Viewpoint Articles

Bedside ultrasound in the Acute Medical setting – Practiced by the Acute Physician or Ultrasonographer?

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Ultrasound is widely used by physicians in the emergency medical setting in the USA, Australia and Europe. The objective in bringing ultrasound to the bedside is to bring immediacy to diagnostic decisions and improve safety for interventional procedures. Additionally within the NHS there are increasing pressures to limit bed usage and manage more conditions in an ambulatory setting. Shortening the time to scan and decisions based on the results would be of benefit to the individual patient and the organisation.

Training in ultrasound was recognised by the Joint Committee on Higher Medical Training (JCHMT) in their 2003 curriculum document as an appropriate skill to be acquired by acute physicians in training but how is this to be achieved?

The JCHMT document lists echocardiography, bronchoscopy, abdominal ultrasonography or upper GI endoscopy as specific practical skills that may be acquired as Level 3 competencies during the acute medicine training. In practice it is unlikely that acute physicians in the future will be employed to undertake elective diagnostic bronchoscopy and gastroscopy. These procedures are rarely undertaken as 'bedside' tests on the Acute Medical Unit. Therefore acquiring competency in general bedside ultrasound may be the only relevant practical skill for the trainee to gain to enhance the practice of acute medicine.

Areas of competency that are achievable include abdominal ultrasound for diagnosis and management of various medical presentations. These include ascites, the presence of hydronephrosis and bladder volume in renal failure. Chest ultrasound adds information to the chest x-ray for pleural and pericardial fluid determination. With additional experience a useful assessment of the jaundiced patient can be made. Lower and upper limb ultrasound for venous thrombosis and joint examination become possible with further training. Some hospitals are combining their medical and surgical admissions area which would increase the opportunity for a trained acute physician to make relevant diagnostic and management decisions aided by ultrasound findings.

The Royal College of Radiologists (RCR) has published guidance in "ultrasound training for medical and surgical specialities". This document focuses on using ultrasound in the assessment of suspected abdominal aortic aneurysm, peri-arrest scenarios for pulseless electrical activity, vascular access, pleural and pericardial fluid. Thoracic, vascular, gastrointestinal, urological, critical/intensive care and musculo-skeletal specialities are all outlined in the RCR document but there is no specific ultrasound curriculum for acute medicine.

The RCR document describes 3 levels of training. At level 1 it is envisaged the competency attained would equate to the end of basic ultrasound training for a trainee radiologist. A level 2 practitioner would equate to the level of training in radiology at the time of aquiring CCT. A level 3 practitioner would be likely to spend the majority of their time undertaking ultrasound including teaching, research and development and would be an "expert" in their speciality area.

If bedside ultrasound is to become routine practice it will be necessary to identify clinically relevant scenarios presenting to the Acute Physician where the necessary training and experience competence can be acquired.

A relevant, concise theoretical and practical course is required.

Acute Medical Units (AMU) need to acquire their own bedside ultrasound equipment so competency gained can be utilised and kept up to standard. Many departments currently use ultrasound to guide central cannula insertion as well as chest drains and paracentesis.

Specialties such as gastroenterology and cardiology have the trainers and resources required to train within the department. This does not apply to acute medicine and one is therefore dependent on access to training from the radiology department. This will require financial and time resources. In addition there may be differing and conflicting views about the appropriateness of training acute physicians to perform bedside ultrasound. In time enough acute physicians may have relevant Level 3 competency to train their own trainees.

In order to introduce bedside ultrasound to Acute Medicine there needs to be central guidance and funding. Acute Hospital trusts would need to support the necessary capital investment and revenue consequences for the AMU and hospital scanning department.

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