Mandeep Pathkak Interview Transcript – January 16, 2021

Dr. Emilie Joos, BISC Associate Director, recently interviewed Mandeep Pathak, a current candidate for the UBC Master of Global Surgical Care program.

Dr. Mandeep Pathak is Director of Trauma and Surgeries with Nyaya Health Nepal, an organization working towards making difference to the health sector in rural Nepal, as well as an active leader in capacity-building in surgical care, via task-shifting, especially in basic trauma care and orthopedic care in rural Nepal (Ridikot, Achham). He also has a great deal of experience in international partnerships. His goal is to build trauma centers in rural Nepal to improve access for this patient population.

Emilie: *You have a very impressive journey through surgery and orthopedic surgery. Can you just tell us a little bit about where you grew up? What led you to become an orthopedic surgeon? What do you actually do right now, in your current position?*

Mandeep: I grew up in the capital city of Nepal, Kathmandu. I was raised by my parents. We had a pretty decent life, according to Nepal standard. As we grew up, I took medicine through Kathmandu University. That's one of the major universities in Nepal that offered medical education. Through Kathmandu University, I finished my four and a half years of medical schooling and one year of internship. That's all together five and a half years of Bachelor in Medicine and Bachelor in Surgery. That's the degree we get after finishing our med school, MBBS. That's what we call ourselves. Then at the end of my medical school, we have to go through different rotations in different clinical departments. That's the time I made sure that I loved orthopedics. Looking at the nature of, overall, the surgical field was my interest. Orthopedics was more of an interest because at that time, the university I was working at had pretty good, impressive faculty in the orthopedics department. So I was really impressed with the faculty.

Then after my medical school, I joined as a house officer with one of the prominent orthopedic surgeons in Kathmandu. That was the time I came to know about this humanitarian organization called SIGN. I don't know if you heard about it. It's a surgical implant generation network. What they do is they provide an implant specifically for long bone fractures. So it's an intramedullary nail that they had designed for low middle income countries where you don't need intraoperative C-arm for surgery. So you can do the proximal and distal locking freehand. The hospital I was working at was one of their sites where they used to provide such implants. Well, during my early days, I didn't know much about orthopedics? But I thought those implants really helped the patients because, they had those patients who couldn't afford the implants. I was really impressed with their methods of giving us the planning, meaning that we really need to make sure that we provided the patient with the implant. Then we made sure that we recorded all those patients' characteristics with the factors and then made sure that they get monthly visits, and record how the fracture healing goes.

The overall result of that implant was really impressive to me. Furthermore, when I knew more about it, the surgeon I was working with advised me to go for residential training in orthopedics. So that was the time when I met another SIGN surgeon who was working in the Philippines. He really had a nice training program in the Philippines. In Nepal, at the time when I was just graduated in 2009, there were only two centres that could provide residency training in orthopedics. They only provided for eight students per year. Eight students out of 1,500 medical graduates could get into orthopedic training. So when I was

offered a resident training in the Philippines I said, I should give a try. That was my field of interest as well. So I went to the Philippines. That was also a site of the SIGN surgery, they used to get the implants through SIGN. Overall, it really revolves around the SIGN implants and the impact it has made in low and middle income countries. They used to provide for the implants, and we used to make sure that the implants the patient gets met the patients better at the end. So that's where I finished my residency.

The place in the Philippines where I did my residency was the southern Philippines, where it was not so developed. Even in the Philippines, it was regarded as one of the places where there were lots of casualties with Islamic rebels. They had their own issues with the local Islamic population. So it was not a stable place itself. But however, the hospital itself was safe and I could finish my residency. Through that residency period, that's when I learned, to provide care even at the resource limited setting. When you have some implants like from SIGN where you don't need bigger operative setups, like C-arms and other instruments.

So after completing my residency, I came back to Nepal. At this time, I heard about this organization, which had been working in Far West Nepal. Even in Nepal, in the capital city, Kathmandu, the people there are a bit better than the overall standard within the country. The Far West is very much left behind historically, as well as in the modern times. The health indicators were not so good.

In the current organization where I was working, they had this position for an orthopedic surgeon. They were working in this region for 10 years. What they had realized was there were no people taking care of trauma. I mean, no doctors were here, no surgeons in this region, who could take care of trauma. They were looking for an orthopedic surgeon, and that position was vacant for a long time. I was new after my residency and I said: “I am trained for doing such kinds of surgery in a resource limited setting, so why don’t I give a try?”. I joined this organization in 2015.

As I said, the situation in this Far West Nepal was not so good. Overall, there are no orthopedic surgeons. It took me two days from the capital, Kathmandu, to reach this place. Virtually two days. It was a flight that took one hour 15 minutes, and then twelve hours drive from the airport to reach this place. So it's very far. Even if Nepal looks very small, it's very far in Nepal. The place where the flight was, where the plane took me, was a small city in Far West Province. But after that, I took a car, a Jeep, traveling to the hospital for 12 hours, and there are no orthopedic surgeons for the whole twelve hours’ drive. You can imagine how the situation was. Not only no orthopedic surgeon but there are no regular basic general surgeons as well. There were general practitioners. In Nepal, general practitioners, they are trained for basic obstetric/gynecology care after finishing medicine. So after five half years of medical school, they are trained for another three years for basic obstetric care, and basic surgical care. They're supposed to be trained for trauma. But they were not so confident with orthopedic cases. That's why the organization at that time had decided to hire an orthopedic surgeon.

