



# National Cardiology Induction Handbook

August 2023

This handbook covers all the core information that new cardiology registrars need to hit the ground running.

Note: The information contained in this document was correct at the time of writing to the best of our knowledge. We recommend checking the relevant websites (listed) for the most up to date information.



@TheBJCA

# Welcome

Congratulations on your appointment to a cardiology training programme.

There is much to look forward to over the next few years but also a considerable amount of organisation and planning required to make the most of your training.

Navigating your way through specialty training can be a daunting task, and as registrars currently in training, we asked ourselves: *“what we wish we’d known the day we started cardiology training.”*

On that basis, the British Junior Cardiologists' Association (BJCA) have produced this toolkit for trainees, which over the past few years has evolved into an essential guide into how to successfully steer your way through the early parts of specialist training.

The information in this document is based on the personal, collective experience of registrars in training with endorsement from the BJCA and BCS. As with all things, although accurate at the time of writing the details contained in this document are likely to change during your training. We will keep all BJCA members updated with significant changes in training requirements and new educational opportunities that may be of interest. We hope you will find it informative and a useful aid as you embark on an exciting career.

Please let us now if you have any feedback or suggestions for improvement. Once again, congratulations and best wishes!

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BJCA President

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# HeadStart in Cardiology

**BJCA Autumn Meeting 2023**

7<sup>th</sup> October

Bush House, King's College London

All the knowledge and practical tips you need for the early years in cardiology training



This meeting is open to all junior cardiologists. It covers all aspects of what you need to know as a core cardiology trainee (ST4-ST6).

Starting cardiology training can be a daunting process. There are a great number of practical skills to acquire, including angiography, pacing and echocardiography. In addition, emergencies can be a challenge to manage and learn at the same time.

We aim to cover all the essential procedures and emergencies you will encounter during your early cardiology training.

The course is now in its 10<sup>th</sup> year and has received universally excellent feedback to date.

The course is free for BJCA members to attend but we ask that you register in advance. Keep an eye on your BJCA member emails for registration opening in the near future.

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# 1. Tasks to complete on appointment

1

## **Registration with HEE/Deanery**

Your Local statutory education body office or Deanery in the devolved nations should automatically provide your national training number (NTN).

You will need to sign and return a Form R confirming your personal details. Ensure this happens and keep the document in a safe place.

2

## **Enrolment with the JRCPTB**

The JRCPTB should automatically send you an invitation to enrol.

Enrolment and payment of the enrolment fee is mandatory and can be done via the JRCPTB online enrolment system. There are two options for payment:

- 1) A single, up-front payment of £688 for trainees who have completed IMT or £860 for those who have NOT completed IMT may be paid at the start of ST4.
- 2) An annual fee of £172 may be paid in combination with a Royal College of Physicians Collegiate membership. Three further payments are needed for trainees who completed IMT or four further payments for trainees who did not.

Visit the JRCPTB website for further details (<http://www.jrcptb.org.uk>)

3

## **Update your ePortfolio**

In most cases you can update this yourself by selecting 'Details' under your 'Current Post'. Contact the designated representative from your area at the earliest opportunity if this doesn't work. The same account used during IMT will be updated. Enrolment with JRCPTB will also be highlighted on your account once completed.

4

## **Complete the Radiation Protection for Cardiologists Online Course**

You will need to learn about safe use of radiation, especially in the angiography and pacing lab. Training is now delivered online and covers the "old" IR(ME)R requirements. Find it here:

<https://www.e-lfh.org.uk/programmes/radiation-protection-for-cardiology/>

5

## **Ensure your ALS certificate is in date throughout your training**

This is easy to forget about as you start your training. However, courses get booked up in advance and a valid certificate is required to pass ARCP each year.

## Key societies to join

6



**This is your society.** We exist to support training of all UK cardiology trainees. We are made up of trainee members throughout the UK. We have official representation on the councils of all the subspecialty professional bodies and we represent your views on the national Cardiology Speciality Advisory Committee (SAC) and other groups that organise our training. There are 1097 full members and 547 starter members (as of June 2023). Find us at [bjca.tv](http://bjca.tv) and [bjca.co](http://bjca.co).



The BCS is the national society for cardiology, and the BJCA is one of its affiliated groups. Associate membership is available to BJCA members at a discounted rate. This includes free registration for the BCS Annual Conference, free ESC membership, discounted registration for the EEGC, and discounted course attendance fees. Further details on [www.bcs.com](http://www.bcs.com).

The full list of BJCA and BCS member benefits can be found in Appendix A, but continues to grow.

## G Prepare for your first post

1. Obtain details of first post: contact HEE Local Office or Training Programme Director (TPD)
2. Contact the BJCA local rep for your region. There details can be found on at [bjca.tv](http://bjca.tv)
3. Contact the coordinator for cardiology and GIM training days to get a timetable and to register for the email distribution list. Make sure your spam filter lets their emails through!
4. Contact the GIM/Cardiology SpR rota manager in the Hospital/Trust
5. Plan leave/study days/courses/exams well in advance



## 2. Tips for your first post

Most trainees will spend their first 2-3 years in a district general hospital (DGH) learning core cardiology competencies, with some GIM experience, followed by their final 2-3 years in a tertiary centre undergoing advanced training (with ongoing GIM at times). The order of DGH and tertiary centre experience is flexible and determined by the specialty training committees for each training programme.

**A** **Induction meeting and personal development plan**  
When you start your first post, in addition to a general trust induction, you should have a departmental induction. You will also be allocated an educational supervisor (ES). Arrange an induction meeting with your ES within the first 2 weeks to discuss your educational needs. You should write a Personal Development Plan (which you can enter on your ePortfolio) and bring this to the induction meeting for further development with your supervisor.

You should aim to meet your supervisor for a mid-year appraisal and then must complete an end-of-year assessment. Usually there will be additional meetings in the year as well.

**B** **Weekly timetable**  
Your educational supervisor will provide a weekly timetable for you. Your weekly timetable should aim to fulfil your curricular requirements (example below).

### Example timetable

The content and wording of the following template for weekly training in core cardiology has been approved by the specialist advisory committee (SAC) in cardiology.

<b>Outpatients</b>	Usually 1 or 2 clinics per week – direct consultant supervision is expected in early training and consultant support should always be available throughout (i.e. your clinic is likely to be cancelled if the consultant is away).
<b>Ward rounds</b>	Usually at least 2 per week (at least 1 consultant led, 1 SpR led)
<b>Cath lab</b>	You should have access to 1-2 training lists/sessions per week – these can both be pacing or angiography for limited time periods, e.g. 6 months, but should lead to required competencies for both procedures during ST4-6.
<b>Echo</b>	At least 1 dedicated, bleep-free echo session per week for the majority of core training (ST4-6).
<b>Meetings</b>	There should be opportunities to attend and present at the grand round, weekly departmental meetings, MDT/Heart Team meetings etc.

## C **Basic echocardiography training**

This is the skill you will be expected to pick up most quickly.

1. Book onto a basic echo course early. Your study leave budget should support this. The BSE and BJCA have started new echo skills days aimed directly at new ST4 registrars. These are running at several sites across the country from September – November 2023. <https://www.bsecho.org>.
2. In each post, you should have a senior and experienced echocardiographer as your named supervisor and receive at least one bleep-free dedicated training session/week. Organise some early sessions in the echo department before you go out and start scanning.
3. Familiarise yourself with the portable echo machine and scan your patients on CCU. Store the images and review them with the echocardiographers or echo consultant for constructive feedback.
4. We have written a "**BJCA Guide to Echo Accreditation for Registrars**" to provide guidance and tips for achieving BSE transthoracic echo accreditation (see Appendix D).
5. BSE Accreditation is not mandatory for completion of your registrar training. The minimum standard to achieve is completing the [echo curriculum delivery toolkit](#), which includes six level 3 (independent) DOPS from at least two different assessors and five video cases.

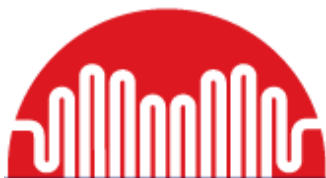
It is expected that trainees will scan 150-200 cases per year over core training (ST4-ST6), we recommend keeping a logbook of all your cases for review. These need not all be BSE full studies to 'count' and may include FEEL-type focused scans. Lastly, this 'indicative' target will not impede progression if all areas of the toolkit are complete.

## D **The cardiac catheter laboratory**

You will find that every lab has its own distinct atmosphere and culture. There is a steep learning curve at the beginning. Valuable teaching is available from many individuals: consultants, radiographers, physiologists and nurses. Aim to introduce yourself to everyone early on. Humility will pay dividends in terms of a patient, productive learning relationship.

To make the most of lab sessions, arrive early, read the patients notes beforehand and understand the indication for their procedures, as well as obtaining written consent (once allowed). If you feel there is an issue, alert colleagues before the patient is on the table. This is a clinical encounter like any other and not an isolated procedure.

Investigation findings and management plans must be clearly communicated to patients and colleagues verbally and in writing.





## 2. Tips for your first post (continued)

**E** **Temporary pacing wires (TPW) and pericardiocentesis**  
These are important procedures and gaining experience can be difficult. Speak to pacing physiologists / EP colleagues and try to be available to insert a TPW during a pacemaker 'box change' for pacing-dependent patients. Let your more experienced registrar colleagues and supervising consultants know that you need TPW / pericardiocentesis experience and ask to be contacted should the procedure become necessary to observe, assist or to perform with supervision.

*Always ask for a DOPS for every TPW or pericardiocentesis procedure (make your request to complete a DOPS prior to the procedure).*

**F** **Cardiology or GIM on-call SpR rota**  
Contact your trust's GIM/Cardiology SpR on-call rota coordinator as soon as possible to obtain your on-call rota. In addition to planning leave, you may need to arrange swaps to allow you to attend training days and courses etc.

