

NEWSLETTER OF THE
BOMBAY ORTHOPAEDIC
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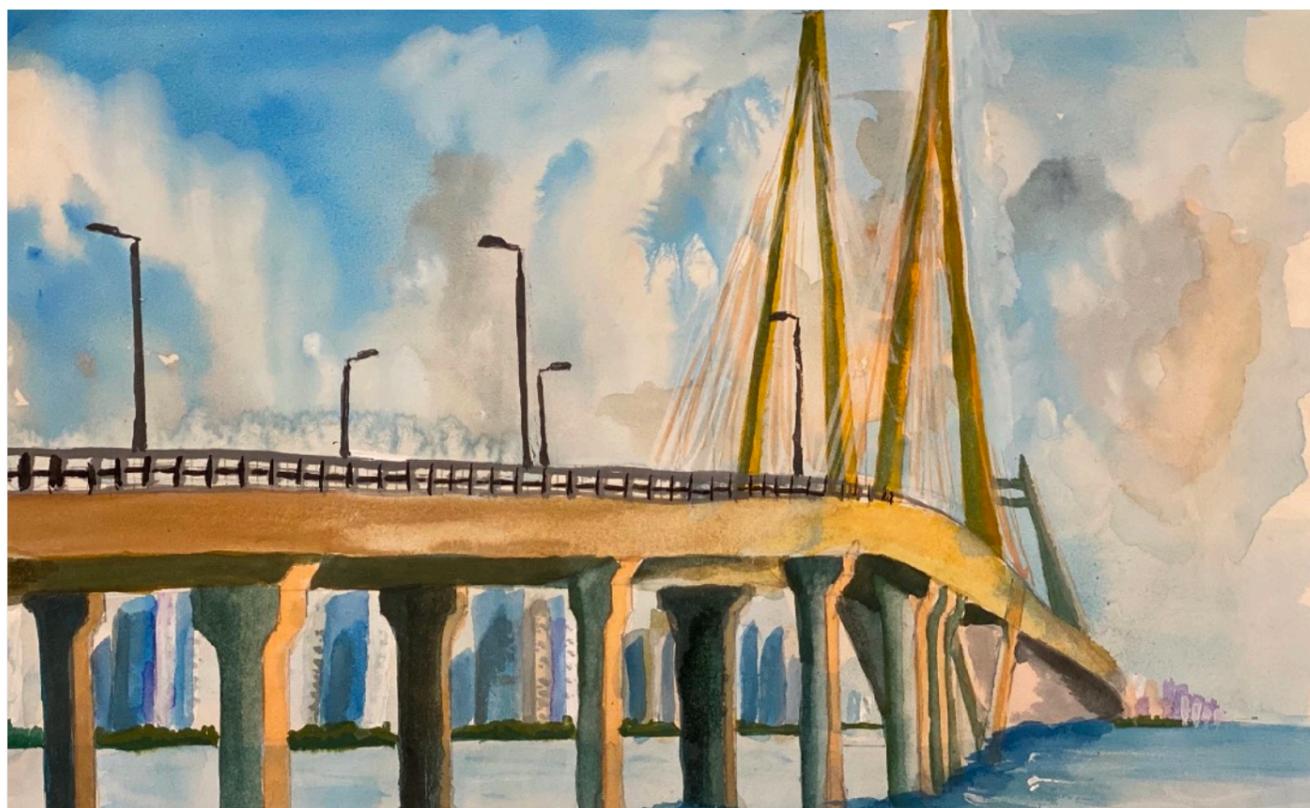
CADENCE



Quarterly Newsletter of the Bombay Orthopaedic Society

HANG ON TO YOUR HAT. HANG ON TO YOUR HOPE.

AND WIND THE CLOCK, FOR TOMORROW IS ANOTHER DAY ~ E.B. WHITE



Bandra-Worli Sea Link - Water Color by Dr Arvind Kulkarni

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From the desk of the President



Dear Friends,

As the curtain of the 2020 academic session slowly comes down under the shadow of the pandemic, we present you our last Newsletter of the year, "Cadence." Traditionally saying – a friend in need is a friend indeed. And this is more true when there was a corona-like pandemic. We lost some of our close friends, many of us suffered from it. But most of us are healthy and safe to see a new sunrise on the horizon, and I am truly grateful for that. I am excited to see that our members are ready to embrace the new year 2021 with zeal and enthusiasm.

We took a bold decision of organizing WIROC as a physical meeting by postponing it to March 2021. We were on the backfoot as there was an upward surge of cases. But we had to march forward to stick to our decision. All our

registered delegates were our "friends indeed." It was a surprise that none of our registered friends even asked us to withdraw the registration or expressed their concerns about our WIROC Unlocked! This is true friendship and camaraderie in the Bombay Orthopaedic Society.

Hence, friends, we are presenting you this issue of "Cadence" in printed form to feel your physical presence in this meeting. I hope you enjoy the hospitality of Renaissance in a splendid serene atmosphere and sing the song of brotherhood to keep up the spirit of this prestigious organization.

While signing out of my tenure, I welcome the new team and expect "Cadence" to continue next year in an uninterrupted flow to throw more light on non-Orthopaedic life in Orthopods!

Long live, BOS!

