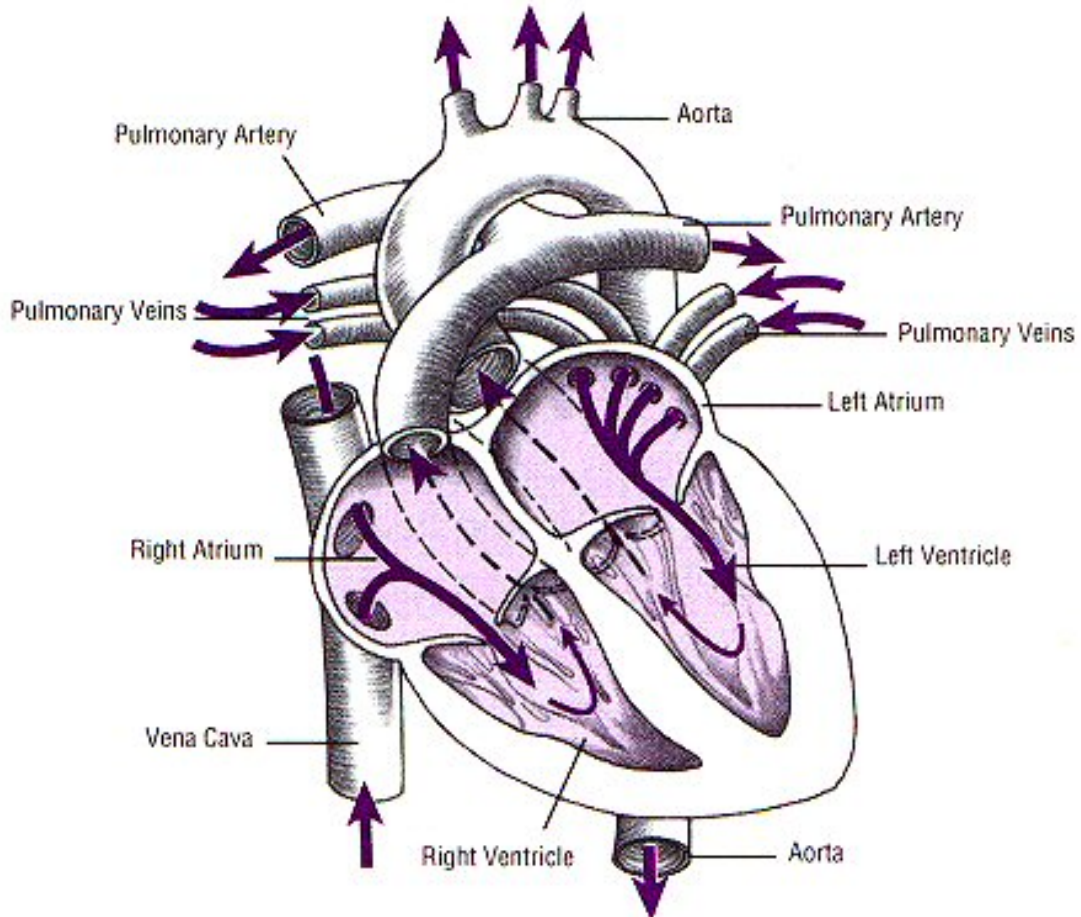


The BJCA National Cardiology Induction Handbook – August 2020

'A toolkit for trainees'



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.

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, in order to prepare this document, 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 know if you have any feedback or suggestions for improvement. Once again, congratulations and best wishes!

Chris Allen

BJCA President

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Contents:

- 1. Tasks to complete on appointment to ST3**
- 2. Tips for your first post and subsequent rotation**
- 3. Training Timeline**
- 4. The Assessment System**
 - Curricula
 - NHS ePortfolio
 - Logbooks
 - ARCP
 - European Exam in General Cardiology
- 5. Training and Education**
 - Training days
 - ST3 cardiology simulator training courses
 - Conferences, courses and meetings
 - Online resources
 - Recommended reading
- 6. Cardiology Trainees' Guide to Less Than Full Time Training**

Appendices:

- A. Benefits of BJCA and BCS membership
- B. ARCP Decision Aid for Cardiovascular Medicine
- C. Advanced Modular Training (ST6-ST7)
- D. BJCA Guide to Echo Accreditation for Registrars
- E. CMR Training – Requirements and Resources
- F. Study Leave – Cardiology SAC list of approved courses

1. Tasks to complete on appointment to ST3

A. Registration with HEE/Deanery

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Your Local Health Education England 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.