**G** **Cardiology and GIM study days**  
Each training programme should have an individual (registrar, consultant or administrator) that coordinates the cardiology and GIM training days (may be separate people). We recommend contacting this person to inform them that you have been appointed to the training programme. You should receive a schedule of training days for the year and other relevant training updates. An annual attendance rate of at least 60% at locally organised cardiology teaching as defined in the ARCP decision aid (Appendix B) is required unless there are exceptional circumstances.

**H** **Planning leave/study days/courses/exams in advance**  
Plan your activity 6-12 months in advance. In addition to annual leave, you should inform your department of the 'mandatory' cardiology and GIM training days that you are required to attend. Most trusts require *at least 6 weeks' notice* to cancel fixed commitments such as clinics. There are many courses and conferences in the training year and they may provide a significant contribution to your training.

1. Book well in advance, often have 'early-bird' discounts on registration fees.
2. Courses are listed on the BJCA webpages and will be emailed to you in our frequent BJCA Newswires.
3. Following the HEE study leave reforms, the BJCA has also produced a list of agreed courses with the Cardiology SAC, the intention of making your study budget easier to access (found in the appendix). This list applies 'directly' to trainees in England, however, the framework is also intended to assist trainees in Scotland, Wales and Northern Ireland.

**Agreed study leave courses:** [Here](#)

### Subsequent rotation

**I** Your subsequent rotation is determined by your Specialty Training Committee chaired by its TPD. The method of allocation varies across programmes. It may take into account seniority and personal preferences as well as training needs. A new rotation should be used as an opportunity to be placed in a location that allows you to address any training deficits.

### Addressing difficulties in training

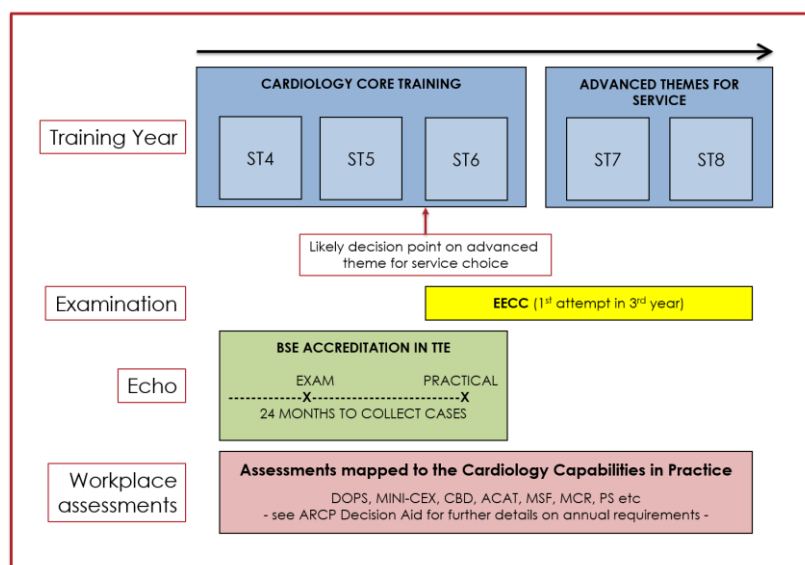
**J** It is likely that you will encounter difficulties during your training. The TPDs have to satisfy the varying and complex training needs of a large number of trainees, accommodating paternity and maternity leave, sickness absence and out-of-programme activity. Throughout this process they must continue to fulfil the requirements for service provision.

Therefore, it is important that you learn how to manage perceived problems and any deficiencies in your training. Be polite, reasonable and patient, BUT remember: your trust is paid to train you and you also need to take responsibility for ensuring you are trained properly.

**If there is a problem, seek help early.** Ask the advice of colleagues and more senior trainees but, if you cannot fix the problem alone, you should speak to your educational supervisor in enough time to allow a solution to be found and the training goals achieved.

### Training Timeline

**K** Below is an outline of a standard training timeline for cardiology. Trainees may take time out of programme for research etc. at different points. Training in advanced themes for service may start in ST6 in some regions.



## 3. The Curriculum

Both curricula were amended in 2022, shown below:



Both curricula and other important forms and guidance can be found on the JRCPTB website:

<https://www.jrcptb.org.uk/specialties/cardiology>

<https://www.jrcptb.org.uk/specialties/general-internal-medicine-gim>

### 1 General Medicine Curriculum

Within the new curriculum there has been significant changes to the general medicine training within cardiology training. This training occurs at intervals throughout the five years of higher specialist training and should equate to a total of 12 months. There is the need to undertake 20 clinics outside of cardiology, it would be prudent to undertake these in specialities with a degree of overlap e.g. renal medicine.

You should be allocated a GIM supervisor by the medical education department in your hospital who will be able to discuss these requirements in more detail.

## 2

### **Cardiology curriculum**

This is a long document, which rewards careful reading. It includes:

- a. The outline of the 5-year cardiology training plan
- b. The assessment system – the type of assessment methods and how they are applied.
- c. Guidance on the use of assessments mapped to the Cardiology Capabilities in Practice (CiPs)
- d. Guidance on the ARCP process and the penultimate year review (PYR), which falls at the end of ST7

A good place to begin in the curriculum is the “ARCP Decision Aid” which is a table representing the requirements to receive a satisfactory ARCP at the end of each year of training (see Appendix B).

### **Adult Congenital Heart Disease (ACHD)**

From August 2015, there is a requirement for trainees to complete an ACHD checklist to confirm completion of core training in ACHD. This checklist and further guidance are available on the JRCPTB website (link below):

<https://www.jrcptb.org.uk/sites/default/files/ACHD%20checklist.docx>

### **CMR Training – Requirements and Resources**

A summary of CMR training requirements and resources can be found in Appendix E.

## 3

### **The Gold Guide**

*A Reference Guide for Postgraduate Specialty Training in the UK* (also known as the Gold Guide) sets out the arrangements agreed by the four UK health departments for specialty training programmes. It is maintained by COPMeD on behalf of the four UK Health Departments and provides generic information on training requirements:

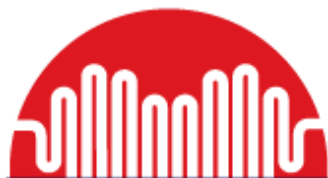
<https://www.copmed.org.uk/gold-guide>

## 4

### **BJCA GIM Calculator**

The BJCA has developed a GIM calculator which is endorsed by the Cardiology SAC. This allows trainees to input their rotas and calculate the amount of GIM training they've completed. It provides certificates which can be uploaded to each trainee's ePortfolio.

<https://forms.gle/zT9KLpMZsk2ykbPg8>



## 4. Portfolio and Assessments

You will be familiar with the ePortfolio from internal medical training (IMT1). Your portfolio can be found here: [www.nhseportfolios.org](http://www.nhseportfolios.org)

### 1 Updating your eportfolio

You should now be able to edit / input the following yourself:

- Your new post
- Your supervisor's details
- The correct curriculum
- Induction meeting
- Personal Development Plan (PDP)
- Registration with JRCPTB

If you are unable to, a representative from your HEE Office or Region will be able to help. The ePortfolio is essentially a **record of your training**. It is therefore important to embrace it and utilise it regularly to record all activity – formative, summative and reflective. It will be reviewed by your ES during meetings and scrutinised by the ARCP panel at the end of each year. This typically requires one-two hours a week of dedicated time.

Guidance on how to use the ePortfolio can be found online:

<https://www.jrcptb.org.uk/eportfolio-information/user-guides>

### 2 Assessment types

Assessment tools may be familiar to you from IMT (CBD, MiniCEX, DOPS, ACAT, MSF), with some newer forms of assessment now active (Teaching Observation (TO), Audit Assessment (AA), Patient Survey (PS), Quality Improvement Project Assessment Tool (QIPAT)). Multiple Consultant Reports (MCR) were introduced in 2014. Different minimums exist for cardiology and GIM.

### 3 Cardiology Assessments

The Cardiology SAC provided guidance on workplace based assessments to support 2022 changes to specialty training assessment. This guidance can be found on the JRCPTB website:

<https://www.jrcptb.org.uk/assessment/workplace-based-assessment>

### 4 GIM Assessments

Guidance on the types and minimum numbers of GIM assessments required for each training year can be found in the GIM Curriculum 2022.

We strongly recommend scrutinising the relevant curriculums and assessment guidance on the JRCPTB website. **Make sure you complete these throughout the year. Set yourself a minimum target for each month. This will avoid a last-minute rush before your ARCP.**

**Failure to achieve the required assessments for each training year will likely lead to an unsatisfactory ARCP outcome.**

## 5 Logbooks of procedures & other clinical activity

In addition to the ePortfolio, it is essential that you maintain a logbook of procedures and log all clinical activity (outpatients etc.) over the year.

Keep a record of ALL cardiology procedures you perform during your training. Ensure any logbooks are appropriately anonymised. This will need to be presented at your ARCP. It is also good practice to keep a record of procedural complications and outcomes.

### Logbook options:

1. Excel spreadsheet / Google sheets
2. Logitbox website/app – free to use, tailored to cardiology
3. GIM clinic logbook.

## 6 Minimum level of competence expected at ARCP

Procedure	ST4	ST5	ST6	ST7	ST8
Emergency echo	Competent to perform unsupervised	Maintain	Maintain	Maintain	Maintain
Transthoracic echo	Able to perform under direct supervision	Competent to perform unsupervised	Maintain	Maintain	Maintain
Temporary pacing wire	Skills lab trained or supervised practice	Able to perform under direct supervision	Able to perform under direct supervision	Competent to perform unsupervised	Maintain
Permanent Pacemaker*	Skills lab trained or supervised practice	Able to perform under direct supervision	Able to perform under direct supervision	Able to perform under direct supervision	Able to perform under direct supervision
Diagnostic Angiography**	Skills lab trained or supervised practice	Able to perform under direct supervision	Able to perform under direct supervision	Able to perform under direct supervision	Able to perform under direct supervision
Pericardiocentesis	Skills lab trained or supervised practice	Able to perform under direct supervision	Able to perform under direct supervision	Able to perform under direct supervision	Competent to perform unsupervised
Emergency device interrogation	Skills lab trained or supervised practice	Able to perform under direct supervision	Competent to perform unsupervised	Maintain	Maintain

*Note that different standards in pacemaker and angiography are required for those wanting to undertake advanced training in devices and coronary intervention respectively.*



## 5. The ARCP

Many trainees find the ARCP process to be stressful. We suggest the following tips for trainees preparing for the ARCP:

**1 Preparation throughout the year**  
Start preparation for your ARCP at the start of the training year. Having completed your PDP and induction meeting, review the ARCP decision aid and the Cardiology and GIM curricula to establish what is expected from you in the year.

