

Surgeon Profile Series

Hamilton Naki: From gardening to greatness

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In the wake of the first heart transplant 53 years ago in Cape Town, Professor Christian Barnard found himself to be the subject of much media attention with his face appearing on the cover of Time magazine, highlighting the significance of this milestone in transplant surgery. While the importance of this moment in the history of transplant surgery has never been in dispute, the roster of people who made this achievement possible has, with the presence of one particular individual being the source of great controversy in the 53 years following the procedure.

Hamilton Naki, a black South African, was born in in the Transkei region of the Eastern Cape of South Africa (SA) in 1926, in a small village called Ngcingwane. He remained in primary education until the age of 14, following which he left home for Cape Town, taking a job as a gardener at the University of Cape Town (UCT) Medical School.¹ It was here that his life would take a turn for the extraordinary, ascending from his gardening duties to become an essential part of the research group responsible for the first heart transplant. The arrival of one Robert Goetz at UCT initiated the events which lead to Naki's instrumental role in the transplant team.

Goetz arrived in Cape town in 1938 as a research

fellow, having fled Nazi Germany after being denied his medical licence by Wilhelm Fick, the Minister of the Interior at the time. As such Goetz was forced to spend the next 15 years retraining as a physician in SA and run a research group with as little as £100 in funding with no provisions for research staff.² During this time, he came into frequent contact with Mr Naki, with Goetz supposedly recruiting Naki to help him with a research expedition in 1954. Goetz wished to study the circulation of giraffes in order to better understand the aetiology of hypertension, and it is believed that, in 1954 on an expedition to the Limpopo, Goetz brought Naki along to assist in his efforts of catheterisation of a giraffe in the bush.³

Following this expedition it is believed Naki became an integral part of the research group, initially starting in the laboratory helping with animal husbandry but then progressing to tasks such as anaesthetising the animals, acting as a scrub nurse, and stitching.⁴ Goetz held Naki's talents in very high regard, and he remained a key part of Goetz's research efforts until Goetz's departure for a professorship in New York in 1957. Naki's role in the lab continued, however, and when Christian Barnard returned to Cape Town from Minneapolis in 1958, cardiac research in animal models had expanded greatly at the University. Such was Naki's ability as an anaesthetist in the laboratory, he is on record as instructing Professor Arthur Bull, an eminent South African anaesthetist and researcher, on the process of anaesthetising dogs. On another occasion, Russel Claude Brock, a pioneer of cardiothoracic surgery, was supposedly shocked at Naki's ability in spite of his complete lack of qualifications.⁵

Following the first heart transplant in 1967, the Groote Schuur Hospital and the University became world renowned, and with this renown came considerable research funding. A new heart disease and transplantation building was developed in 1968, and Naki went on to become the senior research assistant at the JS Maris Laboratory.² Initially, his role involved instrument preparation for the animal surgeries, but eventually he began to assist in the procedures himself, gradually taking charge of the day to day running of the facility. Professor of Surgery Rosemary Hickman (a research fellow at the time), recognised Naki's innate ability to learn despite any formal teaching, and under her tutelage, Naki became the lab's lead surgical assistant. When reflecting on his own ability to learn, Naki

remarked that he studied through observation rather than through traditional teaching, being quoted as saying “he stole with his eyes”.²

As the lab’s most senior member, Naki began to take a teaching role alongside his other duties. It is believed that Naki instructed several surgical trainees in dissection and surgical procedures, with some of these trainees going on to become professors of surgery and department heads in America and Japan.⁶ It is also believed that many key surgical insights came from Naki, most notably the heterotopic piggy-back heart transplantation method. An article written by colleagues of Naki also stated that he carried out research on liver transplantation, performing studies in baboons, dogs, rabbits and pigs.² Unfortunately, Naki was never formally credited for all his efforts and his name was not listed on any publications, with his recognition instead coming from those he worked with and inspired.

Hamilton Naki’s achievements are often overshadowed by the controversy and confusion surrounding his role in the heart transplant performed by Barnard and his team in 1967. While Naki had an essential role in the research that led to the successful transplant, evidence suggests he had no part in the actual surgery. Following his death in 2005, many academic journals and news outlets published obituaries exaggerating Naki’s involvement in the surgery, with some even claiming he removed the donor heart prior to its insertion into the recipient.⁷⁻¹⁰ These claims were later contested, with surgeon Marius Barnard (Christian Barnard’s brother), who assisted in the transplant, vehemently denying Naki’s involvement in the actual procedure.¹¹ Many of the publications that had printed the erroneous claims in their obituaries later issued corrections, stating that his role in the actual surgery may have been overstated.¹²⁻¹⁵ An editorial posted in the *BMJ* by Professor David Dent, a Professor of Surgery at UCT, addressed the uncertainty surrounding Naki’s presence, or lack thereof, at the heart transplant.¹⁶ Dent comments that Naki was a “highly talented” lab technician, and a man of “great humanity and dignity” who instructed several trainees on the art of dissection and organ transplantation in animal models. Dent laments the fact that Naki’s achievements have been sullied by the misrepresentation of his role in the first heart transplant:

“It is distressing that a fiction is gathering momentum and tarnishing the name of a highly talented and good man with an untruth. The suggestion that Hamilton Naki performed the donor operation was never mentioned in life by the man himself, by the department of cardiac surgery, or by the university in his citation for his honorary degree in 2003”.¹⁶

One could only speculate as to why Naki’s story was embellished so heavily in the media, or why Naki and Barnard made no major effort to refute the claims, as there is no evidence of Naki, or any member of the surgical team, claiming that he was indeed present for the surgery. However, the origin of the initial exaggerated accounts of Naki’s involvement are still not clear, with speculation that some media outlets may have embellished the story for commercial reasons, and that other outlets then published

this as fact, further perpetuating the myth.¹⁷

Although less dramatic, the truth behind the career of Hamilton Naki is no less impressive or inspiring than the embellished tales that have appeared in the media since his death. Rising from a position as a gardener to become a specialist in the field of organ transplantation with no formal education beyond that of primary school is an astounding feat, and for him to have achieved this in the backdrop of an oppressive apartheid regime that institutionalised racial segregation is extremely inspirational. On the subject of racial inequality in medicine with respect to Naki, Prof. Del Khan – a renowned liver transplant surgeon, Head of Surgery at UCT, and former student of Naki – is quoted stating:

“Hamilton was very skilled not only in the surgical aspects, but in the anaesthetics aspects of animal research. If he hadn’t been black, he would have been given the opportunities to pursue medical training.”¹⁸

Naki’s achievements are a motivation not only to students from disadvantaged backgrounds but the world in general. His merits are lauded by some of the pioneers of organ transplantation, and his contribution to the University of Cape Town’s research efforts were marked with an honorary Master of Medicine degree in 2003, and in 2007 Groote Schuur Hospital created a clinical scholarship in his name.¹⁹ He was also awarded the Bronze Order of Mapungubwe, South Africa’s highest honour, by President Thabo Mbeki.² Naki was also honoured posthumously, with the government renaming the Salazar Plain in Cape Town to Naki Square in 2017, out of respect for his achievements and contributions.

Naki’s story reflects the intricate relationship between race and access to resources, and how this inequality extends into medical research and training. Although he is now recognised as a major contributor to surgery and surgical training in South Africa and the field of transplant surgery at large, one could only imagine the heights he may have reached if he was afforded the same opportunities and education as his white colleagues.

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