



PEDIATRIC
SURGERY IN
TROPICS

“FROM RAGS TO RICHES”: 1995-2025 ESTABLISHMENT OF A REGIONAL PEDIATRIC SURGICAL SERVICE IN RURAL SOUTH AFRICA.

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Keywords	Abstract
Pediatric	The Eastern Cape province in South Africa is the poorest province in the country with one of the poorest healthcare systems. In the 20 th century, General Surgeons from the Frere and Cecilia Makiwane Hospitals in East London were required to manage all general pediatric surgical problems. Colin Lazarus, the Head of the Department of General Surgery at Cecilia Makiwane Hospital in the 20 th century, undertook two years (1993 and 1994) of Pediatric Surgery sub-specialty training to address the relatively poor quality of pediatric surgical care being offered. It was during this time that he met Milind Chitnis, the current Head of Department for Pediatric Surgery at Cecilia Makiwane Hospital. Lazarus and Chitnis went on to establish the first Pediatric Surgery Service in East London in 1995. Colin Lazarus and Milind Chitnis encountered several problems while establishing a new service, which necessitated local solutions to address their unique issues. Establishing an internationally recognized regional Pediatric Surgery service in the poorest province in South Africa was made possible by long-term vision, meticulous planning, persistent hard work, team efforts, and finding local solutions to regional problems.
East London	
Surgery	
Hospital	
Theatre	
Training	

INTRODUCTION

Nelson Mandela said: "Giving children a healthy start in life, no matter where they are born or the circumstances of their birth, is the moral obligation of every one of us." Mr. Mandela, the first President of democratic South Africa, was born in Qunu, in the Eastern Cape. The Eastern Cape is characteristically underdeveloped, rural and is the poorest of the nine provinces in South Africa. East London, the second largest metro in the Eastern Cape Province, is situated on the southeast coast, halfway between Durban to the northeast and Cape Town on the southwest coast. (Fig 1)

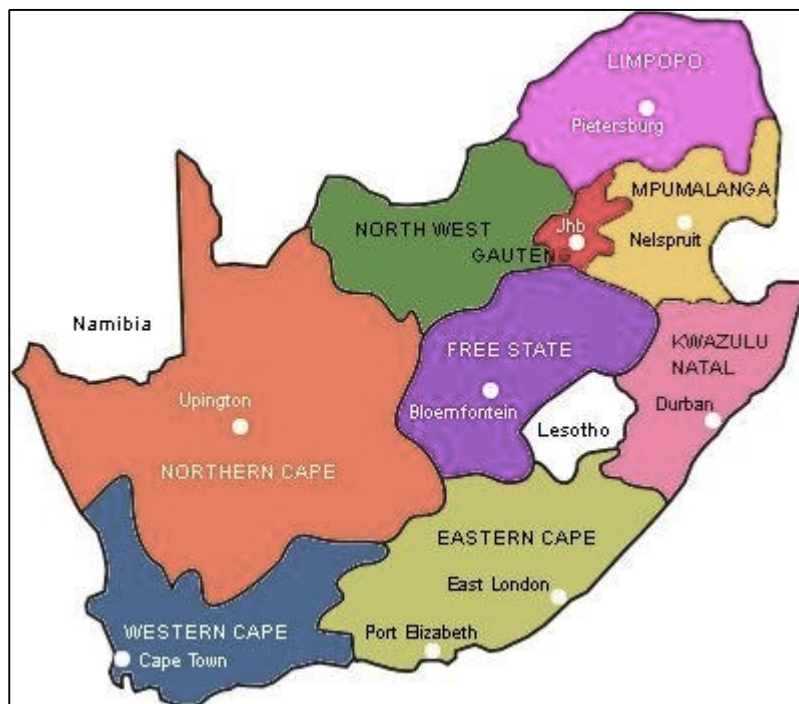


Fig 1. Map of South Africa showing the Eastern Cape Province and East London

South Africa is a middle-income country with a population of 63 million (6.3 crore). The Eastern Cape is the fourth most populated province in South Africa, with a population of 7.2 million (72 lakh). The Eastern Cape population is young, and it is estimated that 33.6% of its population is under the age of 15. Over 85% of the province's population is Black African. The Eastern Cape has the second-highest unemployment rate (49.7%) in the country.⁽¹⁾