Ensure that you work **throughout the year** to achieve the required type and number of WBPAs and competency levels for your training year. Organise a mid-point review with your educational supervisor to check your progress.

**2 Update and sign-off your portfolio**  
In the “curriculum” section of your ePortfolio, you need to be signed off by your educational supervisor as ‘Level 3 or 4 competent’ in a minimum number of common competencies (approximately a third for ST4) and signed off as ‘Achieved’ for a number of core cardiology and GIM topics.

This sign-off is based on satisfactory scores from WBPAs, hence the importance of accumulating a sufficient number of assessments throughout the year and **linking** them to the curriculum. You can also link evidence from training days or courses attended and reflective practice. Ensure that this sign-off process starts well in advance of your ARCP as it can take a considerable amount of time for both the trainee and ES.

**3 End of year meeting**  
Prior to the ARCP, you need to have an end-of-year meeting with your educational supervisor, who will then provide an Educational Supervisor's Report. You may wish to meet your supervisor briefly a month or so before this, to address any outstanding final issues, while there is still time to rectify them. You'll need one for cardiology and another for GIM

**Link for ARCP decision aids:**

<https://www.jrcptb.org.uk/training-certification/arcp-decision-aids>

### A final checklist for your ARCP:

1. Sufficient number of Assessments
2. Linked assessments to curriculum/CiPs
3. Supervisor sign-off for ePortfolio curriculum competencies
4. Recorded some reflective practice from courses/training days/teaching/clinical events etc
5. Final educational supervisors report
6. An up-to-date CV (upload copy to ePortfolio)
7. An up-to-date logbook of procedures countersigned by your ES (upload copy to ePortfolio)
8. Upload summary of annual activity (e.g. audits, publications) to ePortfolio
9. Presentations, teaching, management roles, etc. (upload to ePortfolio)
10. A copy of your weekly timetable (upload to ePortfolio)

## 4

### European Exam in General Cardiology (EECC)

The EECC (formerly known as the Knowledge Based Assessment or KBA in the UK) is an obligatory part of cardiology training in the UK. The EECC's origin, aims and conditions are clearly defined:

*"The aim of this assessment is to assess a trainee's understanding of the necessary knowledge components of the core cardiovascular medicine curriculum to a level appropriate for a newly appointed consultant. A satisfactory performance in the EECC is expected during core training, usually in ST6, and satisfactory performance is mandatory before attainment of the CCT. Trainees who fail to achieve the required standard in the EECC in ST6 will not be prevented from proceeding to ST7 and ST8 provided their other elements of performance are judged adequate at the ARCP. The performance in the EECC is only a small component of assessment for the ARCP, which will be dominated by the WPBAs. The EECC performance will not be a key criterion for allocation to sub-specialty modules. The EECC will be offered on an annual basis, thus a trainee will, if necessary, have further opportunities to re-sit the KBA in ST7 and ST8."* Further information on registration and preparation for the EECC is available on the BCS and ESC websites:

<https://www.britishcardiosvascularsociety.org/education/eecc>

[https://www.escardio.org/Education/Career-](https://www.escardio.org/Education/Career-Development/European-Exam-in-Core-Cardiology-(EECC))

[Development/European-Exam-in-Core-Cardiology-\(EECC\)](https://www.escardio.org/Education/Career-Development/European-Exam-in-Core-Cardiology-(EECC))

## 5

### Cardiology to the Core

The BJCA runs an annual revision course for the EECC occurring prior to the exam. Priority to attend is given to those undertaking the examination. Further details can be found on BJCA.tv and information will be disseminated by BJCA newswire.





## 6. Training and Education

### 1 Regional training days

Ensure that you are registered for local and regional cardiology training. The timetable should be available well in advance. Attendance is important not just for education but also ARCP requires >60% attendance.

### 2 National training days

The BCS organises two National Cardiology Training Days per year, during the Annual Conference and as well as a standalone day in September. They aim to cover niche curriculum areas and gaps in the training programme. They typically feature prominent speakers from across the UK.

<https://www.britishcardiosvascularsociety.org/education/courses-training-exams>

### 3 GIM training

Attendance at 100 hours of external training is required during your training. This can include regional training days and other courses (e.g. RCP).

### 4 ST4 cardiology simulator training courses

Simulation based learning has come to the forefront of cardiology training. The BCS, through local groups and trusts offer a number of simulator courses to trainees. Trainees are encouraged to register for one of these courses early, as places are limited.

### 5 Conferences, Courses and Meetings

There are many courses, conferences and meetings that provide educational value to cardiology trainees. It is impossible to provide an exhaustive list of all events, but we have put together a list of popular educational events for core cardiology trainees on the following page.

### 6 Financing courses, conferences and meetings

Some events are free but training in cardiology can be an expensive business. To help reduce costs, we would recommend the following:

1. NTN holders in England now have an unlimited study budget (within reason) from NHSE. Those in the devolved nations will normally have a study budget amount for training.
2. NHSE will now cover the cost (travel and accommodation or conference registration) to **one** international conference every three years.
3. Register early to qualify for early-bird registration discounts.
4. Join a society to become entitled to a subsidised registration fee.
5. Apply for a BCS 'Travel Bursary', designed to assist attendance at certain congresses (ESC/AHA/ACC) to present abstracts (see BCS website).
6. Make contact with local drug representatives. They may help with travel or accommodation costs for scientific meetings.

If you are paying your own way for a popular conference such as the ESC congress, book flights and accommodation early as prices climb rapidly.

## National Courses, Conferences, Meetings for 2022- 2023

Date	Event	Location
8 Sep 2023	BCS National Training Day	RCP, London
7 Oct 2023	<b>BJCA HeadStart in Cardiology**</b>	Bush Hall, London
8 - 10 Oct 2023	Heart Rhythm Congress	Birmingham
13 -14 Oct 2023	BSE (British Society of Echocardiography) Annual Meeting	London (Hybrid)
13 - 14 Nov 2023	British Congenital Cardiac Association Annual Conference	Delta Marriott, Bristol
30 Nov 2023	British Society for Heart Failure Annual Meeting	Queen Elizabeth II Centre, London
16 Dec 2023	A Year in Cardiology	RCP, London
31 Jan - 2 Feb 2024	BCIS Advanced Cardiovascular Intervention 2023	Hilton Metropole, London
11 – 15 March 2024	BCS & Mayo Clinic Cardiology Review Course	RCP, London
3 – 5 June 2024	BCS Annual Conference (Trainee day - held at the conference venue on the 1st day of conference)	Manchester Central
June 2024 (TBC)	European Exam in General Cardiology	Online

\*\*The BJCA HeadStart in Cardiology Course is a FREE course covering Cardiology Emergencies, Echo and Procedures (angiography, pacemakers and pacing wires). It's designed for those in the early years of their Cardiology training but is open to all. The course will be delivered by eminent UK faculty. Tickets will sell out quickly - so look out for the BJCA email when they become available.

Selected international conferences are detailed in Appendix X.



## 7. Online Courses & Resources

### 1

#### **BJCA.tv**

##### Curriculum-aligned training resources

BJCA have developed a comprehensive online learning resource to facilitate cardiology education. BJCA.tv is a single repository of catalogued webinars and training videos with the intention of developing curriculum competencies for trainees. High-quality, locally delivered virtual teaching sessions have been shared by several parent institutions to collaboratively develop a library with a single point of access.

Example core curriculum competencies that are aligned with our resources include:

- [Virtual Cath lab](#)
- [Coronary disease and intervention](#)
- [Valvular heart disease, aortopathy and cardiac tumours](#)
- [Arrhythmia and devices](#)
- [Adult congenital heart disease and heart disease in pregnancy](#)
- [Disorders of the heart muscle, pericardium and pulmonary vasculature](#)
- [Research & Career Development](#)

##### Dedicated EEGC revision library

A dedicated series of talks for the [EECC exam](#) is also available that incorporates a more interactive format to match the Q&A style of the exam. Full access is available for all BJCA members revising for the exam. Topics include:

- Management of CAD incl. chronic and ACS
- Valvular disease: assessment and timing of intervention
- Cardiac MRI: core concepts and cases
- Nuclear cardiology: core concepts and cases
- Heart failure: diagnosis, therapies and advanced care
- How to succeed in the EECC
- Cardiac CT: core concepts and cases
- Bradycardias: diagnosis, management and guidelines
- Tachycardia: diagnosis and management
- Cardiovascular prevention; guidelines and evidence
- Adult congenital heart disease
- The right heart (Pulmonary Hypertension)
- Heart disease in pregnancy

## Career progression and research development resources

Medical training is more than clinical competencies. We have therefore developed concurrent non-clinical webinars from national experts to support your career progression, [medical research](#) and human factors. These are targeted across the spectrum of training from [ST4/junior clinical fellows](#) to [trainees approaching and after CCT](#). **Brand new for 2024**, be sure to visit the 'hear from your peers' section of the OOPR resources on BJCA.tv - <https://bjca.tv/oopr-resources> for top tips on getting started with research and OOPR time.