Prof. (Dr.) Shubhranshu S. Mohanty
President, BOS.

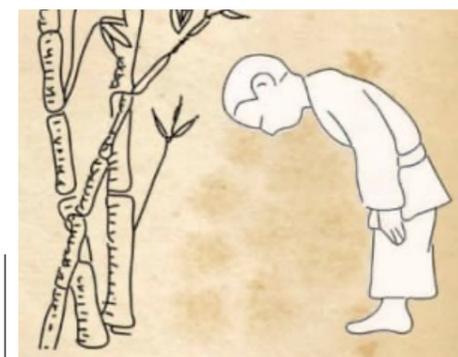


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MY JOURNEY FROM SPORTS TO ORTHOPAEDICS



INVITED EDITORIAL

Dr. Nicholas Antao

“Champions don’t show up to get everything they want; they show up to give everything they have” -Anonymous.

When I reflect upon the athletic endeavors I have accomplished in my lifetime, I realize that my athleticism was not something innate but was bred into me. I was born and brought up in a remote village in Goa. We did not have access to motor vehicles, so I was forced to run or bike to get to where I wanted to go. Growing up, all our pass-times were mired in some feat of athleticism, so my village was a breeding ground for athletic acuity. It was here that I was introduced to football, which was to become one of my life’s constant passions.

My family had a very basic education, but they knew the value of hard work, discipline, and perseverance. My parents made sure to instill the value of these characteristics in me from a very young age. They would prove to be telling, as throughout the course of my life, focusing on academics and athletics would prove challenging. My mother made many sacrifices in my upbringing, and she really kindled my inspiration to study medicine. However, in order to do so, I had to ride a borrowed bicycle 40 km every day to get to college, and I had to study by candlelight when I returned home. Any spare time I had I devoted to honing my skills on the football pitch. My discipline paid off in that I was able to balance both my education and my passion. My perseverance paid off in that I was able to continually do this for several years, despite the significant mental and physical hurdles it presented. My hard work paid off in that I stood second in the Goa inter-science exam.

In the early '70s, Goa was under Bombay University, and my top 10 ranking was able to get me into the open merit list without the need for a domiciliary certificate. This allowed me to secure an open merit seat at G.S. Medical in Mumbai. Making the tran-

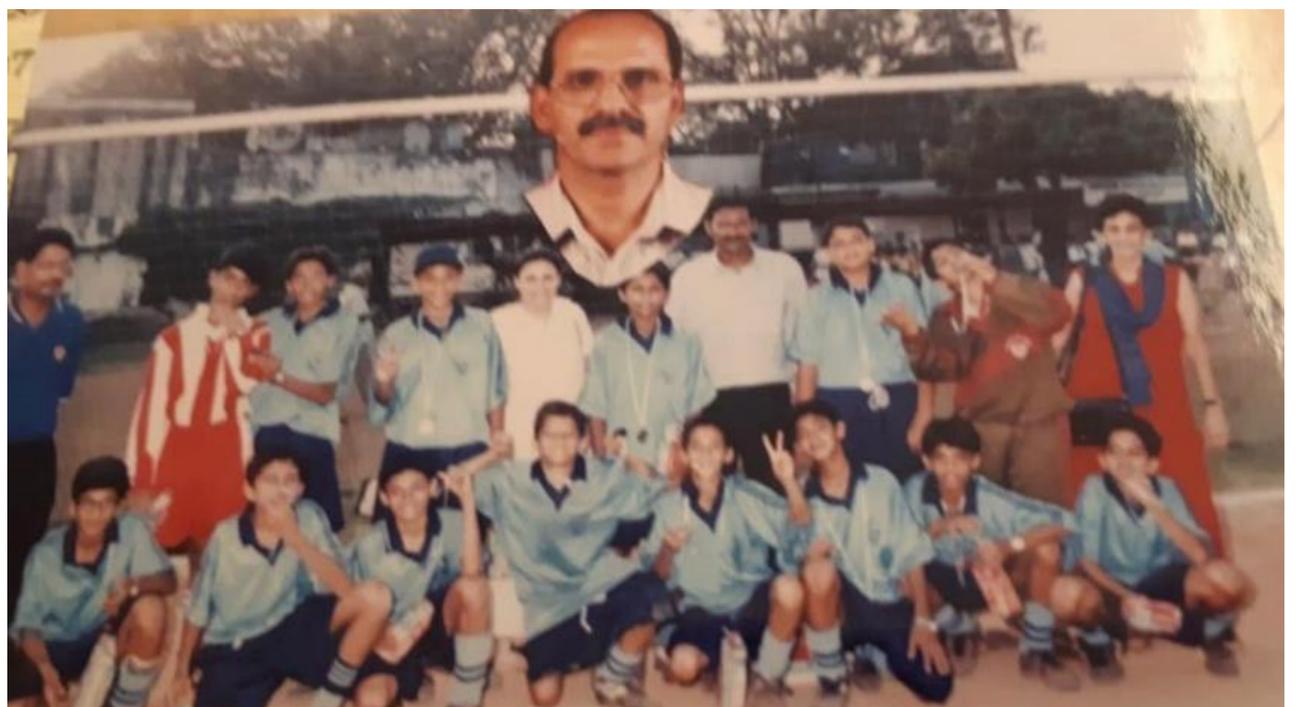
sition from a village in Goa to Mumbai with no friends, relatives, or mentors proved difficult. I was forced to stay in a clubhouse meant for sailors transiting from their duty on ships. The clubhouse did not allow the lights to be after 9:00 pm. The competitive nature of academics at G.S. medical meant that I often had to study under the street lights after returning from the library till the early hours of the morning. I had to use my athletic prowess to take on a role as a guest player in several first division football games and hockey clubs, as I needed the stipend to pay for my medical textbooks and send money back home to my family. My life was difficult, but it was nothing I had not already been prepared for, and once again, I was able to overcome my obstacles through hard work, discipline, and perseverance.

