

Asia Pacific Spine Society (APSS) – Universiti Malaya Medical Centre (UMMC) Clinical Attachment Programme 2025 Fellowship Post Report

Fellow

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Hosts

Prof. Dato' Dr. Kwan Mun Keong, MBBS (UM), MSOrth (UM), AM (Mal), D.P., M.P.
Prof. Dr. Chris Chan Yin Wei, MD (UNIMAS), MSOrth (UM), AM (Mal)
Assoc. Prof. Dr. Chiu Chee Kidd, MBBS (UM), MSOrth (UM), AM (Mal)

Fellowship Centre

Universiti Malaya Medical Centre, Kuala Lumpur, Malaysia





Duration of Fellowship

2 – 6 December 2025

My first exposure to the distinguished professors of Universiti Malaya and their invaluable work in the field of scoliosis surgery came through one of my mentors in my department, who had attended their advanced operative course on spinal deformities in 2023. Since then, he encouraged me to pursue a clinical program or operative course with them to learn their techniques and apply them to our own patients. I was fortunate enough to meet Prof. Dato' Kwan and Prof. Chris Chan in person during the 4th Annual PSS-APSS Operative Spine Course at our own center, Makati Medical Center, in August 2024, where I observed their skills firsthand during live surgery. It was at that moment that I resolved to actively seek opportunities to further learn from them, particularly regarding their approaches to scoliosis surgery.

Over the course of the year, I remained in regular correspondence with the APSS Secretariat and Ms. Siti Mariam Mohamad from the UMMC Spine Research Unit, until the fellowship dates were finalized for 2–6 December 2025. I am deeply grateful to them for their diligent coordination and for ensuring the smooth organization of the fellowship.

The host center for my fellowship was Universiti Malaya Medical Centre (UMMC) in Kuala Lumpur, Malaysia. Due to Prof. Dato' Kwan's notable achievements in scoliosis surgery, UMMC is widely recognized as a premier scoliosis center in Asia. Accordingly, the fellowship program was primarily focused on scoliosis surgery. I was privileged to be one of four fellows representing different regions of Asia, including India, Bangladesh, and Taiwan. As this was a dedicated spine fellowship, our activities were mainly centered within the Spine Unit, including its associated offices, clinics, and operating theatres.

 UNIVERSITI MALAYA		APSS-UMMC CLINICAL ATTACHMENT PROGRAMME 2025 (2nd - 6th DECEMBER 2025)					
Monday (01/12)	Tuesday (02/12)	Wednesday (03/12)	Thursday (04/12)	Friday (05/12)	Saturday (06/12)	Sunday (07/12)	
0700-0800	Spine Clinical Teaching	Preop Planning + Discussions	Spine Clinical Teaching	Long Case Teaching	OT		
0800-0900				*APSS-UMMC Clinical Fellow Lecture Presentation*			
0900-1000				Scoliosis Clinic			
1000-1130				BioApps Brace Visit			
1130-1230				Visitation to UM UMMC/ NOCERAL			
1230-1300	Lunch	Lunch	Lunch	Lunch	OT		
1300-1400							
1400-1500							
1500-1600							
1600-1700							
1700-1800	Social Programme at Kuala Selangor	OT	Fellowship Dinner	Free & Easy	OT		
1800-1900							
1900-2000							
2000-2100							
2100-2200							

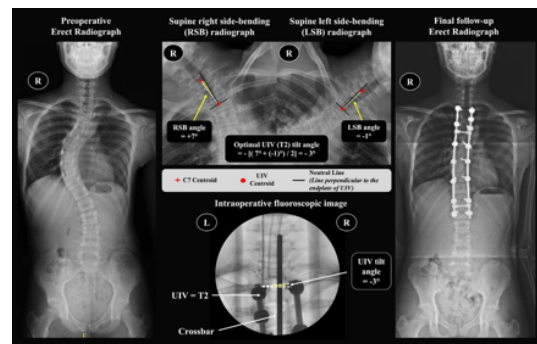
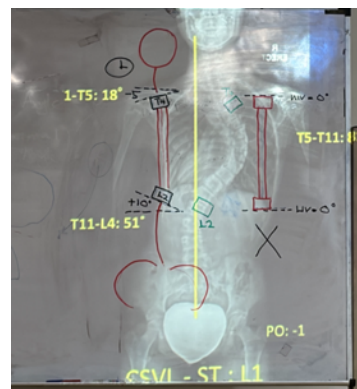
*APSS-UMMC
Clinical Fellow
Lecture
Presentation*