2

### **British Cardiovascular Society**

<https://www.britishcardiovascularsociety.org/>

Digital knowledge hub: <https://digitalknowledgehub.co.uk/>

Two online courses (available to BJCA/BCS members)

- CMR Training Module from SCMR - that can meet the requirements of Level 1 competency for cardiac MRI
- Genetics in Cardiology Course

3

### **British Society of Echocardiography**

[www.bsecho.org/education](http://www.bsecho.org/education)

The Education section has a wealth of resources on echo protocols, guidelines, distance learning modules and clinical cases. In addition, the extensive echo image library can be used for ongoing learning by those seeking accreditation.

4

### **European Society of Cardiology**

[www.escardio.org](http://www.escardio.org)

[ESC Clinical Practice Guidelines](#) – New guidelines published annually

[ESC Congress 365](#) - an online library of ESC Congress scientific and educational content

[ESC eLearning Platform](#) – Launched at ESC Congress 2012: a web-based tool, which facilitates the harmonisation of cardiovascular training across sub-specialties of cardiology, as well as at national level.

5

### **Published procedural guides**

Pacemaker Insertion:

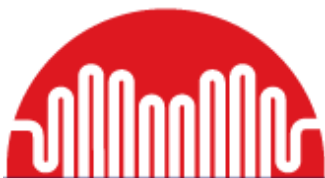
<http://heart.bmj.com/content/95/3/259.full>;

<http://heart.bmj.com/content/95/4/334.full>

Angiography:

<http://heart.bmj.com/content/91/7/968.full>

<https://bjcardio.co.uk/2016/08/optimal-angiographic-views-for-invasive-coronary-angiography-a-guide-for-trainees/>



## 8. Recommended Reading

### Journals

1

#### Heart

**Website** [heart.bmj.com](http://heart.bmj.com)

**Access** Free online access with subscription to BJCA/BCS members

**Notes** Journal of the BCS Publishes a range of nation and international material.



2

#### The British Journal of Cardiology

**Website** [bjcardio.co.uk](http://bjcardio.co.uk)

**Access** Free online access

**Notes** A journal focused principally on national material.



3

#### European Heart Journal

**Website** [eurheartj.oxfordjournals.org](http://eurheartj.oxfordjournals.org)

**Access** Free online access with registration to the ESC Congress

**Notes** A key journal for cardiology research, publishes high quality original research from around the world.



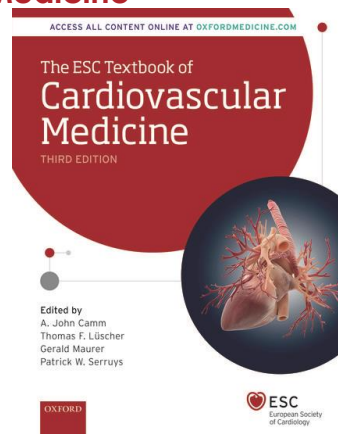
### Books

1

#### ESC Textbook of Cardiovascular Medicine

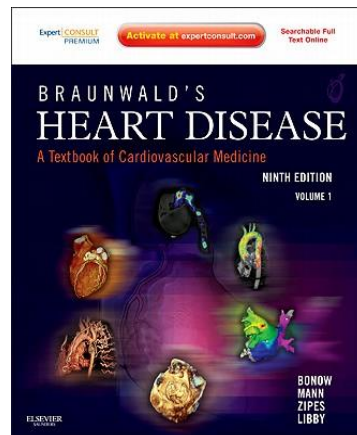
The definitive book on cardiovascular medicine. Developed and updated in line with the ESC guidelines. Content is above what is required to complete the EECC.

Online access available via the ESC website for professional members.



## 2 Braunwald's Heart Disease

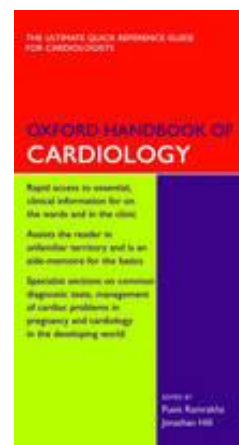
The stalwart of cardiology books. Excellent content across all cardiology topics with a decidedly American focus. Recommendations in line with AHA/ACC guidelines.



## 3 Oxford Handbooks in Cardiology

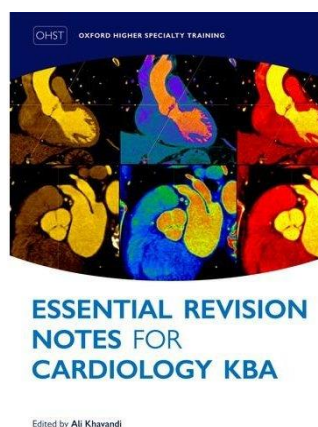
Providing clear information in bitesized sections. The main Oxford Handbook of Cardiology is currently rather out of date with a new edition currently in production.

Specialist handbooks provide in-depth knowledge of sub-specialty areas



## 4 EEGC Preparation

There are a number of books which focus on the EEGC and can help with revision.



## 9. Less than Full Time Training

### Introduction

All doctors in training can apply for less than full time training (LTFT), and the BJCA, BCS, RCP and NHSE are supportive of Cardiology trainees who choose to apply for this. Reasons for choosing to work LTFT in the past have often included domestic commitments and health reasons. From August 2022 cardiology trainees are able to apply for LTFT upon personal choice not included in the previous categories. When compared to many specialties, Cardiology has had relatively few LTFT trainees, (~7% of trainees, BJCA survey data 2022). Working LTFT has enabled some trainees to continue a job they love, despite health or personal problems, when the alternative would have been a different career. Many trainees mentioned excellent support from their supervisors and training programme directors. In 2020 the BJCA/BCS hosted an excellent webinar, which gives a comprehensive overview of flexible and LTFT working: <https://www.youtube.com/watch?v=albFbztSHQs>

The BJC and BCS have put together a resource document to help those in LTFT or considering going less-than-fulltime:

<https://bjca.tv/wp-content/uploads/2023/05/8293-LTFT-in-Cardiology-v3.pdf>

### Testimonials and considerations

The excellent BCS Women In Cardiology website has summarised testimonials from Cardiology trainees and consultants about their experience of working LTFT, with particular reference to how flexible working has supported a work-life balance. <https://www.womenincardiology.uk/working>

Before applying to work LTFT, it's important to consider potential benefits (e.g. childcare, work-life balance) against any potential negative factors (e.g. reduced pay, delay to CCT date). You may want to speak friends and family members, as well as a current LTFT cardiology trainee.

### Application Process

If you are considering applying, the various documents below may help you. Check which category you're eligible for, then approach your ES/TPD. Apply using your regional website. Applications are broadly divided into 3 categories:

Category	Reasons
1	Disability/ill health; caring responsibilities
2	Professional development, religious commitment
3 (From Aug 2022)	Personal choice

Following a successful trial, LTFT Category 3 is being rolled out across postgraduate specialties from August 2022. This supports trainees who wish to train LTFT but the reasons do not fit with the previous category 1

and 2 reasons. Most deaneries request at least 16 weeks' notice, and application forms and process are available on each deanery website.

### **Duration of training and logistics**

After receiving approval from the region, negotiate a rota pattern with the department and / or HR. Trainees can opt for reduced hours in a full time post (e.g. 80% in a full-time slot), or a slot share between two trainees (e.g. 60% with split in on calls). Discussing options with the department early is important, to find a balanced schedule that works for both trainee and department. Upon agreement, ensure payroll are aware of the correct pattern, so that you receive the correct pay upon starting. Both BMA and HEE webpages have further information on this.

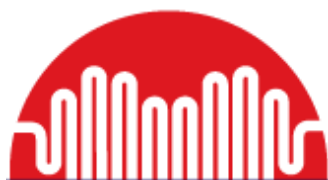
Cardiology training itself should be a pro rata equivalent to a full-time post, with the same balance of on calls, clinics, ward cover, procedural lists etc. You should be receiving training parity with full-time trainees, and if this is not the case then urgently explore this with the ES and TPD.

### **BJCA Support**

Will Jenner (ST5, East of England) is the BJCA LTFT Trainee Representative, and sits on the Cardiology RCP Specialty Advisory Committee. Please get in contact for questions about LTFT training in cardiology: [willjenner@gmail.com](mailto:willjenner@gmail.com) or direct message @will\_jenner.

### **Useful resources**

- 1** BJCA/BCS less than full time and flexible working resource document.  
<https://bjca.tv/wp-content/uploads/2023/05/8293-LTFT-in-Cardiology-v3.pdf>
- 2** BJCA/BCS Flexible working webinar Nov 2020:  
<https://www.youtube.com/watch?v=albFbztSHQs>
- 3** HEE Site for LTFT Training, including Category 3, and video guides to the application process, pay, rotas and links to deanery LTFT sites:  
<https://www.hee.nhs.uk/our-work/doctors-training/delivering-greater-flexibility>
- 4** BMA site for LTFT Training: <https://www.bma.org.uk/advice-and-support/career-progression/training/flexible-training>
- 5** Less than full-time training in Cardiology, Heart, 2019:  
<https://heart.bmj.com/content/105/18/1445>
- 6** Gold Guide 8<sup>th</sup> Ed 2020 (page 38 for LTFT working):  
<https://www.copmed.org.uk/gold-guide/gold-guide-8th-edition>





## 10. Women in cardiology

The Women in Cardiology committee within the BCS and BJCA is dedicated to supporting current female trainees and promoting cardiology amongst medical students and junior doctors. The BCS committee meets once per month to discuss issues for gender diversity in cardiology, plan events and support members. If you are interested in joining the committee and want to contribute to planning events for WIC please contact [wic@bcs.com](mailto:wic@bcs.com).

### Resources:

Visit <https://www.womenincardiology.uk/resources> for more info and resources such as guidance on returning to work after absence, pregnancy and addressing gender equity in cardiology.

