

On the other hand, routine B₁₂ testing can identify several patients as having levels slightly lower than the normal range and are labelled as having B₁₂ deficiency. These patients are sometimes given life-long intramuscular B₁₂ replacement which may have been entirely unnecessary.

The author also states the importance of blood film and bone marrow examination in selected situations. We again agree with the fact that blood film examination should be an essential part of the work-up for B₁₂ deficiency, but don't think bone marrow examination is appropriate due to the fact that it is invasive and should only be done if the suspicion is still strong despite normal investigations obtained from blood samples.

Since the publication of the review, we have had several correspondences on how many physicians do not consider

B₁₂ deficiency as the cause of symptoms in many individuals with varied problems, especially neurological symptoms. We have not been able to respond to all these individuals but do acknowledge the fact that missing the diagnosis of B₁₂ deficiency is quite widespread. We exhort the doctors to consider this diagnosis in patients with neurological symptoms and unexplained extreme tiredness among others, and not just macrocytosis and anaemia. In such cases, the appropriate investigations, including specialised tests in some cases, should be performed to exclude B₁₂ deficiency as the cause. ■

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LETTERS TO THE EDITOR

Clinical and scientific letters

OVERVIEW

Letters not directly related to articles published in *Clinical Medicine* and presenting unpublished original data should be submitted for publication in this section. Clinical and scientific letters should not exceed 500 words and may include one table and up to five references.

Point-of-care cardiac ultrasound in acute internal medicine: how can it be delivered?

Acute internal medicine (AIM) physicians frequently need to rule out potentially life-threatening pathology more quickly than is possible with a comprehensive standard echocardiogram. Point-of-care examinations using hand-held devices¹ are designed to identify key pathologies: pericardial tamponade; severe left ventricular impairment; critical valve disease; right ventricular dilatation as a sign of pulmonary embolism; and inferior vena cava (IVC) size and reactivity as a sign of loading.

It is vital that such scans are performed by operators appropriately trained, qualified and regulated, but no nationally agreed accreditation system in the UK exists. We propose one possible scheme.

Proposed certification in point-of-care cardiac ultrasonography

In 2007, we set up a process for specialists in intensive therapy² which has now been extended to AIM. It agrees with American Society of Echocardiography standards.³ There is an initial training day (Box 1). The candidate is then assigned a supervisor for practice in imaging and colour-Doppler mapping which focuses on four views: parasternal long-axis; parasternal short-axis; apical 4- and 5-chamber; and subcostal, including IVC. Most candidates become competent to obtain views reproducibly after approximately 30 scans after which a log book of 50 scans is collected. All studies are archived and reported using a 'tick-box' reporting form. The operator is

Box 1. Training in point-of-care echocardiography.

Training

- > Initial training day (introduction to basic physics, machine controls, hands-on training for 2 hours, presentations of digital clips demonstrating pathology and a practical test of interpretation and reporting).
- > Practical scanning under the supervision of a designated trainer; typically 30 scans with a satisfactory case mix to attain competence.
- > Logbook of a further 50 cases performed and reported 'solo' with each case reviewed and discussed with the trainer.
- > Attendance at departmental and external teaching sessions.
- > Self-directed learning from departmental digital archive.

Assessment

- > Practical competencies and the log-book are signed off by the trainer.
- > A written examination requires the reporting of 10 sets of clips in 1 hour set and marked by an examiner who is independent of the trainer.

Monitoring and quality assurance

- > Once certificated, a team structure continues encouraged by a sonographer responsible for training and supervision within AIM in conjunction with the main echocardiography department.
- > Feedback is given when patients have standard echocardiography.
- > Studies are presented and discussed at the weekly departmental meeting.
- > Activity data are audited by the AIM sonographer or head of AIM echocardiography.
- > A minimum of two studies per week must be performed.
- > Recertification is required every 5 years. This can be achieved by passing the 10 case examination in addition to a demonstration of continued learning.

expected to differentiate three groups: a completely normal study; an abnormal study requiring a standard echocardiogram; and critical disease (eg tamponade) requiring immediate management. Practical training is complemented by a training set of abnormal scans on the departmental archive.

