6/7	3 <sup>rd</sup> Assistant
11/09/23	Prof Wong	60	F	PLID L4/5 Lt	Microdiscectomy L4/5 LT	3 <sup>rd</sup> Assistant
12/9/23	Prof Wong	68	M	Implant breakage of scoliosis(Rod)	Posterior application of connecting rod and Lateral expandable case at L4/5	3 <sup>rd</sup> Assistant
13/9/23	A Prof. G Liu	68	M	DDD with pedicle screw and rod in L 4/5, L5/S1 Level	Revision of L4/5, L5/S1 Pedicle screw & Rod with removal of screw and decompression of L1/2, L3/4 and Fixation	2 <sup>nd</sup> Assistant
14/9/23 Thursday	Prof Naresh	76	M	L Stenosis	MIS TLIF	3 <sup>rd</sup> Assistant
18/9/23 Monday	Prof Wong	65	F	Cervical spondylosis with myelopathy	Laminoplasty C4-6	3 <sup>rd</sup> Assistant
	Consultant LLL	58	M	L Stenosis	MIS TLIF L4/5 5/1	3 <sup>rd</sup> Assistant
19/3/23 Tuesday	Prof Wong	19	M	Post operative hyperlordosis of scoliosis correction	VCO L2/3 3/4 4/5	3 <sup>rd</sup> Assistant
20/9/23 Wednesday	A P Gabriel Liu	69	M	DDD	Decompression L2/3(R) TLIF L4/5 5/S1	3 <sup>rd</sup> Assistant
	A P J Thambia	68	M	Multilevel SS	TLIF L3/4 4/5 5/S1	3 <sup>rd</sup> Assistant
21/9/23 Thursday	Prof. Naresh	58	M	Cervical myelopathy	C3-7 Laminoplasty with C7-T1 stabilisation by	3 <sup>rd</sup> Assistant

					pedicle scrw and rod	
22/9/23 Friday	Prof. Naresh	69	M	LS	TLIFL4/5 5/1	3 <sup>rd</sup> Assistant
		69	F	LS	Decompression L3/4 4/5	3 <sup>rd</sup> Assistant
25/09/23	Prof. H K Wong	79	M	Cervical radiculopathy C4/5 5/6	ACDF C4/5 5/6	3 <sup>rd</sup> Assistant
28/9/23 Thursday	Prof. Naresh	72	F	C6/7 Radiculopathy with H/O ADR at C5/6	Rt C6/7 foraminal block	
		68	M	Radiculopathy C6/7	Rt C6/7 foraminal block	
		65	F	Lumbar radiculopathy	L5/S1 foraminal (Rt) block	
		42	M	Lumbar radiculopathy	L4/5 Foraminal & facetal block	
2/10/23	Dr. Leok Lim Lau	72	M	Spinal stenosis L4/5	TLIF L4/5	1 <sup>st</sup> Assistant
4/10/23	Assoc. P J Thambiah	71	F	L. Spinal Stenosis L3/4, L4/5	TLIF L3/4,4/5	1 <sup>st</sup> Assistant
9/10/23	Dr. Leok Lim Lau	72	F	Spinal stenosis L3/4	Decompression Laminotomy	2 <sup>nd</sup> Assistant
13/10/23	Dr. H W Dennis Hey	61	M	Cervical Myelopathy	Posterior cervical laminoplasty C3-5	2 <sup>nd</sup> Assistant
		68	M	Prolapsed C IV disc	ADR C4/5 5/6	2 <sup>nd</sup> Assistant
16/10/23	Dr. Leok Lim Lau	13	F	AIS	Posterior stabilization and fusion	1 <sup>st</sup> Assistant
17/10/23	Prof. H K Wong	12	F	AIS	Anterior fusion T11 to L3- Right	2 <sup>nd</sup> Assistant
18/10/23	Assoc. Prof. S J Thambiah	29	M	Prolapsed Lumbar Intervertebral disc L3/4	Decompression L3/4 Lt	1 <sup>st</sup> Assistant
19/10/23	Dr. Leok Lim Lau	15	M	NM Scoliosis	Posterior stabilization and fusion	2 <sup>nd</sup> Assistant
26/10/23	Assoc Prof S Naresh Kumar	71	F	L spinal stenosis	Decompression L3/4(Bil), L4/5(Lt)	1 <sup>st</sup> Assistant
		53	F	L spinal stenosis	MIS TLIF L4/5	1 <sup>st</sup> Assistant
		31	M	Prolapsed intervertebral disc	Transforaminal block	2 <sup>nd</sup> Assistant
30/10/23	Prof. H K Wong	58	M	Cervical Myelopathy	Laminoplasty C3-5	2 <sup>nd</sup> Assistant
	Dr. Leok Lim Lau	62	M	Prolapsed intervertebral disc	Decompression L4/5	1 <sup>st</sup> Assistant
31/10/23	Prof. H K Wong	20	M	Scoliosis	Anterior spinal fusion T11-L3	2 <sup>nd</sup> Assistant
01/11/23	Assoc.Prof. G Liu	13	F	Scoliosis	PSIF	2 <sup>nd</sup> Assistant

