*Trainee Section*

# British Society of Echocardiogaphy Adult Accreditation: An Unrealistic Expectation for Acute Physicians?

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Acute medicine trainees can chose to pursue a specialist interest as part of their training. I decided to train in echocardiography and I'm currently close to attaining the BSE Adult Transthoracic Echocardiography Accreditation. I have found echocardiography a useful tool to rapidly answer important clinical questions and aid management of the acutely unwell patient. For example, an 85 year old was admitted with acute shortness of breath, hypoxia despite high flow oxygen and a normal CXR. A bedside echocardiogram revealed thrombi in the right atrium with mild right ventricular strain. A CTPA confirmed a saddle embolus and she was admitted to CCU as a precaution in case thrombolysis was required. In another case, a 75 year old was admitted to the emergency department after successful DC cardioversion for VF arrest 10 days post primary PCI for anterior STEMI. The post arrest ECG did not show new acute ischaemia. He had 2 further VT arrests with successful DC cardioverison to sinus rhythm. An echocardiogram revealed an acutely dilated right ventricle and he was thrombolysed for a high risk pulmonary embolus.

In a position statement on behalf of the BSE, Kevin Fox states that acute physicians wishing to undertake echocardiography should do so to the level of the BSE Accreditation.[1] The process of obtaining the BSE accreditation is long and arduous. As a non-cardiologist, it has often been very difficult to be able to convince departments to invest the time and energy required for training. It is not uncommon to spend the first few months of training just learning how to get optimal images. Thereafter, several weeks are spent learning how to recognise different pathologies. After a few months, I could confidently obtain images that were of a quality that could be reported by the cardiac physiologist. Unfortunately, when I moved to a different trust, the required support was not forthcoming and after 9 months in the new post, I went on to do an out of programme experience in intensive care for 15months and lost most of what I'd learnt previously.

Echocardiography is a hands on skill that requires regular experience. I have found that to make sufficient progress, I needed to do a minimum of two sessions a week. As a medical registrar, I have other clinical and non-clinical commitments which make it difficult to keep up with the required work load. In practice, I have had to attend extra sessions e.g. post nights, weekend lists etc.

The BSE adult echocardiography has two components. The first is a written exam with multiple choice questions and a reporting section. The second is a logbook of 250 cases which need to be scanned and reported by you over 24 months (see Figure 1). It also involves 5 video cases, presented as power point presentations showing one case of each of the following: aortic stenosis, normal, regurgitation (aortic or mitral), ischaemic cardiomyopathy and other e.g. hypertrophic cardiomyopathy, simple congenital heart disease, mitral stenosis.

The video case is often the most difficult part of the accreditation process. It requires finding patients with the required pathology and who are easy to image with excellent views. This is by no means easy. The requirement to collect at least 250 cases between 12 months prior to passing the written

**Figure 1.** Summary of the BSE Logbook with primary diagnosis and target guidelines for the case mix

| Primary Diagnosis |
|---|
| Left Ventricular Function Assessment (≥25) |
| Valve Disease Assessment (≥50) |
| Replacement Valves (≥10) |
| Assessment of the Right Ventricle (≥10) |
| Pericardial disease/Effusion (≥5) |
| Aortic disease (≥5) |
| Endocarditis (≥5) |
| Left Ventricular Hypertrophy (≥5) |
| Hypertrophic Cardiomyopathy (≥2) |
| Dilated Cardiomyopathy (≥3) |
| Mass/Thrombus (some) |
| Congenital Heart Disease (some) |
| Stress echo/Contrast Bubble study (≤20) (Not Compulsory) |
| No significant Cardiac Abnormality (≤25) |
| Other pathology |

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exam to 12 months after the exam is typically where clinicians struggle. I know of one registrar who did the written the exam 3 times and still failed to submit the logbook on time.

I currently have to attend echocardiography training twice a week at a different trust to where my clinical commitments are. At the department, there are 2 cardiac physiologists who perform echocardiography (including E bike and stress echo) daily. In a typical working week with both physiologists present, there were 64 scans performed. Of these, 31% (21/64) were normal without any significant valve pathology. It's therefore clear that to attain accreditation, a very large number scans have to be performed in order to achieve the numbers for each of the required pathologies. This is often unrealistic for working clinicians who have other commitments.

In terms of day to day practice, the BSE Accreditation is overly exhaustive for acute medicine trainees. The reason a specialist interest was included in the acute medicine curriculum was to offer a "sanity session" as time off the AMU. However, with time, many acute physicians have recognised the importance and usefulness of echocardiography at the front door.[2] In practice, acute medicine trainees have often been put off echocardiography training due to difficulties of getting enough hands off experience. This has certainly been the case in my deanery over the last few years.

The BSE necessitates learning beyond what's needed to be proficient. This is often cited as an important determinant of skill and knowledge retention.[2] Whilst I have found this to be the case, the accreditation process is overly demanding, exhaustive and does not specifically cater to the needs of acute physicians. The acute physician will likely be using echocardiography at the front door to supplement their clinical findings. Extensive knowledge of congenital heart disease and Doppler (colour, pulsed, continuous wave) usually doesn't add much in terms of the immediate management or alter the diagnosis. The acute physician needs to be able to diagnose/exclude potentially serious life threatening and reversible conditions such as pericardial effusion causing tamponade, right heart problems causing pressure +/- volume overload, poorly functioning left ventricle and assess fluid status and responsiveness.

One concern is the over use of echo by non-specialist who could overly diagnose or exclude serious conditions despite contradicting clinical findings. There is evidence that non-experts can reliably identify acute pathology after focused echocardiography training. This has been shown in estimating ejection fraction in hypotensive patients,[3] visual estimation of left ventricular function[4] and right ventricular dilatation as a marker of right ventricular strain.[5]

The BSE Accreditation is beyond what most acute physicians will need for day-to-day practice. Acute physicians are typically trying to answer a question or set of questions with a yes or no answer. This more focused echocardiography and the training required for it should be different to that required for a comprehensive study. It is time to recognise this and to introduce a new accreditation process more suited to the needs of acute physicians. Indeed, the Society for Acute Medicine and BSE are currently in discussion about a transthoracic echocardiography accreditation for acute physicians. The BSE does provide accreditation for other specialties e.g critical care, community, paediatrics. It is time for acute medicine to have its own transthoracic echocardiography accreditation.

## References

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