All scans are checked by the supervisor who must attest that the candidate is competent and safe to operate independently within the devolved echocardiography department; this includes regular quality assurance exercises, case discussions and continuing education. There is then a written assessment which requires ten cases to be reported.

Limitations and strengths of point-of-care scans

A point-of-care scan allows immediate, potentially life-saving treatment. It may also detect clinically unexpected but important findings⁴ and aids triaging the urgency with which a full standard echocardiogram needs to be performed. Imaging without Doppler is an established part of advanced life support (FATE).⁵ However, much of the work validating the technique outside the peri-arrest scenario has been collected by cardiologists or sonographers experienced in transthoracic echocardiography.

We believe that the use of hand-held devices should be subject to many of the same standards as apply to the use of full transthoracic echocardiography. Practitioners must have expert supervision and back-up, and continuing education with quality control through the central echocardiography department. Continuing education needs to be accredited by a recognised body such as the British Society of Echocardiography. The point-of-care scan is not equivalent to an echocardiogram. It is effectively an ultrasonic stethoscope or an extension of the clinical examination. Accreditation is not necessary for the stethoscope, but treatment decisions are rarely executed after auscultation alone without a confirmatory test.

In the face of rising clinical activity, echocardiography departments are already hard pressed to deliver training to cardiac physiologists, clinical scientists and cardiology registrars. The addition of AIM physicians, and perhaps in time medical students, will require a systematic upgrading of training programmes. We believe that echocardiography departments need to be recognised as core hospital services rather than adjuncts of cardiology and must have central funding to match. There need to be designated staff sessions and also examination rooms and an appropriate cardiac ultrasound machine earmarked for training.

Conclusions

We believe that broad standards for the point-of-care scan in AIM should be agreed nationally; however, certification could be performed locally since there are too many candidates to make a national system viable and local supervision is essential. Properly managed, the point-of-care scan could represent as big an advance as the stethoscope, but without systematic training and supervision it could be potentially dangerous. ■

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References

- 1 Hothi SS, Sprigings D, Chambers J. Point-of-care cardiac ultrasound in acute medicine – the quick scan. *Clin Med* 2014;14:1–4.
- 2 Victor K, Rajani R, Bruemmer-Smith S *et al*. A training programme in screening echocardiography. *Clin Teach* 2013;10:176–80.
- 3 Spencer K, Kimura B, Korcarz C *et al*. Focused cardiac ultrasound: recommendations from the American Society of Echocardiography. *J Am Soc Echo* 2013;26:567–81.
- 4 Fedson S, Neithardt G, Thomas P *et al*. Unsuspected clinically important findings detected with a small portable ultrasound device in patients admitted to a general medicine service. *J Am Soc Echo* 2003;16:901–5.
- 5 Sicari R, Galderisi M, Voigt J-U *et al*. The use of pocket-size imaging devices: a position statement of the European Association of Echocardiography. *Eur J Echocardiogr* 2011;12:85–7.

Educating clinician leaders: can the NHS benefit from the US MD/MBA experience?

The correlation between strong clinical leadership and improvement across various healthcare measures – patient experience, outcomes, organisational performance, staff engagement and overall care quality – has generated considerable interest.¹ By contrast, effective healthcare management remains under-celebrated, despite evidence suggesting that management responsibility is widely distributed in the NHS, with most clinicians receiving minimal management training.² As the UK's healthcare architecture assimilates increasing complexity, there is a growing implication that clinicians should formally acquire capability in subjects traditionally considered non-clinical, including financial and operational management, human resources and service transformation, to better understand healthcare as both system and industry, and best navigate, lead and improve services for patients.

Opportunities for UK medical students to build fundamental skills in these areas are limited. Efforts to introduce general leadership themes into core curricula have achieved mixed reception,³ and little robust evidence indicates that existing approaches have improved leadership development.¹ A restricted number of medical schools offer intercalated bachelor degrees in management principles, conferring comparable competency to undergraduate science. Students demonstrating early potential as clinician researchers, however, can further undertake integrated MB/PhD degrees at a selection of institutions, while ongoing clinical and management preparation remains separate. UK medical