B. Enrolment with the JRCPTB

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<http://www.jrcptb.org.uk>

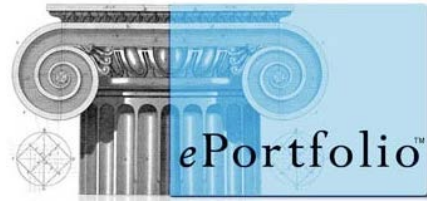
Following your appointment, the JRCPTB should automatically send you an invitation to enrol. Enrolment and payment of the enrolment fee is mandatory and can be done via the JRCPTB online enrolment system. There are two options for payment: 1) A single, up-front payment of £845 may be paid at the start of ST3, or 2) an annual fee of £169 may be paid in combination with a Royal College of Physicians Collegiate membership. Visit the JRCPTB website for further details.



C. Update your ePortfolio

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Contact the Education Centre at your first hospital or a designated representative from your HEE Local Office at the earliest opportunity to update this. The same account used during CMT will be updated. Enrolment with JRCPTB will also be highlighted on your account once completed.



D. Complete the Radiation Protection for Cardiologists Online Course

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You 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/>

E. Key societies to consider joining

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The BJCA

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 1412 members (as of July 2020). Find us at bjca.tv and bjca.co



The BCS

The BCS is the national society for cardiology, and the BJCA is one of its affiliated societies. Discounted membership is available to BJCA members. 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.britishcardiosvascularsociety.org.



The full list of BJCA and BCS member benefits can be found in Appendix A, but will grow over the coming years.

For information on joining please follow this link:

<https://www.britishcardiosvascularsociety.org/about/membership-benefits>

F. Ensure your ALS certificate is in date throughout your training

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G. Prepare for your first post

- i. Obtain details of first post: contact HEE Local Office or Training Programme Director (TPD) 0
- ii. 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! 0
- iii. Contact the GIM/Cardiology SpR on-call rota manager in the Hospital/Trust 0
- iv. Plan leave/study days/courses/exams well in advance 0

2. Tips for your first post and subsequent rotation

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. The order in which the DGH and tertiary centre experience is gained 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 be allocated to 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

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.

Your educational supervisor will provide a weekly timetable for you. Your weekly timetable should aim to fulfil your curricular requirements and will typically comprise:

Outpatients: 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).

Ward rounds: usually at least 2 per week (at least 1 consultant led, 1 SpR led).

Cath Lab: usually 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 ST3-5.

Echo: at least 1 dedicated, bleep-free echo session per week for most core training.

Meetings: there should be opportunities to attend and present at the grand round, weekly departmental meetings, MDT/Heart Team meetings et cetera.

C. Basic echocardiography training

This is the skill you will be expected to pick up most quickly. Book onto a basic echo course early. Your study leave budget should support this. 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 per week. Organise some early sessions in the echo department, before you go out and start scanning. 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. We have written a “BJCA Guide to Echo Accreditation for Registrars” to provide some guidance and tips for achieving BSE transthoracic echo (TTE) accreditation (see Appendix D). BSE Accreditation is not mandatory to completing your registrar training but is recommended. The minimum standard to achieve is completing the [echo curriculum delivery toolkit](https://www.jrcptb.org.uk/documents/echo-curriculum-based-assessment-tool-october-2016-cbat), found in full here: <https://www.jrcptb.org.uk/documents/echo-curriculum-based-assessment-tool-october-2016-cbat> 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 (ST3-ST5), so keep a logbook of all your cases for your 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 a variety of individuals: your consultants, radiographers, physiologists, and nurses. Introduce yourself to everyone early on. Humility will pay dividends in terms of a patient, productive learning relationship.

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

The findings of investigations and plans for future management must be clearly communicated to patients and colleagues both verbally and in writing.

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 patient. Do not be afraid to 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

We recommend contacting 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 might need to arrange swaps to allow you to attend important training days, courses et cetera.

G. Cardiology and GIM study days

Each training programme should have a person (registrar, consultant or administrator) that coordinates the cardiology and GIM training days (might 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 also many courses and conferences in the training year, which you might wish to attend, as they may provide a significant contribution to your education and training. Most courses and conferences need to be booked well in advance, often with 'early-bird' discounts on the registration fee. These are listed on the BJCA webpages and will be emailed to you in our frequent BJCA Newswires. Following the HEE study leave reforms, the BJCA has also produced a list of agreed courses together with the Cardiology SAC with the intention of making your study budget easier to access. The list can be found in the appendix of this toolkit and on the BJCA webpages. This list applies 'directly' to trainees in England, however, the framework is also intended to assist trainees in Scotland, Wales and Northern Ireland.

i) Courses and events: <http://www.bcs.com/pages/about.asp?PageID=152>

ii) Agreed study leave courses:

http://www.bcs.com/documents/Cardiology_Study_Leave_SAC_agreed_-_for_printing.pdf

