

Historical Vignette

The Centenary of Pediatric Surgery in South Africa (1923-2024)

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Keywords

History of Medicine
Pediatric Surgery services
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Abbreviations

CPSSA - College of Pediatric Surgeons of South Africa
RCWMCH - Red Cross War Memorial Children's Hospital

SAAPS - South African Association of Pediatric Surgeons

Abstract

This article narrates the history of pediatric surgery South Africa over 100 years. The first department was established in 1923 at Johannesburg. Professor Jannie Louw, who did pioneering work, is considered the Father of South African Pediatric Surgery. Subsequently, 9 universities started training programs in pediatric surgery. The South African Association of Pediatric Surgeons and the College of Pediatric Surgeons of South Africa were founded in 1976 and 2010 respectively. Gender disparity that prevailed in apartheid era is slowly rectified and now there are more women pediatric surgeons in South Africa than before. The year 2024 is the centenary year of South African Pediatric Surgery.

INTRODUCTION

A batsman reaching a century is widely celebrated in cricket. The 'Master Blaster' Sachin Tendulkar, a former Indian cricketer, is idolized for achieving a century of international centuries! A seasoned batter refocuses after scoring a century and starts all over again. After a century of pediatric surgical care (1923-2023) in South Africa, it is time to introspect, learn from the past, correct the past injustices, and continue striving for a better future for all the stakeholders including ailing children, their parents, trainees and specialists in pediatric surgery. This article is an honest attempt to remember and analyze the past, assess the present, and look at the future of pediatric surgery in the most industrialized nation of the African continent.

GEOPOLITICAL BACKGROUND

South Africa is a middle-income country with a population of 63 million, of which 40% are children below the age of 15 years. It is one of the most unequal societies in the world, with a high rate of HIV infection, obesity, violent crime, teenage pregnancies and motor vehicle accidents. Thirty years after the implementation of the democracy, even though the government spends 7.5% of the gross domestic product (GDP) on healthcare, most of the indigenous Black population still suffers from poor literacy, poverty, unemployment, malnutrition, and poor health outcomes.⁽¹⁾ Children, the most vulnerable members of a society, suffer the most. Healthcare services at all public hospitals are free for children under the age of six years. Yet, morbidity and mortality among pediatric sur-

gical patients are still high due to several factors which include lack of awareness, 'absent father effect' of child rearing, poverty, dilapidated health facilities in rural areas, poor road infrastructure, total lack of antenatal care, widespread use of traditional medicines, delayed presentation and a critical shortage of nurses and doctors.

AT THE DAWN

The history of Pediatric Surgery in South Africa can be arbitrarily divided into two eras: pre-democratic era (1923-1994) and democratic era (1994-2024). In South Africa, democratic election was first held in April 1994. Prior to that racial segregation and sub-human treatment of Blacks were enforced by the law. The country was ruled by a minority (15%) of White people who enjoyed all the privileges, including easy access to education real estate, better job opportunities, higher pay, and excellent healthcare. Most of the White children lived in cities and they had a fair chance to become a doctor and subsequently a Pediatric Surgeon. Majority of indigenous Africans were dispossessed of their land and were forced to live outside the city limits in townships or in rural areas. They received substandard education and were prevented from becoming doctors; no need to say about becoming a pediatric surgeon. They were forced to leave the country and excel as pediatric surgeons elsewhere. It was only in 2002 that the first pediatric surgeon of colour could be registered in South Africa.⁽²⁾

FIRST DEPARTMENT

In 1923, pediatric surgery was established as a subspecialty of general surgery at Johannesburg. Initially, surgery of children was performed by general surgeons interested in unique pathologies of this age group. Though pediatric surgery quickly became a recognized discipline within General Surgery, it took many years before getting full recognition as an independent specialty in 2008.⁽³⁾

Professor Jannie Louw (Fig. 1) is considered the 'Father of Pediatric Surgery' in South Africa. His firstborn child had died of complications of congenital intestinal atresia in the late 1940s. It is said that he pledged to understand the cause of this pathology as well as other related abnormalities and help the children born with congenital malformations.⁽⁴⁾ He collaborated with Christian Barnard (who later became world famous for the first successful heart transplant) to conduct experiments in fetal puppies to demonstrate that most of the jejuno-ileal atresia were caused by late intra-uterine vascular accidents.⁽⁵⁾



