In low-income countries such as Rwanda there is a lack of access to surgical care, which creates a potential huge rate of unmet surgical need. With the lack of surgical services in resource-poor settings being increasingly recognised as a public health issue, the Association of Surgeons in Training (ASiT) felt that the lack of surgical skills training in trainees’ early practice needed to be addressed. With this in mind, ASiT set about organising a pilot surgical skills course at the Central University Teaching Hospital (CHUK) in Kigali, Rwanda. Since 2008 ASiT has successfully run an entry-level skills course cross the United Kingdom and Ireland entitled ‘Foundation Skills in Surgery’ (FSS). This one-day course aims to teach medical students and foundation doctors the fundamental skills for safe surgical practice during the early years of surgical training.

In September, our College supported a team of trainees in the Association of Surgeons of Training (ASiT) to deliver surgical skills training in Rwanda. The team included Rhiannon Harries, Edward Fitzgerald, Andrew Beamish, William Muirhead, Aneel Bhangu, and Vimal Gokani. They report on their trip.

Twenty years ago, Rwanda suffered mass violence, and genocide, with resultant diarrheic effects on the healthcare, infrastructure and economy of the country. In subsequent years, adult mortality rates were as high as 472 per 1000 population and life expectancy was the lowest of any country in the world—30 years for females and 27 years for males. Despite significant improvements in healthcare over the following two decades, Rwanda currently still remains a low-income country with a GDP of $1,320 per year, compared to the regional average which creates a potential huge rate of unmet surgical need.

The course content was combined with work undertaken by Edward Fitzgerald with Lifebox Foundation (a non-governmental organisation) to make surgery safer in the low and middle income countries for safer perioperative practice, including implementation of the surgical safety checklist and provision of pulse oximetry equipment and training.

Across the two courses that we ran on 13 and 14 September 2014, a total of 55 excited students attended, with a number travelling several hours to get to us during their summer break.

The morning talks covered the importance of good medical record keeping and the basics of suturing, drains and instruments, with much interaction from the students. This was followed by the clinical skills session, in which the students practised sterile gloving and gowning, hand and instrument knot-tying, safe sharps handling, suturing techniques, such as interrupted, mattress and subcuticular, alongside skin lesion excision on locally sourced pork belly.

Afternoon talks covered the importance of audit and research in maintaining and developing good clinical practice, and covered the concepts of collaborative research and GlobalSurg. The final session covered surgical safety and Lifebox’s work on implementation of the surgical safety checklist and pulse oximetry.

The medical students were very inexperienced practically. Rwandan medical education being delivered mainly through theory and observational experiences, with a distinct lack of dedicated practical surgical skills sessions.

Despite this, during the two years after qualification, most will be expected to perform simple and complex surgical procedures, including Caesarean section, often unsupervised, in district hospitals in rural Rwanda.

The faculty recognised the importance of iterative course adaptation, in response to specific assessment of local learning needs, and the more basic surgical knowledge and skills encountered, requiring more practical training time.

It was amazing to see how eager the students were to learn new skills, and to witness the interest to undertake postgraduate research despite there being little formal audit and research capacity within Rwanda.

Course feedback was unanimously positive, with a median rating of 9.25/10. Qualitative feedback included themes of a desire for longer and repeated training. Comments included:

- “I thank you for your kindness to come and teach us, I find the course really important”
- “It is inspiring and encouraging, thank you so much!”
- “Thanks indeed for your good commitment, you are contributing to Rwandan community future”
- “Thank you for your support in surgical field, many students fear surgical skills because of lack of knowledge and fear them”
- “Our heartfelt thanks for your efforts and time you invested in this training. We learnt much from it”
- “I liked so much this training. I thank you so much. Please come back”

Few examples of sustainable undergraduate surgical training initiatives have been described in the literature, despite an urgent need. This pilot course received universally positive evaluation in this setting. As this is repeated in future, progressively increasing use of local faculty will ensure transfer of delivery locally. Further funding is additionally required to ensure sustainability.

ASiT are thankful for the support of Dr Georges Ntakiyiruta, Chief of Surgery at CHUK, as well as Zeta Mutabazi and Philippe Nyembo. Two enthusiastic local medical student coordinators, who had gone above and beyond expectations to organise the simulation centre course venue, recruit local delegates and ensure the porcine tissue was available with accompanying local veterinary authorisation.

ASiT could not have delivered this course without support from the Royal College of Physicians and Surgeons of Glasgow, the Royal College of Surgeons of England, Lifebox Foundation, Elsevier, CRC Press, Swann-Morton and Mediad, and especially all the individual trainees who donated money, equipment and books.

Rhiannon Harries, Andrew Beamish and William Muirhead were awarded the Rex Ir Jean Lawrie Fellowship and Edward Fitzgerald, Aneel Bhangu and Vimal Gokani were awarded the Stefan and Anna Galiski Fellowship, all in association with the Royal College of Surgeons of England.

Twice a year the GESTS Trauma Symposium (GESTS) is our flagship event for surgeons featuring presentations by a fantastic range of international speakers. These two major surgical events have been attended to coincide in Glasgow and we welcome you to make the most of this opportunity to attend aspects both. GESTS will take place on 26–27 February 2015. Further details can be found at http://globalsurg.org/conferences/Glasgow2015

If you are interested in supporting future ASiT international surgical training ventures visit www.givey.com/asitrwanda or alternatively email info@asit.org

Further reading:
- Lifebox Foundation www.lifebox.org
- GlobalSurg http://globalsurg.org