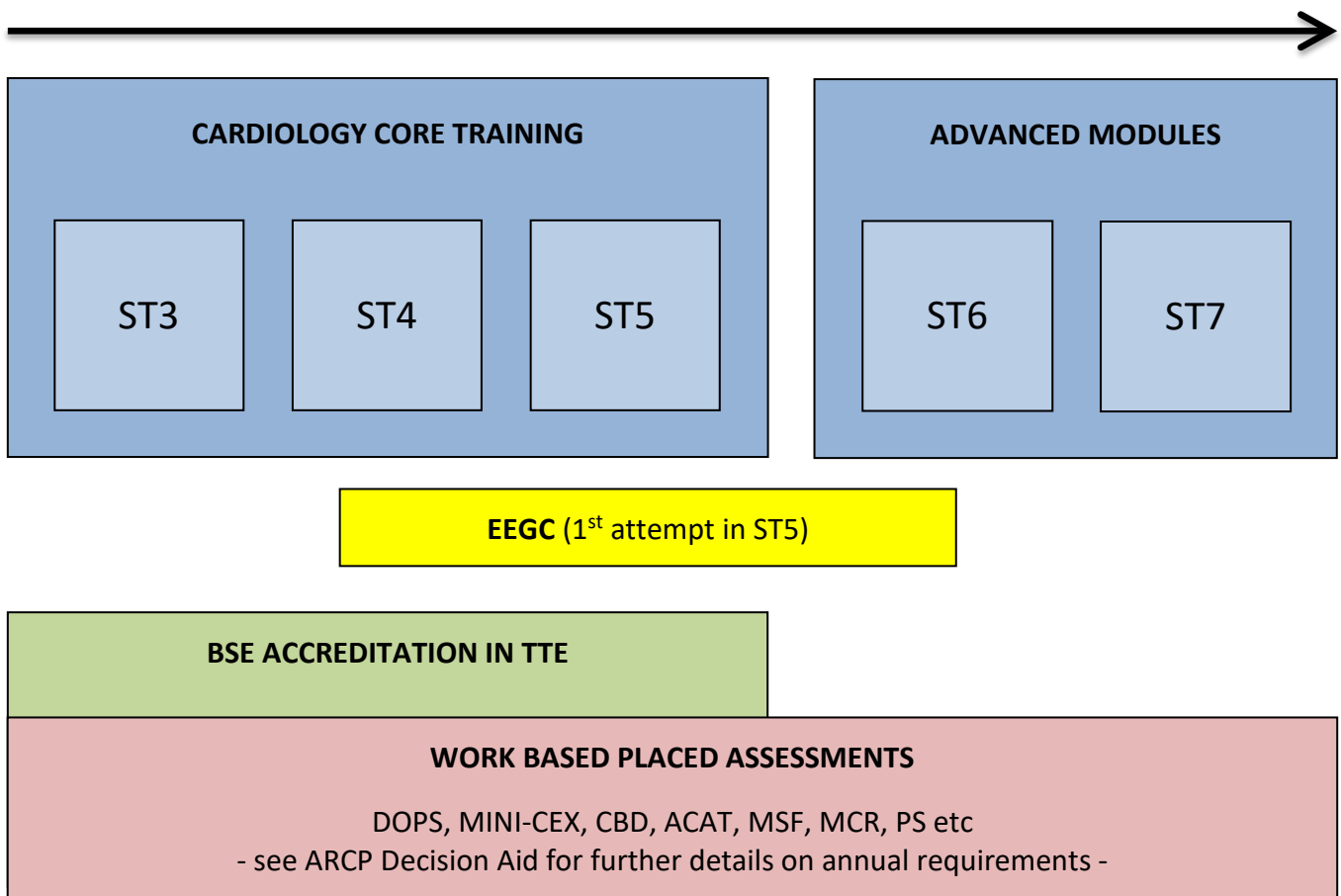
I. Subsequent rotation

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.

J. Addressing difficulties in training.

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. It is important therefore that you learn how to cope with perceived problems and any deficiencies in your training. Be polite, reasonable and patient, BUT remember: your trust is paid to train you and you 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 must be ready to speak to your educational supervisor in enough time to allow a solution to be found and the training goals achieved.

