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This resident has got to learn!

As a junior surgical trainee in the University of Alberta's General Surgical Residency Program, I found that one of my mentors was exceedingly patient in instructing me, step by step, on the fundamentals of surgical technique. One day as I was completing an intestinal anastomosis and receiving patient, persistent feedback at each step, while being watched by the operating team (and conscious of the clock), I realized that my mentor shared equal determination for me to succeed when he exclaimed "This resident has got to learn!"

This time-honoured approach of deconstructing a surgical procedure with timely feedback has been investigated by Backstein and colleagues at Toronto's Mount Sinai Hospital and the University of Toronto's Surgical Skills Centre in this issue of the *Canadian Journal of Surgery* (page 195). These investigators evaluated the efficacy of videotaped feedback over 3 consecutive practice sessions on a vascular anastomosis bench model. The study showed no significant difference in the outcome of technical checklists and global rating for residents who received repeated video feedback compared with a control group that received expert surgical feedback alone.

This study carries some extremely valuable messages. The value of individualized verbal feedback from an expert surgeon remains an outstanding model for teaching surgical skills. This is an important reason for us to recognize the importance of providing time for surgeons to teach in the operating room, particularly as training program enrolments increase in

order to meet the future needs of surgical care in Canada.

Although the video feedback with expert review did not appear to add significant benefit, this modality should not be discarded as an adjunct to effective teaching. Operating room experience and faculty hours become increasingly challenged by cost and availability of time to teach. Surely, a videotaped instruction session with specific feedback could help meet this challenge. The challenge of videotaping, as for all technology, is to identify rigorous models with additional investigations. A plethora of new systems are under development and increasingly available to surgical instructors. Metrics of these systems exist to track time errors, trajectory of tools, path lengths, instrument misses, tissue damage, tissue tension, clamp placement and even blood loss. Emerging data show that experts and novices differ when these metrics are precisely tracked. The task is to incorporate these metrics into a videotaped analysis as was used in the current study. After all, the videotaped skill of a surgeon is commonly used to select participants for clinical multicentre trials to minimize the "workmanship effect." This may agree with the investigators' contention that video feedback is better as an advanced instruction aid.

A major challenge facing surgical educators is to develop sophisticated education centres that bring together the expertise of teachers and investigators in surgical skills development. The Toronto Surgical Skills Centre is a prime example. Recent initiatives by the American College of Surgeons have identified the need to develop a network of centres of excellence in education across approximately 20 sites in North America. These centres will not replace the standard approach of residency education programs but complement and extend

the ability for innovative surgical education. The first step in this process is **acceptance**. This will bring validation studies together to identify models such as those utilized by Backstein and colleagues. The second step is **incorporation** of the models into curricula. Next, there will be an **objective analysis of skills**. Perhaps a computer-based system that tracks metrics will be needed to define pro-

iciency. The final step is **evaluation of skill competency**. This will take place by experts who can identify progression of residents toward advanced levels of training.

In summary, numerous challenges lie ahead in the effective delivery of surgical skills education. The study by Backstein and colleagues addresses important aspects of assessing surgical skills by both expert reviewers and a

technology driven process. Both are essential, but much work is needed to develop and refine the assessments. We must all share the determination for our residents to learn and acquire the necessary surgical skills.

Garth L. Warnock, MD
Coeditor

Competing interests: None declared.

THE MACLEAN–MUELLER PRIZE

Attention: Residents and surgical department chairs

Each year the *Canadian Journal of Surgery* offers a prize of \$1000 for the best manuscript written by a Canadian resident or fellow from a specialty program who has not completed training or assumed a faculty position. The prize-winning manuscript for the calendar year will be published in an early issue the following year, and other submissions deemed suitable for publication may appear in a subsequent issue of the Journal.

The resident should be the principal author of the manuscript, which should not have been submitted or published elsewhere. It should be submitted to the *Canadian Journal of Surgery* not later than Oct. 1.

Send submissions to: Dr. J.P. Waddell, Coeditor, *Canadian Journal of Surgery*, Division of Orthopædic Surgery, St. Michael's Hospital, 30 Bond St., Toronto ON M5B 1W8.

LE PRIX MACLEAN–MUELLER

À l'attention des résidents et des directeurs des départements de chirurgie

Le *Journal canadien de chirurgie* offre chaque année un prix de 1000 \$ pour le meilleur manuscrit rédigé par un résident ou un fellow canadien d'un programme de spécialité qui n'a pas terminé sa formation ou n'a pas accepté de poste d'enseignant. Le manuscrit primé au cours d'une année civile sera publié dans un des premiers numéros de l'année suivante et les autres manuscrits jugés publiables pourront paraître dans un numéro ultérieur du Journal.

Le résident devrait être le principal auteur du manuscrit, qui ne doit pas avoir été présenté ou publié ailleurs. Il faut le soumettre au *Journal canadien de chirurgie* au plus tard le 1^{er} octobre, à l'attention du Dr J.P. Waddell, corédacteur, *Journal canadien de chirurgie*, Division of Orthopædic Surgery, St. Michael's Hospital, 30 Bond St., Toronto (Ontario) MTB 1W8.