Fig 1. *Professor Jannie Louw, the Father of Pediatric Surgery in South Africa*

FURTHER DEVELOPMENTS

Sidney Cywes, who followed Louw in Cape Town in 1976, was the first surgeon in the country to restrict his practice exclusively to pediatric age group. Michael Dinner (Johannesburg) and Robert (Bob) Mickel (Durban) together with Cywes (Cape Town) were the 3 pioneers in the field of pediatric surgery in the late 1970s and early 1980s. Dinner, a full-time surgeon at the Baragwanath Hospital, was appointed as full-time pediatric surgeon in 1966 and a Professor in 1976. In his induction lecture, he stated, "The greatest satisfaction of the operation must be to afford the infant a 70-year cure, in conjunction with a happy childhood".

Cywes established the Red Cross War Memorial Children's Hospital (RCWMCH) in Cape Town. (Fig 2) He saw in children the future of our country and realized that somehow, he had to take care of them. He was a fierce advocate of surgical children. He developed a dedicated neonatal surgery unit (1976), a surgical intensive care unit (1983), a trauma unit (1984), a liver transplantation program (1987), and a day-care surgery centre (1989). His motto was, "Don't tell me what you want to do; show me what you have done." Mickel was a quiet, gentle giant of South African pediatric surgery who had touched the lives of thousands of children through his clinical practice at Durban.⁽³⁾



Fig 2. Red Cross War Memorial Children's Hospital, Cape Town (founded in 1956).

The driving forces behind establishing children's hospitals in South Africa were a group of socially conscious women and returning soldiers from the World Wars I and II. Out of the 7 children's hospitals of the country that were founded since 1923, only three - the RCWMCH (founded in 1956), the Tygerberg Children's Hospital, Cape Town (2000), and the Nelson Mandela Children's Hospital at Johannesburg (2017) - are active at present. Other children's hospitals have been closed over the last few decades due to a lack of funding, poor planning, and restructuring of health services at the provincial and national levels. Though Addington Children's Hospital at Durban is also currently functioning, it no longer offers pediatric surgical

services. Children are assessed there and if an operation is required, they are referred to Inkosi Albert Luthuli Academic Hospital in the same city.

The RCWMCH was the first freestanding children's hospital in sub-Saharan Africa, and it continues to provide quaternary health services to needy children. The Red Cross Children's Hospital Trust was established in 1994 to support the needs of the RCWMCH. The Tygerberg Children's Hospital, located in the sprawling complex of Tygerberg Academic Hospital, shares all ancillary services, including operating theatres, administration and finances, with its adult counterpart. The Nelson Mandela Children's Hospital opened its doors to patients in 2017 with significant financial support from Nelson Mandela Children's Fund. Mr. Nelson Mandela said, "The Children's Hospital will be a credible demonstration of the commitment of African leaders to place the rights of children at the forefront. Nothing less would be enough."

ESTABLISHMENT OF UNIVERSITY DEPARTMENTS

With the establishment of 9 independent provincial health authorities, 9 medical schools (Fig 3) and an unequal private and public health sector, pediatric surgery in South Africa is in an enviable position of having been adopted a national unitary institution whilst maintaining the independence of each academic unit.

SOUTH AFRICAN ASSOCIATION OF PEDIATRIC SURGEONS (SAAPS)

The first three professors of pediatric surgery - Cywes, Dinner, and Mickel - formed the South African Association of Pediatric Surgeons (SAAPS) in 1976. The SAAPS is a membership-based, not-for-profit organization that has significantly influenced the development and recognition of pediatric surgery in South Africa. It represents professional practice matters in both public and private (self-funded) sectors. It is a vibrant organization facilitating education and scientific advances in clinical,

