

The Picture of Success

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Dr. Neel Anand



It was as if there were a booming voice from above asking, “How badly do you want to be an orthopedist?” Dr. Neel Anand, Director of Orthopaedic Spine Surgery at the Cedars-Sinai Spine Center in Los Angeles, had applied to over 100 residency programs...and didn’t get one interview. Years later, however, he is a prominent clinician known for his innovation in spine.

Born and raised in India, Neel Anand observed the scientific ponderings of his father, a nuclear scientist. “My dad encouraged me to pursue my interests...and my mom gave me the independence and courage to do so.”

Medical Training

Although he enjoyed studying invertebrates in fifth grade, Neel Anand developed a determination that was anything but spineless. “Even as a youngster I was set on medicine, in part because biology held an allure for me. I attended college, medical school, and residency in Bombay, always under the watchful eye of my parents, who held me to very high academic expectations.”

Perhaps because a young Neel Anand lost his grandmother to heart problems, the older Neel Anand wanted, at first, to specialize in cardiology. But his grades decided otherwise. “In medical school I placed first in surgery and second in gynecology, but trailed in cardiology. I made an instant decision to pursue orthopedics, largely because I had always been fascinated by building things.”

Rounding out medical school with a one year internship involving the basic areas of medicine, Dr. Anand then completed an orthopedic residency at Bombay University. “It was a wonderful experience, albeit at an absurd pace—we saw about 200 patients and did 10-20 cases daily. Dr. Dilip Tanna, a top notch spine surgeon, displayed a contagious drive to be the best. There was also Dr. Vinod Laheri, an excellent surgeon who was

fearless in attempting new spine techniques and talented at developing new products. We residents had 100% responsibility for patients, and essentially ran the program.”

Dr. Anand then headed West...for another orthopedic residency. “In 1989 I received a scholarship to the Royal College of Surgeons of England, and enrolled in the University of Liverpool where I obtained a masters degree in orthopedics. After winning a gold medal for clinical distinction, the university asked me to stay, which I did for six months.”

Residency Applications: Please Do Not Trash!

Then it was time to see what the U.S. had to offer. “In 1993 we moved abroad, and I did my first spine fellowship in Gainesville, Florida with Drs. Chet Sutterlin and Gary Lowery, after which time I applied to Hospital for Special Surgery (HSS) for a scoliosis fellowship. I was accepted, and was the first fellow for Dr. Oheneba Boachie, who took over the position of director soon after I arrived. From him I learned that if you plan things out, nothing is impossible.”

Dr. Anand found many things possible during his time at HSS, including making a solid impression on several important people. One of those was able to open doors for him...doors that seemed welded shut.

After applying for 135 orthopedic residencies and not getting one interview, I was completely frustrated. Dr. David Helfet, the head of orthopedic trauma, offered me a spot in his fellowship. I accepted, and along the way continued to apply for residencies. Still having no luck, one day I said to Dr. Helfet, ‘I don’t understand this!’ I had actually reached the point of putting ‘Please do not trash’ on my applications. Dr. Helfet made a few phone calls and I got five interviews—I ranked in every one of them.

It was then a déjà vu situation for Dr. Anand...every day. “I matched at Albert Einstein College of Medicine and did every day of my orthopedic residency all over again. The senior residents were initially somewhat threatened by me, but I played down my experience and we soon got along very well. Those in charge gave me a lot of leeway and more responsibility than the other residents.”

Dr. Anand then headed to the heart of Texas—for back. “I was accepted into a three month residency at the Texas Back Institute, where I got to know the amazing Dr. Stephen Hochschuler, among others. After finishing my residency in New York, I learned of a job opportunity here at Cedars-Sinai, which was building a spine center. I flew out, interviewed, and before the end of the day, I knew I had a job. This was my chance to work with the talented neurosurgeon, Dr. Robert Bray, who taught me the nuances of neurosurgical techniques for spine that most orthopedic surgeons miss out on.”

Developing New Products

Armed with an enlightened knowledge of the many “shades” of spine, Dr. Anand leapt on the product development train to see what he could contribute. “We were doing a lot of transforaminal interbody fusions (TLIFs), but I felt that it was better to place the cage anteriorly. Along with colleagues, I worked with Nuvasive to develop microscopic

instruments, an experience which taught me how different the thinking of surgeons, engineers and machinists can be. It became clear that the product/instrument must be applicable, i.e., it might be great on a machine but it has to work in a patient as well.”

Great inventors ask “Why not?” Such were the words from Dr. Anand to a certain manufacturer. “The multilevel percutaneous screw systems available circa 2001 were only applicable for one or two levels. I approached Medtronic and said, ‘Why can’t we do more levels?’ They were intrigued, so we worked together to develop a multilevel system, one which could involve silicone polymer, flexible rods, guidance systems, etc. After much deliberation, what came to fruition was a freehand unconstrained rod that you can pass through screws—all done minimally invasively. Amazingly, it was only two and a half years from inception to clinical use of this product, the Medtronic CD Horizon Longitude.”

Dr Anand notes, “This system was developed for trauma because you can’t use a bent, curved rod in the thoracolumbar region (where most fractures occur). While I first thought it couldn’t be used for deformity, we began doing one and two levels, then went on to do more—all minimally invasively and using three different technologies.”

Dr. Anand was also the first surgeon at Cedars-Sinai to do a L5-S1 Trans1 surgery. He adds “We developed a number of techniques, all with an eye toward the necessity of decompressing, distracting and correcting the rotation and curves. Now we are doing 80 degree curves, and even complicated operations like a T4-L4 in a patient with double curve scoliosis. The MIS approach makes the biggest difference in the area of blood loss; whereas with an open surgery you have about 1.5 to 3 liters of blood loss, with MIS techniques, it’s only about 100 to 200cc’s. The skeptics who once stared at me in disbelief are now beginning to realize that such surgeries are truly possible.”

But he himself wasn’t sure about another technology. Dr. Anand, principal investigator for the Dynesys IDE, states, “I had my doubts about posterior dynamic stabilization; we had seen that the Graf ligament wasn’t strong enough and would break. In the Dynesys project, a leg pain study, we were surprised to learn that participants’ back pain was also

improving. We began using it regularly after the study and had patient after patient show up at our offices thanking us profusely.”

Recalling one particularly memorable day at work, Dr. Anand notes,

The most exciting case I've ever had was a 21 year old dancer with idiopathic scoliosis (70 degree curve). She woke up in recovery an hour after the surgery, which involved T10 to S1, and gave me a big hug. I heard from her recently—she is doing Broadway shows.

Final Words

“I am so grateful to the litany of people who have helped me,” says Dr. Anand. “After so many universities and three continents, it’s nice to see it all come together. It’s pretty incredible that I still see my mentors and am even on the same podium with them at times.”

Yes, he is on the podium frequently...but his biggest fan base and support is at home. “My nine-year-old daughter is an avid reader (on a seventh grade level) who also enjoys piano and classical Indian dance. My five-year-old son is enthused by his soccer league, as well as Star Wars. As for me, years ago I was so ‘into’ cricket that I wanted to go to the national level (a dream nixed by my father and my medical career). I now do a lot of rollerblading and hiking. But the best times are spent with my children.”

Dr. Neel Anand...the definition of determination.