Guidelines and advice available on the website on:

1. [Return to Work Guidelines](#)
2. [Menopause Resource](#)
3. [Resources for Pregnant Cardiologists, Their Partners and Supervisors](#)
4. [Female Trailblazers and Role Models in Procedure-Based Cardiology](#)
5. [Working with Radiation in Pregnancy](#)
6. [Addressing Gender Equity in Cardiology](#)

To be added to the WIC BCS mailing list and receive emails and updates about upcoming events, please email [wic@bcs.com](mailto:wic@bcs.com). Follow on twitter @BCSWIC

### Monthly webinars

The BCS WIC team run monthly webinars, usually on a Monday evening via teams. We tend to invite a guest speaker to talk on an interesting topic and then have a discussion afterwards. This is a very informal and supportive environment and topics discussed include menopause, dealing with difficult colleagues, leadership, dealing with bereavement and many more... If you would like to be sent the link to these webinars they are advertised in the BJCA newswire each week and in the BCS WIC newsletter. To join the mailing list email [wic@bcs.com](mailto:wic@bcs.com).

### Annual WIC conference

After the success of the inaugural WIC conference (Nov 2023), we are planning to run another 1-day conference joint with the British Society of Cardiothoracic Surgeons. This event provides an opportunity for networking and supporting each other as well as some incredible presentations on a wide range of topics. To find out more visit the BCS WIC website or join our mailing list.

### **Presence at the annual BCS conference**

The WIC team has an ever-growing presence at the annual BCS conference. Last year we had a booth in the main exhibition hall as well as several presentations on controversial topics in the main auditorium. If you would like to get involved please do get in touch.

### **Mentor scheme**

The WIC committee run a mentor scheme where trainees are paired with consultants for informal, relaxed mentorship.

The WIC mentorship programme is entered its third round in March. We are aiming to match 20 mentors of any gender and sub-specialty with 20 female cardiology registrars or IMT3 interested in cardiology. There are still a few places available and we are looking for both mentors and mentees to sign up. Professional (and free) training will be provided at the beginning of the programme to facilitate a successful mentoring relationship.

Please contact [wic@bcs.com](mailto:wic@bcs.com) for more details or if you would like to be paired with a mentor.

### **WIC talent directory**

We have recently launched a talent directory of WIC working in the UK. Women are consistently under-represented on speaker panels, advisory boards, writing groups etc and BCSWIC are keen to redress the balance. . If you are a WIC (trainee, staff grade or consultant) working in the UK and are happy to be approached for any of these opportunities or similar, please complete this short form: <https://forms.gle/DCzLYnsfQNeJunhz6>

### **Help and Advice**

Sarah Blake is the BJCA Women in Cardiology Representative. She is more than happy to answer any questions about training in cardiology, please contact: [bjcawomenincardiology@gmail.com](mailto:bjcawomenincardiology@gmail.com)

### **The current BCS WIC lead**

The BCS WIC committee is lead by Dr Joanna Lim, an adult congenital cardiologist in Oxford. She joined the team in September 2023 and is always looking for new ideas and people to contribute to WIC events.



## Appendix A: BJCA Membership

### MEMBERSHIP OF THE BRITISH JUNIOR CARDIOLOGISTS' ASSOCIATION (BJCA)

The British Junior Cardiologists' Association (BJCA) is the voice of cardiology trainees in the UK with respect to training, education and research issues. Becoming a member of the Association offers trainees (all registrars in training - LATs and research fellows within cardiology) significant benefits.

#### BJCA Only Membership (Cost: Free for as long as you are in training)

- Established regional trainee deanery representatives in all UK deaneries.
- Established representation on all major national cardiology committees (SAC, BMA, British Cardiovascular Society, BCIS, BSCMR, BSE, BSH, HRUK, BHVS)
- Regular news updates (e.g. relevant courses/conferences/events) Support for local educational events
- 20% discount on selected OUP Medical Handbooks
- Free administrative and web management support for communication and education resources

#### BCS Associate Membership (Cost for trainees: £140 per year including VAT)

- Free access to Heart online
- Paper Heart at a discounted subscription of £80
- Free registration to the BCS Annual Conference
- Complimentary ESC Textbook of Cardiovascular Medicine (renewable one-year access upon request to BCS membership coordinator: [membership@bcs.com](mailto:membership@bcs.com))
- Free access to CardioSource in collaboration with the ACC
- Discounted rates for all BCS Courses (e.g. Cardiology Review Course)
- Automatic membership of the ESC
- Membership e-bulletins with news from the world of Cardiology
- Professional representation with the Royal College of Physicians and Department of Health.

#### How to join

Visit: [www.bcs.com/bjca](http://www.bcs.com/bjca) or contact the Affiliates Coordinator, [bjca@bcs.com](mailto:bjca@bcs.com) or +44 (0) 20 7380 1918.



# Appendix B: ARCP Decision Aid (2022)

## Cardiology 2022 ARCP Decision Aid

This decision aid provides guidance on the requirement to be achieved for a satisfactory ARCP outcome at the end of each training year. The training requirements for General Internal Medicine (GIM)/ Internal Medicine stage 2 (IMS2) are set out in the IMS2 ARCP decision aid. The ARCP decision aids are available on the JRCPTB website <https://www.jrcptb.org.uk/training-certification/arcp-decision-aids>

Evidence / requirement	Notes	Year 1 (ST4)	Year 2 (ST5)	Year 3 (ST6)	Year 4 (ST7)	Year 5 (ST8)
Educational supervisor (ES) report	Indicative one per year to cover the training year since last ARCP (up to the date of the current ARCP)	Confirms meeting or exceeding expectations and no concerns	Confirms meeting or exceeding expectations and no concerns	Confirms meeting or exceeding expectations and no concerns	Confirms meeting or exceeding expectations and no concerns	Confirms will meet all requirements needed to complete training
Generic capabilities in practice (CIPs)	Mapped to <a href="#">Generic Professional Capabilities (GPC) framework</a> and assessed using global ratings. Trainees should record self-rating to facilitate discussion with ES. ES report will record rating for each generic CIP	ES to confirm trainee meets expectations for level of training	ES to confirm trainee meets expectations for level of training	ES to confirm trainee meets expectations for level of training	ES to confirm trainee meets expectations for level of training	ES to confirm trainee meets expectations for completion of training
Specialty capabilities in practice (CIPs)	See grid below of levels expected for each year of training. Trainees must complete self-rating to facilitate discussion with ES. ES report will confirm entrustment level for each CIP	ES to confirm trainee is performing at or above the level expected for all CIPs	ES to confirm trainee is performing at or above the level expected for all CIPs	ES to confirm trainee is performing at or above the level expected for all CIPs	ES to confirm trainee is performing at or above the level expected for all CIPs	ES to confirm level 4 in all CIPs by end of training
Multiple consultant report (MCR)	Each MCR is completed by a consultant who has supervised the trainee's clinical work. The ES should not complete an MCR for their own trainee	4-6	4-6	4-6	4-6	4-6

Evidence / requirement	Notes	Year 1 (ST4)	Year 2 (ST5)	Year 3 (ST6)	Year 4 (ST7)	Year 5 (ST8)
Multi-source feedback (MSF)	Indicative minimum of 12 raters including 3 consultants and a mixture of other staff (medical and non-medical). MSF report must be released by the ES and feedback discussed with the trainee before the ARCP. If significant concerns are raised then arrangements should be made for a repeat MSF	1	1	1	1	
Supervised learning events (SLEs):  Acute care assessment tool (ACAT)	Indicative minimum number to be carried out by consultants. Trainees are encouraged to undertake more and supervisors may require additional SLEs if concerns are identified. Each ACAT must include a minimum of 5 cases. ACATs should be used to demonstrate global assessment of trainee's performance on take or presenting new patients on ward rounds, encompassing both individual cases and overall performance (eg prioritisation, working with the team). It is not for comment on the management of individual cases	3 ACATs (Acute Medical or Cardiac take)	3 ACATs (Acute Medical or Cardiac take)	3 ACATs (Acute Medical or Cardiac take)	2 ACATs (Acute Medical or Cardiac take)	2 ACATs (Acute Medical or Cardiac take)

Evidence / requirement	Notes	Year 1 (ST4)	Year 2 (ST5)	Year 3 (ST6)	Year 4 (ST7)	Year 5 (ST8)
Supervised Learning Events (SLEs):  Case-based discussion (CbD) and/or mini-clinical evaluation exercise (mini-CEX)	Indicative minimum number to be carried out by consultants. Trainees are encouraged to undertake more and supervisors may require additional SLEs if concerns are identified. SLEs should be undertaken throughout the training year by a range of assessors. Structured feedback should be given to aid the trainee's personal development and reflected on by the trainee	5CbD or mini-CEX	5 CbD or mini-CEX	5 CbD or mini-CEX	5 CbD or mini-CEX	5 CbD or mini-CEX
Direct Observation of Procedural Skills (DOPS)	See table of procedures below	4-6	4-6	4-6	4-6	4-6
European Examination in Core Cardiology (EECC)						Passed
Advanced life support (ALS)		Valid	Valid	Valid	Valid	Valid
Radiation Protection Certificate					Valid	Valid
Core echocardiography	BSE accreditation or completion of Transthoracic Echo curriculum tool		Completed			

Evidence / requirement	Notes	Year 1 (ST4)	Year 2 (ST5)	Year 3 (ST6)	Year 4 (ST7)	Year 5 (ST8)
Patient Survey (PS)				1		1
Quality improvement (QI) and audit	Project to be assessed with quality improvement project tool (QIPAT)			1 completed Audit or Quality Improvement Project		2nd completed Audit or Quality Improvement Project
Teaching skills	To be assessed with Teaching Observation (TO) tool	Evidence of participation in teaching with evaluation (TO)	Evidence of participation in teaching	Evidence of participation in teaching	Evidence of participation in teaching	Evidence of participation in teaching with evaluation (TO)

## Core procedures and investigations requiring DOPs assessment

Procedures to be maintained as competent to perform unsupervised throughout training:

- Central Venous line insertion
- Arterial Line insertion
- DCCV

Core Procedures – minimum level of competence expected at ARCP

Procedure	ST4	ST5	ST6	ST7	ST8
Emergency echo	Competent to perform unsupervised	Maintain	Maintain	Maintain	Maintain
Transthoracic echo	Able to perform under direct supervision	Competent to perform unsupervised	Maintain	Maintain	Maintain
Temporary pacing wire	Skills lab trained or supervised practice	Able to perform under direct supervision	Able to perform under direct supervision	Competent to perform unsupervised	Maintain
Permanent Pacemaker	Skills lab trained or supervised practice	Able to perform under direct supervision	Able to perform under direct supervision*	Able to perform under direct supervision	Able to perform under direct supervision
Diagnostic Angiography	Skills lab trained or supervised practice	Able to perform under direct supervision	Able to perform under direct supervision**	Able to perform under direct supervision	Able to perform under direct supervision
Pericardiocentesis	Skills lab trained or supervised practice	Able to perform under direct supervision	Able to perform under direct supervision	Able to perform under direct supervision	Competent to perform unsupervised
Emergency device interrogation	Skills lab trained or supervised practice	Able to perform under direct supervision	Competent to perform unsupervised	Maintain	Maintain

Special Considerations for Advanced Training:

\* Permanent pacemaker, competent to perform with limited supervision required to enter year 4 if in advanced arrhythmia training

\*\* Diagnostic Angiography, competent to perform with limited supervision required to enter year 4 if in advanced coronary intervention training

Procedures – Advanced training

Theme for service	Procedure	ST6	ST7	ST8
Lead an Arrhythmia Management service	Permanent Pacemaker	Able to perform with limited supervision	Able to perform with limited supervision	Competent to perform unsupervised
Lead a Coronary Intervention service	Diagnostic Angiography	Able to perform with limited supervision	Able to perform with limited supervision	Competent to perform unsupervised

## Cardiology specific CIPs

Level descriptors

Level 1: Entrusted to observe only – no clinical care

Level 2: Entrusted to act with direct supervision

Level 3: Entrusted to act with indirect supervision

Level 4: Entrusted to act unsupervised

Specialty CIP	ST4	ST5	ST6	ST7	ST8	CRITICAL PROGRESSION POINT
1. Manage coronary artery disease (including basic cardiac catheterisation and non-invasive imaging including CT), and primary and secondary prevention including community cardiology, and cardiac rehabilitation	2	2	3	3	4	
2. Manage valvular heart disease with particular attention to the application of, and ability to perform, report and interpret transthoracic echocardiography	2	2	3	3	4	
3. Provide a core cardiac rhythm management service (including basic pacing and device programming).	2	2	3	3	4	
4. Provide safe care to adult patients with congenital heart disease (ACHD) and heart disease in pregnancy within 'hub and spoke' models of care	2	2	3	3	4	
5. Manage heart failure (including cardiomyopathy, Inherited Cardiac Conditions (ICC) and including community care)	2	2	3	3	4	
Advanced theme CIP	N/A	N/A	2	2	4	



## Appendix C: Advanced themes for service

Instead of acquiring a set number of 'points' in a variety of sub-specialities **ALL** cardiology trainees will undertake **ONE** of the following five higher level outcomes which are broadly mapped to the existing sub-specialities.

These specialty CiPs will be covered in the last 2 years of training (ST7 and ST8). Important changes are listed below.

### **1** Lead a coronary intervention service.

- This speciality CiPs is centred on the management of coronary artery disease but in the present iteration does not require any procedural training in structural intervention.
- Trainees securing CCT in coronary intervention will be expected to independently perform simple PCI for stable coronary disease and PPCI for STEMI.
- Trainees do not need to be independent in complex coronary interventions including CTO, bifurcation, calcium including adjunctive technologies such as intracoronary imaging or rotablation etc.

### **2** Lead a cardiac imaging service

- The major changes in cardiac imaging is that trainees securing a CCT in this Specialty CiP will need to:
  1. Be competent to perform, supervise and teach in **ONE** of nuclear, MRI, echo and CT.
  2. Be able to deliver service in a second of the above.

### **3** Lead an arrhythmia management service

- Arrhythmia management requires trainee to be independent in the interrogation and reprogramming of pacemakers independently along with implantation.
- The major change to what was historically know as EP and devices is similar to that of imaging in that trainees need to have the ability to undertaken of the following independently:
  - Provide expert management of arrhythmias in an ablation service with independence and the ability to teach EP studies, flutter ablation, A.fib ablation and to perform more complex ablation A(e.g. VT) under supervision.
  - Or provide expert management of arrhythmias in a complex device service with independence in ICD and CRT implantation and the ability to teach these procedures.

## 4

### **Lead an adult congenital heart service**

New important changes to the ACHD CiP are:

- Ability to perform both TTE and TOE in patient with adult congenital heart disease.
- To assist in diagnostic catheterisation and interventional procedures in patients with congenital heart disease.
- ACHD as previously is a stand-alone module but has more emphasis on heart disease in pregnancy.

## 5

### **Lead a heart failure service**

- Heart failure is now a stand-alone speciality CiP and does not need to be combined with other areas such as and imaging modality or devices.
- Trainees seeking CCT in this area will need to demonstrate the ability to manage patients with heart failure across all care settings (community, secondary and tertiary care)
- Trainees are expected to be expert in the interpretation of TTE and competent in the interpretation of CT, CMRI and nuclear reports. In addition they should be able to interpret right heart catheterisation and cardio-pulmonary exercise testing.
- Currently there are no independent procedural requirements.





## Appendix D: BJCA Guide to Echo accreditation

### Echocardiology Curriculum Delivery Tool

The **Echocardiology Curriculum Delivery Tool** is used to achieve all the necessary requirements for transthoracic echocardiography (TTE) during core cardiology training. This should be completed by all trainees by the end of ST5. We strongly encourage you read the first page of the document at the earliest opportunity.

<https://www.jrcptb.org.uk/documents/echo-curriculum-based-assessment-tool-october-2016-cbat>

### Supervision

You must have a supervisor who should be a senior and experienced echocardiographer, ideally having BSE accreditation. They should review the delivery tool with you to understand your current learning needs and sign off sections relevant to your training.

### BSE accreditation

This is a formal process to certify competence in echocardiography. It is a highly desirable qualification and recognised throughout the UK and Europe. The requirements to achieve BSE accreditation align with those of the Echocardiography Curriculum Delivery Tool, therefore many trainees strive to achieve the BSE TTE accreditation. The Echo Curriculum Delivery Tool may be substituted for full BSE accreditation for ST5 sign off.

BSE accreditation involves:

- a written theory exam
- a practical exam
  - 250 case logbook
  - practical scanning assessment
  - viva assessment of 5 video vases

You must be a member of the BSE to sit the examination. The logbook cases should be collected over a period of 24 months from the written examination.

To read more about the BSE accreditation process, please follow the link below.

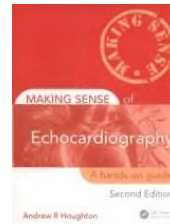
<https://www.bsecho.org/Public/Accreditation/Personal-accred/TTE-accred.aspx>

### BSE Trainee Rep

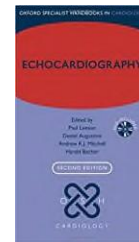
Steph Connaire ([stephconnaire@hotmail.com](mailto:stephconnaire@hotmail.com))

## Useful resources

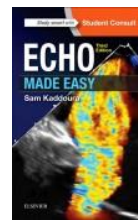
- 1 Making Sense of Echocardiography**  
A comprehensive guide to echocardiography. Now a little out of date (2013) but remains a very useful resource for getting up to speed with echo.



- 2 Oxford Specialist Handbook of Echocardiography**  
A detailed pocket book in echocardiography providing significant detail on echocardiography physics and technique. Recently revised (3<sup>rd</sup> Edition, 2020). Comes with online access to >150 videos



- 3 Echo Made Easy**  
A classic of learning echocardiography. Lots of colour images and access to online videos. Easy to read and will quickly get you up to speed with basic echocardiography.



- 4 British Society of Echocardiography Guidelines**  
The gold standard resources for echocardiography reporting in the UK.  
<https://www.bsecho.org/Public/Education/Protocols-and-guidelines/Public/Education/Protocols-and-guidelines.aspx>

- 5 British Society of Echocardiography App (EchoCalc)**  
EchoCalc provides access to all the key echo reference data and is extremely handy to have on your phone when reporting scans. You can also find a mobile-friendly version of the recent BSE guidelines on the app.



- 6 BSE Talking Slides**  
<https://bse.talkingslideshd.com/home>  
The BSE has produced this online training module of lectures and an MCQ assessment for core knowledge in echo.



## Appendix D (continued)

### Training pointers

Here are some helpful pointers for new trainees for success in achieving the echo requirements. Please bear in mind that, with the new 2022 cardiology curriculum, it is likely to be more challenging to complete BSE accreditation before the end of ST5 (second year) and you may need to pursue and complete this alongside your chosen Cardiology Advanced Theme (CAT) training in ST6 (third year, which may or may not be imaging).

### Start of training (ST4)

- Ensure you have a dedicated echo training list.
- Purchase (and read) an echo book- see recommended list above.
- Read the BSE minimum dataset guideline to learn the views and measurements necessary for a normal scan.
- Consider attending an echo course – see BSE website for list of courses.
- Perform bedside echocardiograms at every opportunity to further develop your skills- ensure your scans are reviewed appropriately and seek feedback.
- Consider registration with the British Society of Echocardiography now- there are many educational benefits, and you will need to be a registered member to undertake the accreditation process.
- Start compiling your logbook of 250 cases.

