The next frontier of acute care general surgery: fellowship training

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Summary

Acute care surgery (ACS) is an area of surgical specialization within general surgery and a model for clinical care delivery that has proliferated over the last 2 decades. Models of ACS in Canada exist in both academic and community settings and are used to manage patients in need of emergency general surgery (EGS) care, with or without the provision of trauma care. The implementation of the ACS model has changed the landscape of patient care, surgical education and the workforce, providing an option for some general surgeons to exclude EGS care from their regular practice. The rise of ACS as a concentration of surgical skill and content expertise has resulted in the establishment of dedicated ACS fellowship training programs. This is a landmark in the evolution of general surgery, as well as a stepping stone on the path to improving patient care, surgical education and scholarly endeavour in this field.

Acute care surgery (ACS) as an area of surgical specialization and a model for clinical care delivery has proliferated over the last 2 decades in Canada. The increasing need for emergency surgical coverage in both academic and community hospitals was identified by major surgical societies at the turn of the century.[1] In response, the American Association for the Surgery of Trauma conceptualized the ACS fellowship in 2003 to provide training that would encompass emergency general surgery (EGS), trauma surgery and critical care, as skill sets and practice patterns have important overlaps in these 3 areas. In 2009, Canada endorsed a specialized care delivery model, also termed ACS, that promised structured multidisciplinary care for patients in need of EGS care.[2] The emergence of postresidency training in the field of ACS has since followed. In Canada, academic ACS services encompass EGS and may also include trauma.

The implementation of the ACS model has changed the landscape of patient care and surgical education. The previous model for on-call EGS coverage was based on surgeons participating in a daily 24-hour rotation, thereby balancing the unpredictable demands of managing acutely ill patients with regularly scheduled clinical activities. The establishment of ACS services across the country has meant that patients in need of ACS care are now commonly concentrated onto a specific clinical service, and overseen by a surgeon who is clinically dedicated to the care of these patients, generally for a week at a time. This approach offers a more nuanced and intensive exposure to both operative and nonoperative elements, which improves patient care and training for medical students and residents.[3] It must also be noted that the availability of financial (e.g., service stipends) and clinical resources (e.g., dedicated ACS, operating room time, ward space, allied health support) has been central to the observed improvements in care for this population.

The evolution of on-call general surgery into the clinical area of concentration of ACS has been driven by many factors, including surgeon

wellness. The recognition of surgeon wellness as an essential resource to quality patient outcomes and health system resilience has also promoted this model. Surgeons are able to cohort their time between emergency, scheduled surgical, clinical and academic activities.

Residency programs have recognized the unique training opportunities offered by ACS services, staffed with dedicated and interested faculty, by creating dedicated ACS rotations. This training paradigm of EGS exposure provides residents with opportunities to efficiently develop competence in the management of an important cohort of patients within the broader specialty of general surgery. The benefits to patient care and residency education with this model have been well documented.[3]

Though emergency management of patients with general surgical conditions is at the core of general surgery as a specialty, we must recognize that the evolution of ACS services has both arisen from and created the current workforce — one in which not all general surgeons incorporate EGS care into their practice. Further, we know that resident experience with EGS care remains somewhat dependent on the ACS model under which they train, and the volume of EGS cases to which they are exposed.[4] In response to these realities in Canada, the rise of ACS as a concentration of surgical skill and content expertise has resulted in the establishment and proliferation of dedicated ACS fellowship training programs (https://canucs.ca/fellowships/), as well as research in this area. These university-accredited fellowships provide advanced training, as well as scholarly opportunities to contribute to an exploding field of research and patient quality innovation. In conjunction, many hospitals — both academic health science centres and others — are specifically seeking to hire surgeons with fellowship training in ACS.

The evolution of ACS into a discrete specialty is not dissimilar to those areas of specialization that have come before it, some of which have progressed to university-based fellowships (e.g., hepato-pancreatico-biliary surgery, transplantion, bariatrics, minimally invasive surgery), some to areas of focused competency (e.g., trauma general surgery) or subspecialties (e.g., colorectal surgery, thoracic surgery, surgical oncology) recognized by the Royal College of Physicians and Surgeons of Canada (RCPSC). Current levels of surgical training and exposure to conditions in need of ACS during standard residency training may not be sufficient for all residency graduates to practise in an independent fashion, an issue that has been specifically identified for surgeons going to practise in smaller communities.[5]

Establishing ACS fellowships provides graduates with opportunities to focus on complex EGS at dedicated tertiary centres and sets a foundation, not just for ACS surgeons to pursue academic positions in Canada, but to potentially tailor advanced preparation for the demanding practices found in rural and community settings. As a means of promoting collaborative research productivity in ACS in Canada, leaders in the subspecialty (both community and academic) have formed the Canadian Collaborative on Urgent Care Surgery (CANUCS). This group seeks to inform clinical care in ACS through multicentre research, quality initiatives and education efforts. Foundational work has been conducted toward the establishment of a national database of ACS care, which would expand the academic work in this field. Early collaborative research initiatives, combined with fellowship training, are designed to prime ACS surgeons for successful careers in both academic and nonacademic settings.

Although accreditation of ACS fellowships has existed in the United States since 2008, no central body oversees such training in Canada.[1] The RCPSC launched the area of focused competency in trauma general surgery in 2019, with 2 approved training programs at present. It is worth noting that these programs offer their trauma general surgery training within the larger context of a fellowship in trauma and ACS. Just as round-table discussions with relevant stakeholders occurred in 2003 to begin formalization of ACS fellowship training in the US, the time has come for a similar effort to best shepherd the future of trauma and ACS training in Canada.

The establishment of ACS as an area of clinical specialization and, for some, an academic focus, represents a landmark in the evolution of general surgery. The proven value of ACS in patient care, and the exponential growth in its research and quality improvement pursuits, highlight the need for dedicated fellowship training. This gathering momentum has indeed propelled us across the Rubicon; there is no going back. Looking forward, the challenge is to continue refining how these fellowships can best produce practice-ready surgeons who will contribute to improving health care systems, supporting scholarly pursuit in this field and improve care for this important patient population.

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