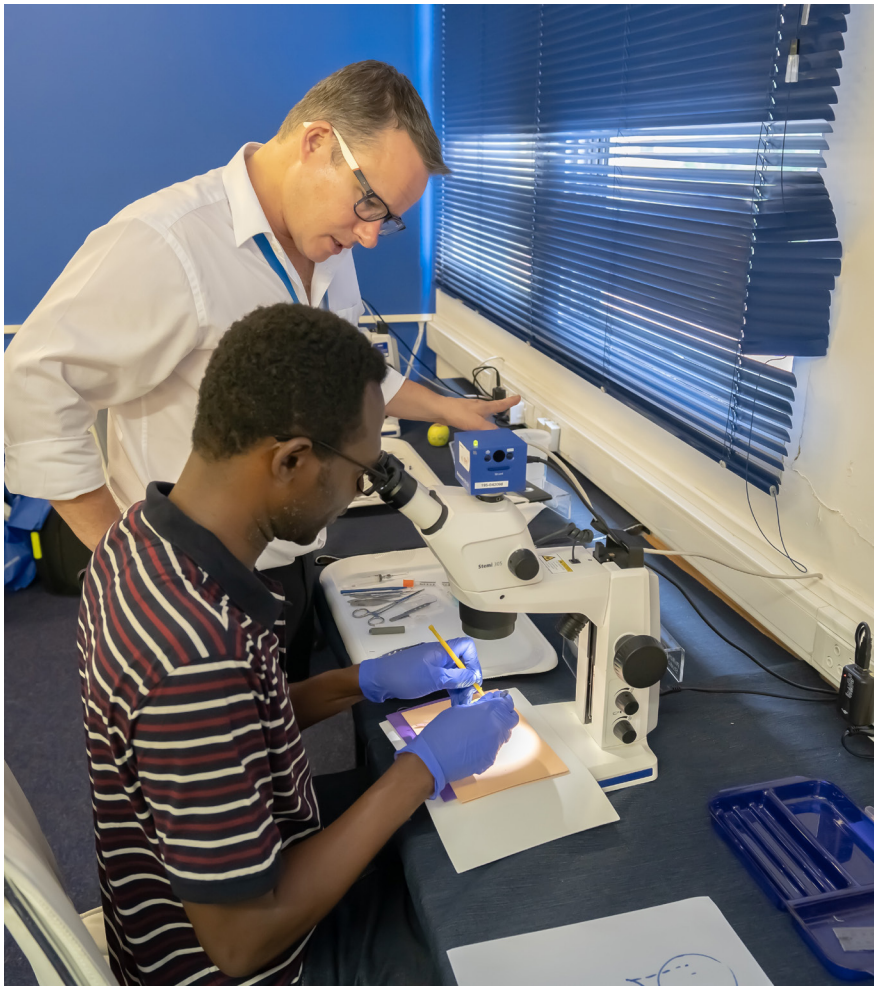
Ground-breaking achievements in blindness prevention

One small UK based charity is enabling pioneering research to prevent blindness in low and lower middle income countries. The British Council for Prevention of Blindness (BCPB), established in 1976, funds innovative research and training which seeds the development of local resources – skills, knowledge and expertise – to build programmes saving and restoring sight in the parts of the world where help is most needed.

Focusing almost entirely on long-term interventions relevant to the poorest communities, BCPB believes that the most effective use of resources in order to have the greatest impact is through the support of the few, who will transfer their knowledge and skills in blindness prevention through educating healthcare workers and influencing governments who are then in the position to pass on the benefits to the many – the so-called 'cascade effect'.

One of their currently funded projects is a randomised-controlled trial comparing intense simulation-based surgical education for cataract and glaucoma surgery to conventional training alone in East and Southern Africa. Dr William Dean of the International Centre for Eye Health explains: "There is increasing appreciation that we need to find ways that train eye surgeons to a safe level before operating on patients. Historically, much initial training has taken place in a busy and stressful surgical theatre, with live patients. This is perhaps the most inappropriate environment to effectively teach and learn the initial steps of microsurgery. Over more than a decade, the Royal College of Ophthalmologists' Surgical Skills Centre has been offering microsurgical skills courses, and more advanced phaco training courses, as well as others."