I captained the G.S. Medical football team and was the college athletic champion. My excellent football skills were rewarded by the authorities choosing me as the Bombay University football team captain. Through sheer hard work, practice, and excellence in the team, I was selected to represent the Indian University football team. Back home in Goa, the village club would always wait for me to return for my summer holidays to join them for the various tournaments they used to compete in. On a few occasions, our village club even won the all Goa tournament. Back in Mumbai, my skills were noted by a few of the famous football coaches of the time. I



was even offered a spot to play for a few of the premier clubs, like Mafatlal. However, the early morning (6 am to 11 am) practice schedule of the premier clubs was far beyond what my work schedule could accommodate. I could not cope with both the demands of my residency work at the hospital and the rigors of a professional football career. Even though I had a great desire to excel as a professional footballer, I saw enough injuries in the players, which motivated me to help my fellow athletes by choosing Orthopaedics as my specialty and further excelling in sports medicine.

(... continued on next page)



MY JOURNEY FROM SPORTS TO ORTHOPAEDICS



INVITED EDITORIAL

Dr. Nicholas Antao

I learned my basic Orthopaedics and the discipline to go with it under the watchful eyes of my dear teacher and guide, Dr. L.N. Vora. At that time, I was fortunate, as I worked under stalwarts and also observed them. I learned the technicalities of doing skillful trauma surgery from Dr. M.N. Shahane. I learned Spine and tumor surgery, including Spinal decompression, discectomy, and Spine T.B. surgery, both anterior and posterior, from the master surgeon of that time, Dr. A.V. Bavadekar. Dr. C.G. Pradhan was considered a pre-eminent elbow specialist, and I got to learn the intricacies of elbow surgery from him. I had the good fortune of learning shoulder surgery from Dr. S.K. Bhandare. Dr. R.S. Dhir, Dr. Ashith Rao, and Dr. S.R. Mukhi were instrumental in guiding me in the basic principles of complex trauma surgery.

I channeled my desire to specialize in sports medicine by joining Dr. A.B. Samsi to the first sports medicine



Dr. Jean Dupont from Paris, Dr. Freddie Fu from Pittsburgh, Dr. Bernard Cahill from Peoria, Dr. Erickson from Stockholm, and Dr. Stephen Snyder from California. I was to get AO fellowships in Zurich from Dr. N. Gschwend, Dr. Jakob Roland in Berne, and an Indo German Trauma fellowship with Dr. Michael Steiner in Freiburg. This helped me to shape my orthopaedic and sports medicine career. I am incredibly grateful to Air India for

Arthroscopic Society in all capacities. Right from being a member all the way up to the highest honor and privilege of being the President. I have used my writing skills to become the editor of the Indian Journal of Orthopaedics, Journal of Clinical Orthopaedics and Research, and the Indian Arthroscopic Society newsletter. I am proud to say that I am the only Bombay Orthopaedic Society member who has been awarded the B.O.S. Best Treatise award, B.O.S. Best Paper award and B.O.S. Veteran award.

Success is not the absence of failure; it's persistence through failure. Once my student and now an accomplished orthopedic surgeon saw my beautiful, skillful fixation of a tibial plateau, and he remarked, "Sir, are all your fixations like this all the time?" I said, "My boy, to come to this stage of excellence, I must have struggled and made many patients unhappy, but they forgave me, and I am what I am today, thanks to them."

My successes on the Football field, and in the Operating room have all ultimately come down to my perseverance to overcome my obstacles, my hard work to quell my struggles, and my discipline to channel my focus. Any successes I have achieved in my life can always be attributed to these three basic tenets I have tried to live my life by. I am extremely happy and contented in the efforts I have put forth to get to where I am today, and most of all, I am proud to say I achieved everything I did honestly and ethically, with a firm belief and trust in the Almighty.



clinic in Bombay at K.E.M. Hospital. This was the first sports medicine clinic in the country at that time as well. Here I encountered many sports injuries, understood and learned their mechanism, and was inspired to learn and teach about their prevention and rehabilitation. Often at the summer and October sports camps, I gave lectures to the participants on sports injuries prevention and treatment. I remember how I used to go as early as 6 am, with a white bedsheet and a projector, to educate people about these injuries and their mechanism.

I had a chance to do observer sports medicine fellowships in the '90s with

all the free tickets to aid in these travels. A perk of having a wife who worked for Air India.

I wanted to give back to the community and teach my footballing skills to the children. So I took the challenge of training the children of Bombay Scottish School in my spare time in a voluntary capacity and made their team quite formidable so that their level of football could excel and therefore could be promoted to the first division Bombay Schools tournament and win some trophies.

