

BSE Accreditation: My journey as a Cardiology registrar in specialty training

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Introduction

The core cardiology curriculum mandates a high level of competence within transthoracic echocardiography (TTE) for all trainees, regardless of their future subspecialty. Many will pursue level II TTE accreditation, particularly those with an interest in imaging. Even beyond the core years, TTE remains a key skill for all cardiology registrars, often the only point of call for out of hours emergency echocardiography in tertiary centres.

I am a current specialty training registrar in Cardiology within South London, pursuing sub-specialty interest in advanced cardiac imaging. In this article, I describe my personal journey towards level II accreditation, the pitfalls and top tips.

Echocardiography competence in Cardiology training

Competence in transthoracic echo is a mandatory skill for all registrars and in my region may be demonstrated in two ways:

Option one is achieved by completion of the Joint Royal College of Physicians Training Board (JRCPTB) echo curriculum delivery tool. This is a comprehensive document, with stepwise targets for progression, completed by supervisors that are senior and experienced echocardiographers. The curriculum tool must be fully completed by year 3 of specialty training, with an expectation to perform a minimum of 150 cases for each of the three core years of training. The document itself states within its first paragraph that "obtaining BSE accreditation demonstrates more comprehensive training and is preferred", and the tool should be seen as complimentary.

The alternative method is to obtain BSE level II TTE accreditation. The process is outlined in detail in the BSE accreditation pack accessible via the BSE website (<https://www.bsecho.org>). In brief, the accreditation consists of two exams, written and practical. The written examination must be undertaken first, and contains a mixture of relevant physics, pathology and reporting of echo images. The practical examination consists of three stations:

1. A practical TTE station on a model or simulator,
2. Comprehensive review of up to five video cases obtained and reported by yourself on common pathologies (almost like a viva), and
3. A review of your echo logbook of 250 varied cases.

My initial exposure to echo

My interest in echo began prior to commencing cardiology training. Whilst working in intensive care during the COVID-19 pandemic, I was introduced to focused ultrasound in acutely unwell patients. I witnessed the portability and impact that ultrasound had in diagnosis, monitoring and ongoing care of critically ill patients. I attended a FUSIC course (Focused Ultrasound in Intensive Care) and was fortunate to find a willing mentor for the echo module. Whilst working within a large tertiary centre ITU, my FUSIC mentor took considerable time in my initial scans to embed good practices. I learnt the importance of patient positioning, probe manipulation, and the key echo windows. Trying to complete the logbook was a

challenge as I remained a novice and busy on-call rotas meant it was difficult to coordinate supervised scanning with my mentor. I left the Trust with around 20 scans under my belt, and an appetite to learn and develop my skills further.

My accreditation journey

In 2020, I began my Cardiology training and hoped this would provide me with more dedicated time in echo. I was determined to pursue a career in cardiac imaging and knew echocardiography would be a vital component of my future practice. Entering training towards the end of the COVID pandemic was a challenging time.

In my first year as a registrar, I was fortunate to meet Dave Hatton, a passionate and enthusiastic echo lead. Though my early exposure via FUSIC was helpful, I knew as a cardiac imager I would need to complete more advanced training, and so decided to pursue BSE level II accreditation directly. Dave and the team at East Kent Hospitals NHS Trust were instrumental in my early development. Despite the challenges of busy on-call rotas, I was given regular opportunity to learn echo. I attended a mixture of supervised inpatient and outpatient echo lists and assisted in contrast echocardiography. My initial training was within dedicated teaching lists, which had additional time per echo slot to allow time for teaching. This training was supplemented by attending regular echo review meetings, where interesting and challenging scans were discussed amongst senior team members and cardiology consultants. It was invaluable to see the complex pathologies being interrogated, and the clinical implications of findings. The overall atmosphere promoted quality learning. By the end of the year, I had gained a sound foundation in both the theoretical and practical aspects of echocardiography.

My second year as a cardiology trainee was challenging from an echo perspective. Though I did receive time to scan patients and there were enthusiastic teachers, there were limitations in the infrastructure within an echo department that was gradually being upgraded. Measurements taken had to be re-typed into the report, and reporting computers were limited. This made it challenging for busy colleagues to also focus on my training. I focused my attention on what I could influence – I completed the written exam component of the accreditation in November 2021. There was often a spare portable echo machine, and I tried to help the department by doing more inpatient scans.

The echo department were grateful for my help, and this allowed them time to review my scans and provide feedback. To supplement echo numbers, I attended occasional days in my spare time (on leave) at my old Trust, who continued to be supportive in my training. They allowed me to perform my own outpatient echo list with an experienced echocardiographer in an adjacent list, available to support if needed. I gained valuable insight into the time pressures felt by echocardiographers and further confidence in scanning patients.

For my third year of training, I moved to King's College Hospital, London (KCH). Within my first week of joining KCH, the training lead, Rui Da Silva Mota pro-actively met with me. By this stage I felt quite confident in image acquisition and had begun collecting cases for my logbook. Rui demonstrated a model transthoracic study, outlining the expectations of what I needed to achieve in line with the BSE standards for TTE. I was given an open and flexible plan of action specific to me for the year. The entire department were extremely supportive to me and other trainees from various professional backgrounds (physiologists,

ICU/Cardiology registrars, early year resident doctors). Working in a tertiary cardiology centre allowed me to scan patients with complex pathologies, such as complex valvular disease and post cardiac surgery. This was an ideal place to complete my logbook and collect the various cases needed. It was a hard year as I had several competencies within cardiology to complete, but I was determined to collect my required logbook cases and achieve accreditation. This required significant personal commitment. I took any opportunity to attend the echo department and perform echoes. I maximised opportunities on-call by performing full studies where possible and attended occasional weekend lists to gain sufficient cases in a timely manner. Within a year I had completed my logbook of cases and sat the practical exam. Sadly, my first attempt was unsuccessful as I had left identifiable information on one page of my logbook; an automatic fail. Determined to complete this journey, the BSE accreditation team were very helpful on logbook resubmission, and finally towards the end of my third year of training, I achieved level II TTE accreditation.