Over the past two years, two separate prospective, single-masked randomised controlled education-intervention trials of intense simulation-based surgical education versus current standard conventional training alone, of ophthalmologists-in-training in five East and Southern African countries have been conducted. These two separate trials are the OLIMPICS Trial (ophthalmic learning & improvement initiative in cataract surgery) and the GLASS Trial (glaucoma simulated surgery).

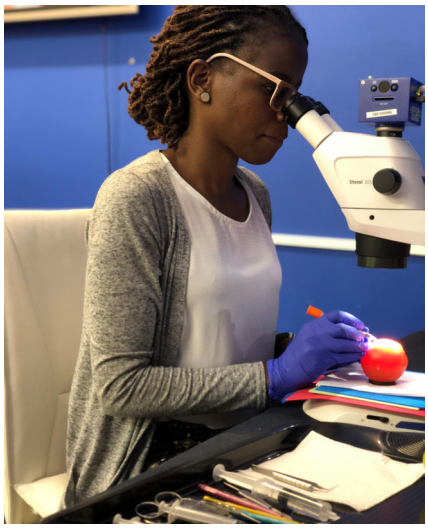


Dr William Dean teaching at the Surgery Training Unit

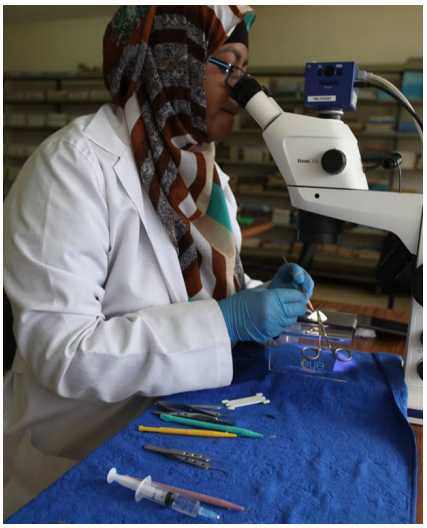
The trials have been running in Eastern and Southern Africa as a partnership between ICEH/LSHTM (International Centre for Eye Health, London School of Hygiene & Tropical Medicine), University of Cape Town, and multiple ophthalmology training institutions in Kenya, Tanzania, Uganda, and Zimbabwe.

One hundred trainees have been enrolled in the trials: 50 junior trainees in the OLIMPICS cataract training trial, and 50 more senior trainees in the GLASS trabeculectomy training trial. All trainees will have performed no complete SICS (small incision cataract surgery) procedures for the OLIMPICS trial, and no full trabeculectomies for the GLASS trial, and so are enrolled as novices. Baseline assessments include video recordings of surgical performance (using simulation). Participants were then randomised to 'intervention' or 'control' groups.

The intervention is an intense one-week surgical training programme involving high-fidelity simulated surgery. A blended learning course provides online and high-impact small group discussions of the



Practising cataract surgery away from patients.



Simulation training in progress.

Surgery training equipment.

crucial knowledge and understanding of a surgical technique. The surgical procedure is deconstructed into its component parts, and trainees build competency through sustained deliberate practice, feedback, and reflective learning employing the use of a digital classroom.

Further assessments of surgical competence are conducted at the end of the training course, at three months, and again at one year. Confidence is also assessed at different time-periods. Over a one year period, the number and patient-specific outcomes of surgeries performed are monitored.

In addition to funding from BCPB, further financial support has been provided by the Ulverscroft Foundation, CBM, Queen Elisabeth Diamond Jubilee Trust, L'Occitane Foundation, Orbis International, and Lions International.

The results of these ground-breaking educational-intervention randomised-controlled trials will provide the raw data and robust evidence testing the utility of simulation-based surgical education for cataract and glaucoma surgery. The research will also help inform surgical training planning and initiatives for other ophthalmic microsurgical skills and fields.

BCPB's work is entirely funded by voluntary donations and it is thanks to their supporters that they are able to support work such as this, which has an impact on blindness prevention on some of the world's poorest communities.

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