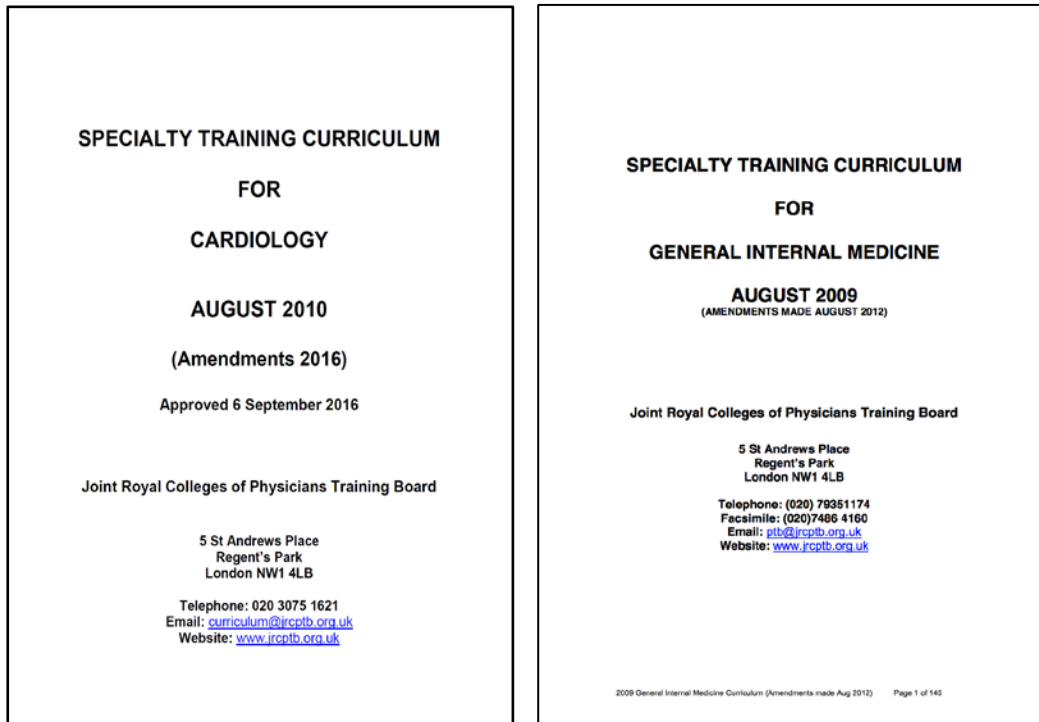
3. Training Timeline



4. The Assessment System

A. Curricula

The most recent curricula for Cardiology (2010, amended 2016) and General Internal Medicine (2009, amended 2012) are 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>

i. Cardiology curriculum

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

- a. The outline of the 5-year cardiology training plan (ST3-ST7).
- b. The assessment system – the type of assessment methods and how they are applied.
- c. Guidance on the use of workplace-based assessments (WPBAs).
- d. Guidance on the ARCP process and the penultimate year assessment (PYA), which falls at the end of ST6.

- e. Details of the “Modular Specialist Area Training Model”. This defines the number of ‘units’, which comprise the 2 years of advanced modular training (ST6-ST7): a total of 4 or 5 units. Each area (5 cardiology subspecialties and GIM) requires the investment of a certain number of units of training time, to achieve a total of 4-5 within the final two years of training and qualify for CCT (see Appendix C for details). During these 2 years approximately 60% of your time will be in these advanced modules with the remaining time completing a broad general cardiology training including on call.

A good place to begin in the curriculum is the “ARCP Decision Aid” (page 37/178) which is a table representing the requirements to receive a satisfactory ARCP at the end of each year of training (see Appendix B).

2016 Amendments to the Cardiology 2010 Curriculum

A document summarising changes to the Cardiology 2010 curriculum is available on the JRCPTB website (link below):

<https://www.jrcptb.org.uk/sites/default/files/2010%20Cardiology%20Curriculum%20%28amendments%202016%29.pdf>

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.

ii. General Medicine Curriculum

It is envisaged (SAC) that all cardiology trainees will complete 1-2 years of general medicine training at the start of their core cardiology training. This would include participating in the acute medicine rota. This training is currently planned to continue for all core cardiology trainees, even those who do not intend to pursue dual accreditation.

Further guidance on how to undertake dual training with General Internal Medicine can be found on the JRCPTB website.

iii. 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:

<http://www.copmed.org.uk/publications/the-gold-guide>

B. The JRCPTB ePortfolio and workplace-based assessments

You will be familiar with the ePortfolio from core medical training.

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

- Your new post
- Your supervisor's details
- The correct curriculum
- Induction meeting
- PDP
- Registration with JRCPTB
- www.nhseportfolios.org



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

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

<http://talkback.nhseportfolios.org/wordpress/?cat=51>

Assessment tools will be familiar to you from CMT (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)). The Multiple Consultant Report (MCR) was introduced in 2014. Different minimum requirements exist for cardiology and GIM.

Cardiology Assessments

The Cardiology SAC provided [guidance](#) on workplace based assessments to support 2015 changes to specialty training assessment. This guidance can be found on the JRCPTB website and via the link below:

<https://www.jrcptb.org.uk/sites/default/files/Cardiology%20WPBA%20guidance%20181115.pdf>

GIM Assessments

Guidance on the types and minimum numbers of GIM assessments required for each training year can be found in the GIM Curriculum 2009 (revised 2012).

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.

C. 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.

Cardiology Logbook

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.

