

# OBSERVERSHIP REPORT

## Ganga Hospital, Coimbatore, Tamil Nadu, India



**BFIRST**  
BRITISH FOUNDATION FOR  
INTERNATIONAL RECONSTRUCTIVE  
SURGERY AND TRAINING

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Observer: DR. MUMBA, EDGAR NKANDU

My two-month observership at Ganga Hospital was a transformative professional and personal experience that reshaped my understanding of modern hand, plastic, and microsurgical care. Coming from a region where resources and microsurgical exposure are limited, this opportunity provided a rare chance to witness a globally competitive centre whose standards match and often exceed some international institutions.



The observership allowed me to interact with a multidisciplinary team consistently delivering high-volume and high-quality care. Being immersed in such an environment sharpened my decision-making, deepened my understanding of surgical principles, and refined my appreciation for coordinated teamwork.

Beyond clinical exposure, the observership reinforced my long-term vision for my community and country. The techniques, systems, and practices I observed at Ganga Hospital provided a blueprint for what is possible even in low-resource settings.

### **The Hospital and Its Environment**

Ganga Hospital is an exemplary institution that attracts observers and fellows from over 85 countries worldwide with over 743 people visiting the hospital. The hospitality extended to visitors is remarkable, with staff consistently willing to guide, explain, and ensure observers feel integrated into the clinical environment. From the moment I arrived, I was welcomed warmly not only by consultants and fellows but also by nurses, anaesthesia team, and administrative staff.



This inclusive environment made learning effortless and enjoyable. One of the most striking aspects of Ganga Hospital is the scale of its operation. With 88 operating theatres, the institution manages an impressive surgical load. On average, 45 cases are performed daily, with peak days reaching up to 108 surgeries, a number that would be overwhelming for many facilities but seemed almost routine at Ganga. Even the lowest daily surgical workload remained significantly high by international standards and demonstrated the institution's organisational strength. The city of Coimbatore itself offered a peaceful and supportive backdrop to this learning experience. The environment around the hospital was clean, secure, and filled with individuals who were genuinely welcoming. The cultural richness, visible in daily interactions, festivals, and the warmth of the people, made the observership not only academically rewarding but also personally enriching



## Teamwork

The teamwork at Ganga Hospital is outstanding. I think this is one of its greatest strengths, functioning with near-perfect synchrony across all cadres of staff. Nurses were exceptionally efficient in preparing patients, positioning them correctly, and ensuring sterile conditions. Their precision and consistency demonstrated the importance of nursing excellence in delivering high-quality surgical outcomes. The fellows and consultants brought structure and clarity to operative planning. Fellows meticulously marked surgical sites, guided juniors, and coordinated with theatre staff in a manner that emphasised accountability and professionalism. The workflow was smooth and predictable, which ensured that even high-volume days proceeded without delays or confusion. The anaesthesia team worked flawlessly with surgeons, providing safe and timely anaesthetic care while maintaining constant communication. Their ability to adapt to complex trauma, replantation, and prolonged microsurgical cases was impressive. Witnessing such coordinated teamwork reinforced the principle that world-class surgical outcomes are unattainable without seamless collaboration among all departments.



## Equipment

Despite being in a developing country, Ganga Hospital is equipped with an extraordinary range of surgical tools and technologies. The availability of advanced microscopes, microsurgical instruments, orthoplastic tools, and specialised trauma equipment rivalled what is found in many high-income settings. This challenged the common misconception that cutting-edge care is restricted to wealthy nations.

What stood out even more were the innovative, resource-efficient methods that the hospital utilised without compromising quality. For example, instead of relying on costly normal saline for wound cleaning, the hospital distilled water on-site and used it effectively, a cost-saving technique highly applicable to countries like Zambia. This demonstrated that ingenuity and innovation can reduce operational costs while maintaining high standards of care.

