

National Survey of Canadian General Surgery Program Directors Regarding Focused Assessment With Sonography for Trauma

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INTRODUCTION: Focused assessment with sonography for trauma (FAST) is an important modality in the initial assessment of trauma patients. Information regarding the current status, availability, as well as educational and training processes in the use of FAST is limited. The purpose of this study was to survey Canadian general surgery residency program directors regarding FAST.

METHODS: A Web-based survey was developed to assess the availability and use of FAST, education and training, as well as the role of FAST in general surgery residency training programs across Canada. Two experts reviewed the survey for validity and reliability. The survey was then pilot tested by 2 general surgeons.

RESULTS: The survey response rate was 75.0% (12/16). FAST was available at all the institutions that responded. FAST was used 100% of the time in the initial assessment of the trauma patient. In all, 75.0% (9/12) respondents have no formal residency training in FAST, 91.7% (11/12) of respondents agreed or strongly agreed that training in FAST should be included in the residency curriculum, and 66.7% (8/12) of respondents perceive that general surgery residents are not competent in the use of FAST.

CONCLUSIONS: Overall, Canadian general surgery program directors do not feel that surgical residents are competent in the use of FAST. Current training is limited, and program directors believe that training and education in FAST should be included in the postgraduate education curriculum. (*J Surg* 66: 193-195. © 2009 Association of Program Directors in Surgery. Published by Elsevier Inc. All rights reserved.)

KEY WORDS: medical education, ultrasonography, FAST

COMPETENCY: Patient Care, Practice-Based Learning and Improvement, Systems Based Practice

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FAST has been demonstrated to be a quick, efficient, accurate, and sensitive tool for the evaluation of the trauma patient.¹⁻³ Advocated to be “an extension of the physical examination,”⁴ the application and enthusiasm for FAST, and ultrasonography in general, have spread beyond the resuscitation bay as expertise, knowledge, and educational initiatives have evolved.

Both the Society of American Gastrointestinal Endoscopic Surgeons and the Committee on Emerging Surgical Technologies and Education have advocated for training and education in ultrasonography for surgeons.⁵ Although most courses offered by the American College of Surgeons (ACS) have been available or offered outside of the residency curriculum, a 2006 evaluation of the ACS ultrasound education program concluded that “there is a need to facilitate export of ACS courses to other venues and to focus on incorporating training into surgical residency programs.”⁶

A recent study published in 2006 by Freitas et al⁷ detailed the status of ultrasound training and use in United States residency programs for general surgery. However, no data are available with regard to Canadian training programs. The overall purpose of this article, therefore, was to examine the current role and status of FAST in general surgery training programs in Canada and to define the availability and training practices used in the teaching of FAST.

MATERIALS AND METHODS

The study was performed using a modified Dillman technique.⁸ The questionnaire was developed by 2 experts in FAST, both of whom have more than 8 years of experience in FAST and provide instruction to multispecialty groups both locally and nationally. One author (M.W.) is certified as a Registered Diagnostic Medical Sonographer. Two academic general surgeons reviewed the survey for validity and reliability. Sixteen general surgery program directors in Canada were invited to participate in the study (Table 1). In October 2006, program directors were e-mailed a link to a Web-based survey to be

TABLE 1. General Surgery University Programs Invited to Participate

Memorial University
Dalhousie University
University Laval
Université de Sherbrooke
Université de Montreal
McGill University
University of Ottawa
Queen's University
University of Toronto
McMaster University
University of Western Ontario
University of Manitoba
University of Saskatchewan
University of Alberta
University of Calgary
University of British Columbia

completed anonymously. Questions were designed and focused on 3 major topics. These topics included (1) availability and use, (2) education and training, and (3) role of FAST in both the clinical and the educational setting. A follow-up reminder was sent 2 weeks after the initial survey to nonresponders. Descriptive statistics were used to analyze the data.

RESULTS

A total of 12 of 16 surveys were completed for a response rate of 75.0%. FAST was available at all institutions that responded. All directors reported FAST being used 100% of the time in the initial management of the trauma patient (Fig. 1).

FAST was performed only by emergency medicine staff in 25.0% (3/12) of the programs surveyed and only performed by radiology staff in 33.3% (4/12) of the programs. In all, 41.7% (5/12) report that FAST is performed by a combination of emergency medicine, surgery, or radiology staff. When asked which residents were performing FAST, 33.3% (4/12) of programs reported that FAST was only performed by emergency medicine residents, 25.5% (3/12) only by radiology residents, and 41.6% (5/12) by a combination of emergency medicine, surgical, or radiology residents.

Despite the widespread availability of FAST, 75.0% (9/12) respondents did not have formal residency training in FAST. Of the 3 programs that did have training in FAST available, all 3 had formal didactic training that involved 3–6 hours of instructor-based teaching. Hands-on practical training varied from less than 3 hours at 1 institution to 3–6 hours at the other 2 sites.