We have extracted the following procedure numbers from the 2010 curriculum (numbers over the course of training):

- At least 250 cardiac catheterisations
- 450 transthoracic echocardiograms
- Nuclear Cardiology: at least one stress and one SPECT acquisition session of at least six patients each, and eight reporting sessions of at least six patients each
- Cardiac MRI: See Appendix E
- Cardiac CT: 50 cases and 8 half day sessions
- Involvement in 25 permanent pacemaker implants
- Involvement in 20 invasive electrophysiological studies
- Involvement in at least five ICD implants and five CRT procedures

GIM Logbook

We have extracted the following procedure numbers from the 2009 GIM curriculum (numbers over the course of training):

- 1000 acute medical admissions
- 186 clinic patients (The reason for this precise number is not clear)

Sample logbooks are available on the GIM pages of the JRCPTB website.

D. The ARCP

We suggest the following tips for trainees preparing for the ARCP:

- i. Start preparation for your ARCP at the start of your training year. Having completed your PDP and induction meeting, review the ARCP decision aid and the Cardiology Curriculum document to be aware of what is expected from you in the year.
- ii. 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.
- iii. 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 (1/3 for ST3) 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/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 educational supervisor.
- iv. 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.

A final checklist for your ARCP:

- Sufficient number of WBPAs
- Linked WBPAs to curriculum
- Supervisor sign-off for ePortfolio curriculum competencies
- Recorded some reflective practice from courses/training days/ teaching/clinical events etc
- Final educational supervisors report
- An up-to-date CV (upload copy to ePortfolio)
- An up-to-date logbook of procedures (upload copy to ePortfolio)
- A summary of your activity for the year e.g. audits, publications, (upload copy to ePortfolio)
- Presentations, teaching, management roles, etc. (upload to ePortfolio)
- A copy of your weekly timetable (upload to ePortfolio)

Link for ARCP decision aids:

Cardiology – *Amendments 2016 (Decision aid at Appendix B):

General Internal Medicine (GIM) ARCP Decision Aid – AUGUST 2017:

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

E. European Exam in General Cardiology (EEGC)

The EEGC (formerly known as the Knowledge Based Assessment or KBA in the UK) is an obligatory part of cardiology training in the UK. The KBA's origin, aims and conditions are clearly defined in the 2010 cardiology curriculum:

“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 KBA is expected during core training, usually in ST5, and satisfactory performance is mandatory before attainment of the CCT. Trainees who fail to achieve the required standard in the KBA in ST5 will not be prevented from proceeding to ST6 and ST7 provided their other elements of performance are judged adequate at the ARCP. The performance in the KBA is only a small component of assessment for the ARCP, which will be dominated by the WPBAs. The KBA performance will not be a key criterion for allocation to sub-specialty modules. The KBA will be offered on an annual basis, thus a trainee will, if necessary, have further opportunities to re-sit the KBA in ST6 and ST7.”

In 2015, the name of the exam changed to the European Exam in General Cardiology. Further information on registration and preparation for the EEGC is available on the BCS website:

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

5. Training and Education

A. Training days

Regional cardiology 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 to comply with the ARCP requirement of >60% attendance.

The **BCS** organises 2 National Cardiology Training Days per year, in June during the BCS Annual Conference and later in the year (Sept-Nov). The national training days cover topics from the current cardiology curriculum but also focus on addressing gaps in the training programme. They typically feature prominent speakers from across the field of cardiology.

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

B. ST3 cardiology simulator training courses

Simulation based learning has come to the forefront of cardiology training. The British Cardiovascular Society, through local groups and trusts offer a number of simulator training courses to newly appointed trainees. Trainees are highly encouraged to register for one of these courses early, as places are limited. Further information is available on the BCS website:

<https://www.britishcardiosvascularsociety.org/conference-and-events/st3-simulator-training>

C. Conferences, Courses and Meetings

There are numerous courses, conferences and meetings that provide significant educational value to cardiology trainees. It is impossible to provide an exhaustive list of all these events, but we have put together a list of popular educational events for core cardiology trainees on the following page. Please also refer to the cardiology events calendar which is updated on an ongoing basis:

<https://cardiologycalendar.co.uk/>

National Courses, Conferences, Meetings for 2020 – 2021

Date	Event	Location
8 Sep 2020	BCS National Training Day (BCS endorsed)	Online/Virtual Event
27 - 30 Sep 2020	Heart Rhythm Congress (BCS approved)	Online/Virtual Event
5 - 10 Oct 2020	BSE (British Society of Echocardiography) Annual Meeting (BCS approved)	Online/Virtual Event
10 – 11 Oct 2020	BJCA HeadStart in Cardiology**	Online/Virtual Event
26- 27 Nov 2020	British Society for Heart Failure Annual Autumn Meeting (BCS approved)	Online/Virtual Event
11 Dec 2020	A Year in Cardiology (BCS endorsed)	Royal College of Physicians, London*
20 - 22 Jan 2021	BCIS Advanced Cardiovascular Intervention 2021 (BCS approved)	TBC
TBC	British Society for Heart Failure – Heart Failure Day for Training & Revalidation (BCS approved)	TBC
1 – 5 Mar 2021	BCS & Mayo Clinic Cardiology Review Course (BCS endorsed)	Royal College of Physicians, London*
7 - 9 June 2021	BCS Annual Conference (BCS approved) BCS National Training Day (BCS endorsed) (held at the conference venue and usually on the 1st day of conference)	Manchester Central, Manchester*
June 2021 (TBC)	European Exam in General Cardiology	Various venues