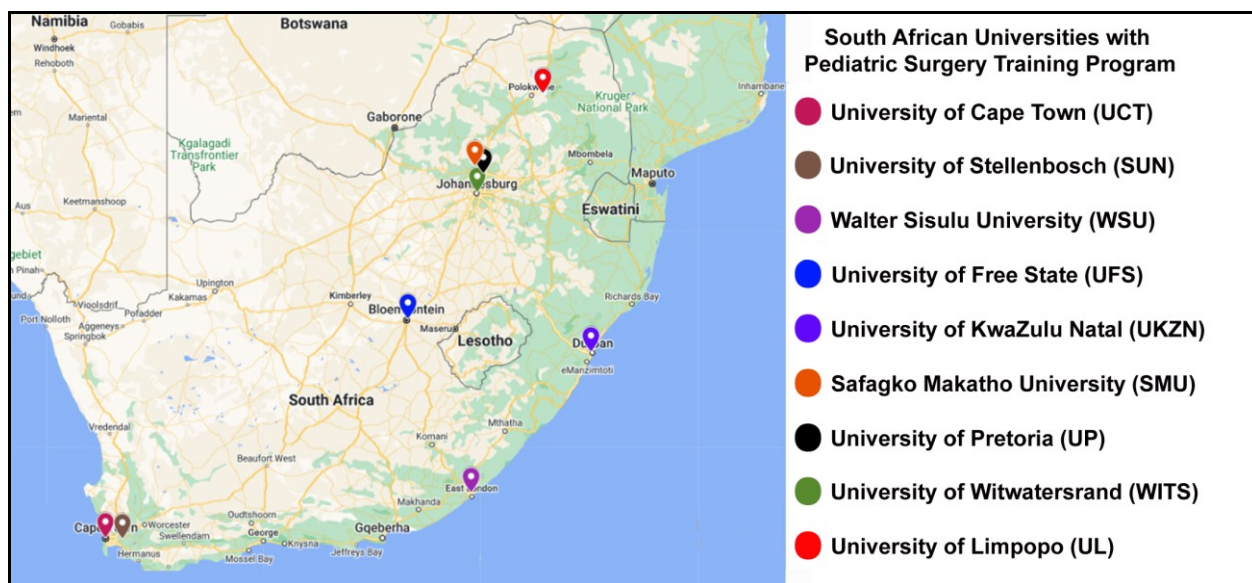


Fig 3. Map of South Africa showing the 9 medical schools and universities offering pediatric surgical training. SMU was previously known as Medical University of South Africa (MEDUNSA) and WSU as University of Transkei (UNITRA)

experimental and innovative surgery in related sciences. The SAAPS also holds biennial scientific meetings. In the 48-year history of SAAPS, Prof. Samad Shaik was the first non-White to be elected as its Honorary Secretary in 2017 and Honorary President in 2023. (Fig 4)

THE COLLEGE OF PEDIATRIC SURGEONS (CPSSA)

Establishment of an autonomous Fellowship in Pediatric Surgery is the result of perseverance and determination to overcome indifference, opposition and established privileges. It was a drawn-out, systematic journey from conceiving the idea (1975), endorsement (2000), certification (2002), and eventually to full specialty status (2007) and an independent Fellowship (2008). The College of Pediatric Surgeons of South Africa (CPSSA) was formed in 2010. It is a part of the broader Colleges of Medicine of South Africa. It represents academic interests including training, research and examinations of pediatric surgical trainees.

THE ROAD TO SPECIALIZATION

The training program is flourishing and entry is competitive. Trainees can choose from any of the



Fig 4. Prof Samad Shaik - The current President of the South Africa Association of Pediatric Surgeons and the College of Pediatric Surgeons.

9 accredited units. Each unit functions independently; but follows a single national curriculum. The program extends over five years, although the final examination may be taken after four years of training. Since 2010, national exit examination convened by the CPSSA is offered biannually and a fellowship diploma (FCPS-SA) is awarded to the successful candidates. Trainees must then clear an MMed examination at their respective universities

before being registered as pediatric surgeons by the Health Professions Council of South Africa.