Dr Ana Rosario 0908-0915
 Dr Abdullah Al-Mannan 0915-0930
 Dr Guna Pratheep 0930-0945
 Dr Chen Chih-Wei 0945-1000

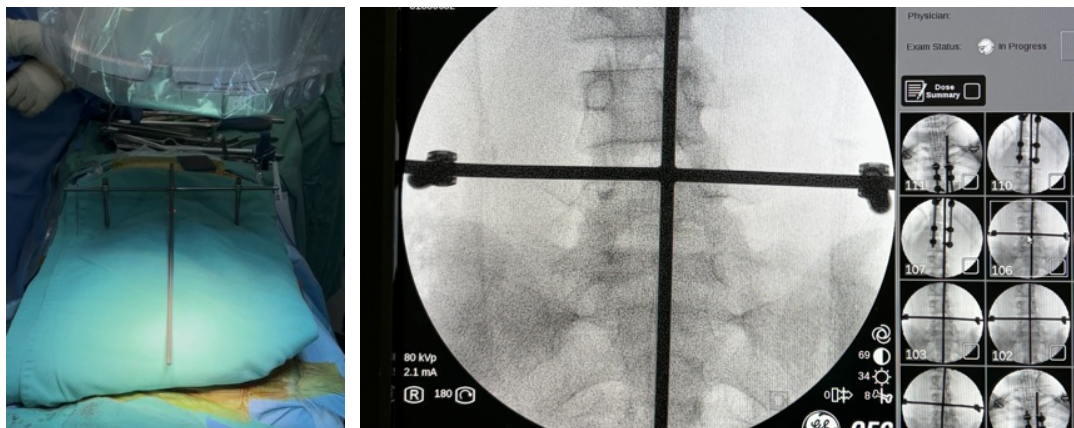
Day 1

On the first day of the fellowship, we began with a program orientation followed by teaching sessions. Preoperative cases were presented by residents and discussed in detail. The faculty highlighted the importance of achieving patient balance as the foremost goal, with curve correction as secondary. The concept of neck tilt and medial shoulder balance were introduced, emphasizing correction of UIV and LIV tilts to ensure optimal postoperative alignment.

Effective preoperative planning requires obtaining adequate flexibility radiographs. Ideally these are standardized, physician-supervised whole-spine side-bending films, which provide the foundation for selecting the upper and lower instrumented vertebrae (UIV and LIV), determining their respective tilts, and calculating the optimal correction needed to achieve good postoperative neck and shoulder balance. Scannograms are also obtained to evaluate pelvic obliquity and leg length discrepancies, which are factored into both preoperative planning and intraoperative balancing. These preoperative measurements are then meticulously applied during surgery, helping to minimize variability in surgical outcomes.



We were able to participate in surgery on the same day. One key concept demonstrated was the use of an intraoperative crossbar to simulate the CSVL. This enables the surgeons to implement preoperative corrections more accurately, taking into account the effects of general anesthesia, and it also provides a way to evaluate intraoperative spinal balance and the tilt of the upper and lower instrumented vertebrae after correction.