Additionally, the presence of equipment like Vasajet for hydrosurgical debridement, early excision and grafting tools, and composite grafting instruments showed how Ganga successfully incorporates techniques often assumed to exist only in developed nations. Their skin banking system for burn patients was particularly inspiring and is a model that can greatly benefit African countries where burn injuries are prevalent and donor sites are limited. These approaches are immediately translatable to Zambia.

## Orthoplastic Approach

Ganga Hospital's orthoplastic approach is one of the most efficient systems I have observed globally. They incorporate a structured injury scoring system that guides decision-making and optimises limb salvage outcomes. This protocol not only standardises care but also ensures that patients receive appropriate, evidence-based interventions, especially in cases involving lower limb trauma.

The integration of orthopaedic and plastic surgery teams in the management of complex injuries is seamless. Joint planning, shared operating lists, and coordinated execution allow the hospital to manage high-risk trauma cases efficiently. This model is especially beneficial for countries dealing with large burdens of road traffic accidents and industrial injuries.



Ganga's orthoplastic system is a model that every institution should strive to develop. Even adopting a simplified scoring system and structured multidisciplinary protocol would significantly enhance patient outcomes in Zambia and across Africa. The success I witnessed in India highlighted the importance of cooperation between specialties and the need for country-specific but cost-effective trauma workflows.

### **Replantation**

The replantation capabilities at Ganga Hospital are exceptional. Every consultant possesses advanced microsurgical skills, enabling the hospital to manage replantations of the arm, forearm, hand, and digits at a consistently high success rate. This is made possible through collaboration between orthopaedic and plastic surgeons, ensuring rapid decision-making and immediate operative intervention.

I observed multiple replantations where timing, precision, and teamwork were critical. The availability of skilled teams at all hours ensured that no patient lost a limb simply due to human or logistical limitations. This level of readiness and expertise is rare worldwide, making Ganga a leader in replantation surgery.



Witnessing these procedures strengthened my ambition to establish replantation services in Zambia. With proper training, equipment, and protocols, similar life-changing surgeries can be provided to patients at home. The experience gave me the confidence and foundational skills needed to contribute to this goal.--

## Commitment

Commitment to patient care is deeply ingrained in the culture at Ganga Hospital. Every day began with a structured morning meeting at 7:30 AM, where cases were discussed thoroughly. This was followed by breakfast for those who had time, and then a full day of surgery that continued until every case was completed. This routine ran from Monday to Saturday, maintaining exceptional discipline and efficiency.

What truly stood out was the example set by Dr. SRS. Even on Sundays, he often reported to work early and was usually the last to leave the hospital. His philosophy—"A man should never sleep in the day that he woke up"—captured his dedication to service, discipline, and excellence. His work ethic resonated deeply with me and was reflected throughout the staff.

This unwavering commitment was observable across all cadres: nurses remained energetic throughout long operating sessions, fellows were always ready to assist, the anaesthesia team stayed focused regardless of case complexity, and consultants maintained positive interactions with one another. Collective motivation rather than individual ambition drove the institution's success.



## Activities Participated In During my observership,

I actively participated in a wide range of hospital activities. I attended all morning meetings where trauma cases, microsurgical challenges, and management plans were presented and discussed. These sessions enriched my knowledge and exposed me to structured multidisciplinary critique.

I also had the opportunity to join the outpatient department, where I observed clinical examinations, diagnostic processes, and decision-making for a variety of cases. Being able to assist and observe in theatre further deepened my understanding of orthoplastic principles, replantation techniques, burn management, and complex trauma reconstruction.

These activities broadened my clinical insight and strengthened my familiarity with patient flow, operative planning, and real-time problem-solving. Participation in each of these sessions shaped me into a more confident and knowledgeable future surgeon.--

### **Festival Celebrations and Social Activities**

My time at Ganga Hospital extended beyond clinical exposure. I had the privilege of being invited to Dr. SRS's home for Diwali celebrations, where I was welcomed as family. Sharing meals, conversations, and cultural traditions fostered a strong sense of belonging and allowed me to appreciate the warmth and humility of the people of Tamil Nadu.



