

U/S in trauma resuscitation remains in the “Mikey likes it” category: an expensive tool that everyone likes, but hardly a gold standard and not yet justified by proper trials.

If we insist on U/S training and accept radiology recommendations for a 3-month minimum training period, what should we then remove from our 5-year Royal College program and our 1-year CCFP(EM) training? Remember that all EPs will have to be trained if this technology is to be properly utilized, and the largest group of Canadian-trained EPs comes from CCFP(EM) programs. This is clearly not a viable solution; neither is it reasonable to require all trainees to take a (nonexistent) fellowship to learn the technique adequately.

Since we cannot achieve proper training or universal expertise, how can we justify this venture? Should we not at least have conclusive evidence that bedside U/S improves outcomes prior to embarking down the path? If we do not, then are we not imitating those specialties we have decried (e.g., anesthesia and their attempts to control certain medications) in claiming a “turf” issue?

In our hospital, a trauma centre, we receive 250 major trauma victims each year. Operative intervention is most often required for orthopedic, plastics and neurosurgical injuries; only 10% of our patients have intra-abdominal pathology requiring urgent laparotomy. This is typical in Canada, where

we have relatively little penetrating trauma. If we assume that 4 to 6 trauma team leaders share call, then each will have fewer than 10 abnormal abdominal U/S exams annually. How, exactly, will this produce experts in ED U/S?

It seems better in the long run to work out our difficulties with radiology than to train all EPs to perform U/S. In this era of digitalization and cable modems, it is no longer necessary for radiologists to be on-site. Technicians can perform the study and transmit images to *any* radiologist — not just those associated with a specific hospital. By keeping a trained technician in-hospital, this compromise would be cost-effective and provide the necessary 24-hour service without requiring EPs to learn the new skill.

As discouraging as this may seem to those who support claiming abdominal U/S as an emergency medicine skill, the arguments raised above suggest it is not. Instead of trying to gain new expertise, we should negotiate an equitable agreement with those who already possess it: the radiologists. What matters is patient outcome, and this is better served by interdepartmental cooperation and a multidisciplinary approach than by having partially trained EP ultrasonographers available in a haphazard fashion.

Correspondence to: jim_ducharme@bigfoot.com

Ultrasound in the ED: a different point of view

Lyne Filiatrault, MD

Many published papers report excellent sensitivity, specificity and accuracy when non-radiologists employ ultrasound (U/S) to detect free intraperitoneal fluid in cases of blunt abdominal trauma (BAT). In this setting, it is best to view the FAST (focused abdominal sonogram in trauma) as a noninvasive diagnostic peritoneal lavage (DPL): It tells us whether there is free intraperitoneal fluid but does not determine the specific parenchymal injury. In other words *it is a screening tool*.

Why is this important? In abdominal trauma, the single most important criterion for laparotomy is the rapid demonstration of hemoperitoneum.¹ But unanswered questions remain. What is the role of FAST in patients with less severe trauma who will be discharged from the ED, and in what situations should we be doing serial studies? If emer-

gency physicians (EPs) perform FAST, does this improve patient care and outcomes? While there is evidence that 2-dimensional echocardiography in the hands of emergency physicians improves time-to-diagnosis, survival rate and neurological outcome in patients with penetrating cardiac injuries,² I am unaware of studies showing improved patient outcomes when FAST is added to the blunt abdominal trauma algorithm. Nevertheless, it is clear that in many trauma centres, FAST decreases the use of DPL, which is invasive, nonspecific, and is associated with a high rate of non-therapeutic laparotomy and the attached morbidity. In addition, in centres using FAST as a screening modality, the number of abdominal CT scans has decreased significantly, reducing costs.³ Non-radiologists who perform FAST rarely bill for the procedure, which leads to additional savings.

Department of Emergency Medicine, Vancouver Hospital and Health Sciences Centre, Vancouver, BC

Other indications for ED bedside U/S include life-threatening conditions such as cardiac tamponade, ectopic pregnancy and suspected abdominal aortic aneurysm. As a busy emergency physician, I don't have the time to perform detailed abdominal or pelvic scans, nor do I want to! Because EPs have specific and limited needs, it is inappropriate to apply the same U/S training standards to emergency physicians and radiologists. Many studies show that, to address the above conditions, we do not need 3 months of training and 500 examinations, as stipulated by the American Institute of Ultrasound Medicine! Even the American College of Emergency Physicians' proposed 40-hour curriculum and 150 examinations is more than we require for *focused* U/S in the ED.⁴ Some US emergency physicians who perform detailed bedside U/S see only 2 patients per hour or work in departments with an abundance of house staff. How many Canadians can say the same? Fifteen minutes is the most time I want to spend scanning.

Can EPs and radiologists collaborate to provide timely focused bedside scans? This might be ideal; however, in our tertiary care trauma centre, the responsibility for ED U/S has been delegated to the radiology residents on call, who are also responsible for all other after hours imaging procedures. As you can imagine, FAST is not always as fast as one would wish. In addition, when these residents are called to the ED to perform bedside U/S, other imaging studies and their interpretations are delayed, which impacts negatively on ED patient flow. Moreover, there is constant turnover of the junior residents who provide this service. Do they have experience with 500 scans prior to performing and interpreting ED scans? This would be less of a

recurring problem if a stable complement of EPs gained U/S experience over time.

Why are radiologists not supportive of such an arrangement? Are they concerned that once EPs master the focused U/S, we will go on to do detailed scans and decrease the number of radiology referrals? Perhaps they fear that emergency physicians would do the easy scans and refer only the difficult ones. Not likely. I don't want to be a radiologist! I am only interested in a few selected life-threatening conditions. Turf wars should not distract us from good patient care.

Finally, let it be said, "no department has ownership of a technology."⁵ That is true, whether we are talking about a laryngoscope, a slit lamp or an ultrasound.

References

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Correspondence to: filiatra@interchange.ubc.ca

Emergency department ultrasound — practical and political

Ron Matthews, MD

Practically speaking, bedside ultrasound is well within the scope of emergency physicians (EPs) and is gaining acceptance. The literature supports the use of limited, goal-directed ultrasound in the diagnosis of many emergent conditions. EPs should use ultrasound as a tool to answer specific questions (e.g., Is there blood in the belly?); they should not surf the body for clues. ED ultrasound offers rapid evaluation of potentially life-threatening conditions

and the opportunity for serial examinations in selected cases.

Politically speaking, we have a problem for which we, alas, are not blameless. Cardiology, gynecology, surgery and particularly radiology have an interest in what we do. We have surged ahead enthusiastically without the requisite preparation. Our approach is like suturing a wound before administering the anesthetic. Introducing ultrasound covertly by organizing emergency physician in-services will,

Head, Department of Emergency Medicine, Langley Memorial Hospital, Langley, BC