

Chinese proverb: Tell me and I'll forget
 Show me and I may remember
 Involve me and I'll understand

Pilot of the International Cambridge Anastomosis Workshop in Zimbabwe

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Workshop venue: University of Zimbabwe
 College of Health Sciences
 Department of Surgery
 Parirenyatwa General Hospital, Harare

Background and aims

The Cambridge Anastomosis Workshop has been run for 32 years in the UK and has trained 600+ surgical trainees and gynae-oncology consultants. A wide range of intermediate-to-advanced open anastomoses of bowel, stomach, blood vessels plus bladder and ureter is taught using pig material.

Across sub-Saharan Africa, the general standard of emergency intra-abdominal surgery is poor, often with high mortality and complication rates caused by inadequate training, lack of supervision and deficient infrastructure.

Previous courses in East Africa on Basic Surgical Skills and Management of Surgical Emergencies organised under the auspices of the International Development Committee of the ASGBI and the College of Surgeons of East Central and Southern Africa (COSECSA) highlighted the need for more advanced training in intra-abdominal anastomoses, recognising that sound anastomoses are important life-saving aspects of intra-abdominal surgery.

Matthew Wazara, consultant surgeon in Harare, attended the Workshop in Cambridge UK and felt strongly that the Cambridge Workshop, with minimal change, would be ideal for this purpose.

Planning the workshop

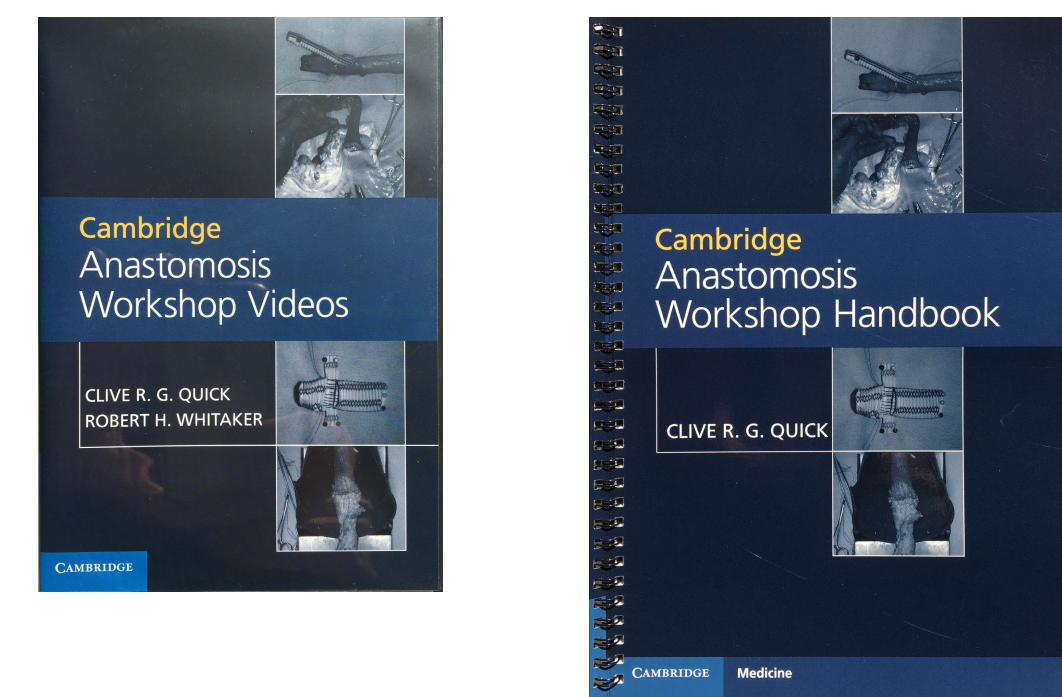
The Cambridge Workshop was filmed to prepare for this course and a set of DVDs created; a handbook already existed.

The aim was to offer a workshop that could easily be reproduced by local surgeons, initially with our help and later without. Each course would start with one day of 'Training the Local Trainers' and 3 days of hands-on workshops, to be conducted largely by the trainers.

A successful grant application was made for workshops in 6 East African countries, with Harare as the pilot. The emphasis in our application was on **sustainability** of the workshops and **evaluation** to demonstrate objectively whether the workshops were useful and effective.

Instrument sets were purchased, sutures were supplied under an educational grant by Ethicon and plans made to obtain 'meat' from a local abattoir, guided by Grant Spencer, manager of Medmeat UK who came to Zimbabwe for this purpose.

We planned to invite 6 trainers and 12 trainees of registrar level for each course. In addition, as our previous experience had shown that theatre nurses in Africa often lack specific training, we arranged to invite 12 theatre nurses who would be taught theatre and recovery ward skills by Sister Judy Mewburn; they would also learn surgical assisting skills in the lab.



Running the workshop

Day 1 Training the Trainers

This interactive day included short talks about the workshop, described the assessment and evaluation process and involved a session demonstrating role-play and critiquing. There was a run-through of several anastomoses on DVD and a talk about the WHO safe surgery check list.