* These events are currently scheduled as live events. However, given the evolving nature of the current COVID-19 pandemic, it is possible that these will become online/virtual events.

****The BJCA HeadStart in Cardiology Course is a FREE, two-day 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 it 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 Meetings for 2020 – 2021

Date	Event	Location
29 Aug – 1 Sep 2020	ESC Congress 2020	Online/Virtual Event
14 - 16 Nov 2020	American Heart Association (AHA) Scientific Sessions 2020	Dallas, TX, USA*
9 – 12 Dec 2020	EACVI 2020	Barcelona, Spain*
12 – 14 Mar 2021	ESC Acute CardioVascular Care 2021	Prague, Czech Republic*
28 – 30 Mar 2021	EHRA 2021	Barcelona, Spain*
20 - 22 Mar 2021	ACC.21 (American College of Cardiology)	Atlanta, GA, USA*
15 – 17 Apr 2021	ESC Preventive Cardiology 2021	Ljubljana, Slovenia*
9 – 11 May 2021	Nuclear Cardiology & Cardiac CT 2021	Seville, Spain*
18 - 21 May 2021	EuroPCR 2021	Paris, France*

* These events are currently scheduled as live events. However, given the evolving nature of the current COVID-19 pandemic, it is possible that these will become online/virtual events.

Financing courses, conferences and meetings

Some of these events are free but you will soon find that training in cardiology is an expensive business. To help reduce costs, we would recommend the following:

1. Full use of any study leave budget.
2. Enquire with your HEE Local Office/Trust if there is an opportunity to apply for further funding if there is an under-spend in the budget.
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', a scheme designed to assist and promote attendance at certain international congresses (ESC/AHA/ACC) to present abstracts. (see BCS website for more information).
6. Make contact with local drug representatives. They may help with travel or accommodation costs for scientific meetings or provide invitations to certain sponsored educational events.
7. 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 closer to the event

C. Online Courses & Resources

[BJCA.tv](https://bjca.tv)

Curriculum-aligned training resources

BJCA have developed a comprehensive online learning resource to facilitate continued cardiology education and training in the absence of traditional face-to-face opportunities. BJCA.tv is a single repository of catalogued webinars and training videos with the primary 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.

These nascent resources have rapidly grown in popularity and anecdotally have been accepted as linked evidence for competency attainment for the JRCPTB Cardiology core curriculum in the ePortfolio.

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

- [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 EEGC exam is also in development that incorporates a more interactive format to match the Q&A style of the exam. This will launch in September 2020 with full access available for all BJCA members revising for the exam.

Topics include:

- Management of CAD including stable and acute coronary syndrome
- Valvular heart 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 EEGC
- Cardiac CT: core concepts and cases
- Bradycardias: diagnosis, management and guidelines
- Tachycardia: diagnosis and management
- Cardiovascular prevention; guidelines and evidence
- Adult congenital heart disease: complex plumbing made simple
- The right heart (Pulmonary Hypertension)
- Heart disease in pregnancy
- Cardio-oncology

Career progression and research development resources

We appreciate that medical training is more than clinical competencies. We are therefore developing 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 [ST3/junior clinical fellows](#) to [trainees approaching and after CCT](#).

This is a growing resource. We need your input and feedback to develop this as a tool to support you. If you have any thoughts on webinars you'd like us to develop next or specific niches in your training- please email us at bjca@bcs.com.

British Cardiovascular Society: www.britishcardiosocietysociety.org

Webcasts from the BCS Annual Conferences 2009-2019

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

Radiation Protection for Cardiology e-learning course:

www.e-lfh.org.uk/programmes/radiation-protection-for-cardiology/

The course specifically addresses the requirements of the Training Curriculum in Cardiology, in particular the need for trainees to have completed a course on the Ionising Radiation (Medical Exposure) Regulations [IR(ME)R].

British Society of Echocardiography: 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 and for reference by more experienced members.

European Society of Cardiology: www.escardio.org

ESC Clinical Practice Guidelines – New guidelines published annually

ESC Congress 365 - an online library of ESC Congress scientific and educational content classified according to your fields of interest

ESC Distance Learning – Webinars, webcasts, clinical cases, slide resources

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.