I have been involved with the Bombay Orthopaedic Society and Indian

“Be humble, be hungry, and always be the hardest worker in the room”

- Dwayne Johnson

LESSONS IN HUMILITY

Tryst with a Titan - Dr K.V. Chaubal



Dr Swapnil Keny

The year was 2010. A thirty-something me, brimming with confidence and enthusiasm, having just returned from a foreign fellowship a few years back, with a teaching attachment to a medical college and a reasonable clinical practice, was awarded an opportunity of a lifetime!

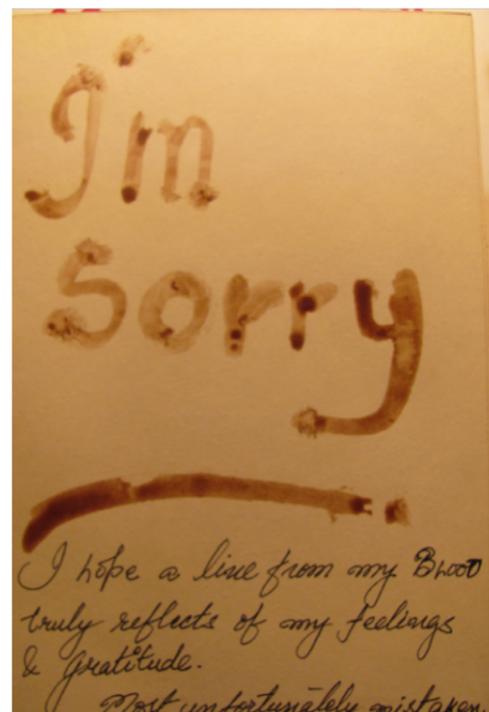
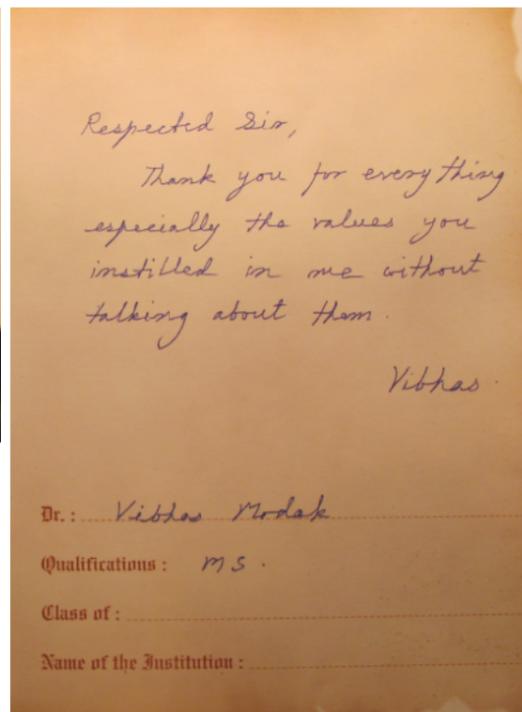
The Association of Spine Surgeons of India (ASSI) was about to host their 25th Annual Conference at the Trident hotel and convention center in Mumbai in January 2011. Being a spine surgeon by training, but not by heart, I sought some involvement in this prestigious event. My mentor, Dr. Ram Chaddha, who was then the Hon Secretary of the ASSI, shared the plan of a stand-alone event to be held as a part of celebrating this milestone, which involved honoring the past Presidents of the ASSI. **My role was to get information about these great personalities' lives and times by getting in touch with them.** Once I received the information and pictures, I had to make a presentation of the same and pass it on to the ASSI office. "Easy Job," I thought to myself! Little did I know that my life was about to change by the humble touch of one of the greatest orthopedic teachers of this century. As I gathered information about the ASSI Past Presidents, I realized that all of them had an email address and a mobile number, except one. All I had on this person was a legendary name, an address which most senior members of the BOS would consider as the temple of orthopedics, and a landline number.

The address was 'Sagar Vihar,' Worli in Mumbai, and the name in question was Prof. (Dr) Kedarnath Vasudev Chaubal. I made the telephone call, which a family member answered. After a few seconds, I was greeted by a deep assured voice at the other end. I wished him and requested some information and an email ID, but since he didn't have one, he asked me to come over to his residence over the weekend. He also promised that he would find a few interesting things from his archives, which I would be able to use for my assignment.



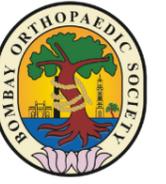
On the designated day, I reached his home and was welcomed by Prof Chaubal's daughter, who led me to Sir's study. It was a relatively large room with minimal furniture, a large writing-table, with neatly stacked documents. The man I had seen, heard, read about, but never met, in person, was seated calmly on his arm-chair. I greeted him, and he reciprocated with a firm shake of the hand. **Little was I aware that the hand I was shaking had been that of a healer, a man who was a doctor to doctors, a surgeon to surgeons and teacher of teachers** and considered almost divine by most orthopedic surgeons who had been blessed by his presence in their lives at some point in time.

