

AASAN Letter

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Visiting International Fellow - Minimal Invasive Spine Program

Department of Neurological Surgery

University of California, San Francisco, USA

Ever since I received an e-mail congratulating me for having won the AASAN Ambassadorship award, I was extremely ecstatic! It was indeed an honour and a privilege to have been selected as a young South Asian Neurosurgeon to visit one of the most premier neurosurgical institutes in the United States - University of California, San Francisco (UCSF) with a reputed spine surgeon, Dr. Praveen Mummaneni. I would like to convey my utmost gratitude to AASAN and Stryker, for this momentous opportunity.

At the time, I was in my final year of my neurosurgery residency at Fortis Hospital, Bangalore and I had the advantage of being exposed a good volume of spine surgeries during my residency. I felt that this esteemed fellowship opportunity came at the right time in my career, which would add value to my surgical skills, help me gain better neurosurgical insights, improve my vision and broaden my knowledge to ultimately benefit patients back home.

As I departed from Bangalore, and stepped foot in San Francisco, after almost 24 hours of flight time, I knew I was about to have an experience of a lifetime! Soon after, I witnessed the awesome Independence Day celebrations and my visiting international fellowship in Minimally Invasive and Complex Spine Surgery, literally started with a bang! Just as I had hoped, over the next few weeks, I was fortunate enough to be able to observe and learn some of the latest concepts and techniques in spine surgery.

Let me start with the OR experience – state-of-the-art facilities with the ability to perform all kinds of complex spine surgeries. This included availability of advanced microscopes and intra-operative imaging technology such as O-arm and AIRO providing real-time 3D navigation guidance to improve accuracy of instrumentation and to aid in MIS approaches. The use of continuous intra-operative neuro-monitoring, both motor and sensory, in almost every case was also advantageous in helping to reduce complications and improving surgical outcomes.

Apart from routine cases (microdiscectomies, ACDFs, decompressions, laminectomies, fusions), I was able to witness many surgical techniques that I had not commonly seen during my residency, especially complex spinal deformities. Here, ALIF was routinely performed, along with assistance from vascular surgeons, for L5-S1 pathologies (listhesis, scoliosis) thereby achieving enhanced lordosis correction. Much emphasis was laid on maintaining sagittal balance. For correction of coronal deformity, LLIF or OLIF was performed as a minimally invasive lateral and a combination of 360° approaches was used that included ALIF anteriorly for L4-5/L5-S1, LLIF/OLIF for L2 to L4/5 as well as a posterior decompression and instrumented stabilization if required. I also got to witness osteotomies (Smith-Peterson, Pedicle Subtraction) for obtaining better correction of kyphotic deformity. In almost every patient the pre-operative spino-pelvic parameters were measured and every attempt was made to improve the spinal balance.

Learning continued during the non-surgery days – with an enriching experience in the outpatient clinics as well. I not only learnt how to make operative decisions but also about different modes of conservative management of low back and neck pain including various injection techniques

managed by other specialties. Daily ward rounds of patients were also fruitful, especially to observe about post-operative care including ICU care, pain management and rehabilitation methods. It was nice to watch interaction with patients and study about the differences in the working of healthcare system in the US.

In addition to the practical experiences in the operation theatre and clinics, interaction with the other faculty (Dr. Chou, Dr. Berven, Dr. Dhall among others), residents and spinal fellows in the department helped me refresh and strengthen my thought process for the management of spinal disorders. Academic activities were strongly encouraged in the UCSF, and I was able to actively partake in the multi-disciplinary spine conferences that were held every Wednesday morning. Management dilemmas and complicated cases were discussed in the presence of experts from Neurology, Neurosurgery, Orthopaedics and Radiologists. This, I felt, was extremely beneficial both for the patients and myself, where I could clarify my views and doubts. In addition, Thursday was dedicated to teaching sessions, starting with Grand rounds in the morning, which included morbidity/mortality meetings, research paper presentations by residents as well as expert guest lectures by eminent professors.

Being with Dr. Mummaneni gave me the prospect to review articles from different journals which helped me to learn how to write and review technical articles. He also encouraged and guided me to pursue research work and he gave me the honoured opportunity to author a book chapter with him.

I had the chance to visit the cadaver lab, carefully handled by Dr. Arnau Benet. Although mostly cranial work was being done as part of ongoing cadaver research studies, it was a rewarding visit as I was able to learn about the nuances in maintaining and preserving cadavers, use of special injections to highlight different structures as well as the meticulousness in dissection techniques.

Apart from a great educational experience as mentioned above, I also had the advantage of making an excellent friendship with the fellow and my spine colleague – Dr. Michael Virk. He was a great help during my visit, and I guess I learnt a wealth of information from him too. With a lot of common interests, we would routinely share opinions over lunch ranging from medical to non-medical subjects including politics and adventure! I must say, we had a great fun-filled time. I also extend my gratitude to the secretarial staff, Erica and Maricar, who were also extremely supportive with all the paperwork and helped make this visit smooth and memorable.

All in all, it was a wonderful experience to be an AASAN International Spine Fellow at UCSF. I would like to sincerely thank Dr. Mummaneni and the entire spine team for their hospitality, personal affection and the knowledge I have gained. This is sure to be a positive influence on me as I shortly begin my practice back in India.

Once again, I am forever grateful to the generous support provided by AASAN. Special thanks to Dr. Shekar Kurpad, Dr. Ketan Bulsara, Dr. Harman Singh, Dr. Vikram Prabhu and Dr. Beejal Amin, without whom this entire experience would not have been possible. I applaud such efforts by AASAN and hope they continue to succeed in encouraging young minds from both these continents to exchange ideas, skill and knowledge. With the world becoming a smaller place, communication among neurosurgeons must grow to bring us together as a community and develop a strong bilateral bond.

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