

THE FUTURE OF ORTHOPAEDIC TRAINING IN KENYA

Training of orthopaedic surgeons in Kenya has developed over time. From relying on overseas institutions we now have two established postgraduate university orthopaedic programmes and The College of Surgeons of East, Central and Southern Africa COSECSA programme (1). The aims of surgical education and training programmes are to produce surgeons with the required proficiency for safe unsupervised practice, able to function independently or as part of a multidisciplinary team and competent to provide elective and emergency care in a range of practice settings (2). The aim is to produce a graduate who can be an independent orthopaedic surgeon from day one (3). How do we produce such a surgeon who is not only trained to carry out clinical duties, but educated to function as a teacher, leader, researcher? What orthopaedic surgeon is required in our country? What knowledge, skills and attitudes are required of the graduate? The answers to these questions help define the orthopaedic surgeon needed and develop curricula to produce such a surgeon.

Kenya, also, does not have an adequate number of orthopaedic surgeons. WHO recommends 1 orthopaedic surgeon to 100,000 population (3). In Kenya currently we have about 200 orthopaedic surgeons, giving a ratio of about 1:270,000. There is, therefore, the need to train more orthopaedic surgeons. Once the WHO recommendation is met, the country may set higher targets as some countries have done. South Africa, for instance, aspires for 5: 100,000 while United States has 7-8 : 100,000 (4) While the need exists, the graduates from our institutions should be of high quality to meet the needs of the country. There is therefore the need to have structures which ensure that all the programmes running in the country are well resourced and able to produce the required orthopaedic surgeon.

Each country or region has to decide what orthopaedic surgeon they require. This determines the resources required and the duration of training. The major English speaking countries have training programmes lasting 5-6 years (5) with fellowships lasting 1-2 additional years. For the UK there is a proceeding additional 2 years of surgery in general training. These countries have long surpassed the WHO requirement and are able to support subspecialty practice, hence the many fellowships. The country has to decide what the

requirement would be. With such a low number of orthopaedic surgeons and the burden of orthopaedic conditions where there is significant trauma and injury in low and medium income countries (6), the graduate must be competent in management of traumatic conditions and general orthopaedics.

The country has significant challenges with regard to orthopaedic training. Major among these are inadequate funding and lack of sufficient training resources. Higher education funding has generally been inadequate in the country. Many of the orthopaedic trainees are self-sponsored. This has the unintended effect of selecting those with adequate family financial support or those who will moonlight in other institutions to support their training. The high fees charged in state universities has, also, discouraged some of the applicants in favour of COSECSA programmes whose fees are more affordable to the self-sponsored candidate. This lack of funding has a deleterious effect on training as it affects availability of the resident. In the developed countries all trainees are sponsored by government or universities (5).

Lack of sufficient training resources has been ameliorated by collaboration between institutions in the country. This has allowed sending of students who may be based at a state university to undertake rotations in another state facility, a private hospital, faith based facility, or a military hospital according to need. This bodes well for the future in sharing training facilities. What is required is greater streamlining of such collaboration to ensure adequate supervision and training takes place when one is outside their base hospital. International collaboration has, also, played a significant role in the initiation and support of COSECSA training based at faith based hospitals. Goksen (7) has published on the contribution of visiting surgeons from developed countries who established the orthopaedic training programme at Kijabe. He emphasizes on the necessity of developing local capacity for sustainability of the programme.

There is, also, variability in training. There are university based and college based programmes. The university based delivers clinical training, education and research. An M.Med dissertation is a requirement of completion of the course. This requires training in research methods and actually

carrying out research. The college based (COSECSA) orthopaedic programme has a mandatory course for self-directed research methodology but no requirement for a dissertation or carrying out research and publishing (2). The main issue here is whether research is sufficiently prioritized. In a study of orthopaedic training in 10 developed countries, research and educational activities were mandatory except in one country (8). In another study comparing orthopaedic training in four English speaking countries (UK, US, Canada and Australia) research was compulsory in three countries and encouraged, but not compulsory in the UK (5). South Africa has a different system where orthopaedic training takes place in the universities where the candidates can get the M.Med, and then can sit the Fellowship of the College of Surgeons (FCS) examination (9). In this system the universities and college work together. While the collegiate programme produces competent surgeons, there is need to define whether the future surgeon requires more research experience or education and clinical training are sufficient.

In the training programmes, the clinical component is emphasized. The trainees attend clinics, do ward rounds and attend theatre sessions. There are seminars and grand rounds to support the clinical teaching. This produces the clinical orthopaedic surgeon. There is need to also produce the teacher. Traditionally this has been an apprenticeship, but there is need to have courses in medical education such that the graduate is able to teach orthopaedic trainees and students of allied professions.

The requirement of having a PhD for promotion to senior academic ranks in medical schools, also, calls to question whether university training programmes should include a PhD for everyone or for those who wish to become academic orthopaedic surgeons. A paper from Makerere University by Galukande *et al.* (10) showed the negative impact the PhD requirement had in recruitment in the medical school. They recommended that PhD, while it would be advantageous, should not be a requirement for recruitment as a lecturer (10). While it can be possible to integrate such training, it may complicate training in a background of funding challenges. It may require a change in university policy or specific funding for those who wish to become academic orthopaedic surgeons.

Safe care of the surgical patient and the effective functioning of a nation's health care system are dependent on the quality of education received by its future surgeons. This is a shared responsibility between government, health care providers, surgeons and educational institutions (1). There is great need for the government and health care providers to ensure that funding is available to support the orthopaedic trainee. This will allow recruitment into the program the best candidates and not those with good economic support. This will ensure that the trainee is able to concentrate on the demanding training programme. There is need for co-ordination to determine the capacity of our training institutions to provide the training required to produce the surgeon the country wants in the numbers it needs.

There is also, need to define the orthopaedic surgeon that we wish to produce from our training institutions. We currently have two training systems, the university and COSECSA. COSECSA currently is in charge of training and examination of its trainees. While each can train the surgeon we want independently, it perhaps, may be better that the two systems work together in the future. The universities have strengths in education, training and research while the college has unique advantage of being able to provide examinations which will allow standardization of assessment across all training institutions in the region.

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