My first impression of Sir was the kindness which he exuded. Till that point in time, my thoughts about a senior orthopedic surgeon were that of a brash, pompous, authoritative, and dismissive figure with a larger-than-life persona. **The first touch of Sir's hand was my first lesson, that of immense kindness and empathy, which was reiterated as he narrated the story of his life.** During his narrative, he showed me a letter from March 1991 of a patient who had undergone spinal surgery in 1983 at the Nair Hospital and was fit and fine even after eight years. The patient expressed his deepest gratitude and hoped that Prof. Chaubal would continue to serve ailing patients with the same dedication and devotion. This was the **second lesson of having a connection with patients and being able to provide the same level of care to every patient, whether he or she is seeking treatment from a public or a private hospital.**



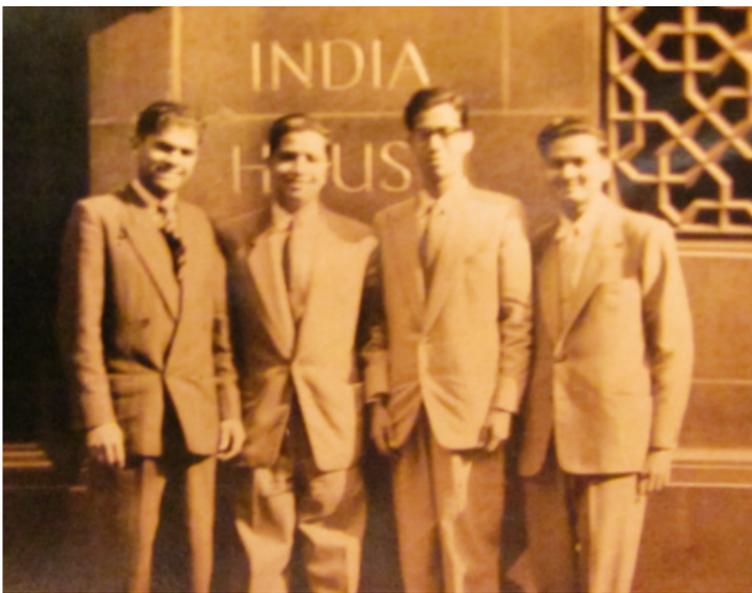
LESSONS IN HUMILITY

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Dr Swapnil Keny

I then chanced upon a letter written by a patient in his own blood. A patient who initially had a difference of opinion with Sir, but later realized his mistake. At that moment, I felt that **such intense faith in a treating physician could only come if a doctor acts in the best interest of his patient at all times.** This was my third lesson of the day. I was overwhelmed with emotion, not only because of what I had seen or heard but also because I was being exposed to a path of practice and a way of life that I had not known until then.



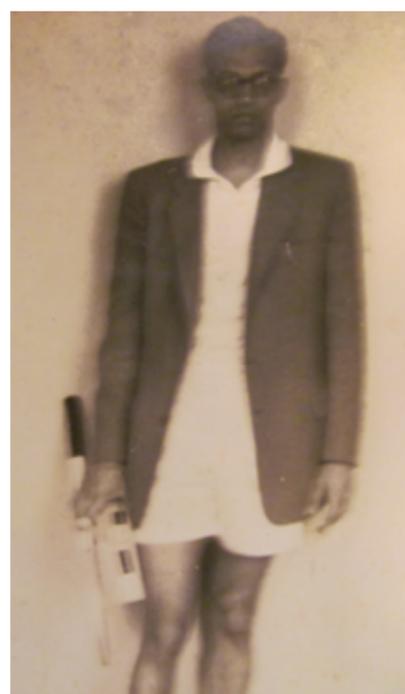
As his narrative continued, I not only listened but also evolved. It is said that maturity comes with age, but I firmly believe that maturity is gained by experiences, and this experience that evening was indeed a life-changing one. Prof. Chaubal's escapades as a student leader during his medical college days and his anti-administration stance on matters related to student welfare reminded me of my days of being a representative of the student council. However, I am sure that Sir would have been a far more charismatic leader than I could ever be. The next lesson I learned that evening was that leadership comes by taking the initiative and having the courage of one's convictions.

It is a well-known fact that Prof. Chaubal trained in the UK in the late '50s under the stalwarts of orthopedics, namely Mr. Harold Bolton, Sir Lloyd Griffiths, Sir John Charley, Mr. Tony Radcliffe, Mr. Jeff Osborne, Mr. Dwyer, and Mr. Reginald Watson Jones. Prof. Chaubal's sheer hard work came to Mr. Bolton's attention, who recommended him for a registrar's job at the Manchester Royal Infirmary. **An Indian getting a registrar's job at Manchester was unheard of in those days. Thus came my lesson of the fact that there is no substitute for hard work and discipline.**

As the evening progressed, Prof. Chaubal shared a fascinating anecdote. In addition to being attached to Nair Hospital, he was also working at the Parsee General Hospital in Mumbai. Surprisingly, **most patients at the hospital chose him over the other Parsee consultants of those times,** and he ended up managing 90% of orthopedic patients at the hospital. This taught me that trust and respect could only be gained by focused dedication to one's field. Race, religion, and qualifications are secondary.