So there was one general practitioner working in this region. Then I made an entry to this place. After my entry, I had support from SIGN with surgical implants. They said that they will support me with the orthopedic implants. At the hospital, we don't have an anesthesiologist. We have an anesthesia assistant. The anesthesia assistants, are the mid-level healthcare providers who are trained for one year in anesthesia related work. There was only one staff at that time, now we have two anesthesia assistants.

There was one general practitioner and me, so the two of us continued with orthopedic trauma services. Initially, we didn't have much implants. But you know, basically, what I found was that more than 50% to 60% of my patients were pediatric patients. The kids, they used to fracture bones and the general practitioners, they were not confident enough to manage them. That's where I came in. So I started training the general practitioners. I started training the mid-level healthcare providers. Slowly, the people realized that we had a good trauma service at our hospital. Now we get around three districts with around 600,000 population, and I'm the only orthopedic surgeon until now for the last five years.

But the good thing is that our general practitioner, who just left us last month, before he left us, he was good, doing orthopedic cases. We used to take turns on duties and our surgeries. He used to take care when I was not around. I am not only an orthopedic surgeon. I sometimes do Caesarean sections, that's what I learned from the practitioners.

Overall, the need is very much in this region, in terms of even basic care. We are the primary health care providers. That's what we love to call ourselves because we don't do any advanced surgeries like arthroplasty or sport surgery. We are taking care of basic trauma. The road I told you, the 12 hour drive, it's not as straight as in other places. It goes through the hills, winding. Every year we have at least two or three bus accidents. There are major accidents where 20-30 people die from road traffic accidents.

Most men, in this region, they go to India. They go to India for the annual income. So left behind are the children, the women, who are not capable of taking care of themselves. Nepal has been a patriarchal society for a long time. Males have been dominating the field and the females they mostly do what the men say. We have some social issues in terms of gender equality. Mostly the pediatric females, young females, even elderly females. The next population are the elderly: the old guys who come back from India, they stay behind. There is a big gap in male population who go out for work.

That's what we are trying to solve at the moment: how to make this program sustainable, how to take this forward for a long time, how can we create this kind of evidence, in other places in Nepal. We are just here in the Far West Nepal, taking care of three districts and there are another 75 districts. They're waiting for similar kinds of trauma care.

We are providing all our services for free at the moment. We are supported by government of Nepal, and some philanthropic donations, that mostly come from the US at the moment. That's where I met with the US counterparts, who were initially trying to help us create a smooth primary health care, especially the medical and obstetric care, the maternal child health care program. For me, that's what I'm doing. I'm trying to take care of the trauma care and help solve some issues around here.

Emilie: *Dr. Mandeep, it's an amazing story, I am really blown away by everything you've said. It's funny, because as you were talking, I was thinking about things that I wanted to know. You were answering all my questions as you went, which is phenomenal. So you went from fresh out of residency in the Philippines to an extremely remote area in your own country where, basically, there was no surgical care. You started from scratch a training program to empower the local healthcare professionals to provide trauma and orthopedic care. It's really amazing. Now you're the only trauma surgeon there, an orthopedic surgeon taking care of 600,000 people. With no clear plan for sustainability. I just wonder, it seems like it's such a complex problem, that's going to probably take years to solve, but you seem very passionate about this*

issue. It looks like you're not leaving anytime soon. I just wonder how programs such as ours, like our graduate program at UBC, could help you strengthen this type of trauma system that you've created, make it more sustainable, like you mentioned, and make sure that, you have a quality of life and achieve your goals through this career path.

Mandeep: For me, the way I look at it, the way I work, and the way I realize myself is just: doing what I'm doing. I know, to do surgery, so I am doing the surgeries. But if you look at the perspective, then I'm not here to create a policy. I haven't been able to develop evidence. If you take orthopedic surgeon to a place and then let him do a job, he would be doing a job. But on a policy level, or when you are trying to advocate for a rural trauma care program, you need to create some some evidence. I think that's where I'm lacking at the moment. I don't have such concrete evidence. I've been trying to create some evidence. I've been showing how many supracondylar fractures I have been treating. But I haven't been able to make that be heard by local policymakers. So I think the program from you, I could be learning the way I can generate the evidence that that can make impact at the policy level. Then at the same time, I might get to know you guys more, and then maybe you can suggest how we can make this program more sustainable and then scalable. At the same time, we need to make sure that this is there for a long time. Then this kind of program can be can be made available in other parts of Nepal as well. So I think that could be the areas where I can I can get help from this course at UBC.

Emilie: *I think that's great insight. To be honest, it's something that we can definitely bring to the table. You're right. You cannot really make any headway into building healthcare systems without any data and outcome reporting. I think if you're able to show that you're able to improve outcomes and creating better health care for patients, it's easier to actually change things at a higher level. So that's great. That's something that I'm sure that we can support you with and I'm sure we'll learn a lot from from your situation. The second piece is the scalability and you know what? It's a problem we have everywhere in the world. In Canada, we do have tonens of remote areas with tiny healthcare centres. Rural hospitals with one GP sometimes and nurses, and they'll see trauma. You're aware of that. We have the same issues. You'll have people going out in the woods doing dangerous jobs and running into very, very severe injuries and the trauma centre being 2,000-3,000 kilometres away and horrible weather with snowstorms and not being able to get the patient out for two days. Capacity building and trauma care, is, I think, essential everywhere in the world. So whatever you are doing that successful in Nepal, we can even potentially take some learnings to our rural settings in Canada and other high income countries. So, I'm excited. Let's go. Let's start!*