

APSS DEPUY SYNTHES CLINICAL FELLOWSHIP (1ST DECEMBER – 21ST DECEMBER 2019)

FELLOWSHIP REPORT

FELLOW:

Dr. Tanay R. Prabhoo

MBBS, MS (Ortho) , DNB (Ortho) , MNAMS , FCPS (Ortho) , ASSI (Spine Fellowship)

Mukund Hospital, Guru Nanak Hospital , Holy Family Hospital , V N Desai Hospital , Wockhardt Hospital
Mumbai , India

HOST :

Prof. Yukihiro Matsuyama

M.D , Ph. D

Professor and Chairman

Department of Orthopaedic Surgery , Hamamatsu University School of Medicine , Hamamatsu , Japan

FELLOWSHIP DURATION : December 1st – December 21st , 2019

FELLOWSHIP SCHEDULE :

Time	Monday	Tuesday	Wednesday	Thursday	Friday
7 am - 8.30 am	Spine teaching and Journal Club	Pre-op Conference		Post -op Conference	
8.30 am – 12 noon	Spine Clinic	Spine Surgery	Spine Surgery at Satellite Hospital	Spine Surgery	Spine Surgery at Satellite Hospital
1 pm – 5 pm	Spine Clinic	Spine Surgery	Spine Surgery at Satellite Hospital	Spine Surgery	Spine Surgery at Satellite Hospital
5 pm – 7 pm		Spine Surgery		Spine Surgery	
7 pm onwards	Spine Conference	Post-op Conference			

I must thank Almighty for giving me this opportunity to be selected for the prestigious APSS – Depuy Synthes Clinical Spine fellowship. Initially I was selected and was to go to Queen Mary Hospital, Hong Kong but due to political unrest in the country my fellowship venue was shifted to Japan.

The APSS secretariat was always helpful and was guiding me very well before I reached Japan. He would be in constant touch and was very prompt in the emails.

I reached Nagoya airport from Mumbai via Bangkok on the 1st of December. I left for Hamamatsu on 2nd December by bus and was received very well by Dr. Yamada who had come to the bus stop.

The accommodation was very convenient and was within the campus of the university. The entire spine team took utmost care to look after me during my fellowship period.

Hamamatsu University School of Medicine is a National university and a 613 bedded teaching hospital situated in Hamamatsu, Shizuoka Prefecture in Japan.

The Orthopedic department has well-established subspecialties including Spine Surgery, Arthroplasty, Pediatric Orthopedics, Hand Surgery and Musculoskeletal Tumor Surgery. There are a number of national and international graduate students taking part in the Ph.D. program every year. During my stay there were students from China and Vietnam.

There are 12 Spine surgeons in the Spine team and apart from the University hospital they perform spinal surgeries in number of other satellite hospitals too. Usually they undertake simpler surgeries in the satellite hospitals and more complex ones on patients with significant comorbidities in the University Hospital.

During my stay, there was another fellow - Dr. Derek Ben Jabenis from Philippines who was going to be there for 6 months. He was great company and made the fellowship even more enjoyable.



Fig 1 : Hamamatsu University School of Medicine

Fig 2 : View from the hospital building

ACTIVITIES AT HAMAMATSU UNIVERSITY SCHOOL OF MEDICINE

There was a very structured agenda for the entire week. Every Monday morning, there was a research meeting as well as journal club. The spine department and the Ph.D students would meet and discuss the current research topics each member is working on as well as interesting study / case from international journals . On Monday evening, the pre – operative cases were discussed in the conference.

I realized the importance of planning surgery and also the number of inputs on each case from the entire spine team. On Tuesdays and Thursdays prior to starting the spine surgeries, there used to be an orthopaedic conference which was attended by medical students , PhD students and the entire orthopaedic department comprising of all the sub specialties. I used to attend all the meetings. I was given a warm welcome on 3rd of December by the entire department. The meeting discussed variety of cases from trauma, arthroplasty , arthroscopy , hand , tumor and of course spine.



Fig 3 : Discussion of pre operative cases in the spine meeting of the department



Fig 4 : The entire spine department lead by Prof. Matsuyama

On Wednesdays and Fridays, I would attend spine surgeries at the peripheral hospital near the university. There were variety of less complex cases done at these centers.

The Spine department was generous to give me a welcome as well as a sendoff dinner during my stay.

The spine department lead ably by Prof. Matsuyama did many surgeries which included Adolescent Idiopathic Scoliosis , Adult deformity , degenerative cases like Lumbar canal stenosis , prolapsed intervertebral disc, Listhesis , fractures and Tumour.

