

**PROPOSAL TO IMPROVE THE SURGICAL SKILLS OF CANADIAN MEDICAL SCHOOL GRADUATES: THE EXPERIENCES OF A MEDICAL STUDENT AND STAFF SURGEON WITH THE ESSENTIAL SURGICAL SKILLS COURSE IN KILIMANJARO, TANZANIA**

**S**urgical clerkship has been progressively shortened over the last few years. With that has come decreased emphasis on the teaching of technical surgical skills. Several Canadian studies over the last 5 years have established that many medical school graduates in Canada have not received adequate training in basic surgical skills, such as suturing, chest tube insertion, digital rectal examination and sigmoidoscopy, to name but a few. In a study by Forbes and colleagues<sup>1</sup> in the *Canadian Journal of Surgery*, compelling evidence was presented to suggest that undergraduate surgical education may fail to provide appropriate instruction in basic surgical skills and principles. In the study, researchers gathered results from surveys of 123 recent medical school graduates and 55 surgeons. The results of the study showed that the respondents felt there are at least 8–10 surgical skills that are highly relevant to current medical practices; however, the average medical graduates were able to achieve proficiency in only 3 of them.

In a study published in the *World Journal of Surgery*, Beauchamp<sup>2</sup> attributes this lack of training to 3 main issues unique to the Canadian context. First, Beauchamp argues that the trend toward ambulatory health care in Canada has led to decreased hospital beds and a change in the nature and mix of patients, thus decreasing the amount of exposure students get to chronic diseases. Second, the study argues that with the increasingly tertiary nature of patients' pathology being referred to university hospitals, students in these settings are underex-

posed to the variety of common surgical conditions with which they should be familiar. Lastly, poor resources and money make it difficult for students rotating through a 4–6 week unit in surgery to learn skills beyond whatever situations they encounter during their clerkship. In addition, society is less tolerant of trainees being allowed to perform interventional procedures on patients.

As identified by the above studies, one of the main causes of poor surgical skills among Canadian medical students is that the acquisition of a set of core surgical skills is often left to chance. This issue could be tackled by integrating a structured surgical skills course into the undergraduate surgical curriculum at Canadian medical institutions. Such a model is being used by a growing number of African surgical departments involved in the teaching of medical students, including in Ethiopia, Uganda and Tanzania.

This past summer (between 2nd and 3rd year), I had the opportunity to participate in an Essential Surgical Skills (ESS) course at Kilimanjaro Christian Medical College, Tanzania. The course, developed by the Canadian Network for International Surgery, aims to train health care providers from low-income regions of the world in a standard set of life-saving surgical skills. It is open to all kinds of clinicians (medical students, clinical officers and junior doctors). In the decade that the course has been offered, it has reached over 7500 students worldwide. Most importantly, this course has been successfully implemented in several African institutions, both with manageable costs and adequate time requirements.

The basic course is 5 days long with each day focusing on a specific theme. Whereas there is some theory taught, the emphasis is on hands-on teaching of the essential skills revolving around that theme. Among others, the themes include basic suturing and wound closure, common abdominal emergencies,

orthopedic trauma, obstetrical emergencies, and airway management and basic anesthesia skills. The instructors are all local faculty who have completed an instructor's course and are certified to teach ESS.

This course has been integrated into the surgical curriculum of several universities across Africa, and the preliminary impression from several of these institutions over the last few years has demonstrated a major improvement in the participants' understanding and approach to common surgical problems. More data are currently being collected and analyzed with the goal of gaining a greater appreciation of the course's influence on student's skills and confidence.

From a personal perspective, my experience with the ESS course has been greatly beneficial. As I entered clerkship, I felt confident when approaching basic surgical issues. During my obstetrical rotation, I felt that I was able to apply much of what I learned in the course, especially when it came to approaching basic obstetrical issues. Many of my colleagues expressed an interest in taking such a course, especially when they saw the content I had learned. It helped me to advance my understanding of surgery from an academic level to a practical application of the most basic skills.

The Tanzania experience can be easily applied here in Canada, where the many physicians practising in remote regions may not necessarily have access to a specialist. However, the skills offered by this course go beyond the geographic medical needs of Canada's rural populations and are essential life-saving skills that any physician should have. If Canada wants to continue to produce physicians who are well rounded and can offer the best for their patients under many different scenarios, then it is important that all physicians practising in Canada be fully competent in these primary skills. Making such a surgical skills course an

integral part of any undergraduate surgical curriculum will go a long way in producing physicians who are more confident in tackling emergency surgical situations and in approaching common surgical problems.

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**DALTEPARIN IN TOTAL KNEE ARTHROPLASTY**

I read with great interest a recent publication by Bell and colleagues<sup>1</sup> about factors affecting perioperative blood loss and transfusion rates in primary total knee arthroplasty. They reported on the effect of dalteparin use and the effect of patient sex, tourniquet release in total knee arthroplasty and house staff turnover months on blood loss and transfusion rates.<sup>1</sup> The controversy about the prevention of venous thromboembolism by use of dalteparin and the risk of blood loss still exists. Indeed, the use of dalteparin for preventive purpose is confirmed for its cost effectiveness.<sup>2</sup> Dranitsaris and colleagues<sup>2</sup> recently reported the acceptable results from cost-utility analysis using dalteparin in arthroplasty. According to a report by Dahl and colleagues,<sup>3</sup> combined administration of Dextran 70 did not increase perioperative blood loss compared with Dextran 70 alone in major orthopedic surgery. These results are discordant with those in the report by Bell and colleagues.<sup>1</sup> Whether the identified correlation by Bell and colleagues<sup>1</sup> is by chance is unknown. Indeed, in their study, the

reduction of hemoglobin level and the rate of allogeneic blood transfusions were the 2 main measured parameters.<sup>1</sup> There is no direct evidence about changes in any coagulation profiles that might lead to the exact conclusion about the effect of dalteparin. Nevertheless, the amount of perioperative blood loss has not been systematically assessed. Indeed, a database review also poses limitations in data acquisition, and there might be underrecorded cases with other underlying conditions leading to the change of hemoglobin levels and the requirement for postoperative blood transfusion.

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