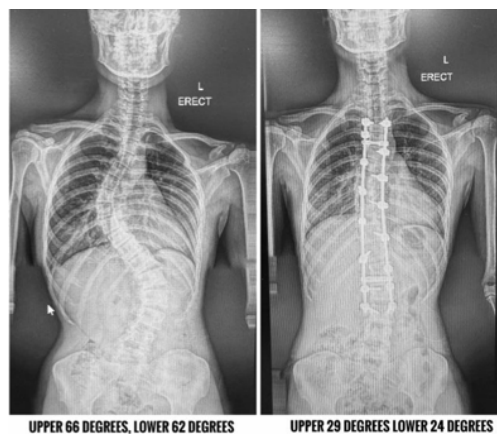
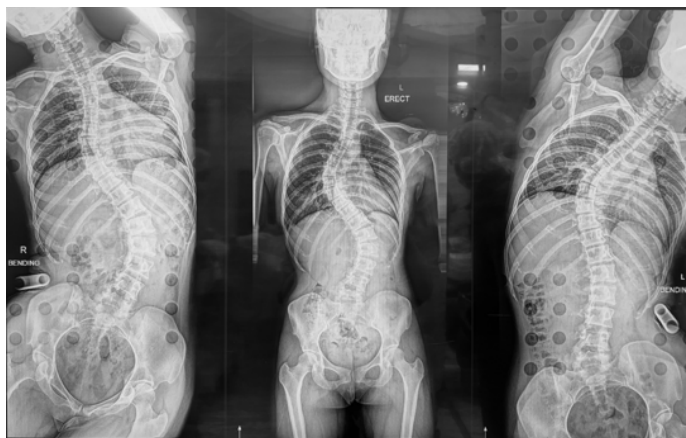
The rest of Day 1 constituted of a relaxing nature tour with my co-fellows in Kuala Selangor.



Day 2

On the second day, we spent the entire day in the operating theatre with Prof. Dato' Kwan and Prof. Chan. We had the opportunity to assist with and observe four scoliosis surgeries, interspersed with preoperative case discussions and theoretical lectures. We closely observed each professor's technique for pedicle screw insertion, receiving guidance on safely palpating the medial pedicle wall. The notable teamwork in OT also highlighted the crucial role of a skilled radiographer operating the image intensifier, whose expertise contributes significantly to team efficiency. Intraoperative balancing using the crossbar was again emphasized, and we learned that rod lengths can be calculated to the millimeter to avoid unnecessary time spent trimming rods after fixation.

The team focused on maximizing safety and efficiency with techniques such as cross-bar utilization, dual-surgeon strategy, and safety measures during freehand pedicle screw and extrapedicular screw insertion, including use of cannulated screws guided by image intensifier for small or dysplastic pedicles. All these in turn lead to a significant reduction in operative time and blood loss, and thus a much shorter hospital stay for the patient. Sterility was also given utmost importance around the operating field.



As there were four fellows, logistical arrangements allowed two fellows to assist at a time while the remaining two observed. Lunch and coffee breaks were filled with lively discussions reviewing the completed case and planning the preoperative evaluation for the subsequent case, during which our mentors generously and comprehensively addressed any questions we raised.

I was extremely impressed by the overall efficiency of the surgical team, encompassing the surgeons, anesthesiologists, nurses, and radiographer. The operative duration and patient turnover were truly remarkable. Equally outstanding was Prof. Kwan and his team's commitment to clear and continuous communication with patients and their families throughout the preoperative, intraoperative, and postoperative phases. These important lessons from the operating room are practices I hope to emulate at my own center.

Day 3 was spent once again in the operating theatre with Prof. Chan, Prof. Chiu, and Dr. Satur. We assisted and observed two scoliosis cases, gaining insight into the distinct surgical techniques and case-specific approaches of each surgeon. There was more detailed demonstration of extrapedicular screw insertion and the use of cannulated screws with image intensifier guidance, particularly in cases with small or dysplastic pedicles. Emphasis was also placed on precautions to minimize the risk of injury to the spinal cord and surrounding structures, including the aorta, esophagus, and trachea, during screw placement.



Day 3 concluded with a memorable fellowship dinner with the team.



Day 4 focused primarily on academic activities and the refinement of non-surgical skills in the clinical setting. We observed a resident-led case presentation that was reviewed by the professors, and we were encouraged to actively participate in the discussion and contribute our own perspectives. In turn, we also delivered individual lectures to medical students and residents as part of a teaching forum.



We subsequently spent the rest of the day in the outpatient Scoliosis Clinic, where patients were reviewed and assessed in detail. We observed how the professors conducted consultations and counseled patients and their families regarding indications for surgery or bracing. I was particularly impressed by the comprehensive patient information handbooks, which conveyed detailed explanations in clear, accessible language and visual formats, helping patients and parents understand their condition and what to expect from both conservative and surgical treatment options. This experience provided valuable insights into effective patient communication, including how to better explain diagnoses and management strategies. I also gained further exposure to the management of congenital and juvenile scoliosis, which are encountered less frequently at my home institution. In addition, Prof. Dato' Kwan generously shared access to his patient guidebook and other educational materials, which will serve as a useful reference as we work toward developing similar resources tailored to our own clinical settings.