Any history of children's surgery in the Eastern Cape can only be adequately understood in the context of 20th-century South Africa. Discrimination against people of color, against the Indigenous Black population was institutionalized under the system of apartheid, the cornerstone of South Africa's economic and political policy after 1948. Two of the four nominally independent states (homelands) within South Africa, created under this system, the Transkei and Ciskei, form large parts of the Eastern Cape Province. Both were rural, impoverished areas dependent on aid from the South African Government and had worse health outcomes when compared to the rest of South Africa. Significant inequalities in the provision of healthcare, therefore, emerged between racial groups, rural and urban areas, primary and tertiary healthcare programs, and between the homelands and the rest of South Africa. Fragmentation in the administration of health services, particularly during the era of 'independent homelands' in the Transkei and Ciskei, hindered the implementation of all health services. Both 'states' had their health departments meant to function alongside the separate health authorities for White, Colored, and Indian people in adjacent South Africa. All the above contributes to the reasons why attempts to provide quality surgical services for children in the Eastern Cape were scattered and inadequate at best.⁽²⁾

In the pre- and post-World War II eras, children with major surgical problems were referred to the urban centers of Port Elizabeth and East London. Those from the northeastern area of the province were in turn referred to Durban, KwaZulu Natal. During this period, children's surgery was undertaken at the Frere Hospital in East London and the Provincial and Livingstone Hospitals in Port Elizabeth. (Fig2) In the late 1970s, the Cecilia Makiwane Hospital was established in Mdantsane, outside East London, as the referral hospital for the then-homeland of Ciskei. (Fig 3)



Fig 2. Frere Hospital



Fig 3. Cecilia Makiwane Hospital

Children requiring surgical attention were most often seen initially at community hospitals or in the mission hospitals scattered throughout the homelands of Transkei and Ciskei, which formed the backbone of the district hospital network. Here, the capacity to investigate and manage complex problems was rudimentary, and transport to referral hospitals was problematic. General Surgeons from the Frere and Cecilia Makiwane Hospitals in East London were required to manage all general pediatric surgical problems, including burns, trauma, and abdominal emergencies. Emergency neonatal surgery was done, but once the patients were stabilized, they were referred to the Red Cross War Memorial Children's Hospital in Cape Town for definitive treatment.

CASE REPORT

Awareness of limited Pediatric surgical services offered to a large population of children, Colin Lazarus, the then Head of the Department of General Surgery at Cecilia Makiwane Hospital, undertook two years (1993 and 1994) of Pediatric Surgery sub-specialty training at Red Cross War Memorial Children's Hospital in Cape Town and the Hospital for Sick Children, Yorkhill, Glasgow, Scotland. While studying in Glasgow in 1994, Colin Lazarus, (a then Senior Registrar in training), met Milind Chitnis, a young Pediatric Surgeon from Pune, India, who was training as a Senior House Officer. Their wavelengths matched, and Milind learned a lot from Colin during this time.

In September 1994, at the invitation of the Eastern Cape Provincial Minister for Health, Dr. Trudy Thomas, Dr Lazarus returned to East London to establish a new department of Pediatric Surgery. In turn he invited Dr Chitnis, who aspired to become a Western-qualified surgeon, to train and work in South Africa. After discussions with many young doctors from South Africa who were training in different specialties in Glasgow, Dr Chitnis decided to follow their advice and "close his eyes and go and work at the Cecilia Makiwane Hospital" in East London, as it was known to be an excellent hospital for training in South Africa. In February 1995, he took a "leap

of faith” and joined Colin Lazarus to establish the new Eastern Cape Pediatric Surgical Service in East London.