I also visited the Isha Foundation to see the Adiyogi Shiva statue, an unforgettable experience that added a spiritual and cultural dimension to my stay. These social activities complemented my clinical learnings and made my observership deeply memorable. Being included in such celebrations reinforced the inclusive nature of Ganga Hospital and demonstrated their dedication not just to academic excellence but also to creating meaningful connections with visitors.

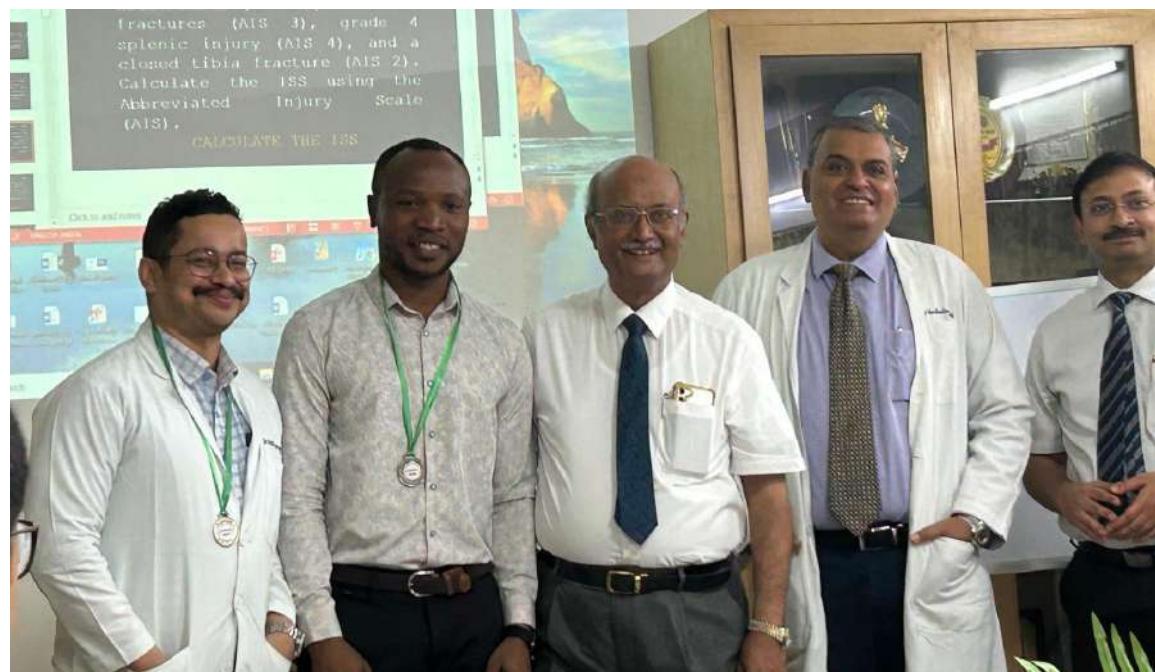


## Educational Activities

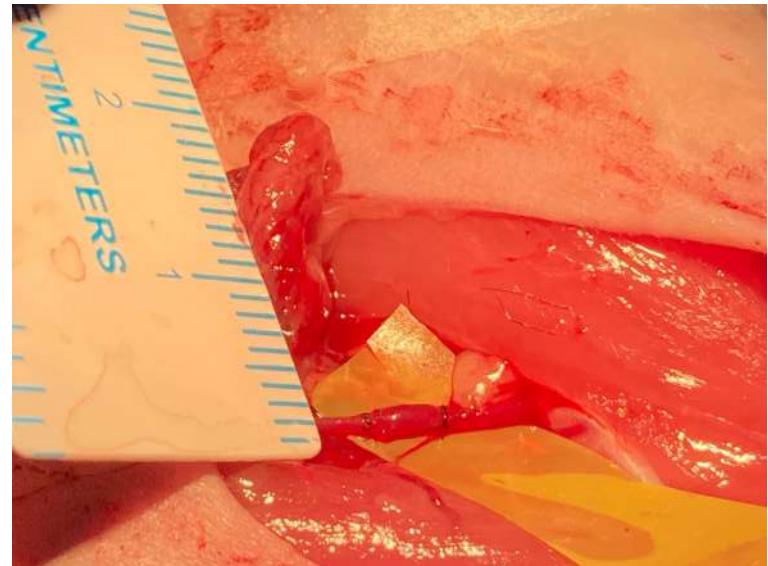