Day 5

On the last day of the fellowship, we returned to the operating theatre to assist and observe three cases. We independently performed preoperative measurements and continued with case discussions and planning, including more in-depth review of complex topics such as pelvic obliquity and sagittal balance. These discussions focused on reinforcing fundamental balancing principles and assessing our understanding. The day concluded with time to tour the hospital grounds and take final group photographs.



At the conclusion of the fellowship, we were presented with meaningful souvenirs to mark the beginning of our own journey in scoliosis surgery, most notably a personal cross-bar that we could incorporate into our own practice in our respective countries. We also received our certificates during a small “graduation” ceremony held in the same room where all our teaching sessions had taken place.



Insights and Acknowledgements

Over the course of just five days, I acquired substantial knowledge in the management of Adolescent Idiopathic Scoliosis. While the volume of information was initially overwhelming, the fellowship duration proved more than sufficient to gain valuable insights and technical skills from an exceptional faculty, which I look forward to incorporating into my future scoliosis cases. Several points of learning insights include:

- Patient safety always comes first
- Prioritize balance over curve correction
- Meticulous preoperative planning will directly affect postoperative results
- Intraoperative balancing using a cross-bar can confirm preoperative target correction
- Patient and family education and communication regarding all points of treatment is a must

I cannot adequately convey how impressed I was by the entire Spine team at UMMC. The faculty—Prof. Dato' Kwan, Prof. Chan, Assoc. Prof. Chiu, and Dr. Satur—demonstrated exceptional expertise and were consistently generous with their time, always willing to address our questions. Their depth of knowledge and mastery in the field are truly remarkable. The Spine Research Unit members, Siti Mariam, Josephine, and Farah, were equally outstanding, providing invaluable support to us fellows throughout the process, from application and program setup to accommodation and overall coordination, as well as day-to-day arrangements. In addition, the in-house radiographer, Mr. Burger, far exceeded my expectations, showcasing an impressive level of skill and capability.

I would like to extend my sincere appreciation to the faculty and staff of the Universiti Malaya Medical Centre Spine Unit for your invaluable mentorship, warm hospitality, generosity, and unwavering dedication to education. Your support has made my fellowship an exceptionally enriching and memorable experience. I am also deeply grateful to the APSS Fellowship Committee and Secretariat for my acceptance into the program and for their excellent coordination. This fellowship has been a defining experience in my development as a spine surgeon, and I will endeavor to apply the knowledge and skills I have gained to enhance the care of my patients.

Case Log

	Date	Age/Sex	Diagnosis	Surgery	Role
1	2/12/25	13/F	Adolescent Idiopathic Scoliosis Lenke 1A	Posterior spinal fusion T4-L2	Assistant
2	3/12/25	23/F	Adult Idiopathic Scoliosis Lenke 3CN	Posterior spinal fusion T3-L3	Observer
3	3/12/25	13/F	Congenital Scoliosis (T4 Hemivertebra)	Posterior spinal fusion T2-T12	Assistant
4	3/12/25	15/F	Adolescent Idiopathic Scoliosis Lenke 1AN Flexible	Posterior spinal fusion T7-L2	Observer
5	3/12/25	13/F	Adolescent Idiopathic Scoliosis Lenke 1CN Flexible	Posterior spinal fusion T3-T12	Assistant
6	4/12/25	25/F	Adult Idiopathic Scoliosis Lenke 5C	Posterior spinal fusion T5-L4	Observer
7	4/12/25	12/F	Adolescent Idiopathic Scoliosis Lenke 1CN	Posterior spinal fusion T3-L3	Assistant
8	6/12/25	15/M	Adolescent Idiopathic Scoliosis Lenke 2AN	Posterior spinal fusion T2-L2	Observer
9	6/12/25	25/F	Adolescent Idiopathic Scoliosis Lenke 2ARN	Posterior spinal fusion T2-L3	Assistant
10	6/12/25	22/F	Adolescent Idiopathic Scoliosis Lenke 1C- Stiff	Posterior spinal fusion T2-T12	Observer