Quality assurance programs were in place at 3 of the 12 programs. These programs entailed both direct supervision during the performance of FAST examinations and a review of recorded FAST images by a trained physician in FAST.

Seventy-five percent (9/12) of respondents agreed or strongly agreed that FAST plays an integral role in the initial management of the trauma patient. In all, 83.3% (10/12) agreed or strongly agreed that FAST influences the management of the

trauma patient, and 91.7% (11/12) respondents agreed or strongly agreed with the statement that FAST has decreased or replaced the need for DPL. With regard to the role of FAST in education, 91.7% (11/12) of general surgery program directors agreed or strongly agreed that training in FAST should be included in the postgraduate education curriculum, and 66.7% (8/12) agreed or strongly agreed that training requirements should be delineated. Of interest, when asked about residency competency in the use of FAST, 66.7% (8/12) agreed or strongly agreed that residents were not competent in the use of FAST.

DISCUSSION

FAST and ultrasonography are important diagnostic modalities that have gradually become incorporated into the every day management of patients in both acute and nonacute settings. Various factors have contributed to the increasing popularity and availability of this diagnostic tool, including ease of use, decreasing costs, increasing expertise, and enhanced training and educational initiatives.

Among university centers throughout Canada, FAST is widely available and used frequently in the assessment of the trauma patient. In fact, among those who responded, FAST is used 100% of the time in the evaluation of the multiply injured patient. This is in contrast to the results of a 1999 survey performed by Boulanger et al⁹ of North American trauma centers in which 38.9% (7/18) of Canadian Level 1 trauma centers or recognized regional trauma centers employed FAST.

Despite being readily available, education and training in FAST is limited. Only 3 programs had formal training in FAST, all of which consisted of a formal didactic session followed by hands-on practical training. Quality assurance programs were also in place at these institutions. Again, this compares somewhat more favorably than the results of the previously mentioned survey from 1999, when no trauma centers had formal residency teaching.

Alarmingly, general surgery program directors do not feel that surgical residents are competent in the use of FAST. In all,

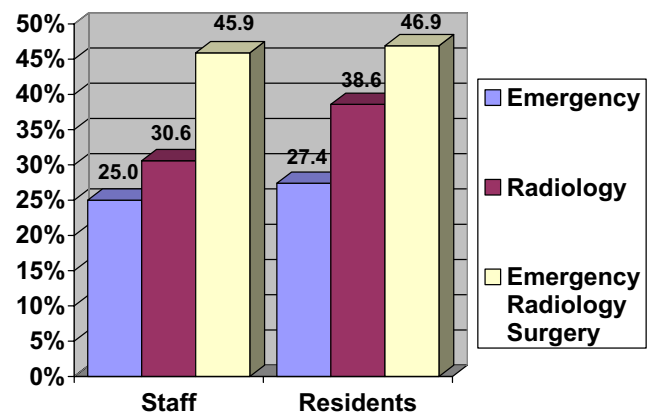


FIGURE 1. Percentage of Staff and Resident Physicians Performing FAST.

66.7% of program directors agreed or strongly agreed that residents were not competent in the use of FAST. This is an important point to bear in mind especially with the widespread availability of FAST and limited educational opportunities for residents in general surgery to become trained in this modality.

Our study is limited by our response rate (75.0%) and the possibility that those who did not respond may not have FAST available at their institutions. In terms of who is performing FAST examinations at the various centers surveyed, the reported percentages may not be a completely accurate reflection insofar as there was no quantifiable measure in the form of the number of examinations performed per staff/resident or per specialty. Furthermore, in our discussion, we directly compared the results of our study, which was aimed toward program directors, with a study that surveyed trauma directors. This was performed under the assumption that most general surgery programs in Canada are affiliated with a Level 1 trauma center or recognized regional trauma center. Finally, it should be kept in mind that a program director's perception of FAST and its importance in the residency curriculum may not accurately reflect the current environment of the various institutions surveyed.

Despite these limitations, however, our study does raise some important issues and directions for future consideration. These issues include, but are not limited to, exploring and contrasting the training requirements for both staff and residents in various programs who are planning to use or are performing FAST examinations as an adjunct to the clinical examination; examining quality assurance programs and methods for validating them; determining whether the skills learned in the various FAST training programs are sustainable; guidelines for accreditation in FAST; and surveying trauma directors and/or residents regarding their perceptions of FAST and ultrasound training during residency.

In conclusion, although FAST has become increasingly recognized as part of the standard care of the trauma patient, Canadian general surgery program directors do not feel that general surgery residents are competent to perform FAST. General surgery residency programs must develop educational and training initiatives in FAST with strong quality assurance systems in place to enhance the care of the trauma patient.

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