Innovation is a metaphor often described in modern literature. However, on his return to India in the early 1960s, **Prof. Chaubal had realized the importance of innovation and its necessity in clinical practice.** Being trained in spinal surgery, he started receiving references for patients with spinal disorders. Hence he became one of the first orthopedic surgeons in India to perform complex surgeries like cervical corpectomies, occipital-cervical fusions, surgery for scoliosis, and surgery for OPLL in an era when spinal implants were not available. The lesson of frugal innovation, also known as 'Jugad,' is one of the most crucial informal lessons in orthopedics, neither spoken about nor taught but the most relevant in clinical practice.

Another important lesson in advocacy came when Prof. Chaubal described the earlier days of orthopedics academics and how he had strongly advocated the formation of the Indian Orthopaedic Association (IOA) as a separate association from the Association of Surgeons of India. He also narrated how the Bombay Orthopaedic Society, with Prof. R.J.Katrak as its founder President, came into being.



LESSONS IN HUMILITY

Tryst with a Titan - Dr K.V. Chaubal



Dr Swapnil Keny

By this time, 3 hours had already passed. I sat there totally mesmerized, wanting to hear and learn more, realizing that such an opportunity would never present again. However, the next incident which Sir narrated shook me by the core. In 1968, a senior spine surgeon had come down from Toronto to Mumbai to demonstrate scoliosis surgeries and was going to do so at the Nair Hospital. Being meticulous as he was, Dr. Chaubal had thoroughly prepared a patient for the surgery in his unit. As luck would have it, the same patient was chosen for surgery the next day. On the eve before the surgery, Prof Chaubal got a call from the hospital, stating that the patient posted for the surgery had a B Rh-ve blood group which wasn't available in the blood bank. In the face of such a calamity, where a lesser mortal would have given up, **Prof Chaubal, who was also incidentally B Rh-ve, donated a bottle of his blood at 7 am. He reached the OT at 8 am to assist with the case and stayed washed up until the patient was wheeled out of the theatre.** I then realized why this simple man was as revered as God by his contemporaries and students. This lesson of sacrifice for one's patient was the most exemplary one I learned that evening.

Prof Chaubal has delivered almost every prestigious oration and lecture in Orthopaedics on national and international forums. He has been felicitated with many awards and medals. Yet, that evening, he confessed that that **peer recognition, the faith of patients, and his students' love superseded all the personal achievements and awards.**

Finally, as the time came to leave, he gave me advice that has been deeply ingrained within me. He said, **"There is a significant difference between what one wants and what one needs, and one should be happy serving patients, even if one gets 3 square meals a day. Life, like orthopedics, is a balance about what to do and what to leave, and a good orthopedic surgeon is the one who realizes this and leads a principled life".**

As I walked down the staircase of Sagar Vihar that evening, I felt dwarfed by the solemnity of this titanic personality. The foreign training and teaching attachment felt inconsequential. Yet there was a feeling of calm, serenity, and pride, as I was now armed with a renewed sense of self-realization that at the end of the day, we as surgeons are just particulate matter, and the



only way we can matter, is if we leave behind a rich legacy. The foundations of such a legacy are based on the qualities of empathy, gratitude, dedication, innovation, integrity, and the highest stands of patient care. **But above all the others, it is humility that matters the most.**

The lesson of humility and integrity shall remain with me all my life. All I can say is that the evening made me realize that a person can be consequential despite their simplicity. Success is often perceived to be an overstated projection of numbers. But, in reality, it is only about the results of your interventions and the satisfaction of having given your best in every aspect of life.

It's been more than ten years since that day. Very few people in orthopedics have such a lasting impact on me. Often, I try and recapitulate the events of that evening. The lessons from that December evening are, in fact, a reflection of the way one needs to conduct his or her professional and personal existence in this world.



Dr. Swapnil Keny is a pediatric orthopaedic surgeon at the Sir HN Reliance Foundation Hospital, Mumbai. He is also the current Hon. Secretary of BOS and Editor of Cadence.

TRAPEZOIDAL SHORTENING OSTEOTOMY (TSO)



Orthopedic Theory of Relativity in Deformity Correction

Dr. Milind M. Chaudhary, Akola

Shortening as a strategy for the correction of limb deformities has in various forms been around for a while. Perhaps from the time of Nicholas Andry as the closing wedge osteotomy.

The **closing wedge osteotomy can be reasonably simple to perform and is inherently stable** due to the closing wedge's apex not being displaced. Bony contact is preserved in the concave cortex, and as the osteotomy is closed, stability is assured. Fixation can be done with Casts, K wires, or any other hardware. However, the shortening here is inadvertent, and the primary aim is to correct the deformity. No consideration is given to the limb's overall axis, need for translation, the tension in neurovascular structures, or joint function.

Enter Limb Shortening as a specific strategy for Deformity correction.

Many congenital anomalies and spastic or paralytic neurological conditions present with significant bony deformities. A shortening of the limb frequently accompanies these. The bony deformity is considered primary, and soft tissues are deemed deficient. Soft tissue releases, including capsular and aponeurotic releases, are primarily done to help correct the deformities. When the releases also include the tendons, an inevitable consequence is the weakening of the muscle. **With the Ilizarov techniques, the deformity correction is performed by two methods.** One is angulation-translation osteotomy which did not alter limb length. Secondly, it may be accompanied by limb lengthening after preparatory soft tissue releases to prevent joint stiffness or subluxation.