South Africa welcomed democracy and the end of apartheid in April 1994. By the beginning of 1995, the health services of the previous homelands of Transkei and Ciskei were being integrated into the South African health system.

Observations

Colin Lazarus and Milind Chitnis encountered several problems while establishing a new service, which necessitated local solutions to address their unique issues.

Challenges Encountered:

Two hospitals, 25 km apart in the same city: The service began on February 1, 1995, at the Cecilia Makiwane Hospital in the previous township of Mdantsane. Colin Lazarus's vision was always to develop a regional Pediatric Surgery Service, and his wish was to avoid duplication of services in the two hospitals (Cecilia Makiwane and Frere) in the same town. He sought permission to work at Frere Hospital without additional remuneration from March 1, 1995. This arrangement has worked well, irrespective of the authorities ‘complexing and ‘de-complexing’ the two hospitals over the years. The department utilizes the strengths and attempts to address the weaknesses of the two hospitals. Patients are transferred between two hospitals according to the availability of beds and operating theatre time. Being in the same department and having the same administrative head for the department at both hospitals proved to be practical, as well as being an effective facilitator of inter-hospital cohesion and collaboration.

Lack of expertise in Pediatric Anesthesiology - Public-private partnership: Due to the lack of pediatric anesthesiology expertise in the public or state sector, a partnership was established with specialist anesthetists in the private sector for neonatal emergencies and routine major operations. This public-private partnership was highly effective, benefiting state patients for over seven years until the end of 2002.

Lack of Pediatric ICU facilities at Frere Hospital: Initially, adult ICU facilities were used for pediatric cases. The staff of the pediatric surgery department cared for their surgical patients with the assistance of experienced nursing sisters. A section of the adult ICU was designated for pediatric patients in 2007, until a fully-fledged, state-of-the-art Pediatric ICU was opened in 2014.

Lack of full-time Histopathologist: East London has rarely had a full-time Histopathologist in the state sector. The Department of Histopathology at the Red Cross War Memorial Children's Hospital in Cape Town, 1000km away, has provided excellent support to the Pediatric Surgery service in East London. All the routine specimens for histopathological examination are transported by courier service to Cape Town. More recently, frozen section examinations have been conducted in East London with the help of a histopathologist from the private sector on a pro bono basis. The lack of histopathologists and clinical postmortems limits the understanding of pathologies in unexplained deaths.

Lack of full-time radiologists: The services of full-time consultant radiologists were available at either one or the other hospital for only 15 out of the 30 years. The paucity of consultant radiologists severely compromises the quality of radiological services and training and limits the capacity for image-guided interventions. For the past few years, radiologists from the private sector have reported on a few CT and MRI scans for a fee, depending on the availability of funds. This forces the staff of the Department of Pediatric Surgery to interpret the CT scans without any formal training.

An inadequate number of junior staff: From 1995 to 2008, due to a shortage of junior staff, the department only cared for children with surgical conditions up to three years of age. In addition, older children with specific Pediatric Surgical pathologies, such as tumors, Hirschsprung's disease, and hypospadias were treated by the team. With the availability of an adequate number of trainees, the department began looking after older children at the beginning of 2009.



Fig 4. Department of Pediatric Surgery East London staff in 2007. (Left to right: Dr. Itayi Simango, Dr. Mie Elsen, Dr. Michelle Walsh, Dr Milind Chitnis, Dr Colin Lazarus, Dr Vivienne Breckon)



Fig 5. Department Staff in August 2019 (Left to right- Standing: Dr Ilana Wagener, Dr Kirsty Pedersen, Dr Craig Parker, Dr Helga Nauhaus, Dr Nayha Gautam, Dr Quantah Salie, Dr Vuyo Nogela, Dr Mzwandile Jula Sitting: Dr Nkululeko Majola. Prof Samad Shaik, Prof Milind Chitnis, Dr Mie Elsen, Dr Sello Machaea, Dr Yashoda Manickchund)

Personal challenges faced by the author:

As an expatriate and a foreign-qualified doctor, the author faced significant challenges in obtaining permanent residency, specialist registration, registration for independent practice, and gaining recognition as an “equal amongst equals” in the white male-dominated field of Pediatric Surgery in the country at that time. Singular focus, patience, perseverance, continuous hard work, sacrifice and support by family were necessary to achieve professional success. Having a child with special needs made the author more empathetic towards children with surgical problems and their parents. It is difficult to pinpoint when passion became a mission: all these qualities required sincerity, humility, spirituality, and gratitude.