I had an opportunity to attend conferences on topics of low back pain and cervical trauma held near by the university. Invited speakers (Professor and doctors) from nearby cities were asked to speak on the variety of topics.

I had the privilege to give my introduction and a presentation to the entire orthopaedic department in the first week. It was thoroughly enjoyed by everyone.

The highlight of my stay was I got a golden opportunity to attend international Scoliosis Research Society (SRS) meeting at Tokyo which was held on 13-14th of December. It was a wonderful meeting and opened my horizons on learning deformities in the pediatric as well as in adults. Got an opportunity to meet lot of international faculty who had come to share their vast knowledge.

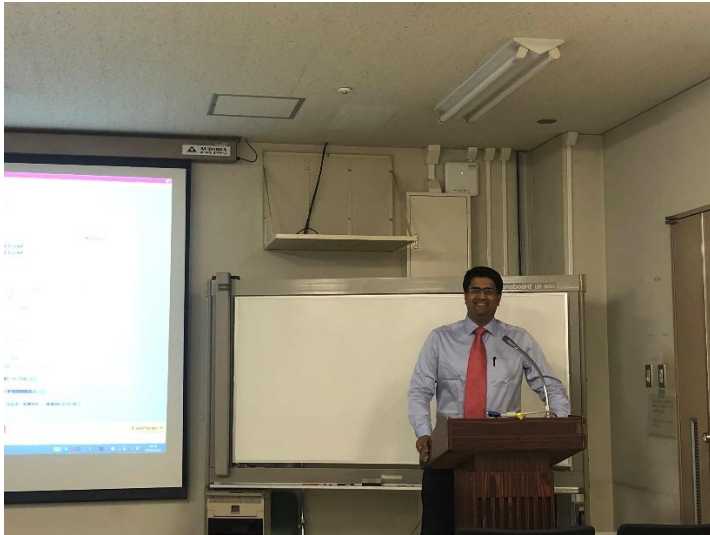


Fig 5 : Introductory presentation by me during my fellowship



Fig 6 : Receiving certificate by Prof. Matsuyama on the last day of my fellowship

SPINE SURGERIES AT HAMAMATSU UNIVERSITY SCHOOL OF MEDICINE

The Spine surgeons in Hamamatsu University School of Medicine operate a wide variety of Spinal pathologies including trauma, adult deformities, scoliosis, spine degenerative conditions, spine tumor as well as extra and intramedullary tumors. The Operation theater complex consisted of 10 modern fully equipped operating rooms. On the first day I was happy to assist in a severe deformity in an Adolescent Idiopathic Scoliosis. It was a challenging case and O Arm as well as neuro monitoring was used. There was a gradual loss in the neuro monitoring, and I saw the quick response of the entire team with Prof. Matsuyama leading the way. I realized the importance of a team leader that day as well as team effort. With the corrective maneuvers the neuro monitoring improved and neurology was normal of the young girl. The surgery was done by Dr. Hasegawa and Dr. Banno. The O Arm and the navigation is a boon and helps tremendously in the accuracy and safety in complex surgeries.

Other interesting cases which I got the opportunity to observe or assist was an Osteoid Osteoma tumour excision. This Tumor was at C4 pedicle on the right side and with the help of O Arm, it accurately located and completely excised the pedicle and lateral mass screw fixation was done.

I also got to see a Filum terminale release surgery beautifully executed by Dr. Hasegawa and Dr. Yasuda for a Tethered cord syndrome in a patient for the first time. It was done under microscope which gave me a very good visualization of the cord and its structures.

I assisted in a cervical laminoplasty which was done by open door technique along with hydroxyapatite spacer. This surgery was performed by Dr. Oe. Another surgery demonstrated by Dr. Oe was percutaneous pedicle screw fixation along with Kyphoplasty which is not commonly done back home for an Osteoporotic compression fracture with DISH.

In Adult degenerative scoliosis I got to see XLIF procedures which were often done. They were usually first stage surgery. The other common surgeries done routinely were lumbar laminectomy, Discectomy and Posterior Lumbar interbody fusion.

A new technique I observed in my training was that post decompression procedure or even post filum terminal the surgeons used to use Ultrasonic probe and also demonstrate the adequate decompression as well as to see the spinal cord pulsations.

