

New approach in training in East Africa: vitreo-retinal surgery from 2000 to 2007 in Kenya

From an estimated total of 37 million blinds worldwide, a vastly over-proportional share of seven million is living in Africa.^{1 2} Most causes of blindness in developing countries are relatively easy to cure, provided minimally adequate medical resources are available, resulting in an evident demand for ophthalmologic measures particularly in Sub-Saharan Africa.¹ Therefore, the WHO has initiated a program in 1995 to reduce the number to 25 million instead of the predicted 75 million blinds in 2020.^{3 4}

In the wake of the 1998 al-Qaida bomb assault on the US embassy in Nairobi, Kenya, the Ludwig-Maximilians-University (LMU) Munich provided devices and materials (eg, a vitrectomy unit, silicone oil, perfluoro-*n*-octane, lenses, suture materials, etc) for the treatment of 42 victims with eye injuries. To meet the aforementioned demand, from the year 2000 onwards, the existing equipment was employed to establish a training unit at the Kenyatta Hospital in Nairobi. The training program acknowledged the well-known fact that technical provisions and theoretical knowledge are necessary but not sufficient precautions for successful ophthalmologic surgery^{5 6} and, therefore, focussed on the training of local surgeons under close scrutiny of an expert. The present report summarises the first 8 years' experience.

The training project is based on one "project week" per year in which the author (CLS) performs vitreoretinal operations at the University of Nairobi in cooperation

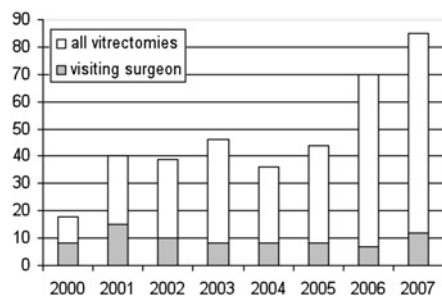


Figure 1 Total number of vitrectomies performed by local surgeons and the visiting surgeon (CLS).

Table 1 Duration of surgery and preparation time for surgery in minutes (mean (SD))

Time (min)	Year					
	2002	2003	2004	2005	2006	2007
For surgery	106 (3)	102 (4)	103 (3)	136 (1)	136 (1)	107 (16)
To prepare for surgery	54 (1)	41 (1)	30 (1)	22 (1)	20 (1)	25 (2)

with the Kenyatta Hospital and supervises resident eye surgeons during such operations. Within the observation period of the present article (2000–2007), the number of operations, indications, operating surgeons, kind and difficulty of operations and duration of preparation and surgery were recorded and evaluated descriptively.

During the observation period, a total number of 378 operations were performed. The percentage of operations performed by resident surgeons alone rose from 55.6% in 2000 to 85.9% in 2007 (figure 1); besides this percentage, the overcoming of the learning curve by local physicians is also reflected by an increase of the operations' difficulty with only moderate increase in operation time and marked decrease of preparation time for surgery reflecting theatre assistant training (table 1).

In order to get anywhere near realisation of the ambitious goals of the WHO program "VISION 2020" for Africa,³ first of all, efficient poverty alleviation and the allocation of substantial resources for eye disease treatment by the respective local governments would be required. This is not particularly likely to happen in the near future, and the current political and economical situation in Kenya warrants the fear of deterioration rather than any real optimism. The gap between the WHO goals and the current situation, however, is so vast that there is a huge room for achievable improvement beneath the "VISION 2020" ambitions. The accomplishment of improvements requires an unconditional determination and a great deal of mental and physical effort by everybody involved, and the realisation of the cooperation project was anything but easy in the local economical, political and cultural environment. In hindsight, however, the results justify every endeavour beyond argument.

CONCLUSION

By means of intermittent short visits, vitreoretinal surgery can successfully be established in eye clinics in developing countries. This strategy has several advantages over long-term aid deployments of foreign physicians (most notably in terms of sustainability) but needs to overcome a plethora of socio-economical and cultural obstacles and requires a meticulous methodical proceeding.

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Competing interests None.

Contributors This article is based on a cooperation between Muenchen and Nairobi, which exists for 30 years.

Provenance and peer review Not commissioned; not externally peer reviewed.

Accepted 16 September 2009

Published Online First 6 August 2010

Br J Ophthalmol 2010;**94**:1402.

doi:10.1136/bjo.2009.163865

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obtained from 20 patients preoperatively and