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/>

D. Recommended reading

Journals:

Heart

heart.bmj.com

Free online access with subscription to BJCA/BCS



The British Journal of Cardiology

bjcardio.co.uk

Free online access



European Heart Journal

eurheartj.oxfordjournals.org

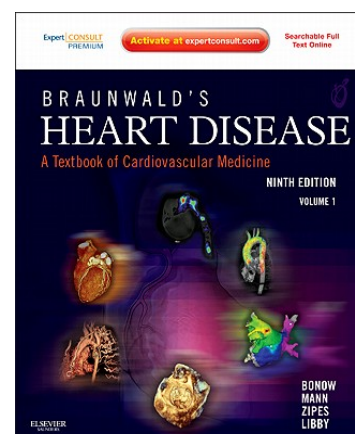
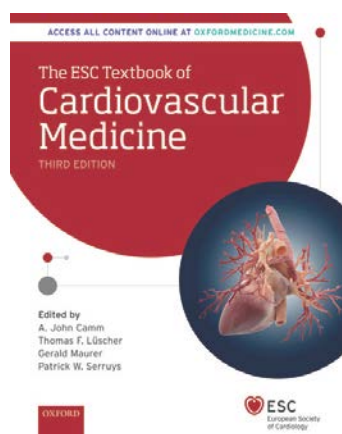
Free online access with registration to the ESC Congress



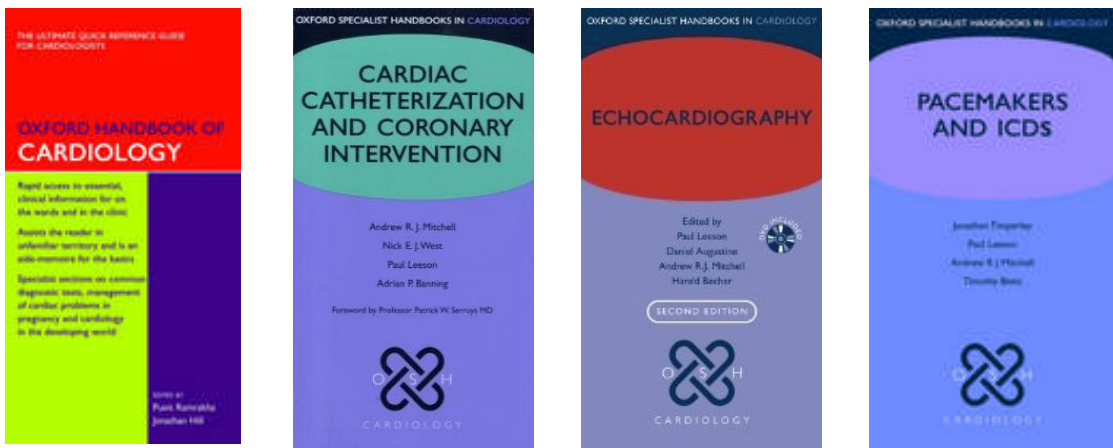
Books: Cardiology Textbooks

Reference Books:

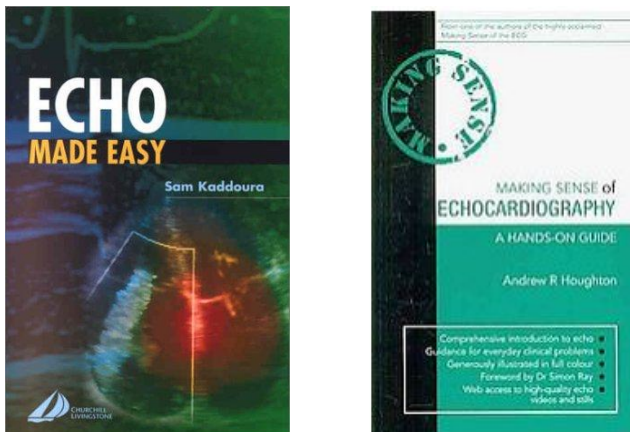
- 1) ESC Textbook of Cardiovascular Medicine
- 2) Braunwald's Heart Disease