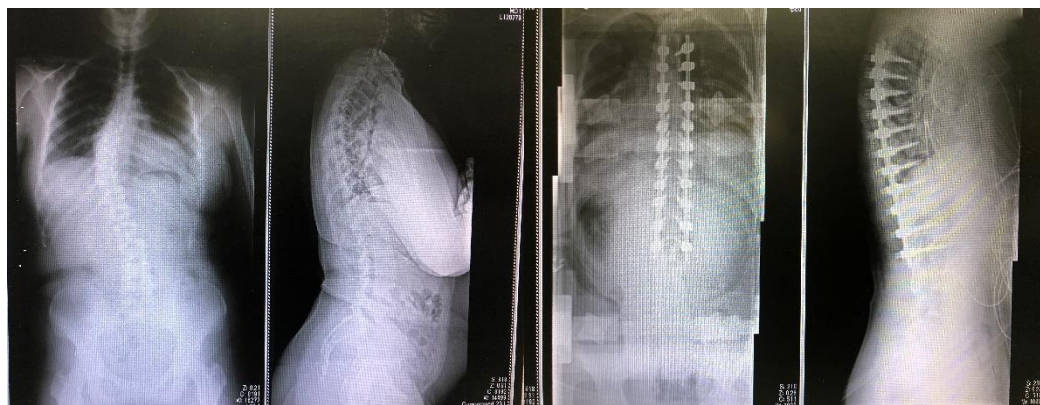


Fig 7 : Pre operative xrays of Adolescent Idiopathic Scoliosis (Lenke 1A)

Fig 8: Post operative xrays after correction

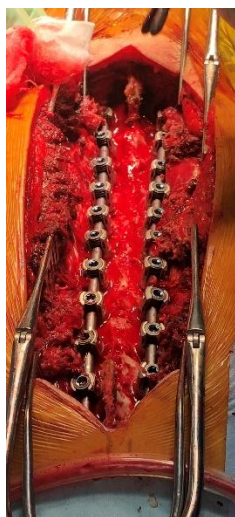


Fig 9 : Intra operative picture of final correction

ACTIVITIES AT SATELLITE HOSPITALS

In rotation every Wednesdays and Fridays, I used to visit satellite hospitals like Red Cross Hospital, Hibara Hospital, and Aoyama Hospital along with the surgeons. Usually the lesser complex cases were done here routinely.

With Dr. Yoshida, I assisted in a posterior Lumbar Interbody fusion (PLIF) which was done in Aoyama Hospital. Also got a chance to assist neurosurgeons in one navigation assisted posterior lumbar pedicle screw fixation.

At Hibara Hospital, I assisted Dr. Oe as he demonstrated cervical laminoplasty surgery with spacer, Percutaneous screw fixation and kyphoplasty posteriorly. Lastly a Posterior Lumbar interbody fusion at upper level in a previously operated patient.

At Red Cross Hospital, I assisted Dr. Hasegawa and Dr. Yamada at a Posterior Lumbar Interbody fusion, One level Dorsal laminectomy, Hemi – laminectomy with discectomy and a two-level lumbar laminectomy. I also observed how in many cases they used to split the spinous process and then again re suture it at the end of the procedure.



Fig 10 : Intra operative clinical picture of cervical laminoplasty with spacer

Fig 11 : Post operative lateral view xrays of cervical laminoplasty with spacer



Fig 12: Assisting Dr. Oe in a surgery at Hibara Hospital



Fig 13 : Entrance of Hibara Hospital

Scoliosis Research Society (SRS) Meeting

It was a blessing in disguise that the SRS meeting on current concepts in Deformity was held in Tokyo on 13-14th December 2019. It was very kind of Prof. Matsuyama to happily permit me to attend this international meeting. Many of the spine surgeons including Dr. Matsuyama were attending this meeting. Prof. Matsuyama was also faculty and speaker here. The faculty attending were from India, Netherlands, Taiwan, Hong Kong, South Korea and Japan.

A wide variety of topics on deformity were covered from Early Onset Scoliosis, Adolescent Idiopathic Scoliosis, Adult deformity including Cervical and dorso lumbar, Osteoporotic fractures, Spondylolisthesis management. The interactive case-based discussions were the most helpful sessions where cases were discussed in small groups with faculty and consensus was reached in each case post discussion.



Fig 14 : Attending SRS meeting in Tokyo

In all, these three weeks were a memorable experience for me which will be etched in my memory for life. It was a perfect balance of academics, hands on training with a bit of leisure. The hosts didn't leave any stone unturned to see that my entire stay was fruitful, comfortable and enjoyable.

I have made wonderful friends in these three weeks and I pray that this bond remains for years to come.

I, once again thank APSS, Prof. Matsuyama, the entire spine team and Almighty for this once in a lifetime opportunity.