### ST5

- Continue to collect your logbook cases. If you plan to sit the BSE exam, ensure that you gather the specific case mix required.
- For BSE, the logbook and video cases should be collected over a period of 24 months with the examination being taken at any point within this period.
- For the delivery tool sign off, ensure you have the required number of DOPS and 5 video cases across a range of pathologies. These must be reviewed and documented by your supervisor as part of the final sign-off process.
- Register and prepare for the written assessment part of the accreditation process

### BSE Written Assessment

- Held on two occasions each year: a spring examination and an autumn examination in multiple locations using PearsonVue centres.
- Comprises of two parts: The Theory section and Reporting section. It is necessary to pass both sections in the same sitting. Refer to the BSE TTE accreditation information pack (BSE website) for more details
- 2-3 months of preparation time in addition to experience gained in your ST4 year should be sufficient

## Further tips, tricks and pointers for achieving BSE TTE accreditation

### Preparation and learning echocardiography

Achieving BSE accreditation in transthoracic echocardiography by the end of core training (ST5/6) is possible but requires a lot of organisation and effort over a 2 year period. Start preparing early and refer to the BSE.

At each hospital, you must have a supervisor who should be a senior and experienced echocardiographer, ideally having BSE accreditation. They should serve as a mentor, reviewing your scans, reports and signing off competencies. **If you have any difficulty in identifying this person, or in getting appropriate support in your training, please inform either your TPD or STC echo lead as soon as possible.**

As per JRCTB guidance, you are entitled to **bleep free** outpatient transthoracic echo sessions. Maximise your opportunity to perform, interpret and report echocardiograms by performing bedside echo's out of hours/on call, review images with sonographers/consultants, consider attending/participating in echo waiting list clinics and attend departmental, regional or national echo meetings.

### Preparing for the BSE written exam

Consider attending a basic echo course about 6 months into your training and a BSE exam preparation course prior to the written exam. In addition to consolidating your knowledge you will see and learn about more unusual pathology, which you might not encounter in your hospital.

### Collecting cases for your logbook

Seek out sonographers in the department who have BSE accreditation. There is much to learn from them about the accreditation process and they can help you with identifying suitable cases for your logbook. Keep a copy of all initial reports (your first 100 cases can be double reported)

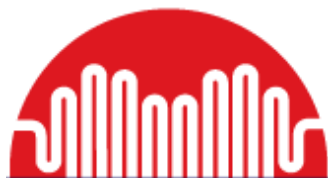
Start looking for patients with good echo windows and appropriate images early for your video cases. Allow 1 hour to scan these patients taking all necessary views and data (do not forget the use of the standalone CW Doppler probe for severe AS). You should check these views with a BSE accredited sonographer +/- bring the patient back for a 2<sup>nd</sup> scan if required.

### Submission and practical assessment

Upload your 250 echo reports to the online BSE portal. These should be of a specific case mix as outlined. The need to be **anonymised**. The BSE online portal allows you to black out and anonymise patient details.

Present the 5 video cases as digital loops and stills within a PowerPoint presentation. Although there are PCs available at the assessment centre it is strongly recommended that you bring your own laptop to the centre having checked that your cases play on this.

Review your logbook, video cases and their respective reports a few weeks prior to the practical assessment (to facilitate last minute improvements) and refresh your memory again just prior to the day. Try to arrange a mock practical assessment with a senior echocardiographer (ideally one who know the assessment process) beforehand.



## Appendix E: CMR training – requirements and resources

### Core Training

JRCPTB sets as a guideline a one month full-time attachment (or equivalent part time) in CMR to complete core training. Wherever possible, you should: supervise 10 stress tests, including each form of stress; observe the acquisition of 50 CMR scans, 5 of which must be vascular; observe processing and supervised reporting of 50 studies in a variety of conditions.

If it is not possible to perform a full attachment, then a 'Level 1' or core competency course can be used to provide evidence of the above. You may be required to provide some 'hands-on' or 'live scanning' experience; there are live scanning sessions at BCS if this is difficult to achieve locally.

### Advanced Imaging Training

5x CbD/Mini-CEX; 2x ACATs are required each year across all subspecialty modules. The minimum requirement for Advanced CMR is to have 6x DOPS on acquisition and reporting by 2x different assessors, across the range of conditions. Gaining Level 2 or 3 accreditation from SCMR or EuroCMR will enhance your ePortfolio but is not a mandatory requirement.

### Conferences

**BSCMR:** Includes a core-competency course aimed towards achieving Level 1 the day before the main conference.

**EuroCMR:** Takes place in May each year. The EuroCMR exam is a part of EuroCMR/ESC Level 2 and Level 3 certification.

**SCMR:** SCMR/EuroCMR meetings are held in Europe once every 4 years.

### Courses:

Please look at BSCMR website for up-to-date course listing. There are a number of national courses, both for core and subspecialty training. The BCS conference each year provides hands-on scanning experience, and, in conjunction with the BSCMR course, covers the majority of core competencies required.

If you need further information or you are struggling to get local training, please contact your Deanery BJCA rep or alternatively the BSCMR Rep:

Kenneth Mangion [kenneth.mangion@glasgow.ac.uk](mailto:kenneth.mangion@glasgow.ac.uk)

## Useful resources

- 1 SCMR Level 1 Course (online)**

The BCS has paid for a number of licences for trainees who are BCS members to undertake this course. It can be found through the BCS website. Highly recommended resource.

- 2 ESC CMR Pocket Guide**

The ESC has created a set of pocket guides to cardiac MRI including the development of an app.

### **General CMR:**

[https://www.escardio.org/static\\_file/Escardio/Subspecialty/EA\\_CVI/CMR-guide-2013.pdf](https://www.escardio.org/static_file/Escardio/Subspecialty/EA_CVI/CMR-guide-2013.pdf)

### **CMR Physics:**

[https://www.escardio.org/static\\_file/Escardio/Subspecialty/EA\\_CVI/CMR%20Physics%20Pocket%20Guide%20iBook%20v1.0.pdf](https://www.escardio.org/static_file/Escardio/Subspecialty/EA_CVI/CMR%20Physics%20Pocket%20Guide%20iBook%20v1.0.pdf)

### **Congenital CMR:**

[https://www.escardio.org/static\\_file/Escardio/Subspecialty/EA\\_CVI/CMR-guide-CHD-2014.pdf](https://www.escardio.org/static_file/Escardio/Subspecialty/EA_CVI/CMR-guide-CHD-2014.pdf)

### **CMR Books**

- 3 Oxford Specialist Handbook of CMR**

Good pocket book of cardiac MRI, likely to be above the level required for most trainees undertaking core training. Now somewhat outdated (2013 edition).

### **Cardiovascular MR Manual**

Detailed explanations of CMR Physics, as well as clinical applications. Now slightly outdated (2015 edition) but a very good at providing a general understanding

### **Web resources**

- 4 BSCMR**

British Society of CMR with links to UK and regional activities.  
<http://www.bsccmr.org/>

### **EACVI**

European Society for Cardiovascular Imaging, provides information on EuroCMR webcasts, CMR accreditation etc.

<https://www.escardio.org/The-ESC/Communities/European-Association-of-Cardiovascular-Imaging-EACVI/About/CMR-Section>

### **Society of CMR**

International Society – huge amount of resources including conference webcasts, case of week and guidelines.

[www.sccmr.org](http://www.sccmr.org)



# Appendix F: Cardiology SAC approved list of study leave courses

Event / Course Title	ST 3	ST 4	ST 5	ST 6	ST 7	Duration	Status	Curriculum page
<b>Cardiology core training / curriculum mandated</b>								
ALS	x	x	x	x	x	1-2 days	Mandatory	P112
Ionising Radiation (Medical Exposure) Regulations (IRMER) Certificate course or online equivalent <sup>^</sup>	x	x	x	x	x	1 day	Mandatory	P112
Leadership and management course			x	x	x	1-2 days	Mandatory	P38
Teaching skills course			x	x	x	1-2 days	Mandatory	P38
Cardiology-specific simulation course	x					1 day	Mandatory	As discussed at SAC
2/3 of local provided formal core / advanced training days dependent on stage of training	x	x	x	x	x	n/a	Mandatory	P15
2/3 of biannual BCS national training days	x	x	x	x	x	n/a	Mandatory	P15
Core training in nuclear cardiology (acquisition of at least six stress and six rest studies, reporting of at least 48 studies) *	x	x	x				Mandatory	P119
Core knowledge in CMR course (including acquisition, processing and supervised reporting of 50 scans) *	x	x	x				Mandatory	P120
Core knowledge in cardiac CT (sufficient to fulfil curriculum requirements, equivalent to eight half day sessions / 50 cases)*	x	x	x				Mandatory	P120
Adult congenital heart disease (ACHD) ideally 1-2 week dedicated attachment in ACHD specialist surgical centre; or equivalent of at least 10 specialist clinics / ward rounds	x	x	x				Mandatory	P105
BCS ACHD core curriculum course#	x	x	x			2 days	Mandatory	<a href="#">link</a>
Heart disease in pregnancy (equivalent of 1 day course per year)±	x	x	x				Mandatory	P111
Hands-On Cardiac Pacing Course (e.g. Liverpool)	x	x	x			2-3 days	Mandatory	P122
EEGC revision course (e.g. BCS/Mayo, BJCA Cardiology to the Core)			x	x	x	2-5 days	Mandatory	P21
<b>Optional courses / meetings</b>								<b>Link</b>
Focussed echo course (e.g. Focused echocardiography in emergency life support (FEEL))	x						Optional	<a href="#">link</a>
Foundation echocardiography course (e.g. BSE or equivalent)	x	x					Optional	
BJCA HeadStart in Cardiology – ST4 introduction course	x					2 days	Optional	<a href="#">link</a>
BSE core knowledge training / equivalent echo exam preparation course	x	x	x	x	x	2 days	Optional	<a href="#">link</a>
BCS Annual Conference	x	x	x	x	x	3 days	Optional	<a href="#">link</a>
BCS A Year in Cardiology	x	x	x	x	x	1 day	Optional	<a href="#">link</a>
BCS first steps in cardiology research	x	x	x	x	x	1 day	Optional	<a href="#">link</a>