One of the most rewarding academic experiences was participating in the trauma quiz competition. I unexpectedly ranked second in the written exam, an achievement that boosted my confidence and reminded me of the importance of continuous learning. The inclusion of international observers in such competitions showed how accommodating and supportive the institution is.



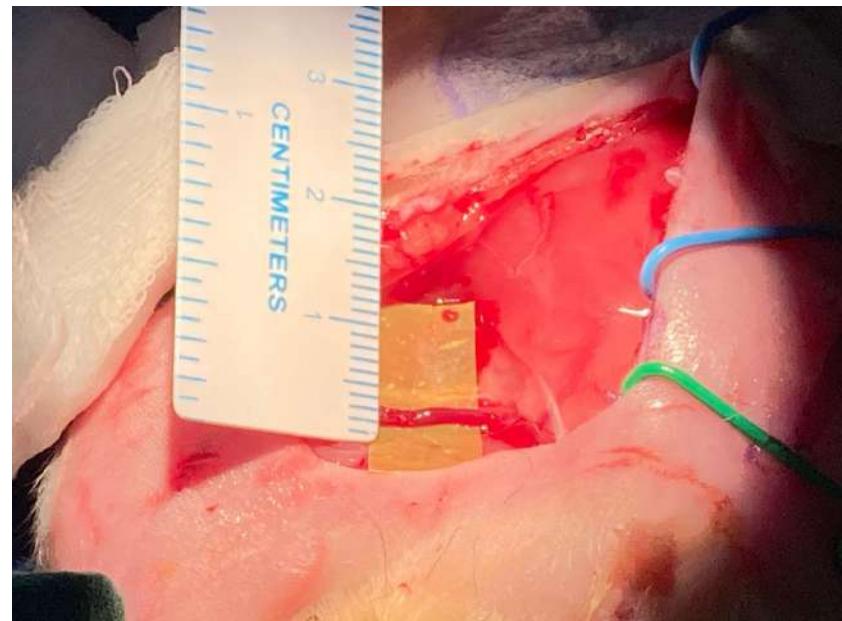
A subsequent group quiz session also saw our team achieving second place, reaffirming the value of teamwork and collaborative knowledge exchange. These academic events encouraged critical thinking and motivated me to strengthen my trauma management foundation.