Back home, I am truly grateful to my mentors Dr. Jamal Ashraf, Secretary General APOA and Dr. Shekhar Bhojraj (Eminent Spine consultant in Mumbai, India) for their constant support and encouragement.



Fig 15 : Professor Matsuyama and me at the hospital

LOG BOOK

Sr. No.	Date	Diagnosis	Surgery	Operating Surgeon	Role
1	3/12/2019	Adolescent Idiopathic Scoliosis (Lenke 4C)	T2- L4 correction with Posterior Pedicle screw fixation	Dr. Hasegawa Dr. Banno	Assistant
2	3/12/2019	Adolescent Idiopathic Scoliosis (Lenke 1A)	T4- L2 Posterior correction with Pedicle screw fixation	Dr. Yamato Dr.Arima	Observer
3	4/12/2019	L4-L5 Stenosis with Listhesis grade 1	L4-L5 PLIF	Dr. Yoshida	Assistant
4	5/12/2019	Osteoid Osteoma C4 Right side	Tumor Excision with C3-C5 pedicle & lateral mass screw fixation	Dr. Hasegawa Dr. Oe	Assistant
5	5/12/2019	L3-L5 Spondylodiscitis	L2-S1 Percutaneous Pedicle screw fixation	Dr. Oe	Observer
6	6/12/2019	Operated case of L3-L5 PLIF with L2-L3 instability	L1-L2 PLF + L2-L3 PLIF	Dr. Oe	Assistant
7	6/12/2019	D12 Wedge compression # with DISH	D12 Kyphoplasty with percutaneous screw fixation D10-D11 , L1-L2	Dr. Oe	Assistant
8	10/12/2019	Degenerative scoliosis with L5 Radiculopathy	L2-3,L3-4,L4-5 XLIF	Dr. Hasegawa Dr. Arima	Observer
9	10/12/2019	Adult Degenerative scoliosis	Posterior correction with T9-Iliac Fixation & fusion	Dr. Yamato Dr. Banno Dr. Hata	Observer
10	10/12/2019	OPLL cervico thoracic	Decompression with C5-T1 fixation	Dr. Yasuda Dr. Oe	Observer
11	10/12/2019	L3-L4, L4-L5 Lumbar canal Stenosis	L3-L5 Decompression	Dr. Yoshida	Observer
12	11/12/2019	L5-S1 PID left side	Microscopic Discectomy Left L5-S1	Dr. Hasegawa	Assistant

13	11/12/2019	L3-L5 Lumbar canal Stenosis	L3-L5 Decompression	Dr.Hasegawa	Assistant
14	11/12/2019	Tethered Cord Syndrome	Release of filum terminale	Dr. Hasegawa	Observer
14	17/12/2019	Adolescent Idiopathic Scoliosis (Lenke 2C)	T2 – L3 Correction with Posterior pedicle screw fixation	Dr. Yamato Dr. Oe	Observer
15	17/12/2019	Adolescent Idiopathic Scoliosis (Lenke 1B)	T3- L1 Correction with Posterior pedicle screw fixation	Dr. Banno Dr. Hasegawa	Assistant
16	17/12/2019	Lumbar Canal Stenosis with Calcified Ossified Ligamentum flavum L4-L5	L4- L5 Decompression	Prof. Matsuyama Dr. Arima	Observer
17	18/12/2019	T10-T11 Compressive myelopathy	T10-T11 Decompression	Dr. Hasegawa Dr. Yamada	Assistant
18	19/12/2019	L4-L5 Lumbar canal stenosis with Listhesis (Grade 1)	Post Lumbar Interbody fusion (PLIF) L4-L5	Dr. Hasegawa Dr. Yamada	Assistant
19	19/12/2019	Adult Degenerative scoliosis	Posterior correction with T9- iliac fixation & fusion	Dr. Hasegawa Dr. Arima	Observer
20	19/12/2019	Adult Degenerative scoliosis	XLIF L2-L5 fixation & fusion	Dr. Oe Dr. Yamato	Observer
21	20/12/2019	Cervical Myelopathy C4-C6	C4-C6 Laminoplasty	Dr. Oe	Assistant

ACKNOWLEDGEMENTS

1. APSS Fellowship Committee
2. APOA & APSS President and Secretary General
3. Professor Yukihiro Matsuyama and Department of Orthopaedics, Hamamatsu University School of Medicine
4. Jenny Wong, Maxime Lemaire and APSS Secretariat
5. Ms Hiromi Otowa and Orthopaedic Secretaries at Hamamatsu University School of Medicine
6. Entire Spine & Orthopaedic Department, Hamamatsu University School of Medicine