BCS cardiology update	x	x	x	x	x	1 day	Optional	<a href="#">link</a>
British Heart Valve Society (BHVS) core knowledge day	x	x	x	x	x	1 day	Optional	<a href="#">link</a>
Essential surgical skills course	x	x	x	x	x	1-2 days	Optional	

### Advanced modular training§

#### Adult congenital heart disease

BCCA annual conference	x	x	x	x		2 days	Optional	<a href="#">link</a>
Hands-on cardiac morphology	x	x	x	x		1-2 days	Optional	<a href="#">link</a>
ACHD transthoracic echo course (e.g. Bristol ACHD Echo)	x	x	x	x		2 days	Optional	<a href="#">link</a>
ACHD transoesophageal echo (TOE) course (e.g. UCLH European)	x	x	x	x		2 days	Optional	<a href="#">link</a>
RSM ACHD training days	x	x	x	x		1 day	Optional	

#### Advanced rhythm training

Anatomy for electrophysiologists	x	x	x	x		3 days	Optional	<a href="#">link</a>
Electrophysiology core curriculum course (e.g. Leeds or equivalent)	x	x	x	x		2 days	Optional	<a href="#">link</a>
Harefield Hospital Transseptal Puncture Simulation Course	x	x	x	x		1 day	Optional	
Syncope course - (e.g. STARS London Syncope)	x	x	x	x		1 day	Optional	<a href="#">link</a>
Arrhythmia Alliance - London Arrhythmia Summit	x	x	x	x		1 day	Optional	<a href="#">link</a>
BHRS Heart Rhythm Congress	x	x	x	x		4 days	Optional	<a href="#">link</a>

#### Heart failure

British Society for Heart Failure (BSH) annual conference	x	x	x	x		2 days	Optional	<a href="#">link</a>
BSH: Heart Failure Day for Revalidation and Training	x	x	x	x		1 day	Optional	<a href="#">link</a>

#### Cardiac imaging

Advance course on 3D Echocardiography	x	x	x	x		1 day	Optional	<a href="#">link</a>
BSE Annual Meeting	x	x	x	x		2 days	Optional	
BSCI / BSCCT hands on level 1 & level 2 Cardiac CT Course or equivalent	x	x	x	x		4-6 days	Optional	<a href="#">link</a>
BCS/BSCMR Level 1 course - Cardiovascular Magnetic Resonance or equivalent	x	x	x	x		1 day	Optional	<a href="#">link</a>
Clinical workshop on cardiac MR stress imaging	x	x	x	x		3 days	Optional	<a href="#">link</a>
British Society of Cardiovascular Magnetic Resonance (BSCMR) annual meeting	x	x	x	x		1 day	Optional	<a href="#">link</a>
BSCI/BSCCT annual meeting	x	x	x	x		3 days	Optional	<a href="#">link</a>
British Nuclear Cardiology Society (BNCS) annual meeting	x	x	x	x		3 days	Optional	<a href="#">link</a>

#### Inherited cardiovascular conditions

Hypertrophic cardiomyopathy: from foetus to adulthood	x	x	x	x		1 day	Optional	<a href="#">link</a>
AICC annual meeting	x	x	x	x		2 days	Optional	<a href="#">link</a>
Cardiomyopathy UK annual conference	x	x	x	x		1 day	Optional	<a href="#">link</a>

#### Interventional cardiology

Lecture-based intervention course (e.g. BCIS advanced cardiovascular interventional trainees' course)	x	x	x	x		2 days	Optional	<a href="#">link</a>
BCIS study day: interventional pharmacology	x	x	x	x		2 days	Optional	<a href="#">link</a>





BCIS study day: out of hospital cardiac arrest	x	x	x	x	2 days	Optional	<a href="#">link</a>
BCIS annual conference: advanced cardiovascular intervention (ACI)	x	x	x	x	3 days	Optional	<a href="#">link</a>
Advanced coronary imaging course (e.g. Practical IVUS and OCT)	x	x	x	x	1 day	Optional	<a href="#">link</a>
Chronic Total Occlusion (CTO) course (e.g. CTO live)	x	x	x	x	1-2 days	Optional	<a href="#">link</a>
Complex angioplasty course (e.g. CHIP UK)	x	x	x	x	1-2 days	Optional	<a href="#">link</a>

#### Aspirational courses / meetings

BCS early consultant career course					x	1 day	Aspirational	<a href="#">link</a>
Scottish Cardiac Society (SCS) annual meeting	x	x	x	x	x	2 days	Aspirational	<a href="#">link</a>
BCS / Royal College of Physicians and Surgeons of Glasgow: Interactive Cardiology Symposium	x	x	x	x	x	1 day	Aspirational	<a href="#">link</a>
London Shock - cardiac arrest, resuscitation and circulatory support	x	x	x	x	x	1 day	Aspirational	<a href="#">link</a>
BHVS annual conference	x	x	x	x	x	1 day	Aspirational	<a href="#">link</a>
BACPR annual conference	x	x	x	x	x	2 days	Aspirational	<a href="#">link</a>
British Atherosclerosis Society (BAS) annual meeting	x	x	x	x	x	2 days	Aspirational	<a href="#">link</a>
Annual Scientific Meeting of the Cardiorenal Forum	x	x	x	x	x	1 day	Aspirational	<a href="#">link</a>
Heart UK Annual Scientific Conference	x	x	x	x	x	2 days	Aspirational	<a href="#">link</a>
Scottish Cardiac Society Adult Congenital Cardiac Conference	x	x	x	x	x	1 day	Aspirational	<a href="#">link</a>
Royal College of Physicians and Surgeons of Glasgow: annual heart failure conference	x	x	x	x	x	2 days	Aspirational	<a href="#">link</a>
West of Scotland Advanced Echocardiography Course	x	x	x	x	x	2 days	Aspirational	<a href="#">link</a>
Edinburgh Cardiac CT Course	x	x	x	x	x	5 days	Aspirational	<a href="#">link</a>

#### Selected general international conferences

European Society of Cardiology (ESC) annual congress	x	x	x	x	x	5 days	Aspirational	<a href="#">link</a>
American College of Cardiology (ACC) annual congress	x	x	x	x	x	3 days	Aspirational	<a href="#">link</a>
American Heart Association (AHA) scientific sessions	x	x	x	x	x	3 days	Aspirational	<a href="#">link</a>
European Atherosclerosis Society (EAS) annual congress	x	x	x	x	x	4 days	Aspirational	<a href="#">link</a>
European Society of Hypertension (ESH) meeting on hypertension and cardiovascular protection	x	x	x	x	x	4 days	Aspirational	<a href="#">link</a>
European Heart Rhythm Association (EHRA) annual congress	x	x	x	x	x	3 days	Aspirational	<a href="#">link</a>
The Heart Failure Association annual congress	x	x	x	x	x	2 days	Aspirational	<a href="#">link</a>

#### Selected sub-specialty international conferences

ICNC - Nuclear Cardiology & Cardiac CT	x	x	x	x		3 days	Aspirational	<a href="#">link</a>
EANM European Association of Nuclear Medicine Congress	x	x	x	x		3 days	Aspirational	<a href="#">link</a>
EuroGUCH	x	x	x	x		2 days	Aspirational	<a href="#">link</a>
EuroCMR	x	x	x	x		3 days	Aspirational	<a href="#">link</a>
EuroEcho & Imaging	x	x	x	x		3 days	Aspirational	<a href="#">link</a>
SCMR	x	x	x	x		3 days	Aspirational	<a href="#">link</a>
EuroPCR	x	x	x	x		4 days	Aspirational	<a href="#">link</a>
PCR London Valves	x	x	x	x		2 days	Aspirational	<a href="#">link</a>

^freely available on e-Learning for Healthcare platform

\*in the absence of an equivalent, locally available clinical programme

# if not covered by locally provided course / training days

± if no locally provided course or specific pregnancy / pre-pregnancy clinics

§Considered optional for advanced modular trainees, aspirational for core trainees. Where appropriate, particular preference should be reserved for trainees presenting abstracts

## HEALTH EDUCATION ENGLAND (HEE) TERMS

### Mandatory

Described in curriculum documents by the relevant Royal College or Faculty and should assist educational supervisors to ensure that the trainee is meeting the requirements mandated by the curriculum in the first instance.

### Optional

Complementary to the curriculum, the Head of School or Training Programme Director being of the opinion that attendance at these events is of benefit to the trainee. It is not expected that the lists are prescriptive; there is no expectation that the trainee should complete all the optional events for their given programme. The list should act as a guide for the trainee and educational supervisor to plan and schedule attendance at some of these events across the entire duration of training. Where a trainee has undertaken an event already described on the list and wishes to undertake the same event again, the trainee must seek approval from the Training Programme Director and relevant Head of School in the first instance. Unless specifically outlined in the curriculum, attendance on the same event on more than one occasion for the duration of any given training programme would not normally be supported by study leave.

### Aspirational

±e wishes to undertake a course or event that is not included on the Mandated and Optional lists with their educational supervisor and Training Programme Director to ensure that their professional development, and that sufficient funds are available. The Head of Speciality or such aspirational events depending on current funding available.



## Appendix G: Selected international meetings

<b>Date</b>	<b>Event</b>	<b>Location</b>
25 Aug – 28 Aug 2023	ESC Congress 2023	Amsterdam
11-13 Nov 2023	American Heart Association (AHA) Scientific Sessions	Philadelphia, USA
25 – 27 Jan 2024	CMR 2024	London, UK.
8 - 10 Mar 2024	ESC Acute CardioVascular Care 2023	Athens, Greece
7 - 9 Apr 2024	European Heart Rhythm Association Congress 2024	Berlin, Germany
6 - 8 April 2024	ACC.24 (American College of Cardiology)	Atlanta, GA, USA
25 -27 Apr 2024	ESC Preventive Cardiology 2023	Athens, Greece
19 – 21 May 2024	ICNC Nuclear Cardiology & Cardiac CT 2021	Seville, Spain
14 - 17 May 2024	EuroPCR 2022	Paris, France