Positive developments and achievements:

Establishment of the East London Health Resource Centre: In the early 1990s, Cecilia Makiwane and Frere Hospitals had small libraries. Colin Lazarus realized the need for a modern library and a place for academic meetings for medical and allied professionals in East London. He convinced the authorities to combine the two libraries, secured the land (located near Frere Hospital) donated by the local municipality, and obtained the initial funding of R350,000 (approximately Rs 17.5 lakh) from the Department of Health, the Government of the Eastern Cape. A state-of-the-art medical library, the East London Health Resource Centre, was opened in 1998. It houses a fully equipped library with the latest editions of all standard textbooks and important scientific journals related to Pediatric Surgery, as well as other medical and allied health specialties. The library provides electronic access to many more journals and books off-site for registrars and academic staff, and on-site for all others, free of charge. It features conference facilities for multiple academic meetings simultaneously, equipped with all the necessary audio-visual technology. These conference facilities are available, upon prior booking, to all medical and allied professionals working in the state sector at no cost.



Fig 6. East London Health Resource Centre

Involvement of not-for-profit (NPO) organizations:

Carte Blanche Children's Operation Theatre: From 1995 to 2014, only one-and-a-half-day theatre lists were available weekly for Pediatric Surgery at Frere Hospital. This gross inadequacy could only be addressed when Carte Blanche Making a Difference Trust donated R20 million (approximately Rs 10 crore) to refurbish an old, dilapidated operation theatre, providing a state-of-the-art operation theatre suite with two dedicated operation theatres for children with surgical problems. Since its inauguration in October 2014, the Department of Pediatric Surgery has been allocated three full-day theatre lists per week at the Carte Blanche Pediatric Operation Theatre at Frere Hospital. Emergency cases can be handled with minimal waiting time. This is the only operating theatre suite in the Eastern Cape Province, amongst both the state and private sectors, dedicated to children's surgery. This remarkable facility has significantly enhanced the quality of care provided to children with surgical issues. The Department of Pediatric Surgery continues to have two full-day weekly theatre lists at Cecilia Makiwane Hospital.



Fig 6. Carte Blanche Pediatric Operation Theatre at Frere Hospital, commissioned in October 2014

Establishment of a not-for-profit 'Eyabantwana-For the Children Trust: With the ever-increasing budgetary constraints in the healthcare sector all over the country, and even more pronounced in the Eastern Cape, an urgent need was felt to establish a long-lasting non-profit organization to support the needs of the department. The Eyabantwana for the Children Trust was formed in 2012 to assist the department in upgrading infrastructure, procuring essential

equipment, and providing education and training. So far, the Trust has raised over R4 million (Rupees 2 crore) and contributed to the refurbishment of the burns ward at Frere Hospital, as well as the purchase of endoscopic equipment and other essential items, including dermatomes, fine instruments, diathermy mats, and LED headlamps. The Trust sponsors a visit by an eminent and distinguished pediatric surgeon from abroad or within the country each year. Distinguished Professors and colleagues with unique skills and knowledge over the past years have been Diana Farmer (San Francisco, California), Kokila Lakhoo (Oxford, England), Georges Azzie (Toronto, Canada), Alp Numanoglu (Cape Town, South Africa), Robert Carachi (Glasgow, Scotland), Samad Shaik (Durban, South Africa), Marion Arnold (Cape Town, South Africa) and Giulia Brisighelli and Tarryn Gabler (Johannesburg, South Africa). All these visiting professors and doctors have added unique value to the staff training in East London and other centers in the country during their visit.