The College has dedicated the last few years to transitioning to a modern, defensible examination format. The final examinations now consist of two single best-answer papers that must be passed to enter the structured oral assessment component. This comprises paper-based, standardized clinical scenarios and structured oral examinations covering surgical anatomy, pathology, and operative technique. Both components of the examination are delivered in an online format.

Starting January 2025, Workplace-Based Assessment will be phased into the academic program. A list of Entrustable Professional Activities relevant to our practice has been discussed and developed.

PEDIATRIC SURGERY WORKFORCE

A formal review of the workforce was undertaken in 2020. Trainee posts have increased from 31 in 2020 to 42 in 2023 and the registered Pediatric Surgeons from 44 in 2020 to 56 in 2023. The median age is 45, and more than 65% of the trainees and specialists are female. Since 2010, the skewed racial distribution of trainees and consultant pediatric surgeons has been addressed and the imbalances of the past are rectified. The racial distribution is now reflecting the demographics of the country. While most of the pediatric surgeons are concentrated in the urban areas, plans are afoot to expand services to our rural children. On a global scale, South Africa has about 2.6 pediatric surgeons per million children under the age of 14 years, as compared to 20-40 in the Western world and 0.1 to 0.4 per in our neighboring countries.⁽⁶⁾

WOMEN PEDIATRIC SURGEONS

The extended duration of training, irregular and long working hours and on-call responsibilities presented significant difficulties in the past for women specializing in pediatric surgery, resulting in a male-dominated practice. Until recently, there

was an acute scarcity of female role models and mentorship in South African pediatric surgery. This gender disparity changed significantly when the profile of medical students changed from mostly males to a more equal gender distribution. The increased presence of females in the pediatric surgery work-force in the past 18 years has resulted in women leading 3 university departments. This has brought in new challenges that require mechanisms to create supportive structures to ensure sustainable specialist services, personal career development, research and a balanced psychological and family life. Thozama Siyotula, consultant pediatric surgeon at the RCWMCH, has undertaken a project to research on the role of women in South African pediatric surgery and the results are eagerly awaited.

THE SOUTH AFRICAN PEDIATRIC SURGERY TRAINEES ASSOCIATION (SAPSTA)

The trainees (registrars) in pediatric surgery are represented by the South African Pediatric Surgery Trainees Association (SAPSTA). Both SAAPS and CPSSA are actively support in this body. The SAPSTA plays an essential educational role by organizing an annual symposium for examination preparation and represents the needs of trainees.

MODERN ERA (1995-2024)

The establishment of a regional pediatric surgery service in the rural Eastern Cape Province has been one of the remarkable success stories of post apartheid South Africa. The author of this article is privileged to be involved in this project since the very beginning. In February 1995, Colin Lazarus (a local surgeon) and Milind Chitnis (a young pediatric surgeon from India) started the Department of Pediatric Surgery in East London. From a modest beginning, this unit has become a nationally and internationally recognized fourth largest department of the country. As an Honorary Secretary of the Pan-African Pediatric Surgical Association (PAPSA) and the Global Initiative for Children's Surgery (GICS), Milind Chitnis has the rare honor

of representing South African pediatric surgery at African and international forums. To celebrate the 30th anniversary of the Department of Pediatric Surgery Foundation in East London, the upcoming SAAPS conference in 2025 will be held at the Mpekweni Beach Resort, near East London, from Thursday, 1 May to Sunday, 4 May 2025.

THE FUTURE

Pediatric Surgery in South Africa has undergone a significant change in the leadership between 2013 and 2015, with *en masse* retirement of the long-standing heads of the departments. The younger incumbents have since made significant strides in growing the discipline, raising awareness, and enabling national standards in training and examinations. Whilst South Africans have always featured in global organizations as individuals, representation of our entire community is preferred. Establishing intercollegiate relationship is an ideal starting point. With a good complement of pediatric surgeons now available in South Africa, our vision is to establish the profession in the public eye, in the political arena and within our medical community by leveraging our unique position in the care and welfare of children in South Africa.

CONCLUSION

In spite of several challenges, Pediatric Surgery in South Africa is flourishing. Redressing the disparities and injustices of the past - in terms of racial, gender and socio-economic barriers in training - remains our top priority.

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