



## **MEDIA RELEASE**

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### **LIFE, LIONS AND LAPAROSCOPIC SURGERY – A MEDICAL ODYSSEY FROM CAMBRIDGE TO MOUNT KILIMANJARO**

One in a lifetime, a chance may come along to be involved in something amazing. That chance presented itself to award-winning engineer and product development specialist Colin Dobbyne of Big Blue Solutions, when he was invited to be part of an ambitious project to introduce laparoscopic surgery to Tanzania and across East Africa by training and mentoring African surgeons in minimally invasive techniques on live cases in real time – i.e. during surgery. This would mean the hospitals no longer had to rely on sporadic help from overseas volunteers but could take full ownership of the surgery they carried out, directly benefitting thousands of Tanzanian patients each year.

#### **The Link**

The story starts ten years ago in Hexham, when a team from Northumbria Healthcare NHS Foundation Trust approached Cambridge-based Colin with a challenging proposal – could he design an audio-visual tele-mentoring link that would allow their surgeons to communicate, with surgical video and in real time, with their counterparts at the Kilimanjaro Christian Medical Centre (KCMC), a large referral hospital in Northern Tanzania that serves an astonishing 15 million patients. The link would have to be affordable, sustainable and work over the meagre Internet service available in the region; other methods, like satellite links, were prohibitively expensive, and low-cost video services, such as Skype or FaceTime, were not possible then.

In a country like Tanzania, where it can take many days to travel to and from hospital for expensive surgery that takes you away from your home and family, possibly leaving them without the main breadwinner or carer, anything that could make the situation easier would be a huge benefit. Laparoscopic or “keyhole” surgery offers shorter hospital stays and greatly reduced risk of post-operative infection. In an acutely cash-strapped health service, the financial positives of this cheaper, more efficient, surgery would also be huge. KCMC had a team of surgeons desperate to develop their skills in this area and improve the treatment they could offer to their patients - they just needed the necessary training.

To enable the tele-mentoring link to operate, specialist software was developed to run on affordable and commonly available PC hardware. Colin and the UK team flew to Tanzania to set up the link and surgical programme. The first surgery was scheduled, and at the allotted hour, the BBC captured the fledgling transmission. The principle had been proven – images could be relayed in real-time via the Internet between Tanzania and Britain. The following year, Colin returned to KCMC to fine-tune the link by installing a new system that could manage the dramatic fluctuations in Internet speed and even total absences of bandwidth for short periods.

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The link programme continues to grow and develop. KCMC surgeon Chilonga Kondo and his two trained colleagues have now treated more than a thousand patients laparoscopically at a cost of just \$50 per patient. They have expanded the service to run operations two days a week, and they also provide courses themselves for new trainee surgeons. The next step will be to connect up to the local university for postgraduate medical education. KCMC is now a growing centre of excellence for the whole of East Africa, with surgeons visiting from neighbouring countries as well as other parts of Tanzania.

### **The Link – An Adventure in Africa from the Inside Out**

The link project has received two awards - the British Medical Journal Karen Woo Surgical Team Award and the African Healthcare Week Award for Most Innovative Outreach Project. The full story of the project – “The Link – An Adventure in Africa from the Inside Out” - is now available from Amazon <http://amzn.eu/d/cuVATGv>. A selection of images from the project can be seen at [www.dobbyne.com](http://www.dobbyne.com).

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### **Notes:**

Colin Dobbyne is the founder of Cambridge-based product development consultancy Big Blue Solutions, which specialises in disruptive innovation to drive growth. A former technical and commercial director, and then International Executive Director: OR1 Development, at KARL STORZ, he also founded and ran (from January 2005 to January 2011) OR Networks, the company that first established the link-up between Hexham General Hospital and the Kilimanjaro Christian Medical Centre (KCMC). OR Networks was acquired by KARL STORZ Endoscopy (UK) Ltd in 2011.