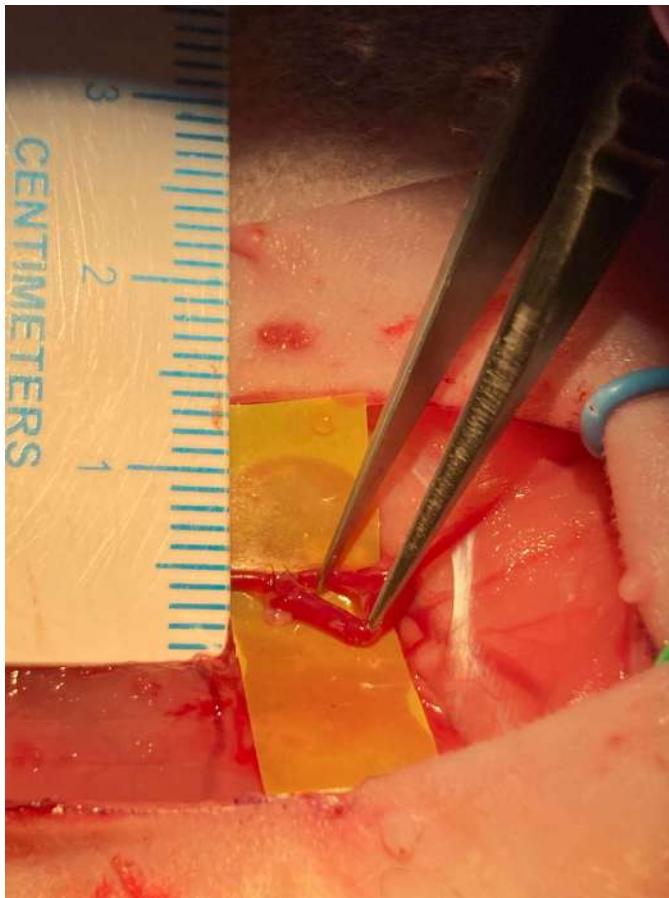
These activities not only highlighted my strengths but also illuminated areas requiring deeper study, guiding my future educational path. The skills gained during this course will directly impact my practice and contribute to the development of microsurgical services in my country.



Interposition vein graft anastomosis



Venous anastomosis



**Arteriovenous Anastomosis**

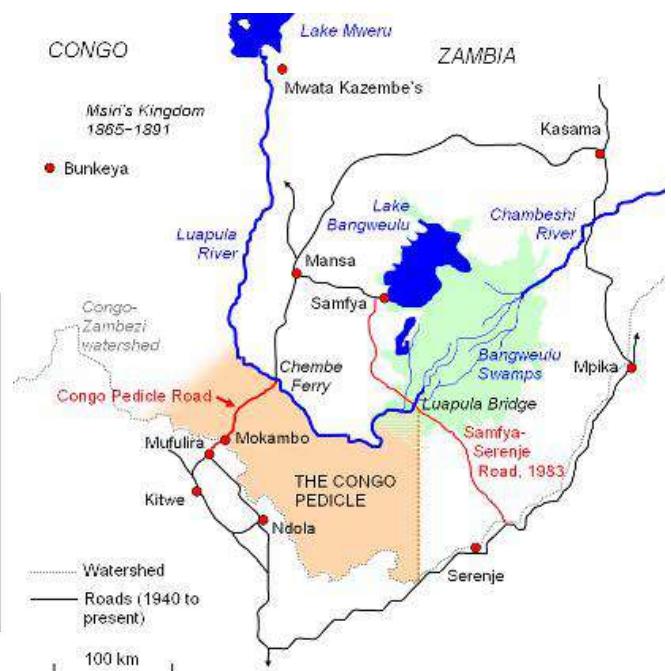


**Certification**



## What This Means for Myself, My Community, and Zambia

This observership represents a major milestone in my professional journey. The knowledge, skills, and exposure gained will allow me to elevate the standard of reconstructive and microsurgical care I can provide. It has strengthened my leadership vision and prepared me to contribute meaningfully to the future of reconstructive surgery in Zambia.



Ndola and its surrounding cities

For my community, this experience means improved trauma care, potential access to limb salvage services, and the possibility of early adoption of orthoplastic protocols. Burn patients may benefit from adopting models such as skin banking and early excision and grafting. The lessons learned at Ganga Hospital can be implemented in a practical and scalable manner.

For Zambia as a whole, this observership is a step toward increasing the country's capacity for complex reconstructive care. With only 5 plastic surgeons serving the nation and all based in the capital city, the addition of microsurgical and orthoplastic expertise could transform outcomes for trauma patients, burn victims, and individuals with complex hand injuries. I hope to contribute to establishing hand units, burn care systems, and eventually replantation services.

