

Rural origins

inspire
eye care solutions

DR BAYANDA MBAMBISA

Rural Institutional Award

Livingstone Tertiary Hospital

To enable the set-up of a service to manage patients with keratoconus early — before they go blind — and to expand the corneal transplant service at the Port Elizabeth Provincial Hospital.

Seeing the joy on the faces of patients her GP parents cured in the rural former Transkei town of Engcobo, inspired Bayanda Mbambisa. Now part of a tightly knit 12-person ophthalmological team at the Port Elizabeth Provincial Hospital, she muses, "It's funny how kids react — my sister was a bit grossed-out by the blood and guts part of medicine and said she'd never do that, but I was inspired."

Some indigent patients brought them chickens, vegetables or mielies, whatever they had, as a token of gratitude for free treatment. "I saw the sick people coming and the joy they showed after my parents' successful intervention. The lives my parents saved are what stayed with me and pushed me in the direction of medicine."

Her parents still practice in Mthatha, but are now "semi-retired". Her father began studying further and by the time she was at Kingswood College (a boarding school in Grahamstown), he'd qualified as an obstetrician gynaecologist. It was something Bayanda admired and was to emulate, except she chose ophthalmology, graduating from the University of the Witwatersrand as a specialist after securing her MBBCh there in 1999.

Her deep connection to rural people and their struggles has given her the passion to make a difference in the lives of her patients, especially those with keratoconus, a progressive eye condition, which she and her team have the will and knowledge to treat and cure, but not always the tools. Untreated, keratoconus may lead to blindness, which only a corneal transplant can reverse. Early detection and intervention, and the ability to conduct corneal transplants, can transform the lives of young people who are typically affected by keratoconus in their early teenage years to their early twenties.

Restoring sight miraculously

Bayanda explains that a corneal transplant for advanced keratoconus gives a 60% to 80% improvement in vision. This can take anything from a few weeks, up to a year depending on the patient. Most patients will still need contact lenses or glasses after the corneal transplant to restore full sight.

To illustrate the value of this intervention, Bayanda describes a 16-year-old who was failing because of his poor eyesight. "We did a corneal transplant on one eye and then the other. Within a few months, he could see on the board and no longer had to copy from others. He became functional and had a new lease on life. The same outlook is possible for other children or young adults with less advanced disease."

She says the condition has a reported incidence of around 1 in 2 000 people, the majority of them undiagnosed. It causes the normally round cornea to become progressively oval or cone shaped. Progressive steepening and thinning of the apex of the cone may lead to a break in the inner part of the cornea, releasing fluid from the inside of the eye into the corneal tissue, causing instant blindness. It affects both eyes but the severity may not be the same in each eye and it occurs in people who continually rub their eyes or have some ocular or systemic allergy. Certain medical conditions like Down syndrome or some connective tissue disorders also increase the index of suspicion.

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Game-changing for doctors who provide eye care

Like other specialty departments, hers also has a huge patient load which has been exacerbated by the stopping of outreach programmes due to lack of finances. Sourcing or motivating for the equipment that enables early intervention to stabilise the condition, and enabling patients to read and write and continue with school or university unimpeded, has proved impossible – until now. Her grant will help with much needed equipment, including a Pentacam (to take a picture of the front and back surfaces of the cornea to detect pre-clinical keratoconus), an Ocular Coherence Tomography attachment to take cross-sectional pictures of the cornea to identify where the pathology lies and enable more accurate surgical intervention, supplies of Riboflavin (Vitamin B2) and UV lights, and hard contact lenses, plus the purchase of corneal tissue for transplants.

Bayanda says this new material, and funds for the advanced training of their optometrist or possible sessions by two other optometrists, plus her team attending surgical technique workshops, make the Discovery Foundation grant "game-changing."

She counts her biggest challenge so far as having to tell families, after taking a history, doing an examination and conducting various investigations to try and confirm a keratoconus diagnosis, that her unit doesn't have access to the intervention they require – and cannot help. "It's sad. Sometimes they manage to put the money together to get private sector assistance," she says. With the new equipment, they expect a dramatically increased patient referral inflow as the State healthcare network realises the benefits of vastly improved treatment.