Timeline of my accreditation journey



Looking back on the experience and challenges

Cardiology is a vast specialty, and as early year registrars we are expected to gain competence in various skills, such as angiography, pacing, and device interrogation to name but a few. We also spend a significant proportion of time being the on call medical registrar. Leave taken reduces time within the cardiology department to learn vital skills further.

In addition, the nature of cardiology training is that we rotate yearly to new sites. This is always challenging as it takes time to learn the processes at each site and meet the team. Understandably, the team require time to get to know you and establish your current level of competence.

Due to these challenges, TTE accreditation can be difficult for registrars to achieve. The commitment required should not be underestimated. From my cohort many colleagues did not seek formal accreditation but elected to complete the JRCPTB curriculum tool.

It was a difficult journey for me, but I was fortunate to meet enthusiastic trainers who supported my efforts. Taking every opportunity to scan, staying late and being focused on timelines was the key. It did require delaying sitting the European exam in Core Cardiology (EECC) to focus on my TTE accreditation. In the end, I was proud to complete the process, and am a better cardiologist for it.

To those who undertake the process after me, dedication and consistency to the cause and helpful mentors are vital to success. The initial learning curve of echo is steep, and a mixture of mentored outpatient and inpatient scans help embed good practices. Reaching the skill level required to acquire the minimum dataset takes time, so make sure to plan for this in your timeline. Starting early in your specialty training is advised (or if possible, earlier e.g. during IMT), as later years are full of other competing duties.

I hope this article helps future colleagues to navigate their journey smoothly, and provides insight to trainers of the difficulties registrars face. Without a supportive environment for training, accreditation becomes very challenging.

The written exam

Preparation:

1. Reading through "Making Sense of Echocardiography: A Hands-on Guide" by A. Houghton
2. Attending a course on preparation for the theory – covered sample MCQs which we talked through

On the day:

Attended the centre early with relevant identification
Computer based with MCQs on theory and sample reporting topics

The practical exam

Preparation:

The echo training I had done so far was the most important aspect. Apart from this:

1. Practicing on an echo simulator to be familiar in case it was used in the exam
2. Thorough review and preparation of my logbook and video cases
3. Practice presenting the video cases findings (including in the format expected by the BSE)

On the day:

Station 1: Practical station – demonstrating some key views as part of standard echo, for example an apical-4-chamber with colour Doppler on the mitral valve. I found this station to be a formality as if you have completed a thorough logbook, the principles of performing echo are second nature. Ensure you optimise your images and try to be familiar with machines from the common vendors (GE, Phillips) & heart works simulator if possible

Station 2: Video cases – a detailed review with a senior echocardiographer. Ensure your measurements and report is your best work possible! Be ready to present your cases and discuss your findings. Though challenging, it was a useful learning exercise

Station 3: Logbook – a review of select cases. Ensure your measurements align with your report, or comment on any discrepancies. Ensure anonymisation of reports

My Recommendations / Top Tips

1. Start early in your training (or even in your pre-registrar years if possible)
2. Read the accreditation pack & BSE minimum dataset documents
3. Find your mentor(s)
4. Take every moment you can to scan!
5. Seek out specialist echo lists for rarer pathologies – examples include speciality valve or cardiomyopathy lists
6. Get help with your logbook & video cases - have someone double check them!

The Value of Accreditation with BSE

The process of accreditation provides a thorough foundation in TTE, which is vital for any cardiologist, and certainly those pursuing any form of cardiac imaging. The anatomical and functional understanding is complementary to other imaging techniques. Achieving accreditation was seen as a key indicator of demonstrating ones' commitment and desire during my subspecialty interview for advanced cardiac imaging.

Given the rigorous process required to achieve accreditation, it is widely recognised as a standard of competence. In training, we often rotate hospitals and certain centres require you to have BSE accreditation to finalise echo reports. When I tell my colleagues I am accredited in BSE, they instantly know the minimum level of knowledge and skill I possess.

What the future holds

Though proud of achieving level II accreditation, I remain at the early stages of my echocardiography journey. Using this solid foundation, I continue to gain experience in the vast cardiac pathologies and techniques one can encounter in echocardiography.

Future goals:

I intend to maintain my accreditation and develop further, example of current activities:

1. Advanced TTE

I am now learning advanced skills in 3D and stress echo. I attend specialist lists in cardio-oncology and valve disease and have started to learn skills in stress echocardiography. The vast utility of the different echocardiography modalities offers much to develop. As the technology improves the increasing use of 3D assessment is truly exciting!

2. Transoesophageal echocardiography (TOE) accreditation

I have begun the process of TOE accreditation by attending cardiac theatres, the cardiac catheter suite and outpatient TOE lists. I am hoping to complete the accreditation for TOE in the next year.

3. Contributions to the field of echocardiography

My mentors have inspired me to contribute back to the field of echocardiography. I am now a member of the BSE members resource committee and have begun to train junior colleagues in echo, via days such as the recently introduced excellent Echo Skills Days.

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View from BSE Echo Skills training day in London 2023 (Faculty member)

next cohort

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