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INTO AFRICA: BASIC SURGICAL SKILLS TRAINING IN NORTHERN TANZANIA

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For developing countries, the Introduction to Surgical Skills (ISS) course was created. This was a project funded by the Commonwealth of Learning in 2001, with the aim of promoting the principles and practice of BSS using materials relevant to individual countries.

Tanzania

The United Republic of Tanzania lies in central East Africa bordered by Kenya and Uganda to the north, Rwanda, Burundi and Democratic Republic of the Congo to the west and Zambia, Malawi and Mozambique to the south. The country’s name derives from the two states, Tanganyika and Zanzibar, that were united in 1964 to form the current republic. Dar es Salaam, the busy port on the eastern sea border, is the principal city of the country, although Dodoma is the official capital. We travelled to the Bugando Medical Centre in Mwanza, which is the second largest city in the country, situated in the north on the shores of Lake Victoria.

The population of Tanzania is more than 42 million, with a gross national income per capita of only $980. The total expenditure on health per capita (2006 WHO Health Statistics) is $45 and average life expectancy is 50 years. The percentage of GDP spent on health was 5.5 per cent. There are 6 levels of healthcare in Tanzania, from village health posts through to district, regional and referral hospitals, meaning that even in rural areas, more than 90 per cent of people live within 10 kilometres of a basic clinic. While access is not such a problem, waiting times, lack of medicine and high costs can be.

Bugando Medical Centre is the 900-bed tertiary referral centre for the Northern and Western Lake zone regions in Tanzania. It is a consultant-led teaching hospital providing specialised care for a catchment population of approximately 13 million. There are approximately 300 surgical patients on the wards each day and in 2008 and 2009 there were more than 500,000 patients examined in the surgical outpatient and casualty departments, with only 11 surgical consultants.

Medical/Surgical Training

The Tanzanian educational system is modelled on the British system. Medical education is preceded by 14 years of primary and secondary school and consists of a 5-year programme. There are five medical schools – three in Dar es Salaam, one in Moshi (north-east Tanzania) and one in Mwanza. Entry is via qualifications, in the form of either grades from final-year school-leaving exams, an equivalent medical assistant or nursing qualification coupled with two years of experience (and adequate grades from school exams), or by completing a pre-university entry course. Newly qualified doctors complete a one-year rotating internship in medicine, paediatrics, surgery, and obstetrics and gynaecology. Postgraduate training in the chosen specialty requires entry into a competitive residency programme.

The qualification and competence of surgeons trained in resource-poor countries has long raised concerns and this has driven the need for postgraduate training programmes to help develop specialised surgical skills in a time when surgical technologies are rapidly
advancing. This has led to a number of academic exchange programmes between Europe and America to provide training in technical skills and aid professional development.11,12,13

Over the past decade this has led to a positive change in providing structure to postgraduate surgical training, with the creation of the College of Surgeons of East, Central and Southern Africa (COSECSA).14 This is a non-profit-making body that incorporates nine countries in the sub-Saharan region: Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda, Zambia and Zimbabwe. With affiliations around the world including the royal surgical colleges in the UK and Ireland, surgical trainees who are working in accredited hospitals (including Bugando Medical Centre) can apply to the College programme to formalise their education towards their membership of the College (MSC).15

**Surgical Skills in Mwanza**

The course was held over the course of two days in the social club of the Bugando Medical Centre, which provided a stunning setting and views overlooking Lake Victoria (see above picture). The course was coordinated by Martyn Coomer (Secretary for Research at the College), Frank Smith (past intercollegiate BSS tutor) and Isidor Ngayomela (consultant orthopaedic surgeon at Bugando Medical Centre). Isidor Ngayomela had been on a course organised by the RCS in Mozambique and was keen that such a structured teaching course should be introduced to the surgical trainees in Mwanza. Other members of the faculty included Bill Thomas (the previous College Vice-President who was instrumental in the original development of the BSS course), Richard Collins (College Vice-President) and Catherine Doran (College research fellow in military surgery). Michael Foxall-Smith, a medical student, travelled with us under independent means and acted as ‘gofer’ (as in ‘go fer this… go fer that’), helping to clean and prepare instruments, harvest bowel and prepare tendons. The course had the overall support and patronage of Charles Majinge, the medical director at Bugando Hospital.

Wherever feasible, a Training the Trainers course is run concurrently with ISS courses to facilitate faculty development.

On this occasion it was not possible to do this because of time constraints. The course in Tanzania acted in effect as a pilot, but local senior surgeons were introduced to course methods and assisted as faculty in order to ensure continuity in future basic skills teaching.

The video lectures were shown in the main room of the club, with the practical sessions being held in the open air and enlivened by the gentle breeze from Lake Victoria. Isidor Ngayomela had acquired local goats to provide the animal tissues for relevant surgical exercises, including bowel anastomosis, tendon repair and wound debridement. We took sutures with us and had some support from the local Ethicon representative. The College provided the instruments, knot-tying jigs and refreshment, including lunches (in which any surplus goat not required for technical exercises was served as a tasty stew, supplied by the smiling ladies of the social club).

Twenty-one students attended the course, the majority of whom were junior surgical or obstetric residents. This reflected the proportion of trainees in the hospital, with only eight employed solely in general surgery. Despite their previous experience, all students benefited from the opportunity to learn the basics using a methodical, simple approach, and the emphasis on sharps handling and surgical safety was accepted with gratitude and understanding. In a country where approximately 15 per cent of the adult population is HIV positive,7 needle safety is imperative.

Despite the rapid advances that occur in medicine there is still a demand for a structured delivery of the basics skills of surgery and our time in Tanzania showed that there is still a place for ISS. The ongoing development of structured and guided surgical training in eastern Africa will hopefully accommodate and develop this ‘rite of passage’ for their trainees. Future courses will concentrate on faculty development so that the legacy of this structured training in basic surgical skills can be passed on.

This educational course would not have been possible without the support of The Stefan Galeski Fund and the unwavering dedication to surgical education and organisational efforts of Martyn Coomer.

**References**