Fig 7. Eyabantwana for the Children Trust logo

Training in Pediatric Surgery:

Accreditation as a teaching and training service for part of specialist pediatric surgical training was granted by the Health Professions Council of South Africa (HPCSA) in 1999 and for the entire duration of the training in 2003. The department, affiliated with Walter Sisulu University, is now one of the eight accredited Pediatric Surgical training centers in South Africa. This remarkable accreditation reflects the quality of the staff and service that have been improved over the past 30-year period. The Department of Pediatric Surgery in East London has trained ten registrars over the past 30 years. Five of them work in the state sector in the country- two each in East London and Port Elizabeth, one in Pretoria, and one each in India, Germany, Northern Ireland, and New Zealand. Currently, all eight accredited registrar posts are occupied. The department also has two more junior doctors (medical officers) who wish to undertake Pediatric Surgery training. The department's staff profile truly reflects the country's demographics, with the majority being women of color from previously disadvantaged backgrounds.

Research:

Despite limited support for research activities, the department has contributed to national and international collaborations and multi-center studies and has published at least two dozen scientific articles in peer-reviewed and internationally recognized pediatric surgery journals. The department's staff and trainees have presented at national and international congresses, and the senior members were invited to deliver guest lectures. The novel treatment for symptomatic relief of children with African degenerative leiomyopathy, a local pathology, is worth mentioning. ⁽³⁾ Three recent trainees have completed the MMED by mini-dissertation, and one locally trained Consultant is pursuing a PhD.

External Participation:

Participation in the activities of the College of the Pediatric Surgeons (CPS) and the South African Association of Pediatric Surgeons (SAAPS): Colin Lazarus and Milind Chitnis have contributed to the CPS and SAAPS activities. Over the past twenty years, they have been examiners and moderators for the Fellowship in Pediatric Surgery examination.

International recognition: Milind Chitnis has been a Board member of an international not-for-profit that advocates for safe anesthesia and surgery for children in lower and middle-income countries (LMICs)- Global Initiative in Children's Surgery (GICS)- since 2020 and was the Honorary Secretary of GICS for one year. He is also the Honorary Secretary of the Pan African Pediatric Surgical Association (PAPSA) (2023-2027). This has expanded the horizons of the department to the entire African continent and the global pediatric surgery space.

Zoom academic meetings:

During the COVID-19 pandemic, we initiated and have since continued monthly academic meetings of our department via Zoom, where a national or international expert delivers an invited talk on a common topic in pediatric surgery or urology. These meetings are attended by 50-75 delegates from all over Africa and the rest of the world. The recordings of the past meetings are freely available on YouTube (<https://www.youtube.com/@MilindChitnis>), MedAll ([https://app.medall.org/p/milind-chitnis-Department of Pediatric Surgery Community](https://app.medall.org/p/milind-chitnis-Department%20of%20Pediatric%20Surgery%20Community)), and the e-learning platform of the Colleges of Medicine of South Africa (<https://cmsalearn.co.za>) under the College of Pediatric Surgeons resources.

CONCLUSION


Milind Chitnis wishes for: modernization and expansion of the current Pediatric Surgery ward at Frere Hospital; establishment of a research wing of the Department of Pediatric Surgery in East

London; and establishment of Pediatric Surgical Subspecialties (in East London). Yashoda Manickchand, an ex-Senior Consultant Pediatric Surgeon, dreams big: for the establishment of a Children’s Surgical Hospital in East London. ⁽⁴⁾

“In Africa, we do not sit and cry; we find local solutions to local problems,” says Milind Chitnis. Establishing an internationally recognized regional Pediatric Surgery service in the poorest province in South Africa is a dream come true. It was made possible by long-term vision, meticulous planning, persistent hard work, team efforts, and finding local solutions to regional problems. “It always seems impossible until it is done,” said Nelson Mandela. As he completes his innings in October 2026, he is optimistic that many of the abovementioned dreams will come true.

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