Meanwhile, trainees were registered and they completed forms about themselves, their experience and their **confidence level** for undertaking various anastomoses; they also took an **MCQ exam**. The last two would be repeated at the end of the course to provide objective assessments of progress.

A **time-line worksheet** set out the essential teaching room attributes, equipment and disposables (all agreed in advance with Harare), and listed requirements procedure by procedure – jigs, meat, instruments, sutures etc. This proved invaluable for the smooth running of the workshop.

Days 2-4 Training the Trainees

Cambridge experience has shown that trainees do not want lectures but want to 'do practical things', so days 2-4 involved hands-on training in the lab starting with knotting and handling the needle holder.

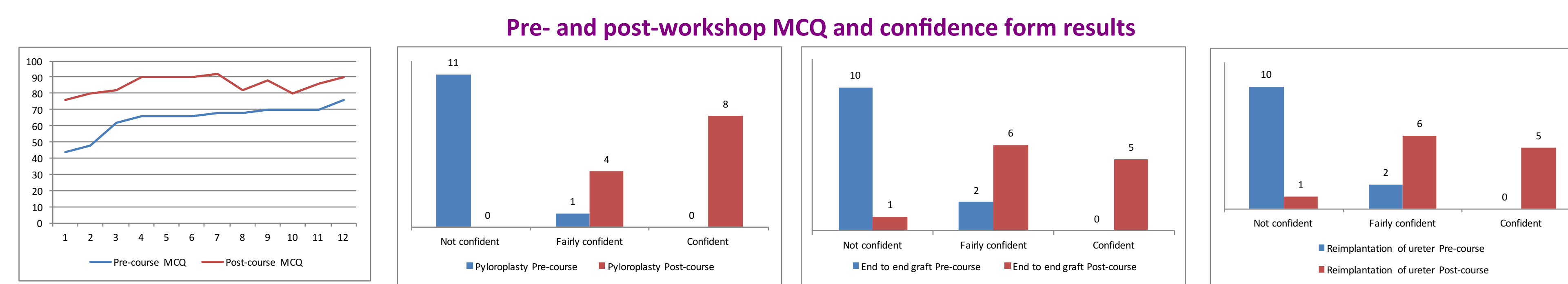
Trainees worked in pairs with one nurse assistant. The introduction to each procedure, demonstration on DVD and supervision were largely conducted by local trainers. The role of faculty members was to support them. Sixteen anastomoses were completed in 3 days plus two demonstrations – a gastro-oesophageal anastomosis and a stapled low rectal anastomosis. Close supervision enabled trainers to record their subjective assessment of each trainee's ability and progress.

At the conclusion of the course, feedback forms were completed by trainers and trainees to allow us to modify the workshop if necessary. The MCQ and confidence forms were repeated and finally certificates presented.



Results

- Subjectively, the enjoyment of trainers, trainees and nurses was evident. Many commented they'd never had a workshop like this and they recognised its value to them.
- All participants proved technically competent and there were obvious improvements in approach and technique as the course progressed.
- Anastomoses were tested by instilling water via a tap or syringe and / or inspected by cutting them open. Both methods provided effective visual feedback on the quality of surgery.



Percentage results from pre- and post-workshop MCQs for trainees 1-12
 Pre- and post-workshop confidence in performing pyloroplasty, 12 trainees
 Pre- and post-workshop confidence in performing end-to-end arterial anastomosis
 Pre- and post-workshop confidence in performing ureteric re-implantation

Problems

- Recruitment and attendance of trainers proved problematic because of clinical commitments
- Animal material: sourcing this locally required both expertise and the ability to slow down the usual abattoir processes, and also expertise in preparing the meat. Importing prepared frozen material from the UK may be more effective if import licences could be obtained
- The cost of instruments: many African surgical departments have skills labs with instrument sets that could be enhanced. Some specialised instruments e.g. Lane's twin clamp could be substituted with simpler ones
- Sutures: we used Vicryl, PDS and Prolene but for training purposes, cheaper silk and nylon could be employed

The future

- Based on feedback, minor content changes are intended for future workshops
- Obtaining long-term outcome measures will depend on effective communication with trainers and trainees
- Full COSECSA accreditation would encourage local trainers to run regular workshops. Making it a mandatory requirement would be even more effective. Whether trainees should pay for workshops needs to be determined locally
- Organising effective workshops relies on the will and determination of local coordinators / administrators and upon careful marshalling of resources
- Problems for trainees include obtaining leave, and funding travel expenses and accommodation
- Further workshops are planned for Malawi, Ethiopia, Uganda, Tanzania and Rwanda during 2016-7

Comments from participants: "The presenters gave their all. Their passion was obvious and motivating"
 "Thank you for choosing Zim for the inaugural Workshop"

Conclusion

- Running an advanced workshop of this type in a developing country is feasible given local commitment
- Early indications are that the workshop fulfils a need
- Performance & knowledge were shown to improve rapidly
- Costs can be saved for low and middle income countries
- Involvement of theatre nurses is worthwhile and contributes to their skills and team working



Setting up the workshop in Harare



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