02/11/23	Dr. Leok Lim Lau	71	F	Scoliosis with L1 hemivertebrae	L1 corpectomy and stabilisation	2 <sup>nd</sup> Assistant
06/11/23	Prof. H K Wong	29	M	Prolapsed intervertebral disc	Right L5/S1 Laminotomy and discectomy	2 <sup>nd</sup> Assistant
	Assoc.Prof. G Liu	50	M	Cervical Myelopathy with radiculopathy	C3 dome osteotomy open door Rt C456 Laminoplasty with plates and C7 upper Laminectomy with bilateral C45 Foraminotomies	2 <sup>nd</sup> Assistant
07/11/23	Dr. John NM Ruiz	16	M	Idiopathic Scoliosis	Posterior Fusion	1 <sup>st</sup> Assistant
8/11/23	Assoc. Prof. S J Thambiah	80	F	Spinal stenosis	TLIF L3-5	2 <sup>nd</sup> Assistant
		65	M	Spinal stenosis	TLIF L3/4	2 <sup>nd</sup> Assistant
11/11/23	Prof. H K Wong	56	F	Multilevel spinal stenosis	TLIF L4/5 L5/S1	2 <sup>nd</sup> Assistant
14/11/23	Prof. H K Wong	15	F	JIS	Thoracoscopic assisted Anterior fusion and instrumentation - Rt	2 <sup>nd</sup> Assistant
15/11/23	Assoc. Prof. S J Thambiah	43	F	Cervical and thoracic myelopathy	C3-6 Laminoplasty with thoracic laminectomy and fusion T2-7	2 <sup>nd</sup> Assistant
	Assoc. Prof. G Liu	16	M	Post operative screw mispositioned	Removal of cervical pedicle screw and rod	1 <sup>st</sup> Assistant
16/11/23	Dr. Leok Lim Lau	13	F	Neuropathic Scoliosis	Vertebral body tethering (Anterior)	1 <sup>st</sup> Assistant
	Dr. Leok Lim Lau	82	F	Lumbar radiculopathy	Nerve root block injection	1 <sup>st</sup> Assistant
17/11/23	Dr. H W Dennis Hey	71	F	PID L4/5	Transforaminal endoscopic decompression	2 <sup>nd</sup> Assistant
	Dr. H W Dennis Hey	82	F	PID C3/4,4/5,5/6	ADR C3/4, C4/5,5/6	2 <sup>nd</sup> Assistant
	Assoc Prof S Naresh Kumar	82	M	Spinal stenosis L4/5	Decompression	1 <sup>st</sup> Assistant
22/11/23	Assoc. Prof. G Liu	70	M	Cervical myelopathy	C3 dome osteotomy and right open door	2 <sup>nd</sup> Assistant

					C4-6 Laminoplasty with plates and C7 reverse dome	
24/11/23	Dr. H W Dennis Hey	76	F	PLID L4/5	Endoscopic discectomy(rt)	1 <sup>st</sup> Assistant
27/11/23	Prof. H K Wong	53	F	Lumbar spinal stenosis	Revision TLIF and extension to pelvis(Bilateral)	2 <sup>nd</sup> Assistant