The **Orthopaedic Theory of Relativity** is applicable in these circumstances. To understand this theory, we need to change our perspective. Instead of thinking of the bone as deformed and short and soft tissues as tight, which require a release, **we need to perceive the bone as being longer and soft tissues as being possibly normal.** Hence, one way to equalize the situation is to shorten the bone rather than lengthen the soft tissues.

Due to the bony deformities' magnitude, a simple closing wedge with its apex at the concave cortex will need an extensive resection of the convex cortex. The resultant bony shortening can be measured at the center of the resected triangular wedge. The dramatic shortening also leads to a mismatch of the bony edges since the deformities are usually metaphyseal and lead to a secondary translation of the proximal and distal fragments' axes.

Despite the extensive resection of bone (which is not desirable), **closing the wedge results in an unacceptable rise in tension at the concave portion** of the soft tissue deformity with stretch experienced by the nerves and blood vessels.

An alternative method is proposed and has been used for more than the last 20 years in our institution wherein we resect a **trapezoidal wedge rather than a triangular one.** The amount of wedge that needs to be resected can be calculated by **two methods**

1. Trigonometric calculation: The formula for the chord of a circle is used, which is

$$(2\pi r \times a) / 360$$

(r= Radius or distance from structure at risk to the cortex and a = angle alpha which needs correction)

This formula is modified and used separately for the concave and convex cortices, respectively. The value of r represents the apex of a triangle in the deformity's concavity. A landmark like the Posterior tibial nerve behind the knee's supracondylar area or the posterior skin edge is chosen, and distances are measured to the concave and convex cortices. The angle of correction, alpha, remains constant, and hence we get separate measurements for resecting the concave and convex cortices

2. Graphic method using a PACS. This method is more straightforward and gives a visual confirmation of the amount of bone to be resected at concave and convex cortices.

While it seems counter-intuitive to resect and shorten the bone in an era with sophisticated understanding and hardware available for limb lengthening, the **essential aspect overlooked is the joint function.** Initial shortening reduces the soft tissue tension and hence pressure on the joints. Therefore the range of motion is easily preserved, as is the integrity of the joint. **Lengthening can be accomplished in the second stage after deformity correction benefits have been experienced and joint ROM is maintained.** There will be less resistance to lengthening in the second stage.

The essential component of Trapezoidal wedge resection is also to **add translation** at the osteotomy ends to enable the axis of fragments to line up. Maintaining translation is possible with either locked plates or external fixation.

TRAPEZOIDAL SHORTENING OSTEOTOMY (TSO)

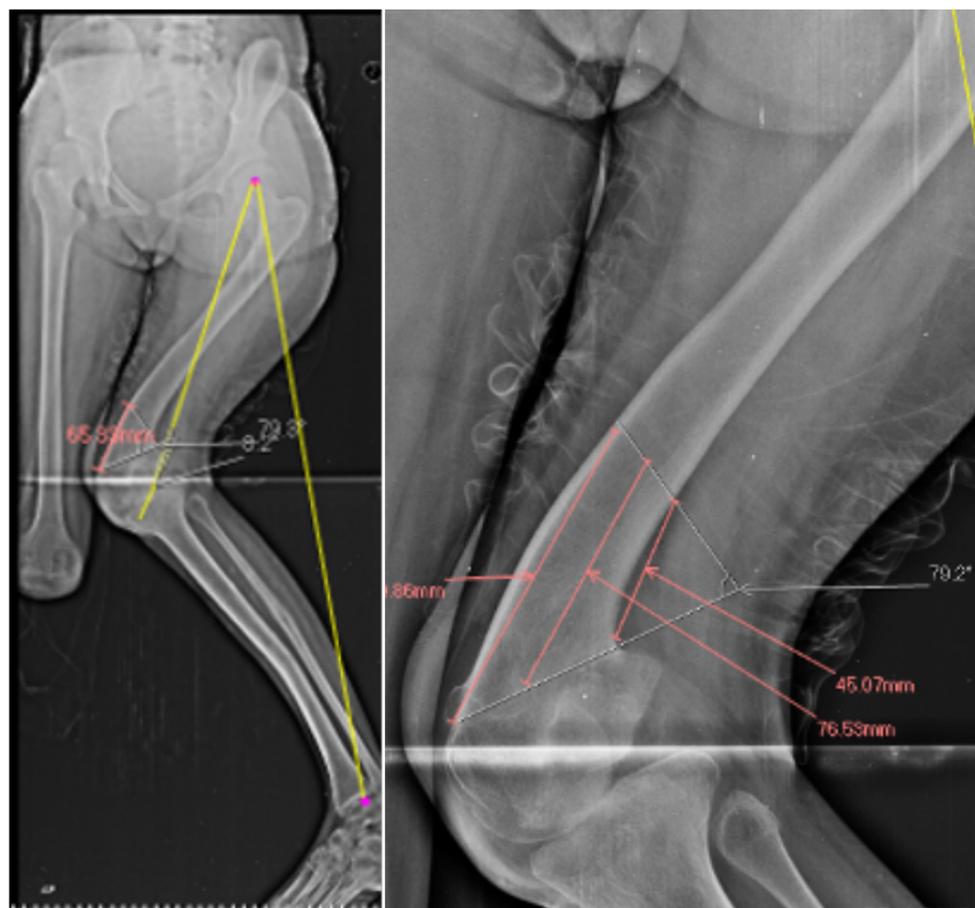


Orthopedic Theory of Relativity in Deformity Correction

Dr. Milind M. Chaudhary, Akola

Lengthening a trapezoidal wedge of bone as can be done with hinges' placement will indeed be done as an alternative. **Lengthening hinges are a more accessible option while using the Ilizarov or similar systems.** However, this method is likely to lead to excess pressure in the joint if soft tissues are not released. If the release needed falls short of adequate, the temptation is to perform excess muscle-tendon-capsular releases, which may well lead to the joint's weakness or instability. The repercussions are not experienced immediately but usually after a few months or years.