I work at Ndola Teaching Hospital in the Copperbelt Province of Zambia, a province with a population well over 2.8 million people surrounded by Western province (1.4 million), Luapula (1.5 million), Northern province (1.6 million) and Central province (2.3 million). Ndola Teaching Hospital, the main referral centre for the city (Ndola) and surrounding districts, also receives a considerable number of patients from the Democratic Republic of Congo, which is only approximately 20 kilometres away. This cross border patient flow places an even greater strain on the already overburdened healthcare system. Ndola stands

as Zambia's third-largest city and continues to expand rapidly due to urban migration, industrialisation, and cross-border trade. Economically, Ndola serves as a key industrial, commercial, and transportation hub for the northern part of the country thriving on mining, manufacturing, transport, agriculture-related trade, and small-to-medium-scale enterprises. Surrounded by numerous mines, both legal and illegal, the city hosts a large population of mine workers, mechanical technicians, timber workers, bricklayers, welders, carpenters, and informal traders. Every day, people in Ndola engage in physically demanding and high-risk manual labour, often in environments where safety protocols are either minimal or completely absent. This lack of regulation significantly increases the frequency of hand and upper-limb injuries. In parallel with its industrial growth, Ndola is experiencing a rapid rise in unsafe transportation systems, particularly the increasing use of motorbikes. These unregulated and poorly monitored modes of transport have resulted in a sharp increase in road traffic accidents, many of which involve severe hand and limb trauma.

While Ndola Teaching Hospital is centrally located and well-recognised for its services, it is also surrounded by densely populated and economically disadvantaged communities that depend on manual labour for survival. For these individuals, an injury to the hand does not only mean physical suffering, it means loss of income, unemployment, family hardship, and long-term dependency. Despite this heavy burden of hand-related injuries and conditions, Ndola has no dedicated hand surgery specialist, either from orthopaedic or plastic surgery. Shockingly, since Zambia gained independence in 1964, the status quo has remained unchanged. Hand cases are usually managed by general surgeons or orthopaedic surgeons with limited subspecialty training. Consequently, many cases go untreated, are treated late, or are managed inadequately, leading to permanent disability and preventable amputations.

It is in this context that my desire to pursue full subspecialisation in hand surgery becomes not just a personal ambition, but a community necessity. While I currently have a strong interest in hand and reconstructive surgery, I fully recognise that true impact can only be achieved through comprehensive, structured, and advanced training. Further specialisation will empower me to deliver modern, evidence-based hand surgery services, ranging from emergency trauma care to microsurgical reconstruction, replantation, congenital hand anomalies reconstruction and post-injury rehabilitation. My further training in hand surgery, would be an investment in the future functional capacity of an entire city and its surrounding communities. A hand surgery unit in Ndola would drastically reduce disability, improve quality of life, restore livelihoods, and decrease the economic burden caused by hand injuries. It would transform Ndola Teaching Hospital into a regional centre of excellence for hand and upper limb care, serving not only Zambia but also neighbouring countries such as the DRC. Ndola does not just need a hand surgeon, it needs a pioneer who will build, teach, mentor, and create a sustainable system of care. With proper training and support, I am fully committed to establishing the first dedicated Hand Surgery Unit in Ndola, developing multidisciplinary collaboration, training junior doctors and therapists, and building a legacy that will continue long after my years of active practice. For these reasons, Ndola is not only a worthy location for such an investment, it is an urgent one. And I am ready to carry that responsibility forward

## Appreciation

I express my deepest gratitude to Mr. Anthony Barabas and the entire BFIRST Team, whose support made this observership possible. I am equally grateful to Prof. S, Raja Sabapathy for granting me this opportunity, guiding me generously, and welcoming me wholeheartedly into his institution.

This experience has strengthened my desire to pursue a fellowship, where I hope to refine my skills further in hand surgery, microsurgery, and orthoplastic trauma reconstruction.



Completion of the Observership and Farewell Day