The shortening osteotomy can be **performed generously for many congenital and neurological anomalies**, and soft tissue releases can be more guarded. E.g. Neglected Clubfeet can be treated with a shortening resection of the tibia, allowing full correction of the tight equino-varus. It will enable ankle joint mobility rather than stiffening the ankle.



A 18-year-old sustained an accident leading to a through-knee amputation on the right side and growth arrest on the left side leading to **severe valgus deformity (mLDFA 8°: i.e., 79° valgus)**. Figure A

The diagram shows a closing wedge osteotomy with 79° valgus drawn with its apex at the concave cortex. It would need a convex cortex resection of 65 mm but would still lead to tension on the concavity. Despite releasing the Lateral Popliteal nerve.

Figure B shows a trapezoidal wedge resection plan. The resection's apex is in the soft tissues, located somewhere near the "structure at risk": the lateral Popliteal nerve, a few

cm away from the concave cortex. It shows the measurement of resection at the convex cortex of 10 cm and concave lateral cortex of 4.5 cm, leading to an overall shortening of 7.5 cm. This **shortening amount did not create any problems because the other leg had a prosthesis** whose length could be increased or decreased easily. The extensive resection would enable acute correction of deformity, allowing her to walk early.



Final correction (Figure C) showing a good alignment of mechanical axis and valgus correction. Notice the lateral translation of the distal fragment at osteotomy site according to Rule 2 of Deformity correction, but mechanical axis is passing through the center of the knee.



Dr. Milind M. Chaudhary is the Director of International Deformity and Lengthening Institute, Akola, India and is the Editor of Journal of Limb Lengthening and Reconstruction

Pediatric Orthopaedics

Dr Alaric Aroojis

An 8-year-old girl presented with unilateral bowing of the left leg since the past two years. The deformity has been progressively increasing and is accompanied by a varus thrust while walking. She is unable to walk long distances and finds it difficult to participate in games and sports. She is otherwise well and has had no previous complaints in childhood. Standing Xrays of both lower limbs show unilateral varus deformity of the left knee.

1. What is the likely diagnosis? What further investigations would be useful?
2. How would you stage the disease and how does it impact decision-making?
3. What is the recommended treatment for this child?



Answer 1

The Xrays confirm the diagnosis of Tibia vara or Blount disease. It is commonly seen in obese children and is often bilateral. It is often confused with physiologic genu varum in the early stages and the diagnosis is often missed. A meta-diaphyseal angle (MDA) of $>11^\circ$ as described by Levine & Drennan can help identify Blount disease in the early stage and distinguish it from physiologic varus. The deformity in Blount disease is complex and there is usually tibial procurvatum and tibial intorsion in addition to the varus in the proximal tibia. An MRI is useful to understand the extent of medial physeal involvement and a CT scan helps document the presence of medial tibial plateau depression in the late stages of the disease.



The deformity in Blount disease is complex and there is usually tibial procurvatum and tibial intorsion in addition to the varus in the proximal tibia. An MRI is useful to understand the extent of medial physeal involvement and a CT scan helps document the presence of medial tibial plateau depression in the late stages of the disease.

Answer 2

The Langenskiold classification is commonly used to stage the disease and help in prognosis. Bracing may be effective in Stages I & II, but early valgus osteotomy is the treatment of choice in Stages II

& III. Once the medial tibial physis starts fragmenting and undergoing significant growth inhibition, valgus osteotomy alone may be insufficient to correct the medial tibial plateau depression and more advanced procedures such as medial tibial epiphysiodesis or hemiplateau elevation may be required.

Answer 3

Since this child is in an advanced stage (Langenskiold V), she underwent a hemiplateau elevation supported by strut grafts from the ipsilateral fibula. She also underwent a concomitant valgus derotation osteotomy to correct the metaphyseal varus deformity & tibial intorsion. Lateral tibial epiphysiodesis was also performed simultaneously to prevent early recurrence. She subsequently underwent limb lengthening at 14 years of age to correct shortening of 5.5cms and residual varus deformity.



Dr. Alaric Aroojis is a Pediatric Orthopaedic Consultant practicing in Mumbai.



IN WATER COLOUR



Painting is poetry which is seen not heard - Da Vinci

Dr Arvind Kulkarni

Senior BOS member

Artist



The only time I feel
alive is when I am
painting ...

-Vincent van Gogh

Dr Arvind Kulkarni, a senior BOS member, is an alumni of the KEM Hospital, Mumbai and practices as a Spine Surgeon in South Mumbai.



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BOMBAY ORTHOPAEDIC SOCIETY

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