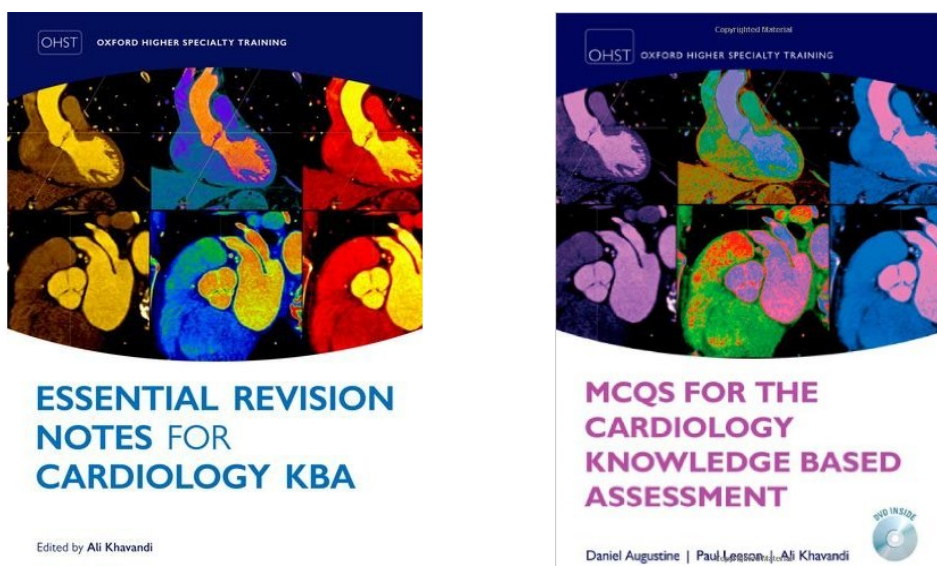
Oxford Handbooks in Cardiology:



Echocardiography:



EEGC (KBA) Preparation



6. Cardiology Trainees' Guide to Less Than Full Time Training

The BJCA and BCS have a strong commitment to support less than full time (LTFT) training in cardiology. All doctors in training can apply for LTFT training and every application will be treated positively.¹ Those wishing to apply for LTFT training must show that training on a full-time basis would not be practical for them for well-founded individual reasons.¹

Over recent years there has been an increase in the number of trainees in the UK who work LTFT. In the United Kingdom, 15% of physician trainees are less than full time (LTFT) (25% of female and 3% of male trainees).² The 2018 British Junior Cardiologists' Association (BJCA) annual survey identified that approximately 4% of cardiology trainees work LTFT.³

All trainees can apply for LTFT training either at the point of application for entry to specialty training or at any time once they have been accepted into specialty training.¹ Reasons for training LTFT are broadly divided into Category 1 relating to disability/ill health/carer responsibilities and Category 2 relating to unique professional development opportunities outside of medicine. Full details are available in Appendix 1. In general, all Category 1 reasons will be accommodated and 'all efforts' are made to accommodate category 2 reasons. Childcare responsibility is the most common reason for working LTFT (82% of LTFT trainees).

There are three main types of LTFT post, described in Table 1:

	Description	Advantages	Disadvantages
LTFT in a full-time slot	The most common arrangement for Cardiology LTFT trainees. The trainee works a percentage of hours and the trust/ department covers the remaining shifts.	You are likely to have more flexibility over which days you work. This will allow you to tailor the job to suit your individual training requirements.	This arrangement usually creates 'gaps' in the rota, which are the hospital/departments responsibility to cover. As the LTFT trainee you can feel responsible for these shifts, which is challenging when colleagues are asked to cover these. May need to do more on-calls/ night shifts than a slot-share to cover the service
Slot Share	2 trainees share a single full-time slot on a rota. Each must work at least 50% and there is often some over-lap if trainees doing more than 50%. Less common in cardiology compared to other specialities due to the lower number of LTFT trainees.	There are no 'gaps' in the rota. Usually this type of post provides good flexibility, as long as there is effective communication between the trainees.	The trainees must agree on how the week is divided, which may require some compromise/negotiation if trainees have similar training needs.

Supernumerary	A post that is additional to the normal complement of trainees and may not involve any out-of-hours work. Least common type of post for LTFT cardiology trainees.	This is potentially the most flexible type of post as shifts can be arranged to suit the trainee. Colleagues usually appreciative of extra help.	May be difficult to arrange out-of-hours banding/ salary with the trust, resulting in reduced exposure to out of hours training experience. There is a risk of not feeling integrated with the rest of the team.
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A recent BJCA survey sent to LTFT trainees found that 88% of cardiology trainees work LTFT in a full-time slot.⁴ Under exceptional circumstances a trainee may be allowed to do less than 50%, however this would be at the discretion of the post graduate dean.⁵ Trainees may opt to train LTFT and transfer back to full time (and back again if required), although you need to plan in advance as applications may take time to process. Applications should be submitted 16 weeks prior to the anticipated start date of change. On-call and out-of-hours commitments should be the pro-rata equivalent of full-time trainees.

Cardiology trainees asked by the BJCA about their positive experiences LTFT reported better work-life balance. 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. Several LTFT trainees reported that their stress levels have declined since working LTFT.⁴

Applying

The ‘Gold guide’ is a reference for post graduate training in the UK and outlines how LTFT training can be applied for.¹ Some Deaneries, for example London, have simplified the process with an online form, which will hopefully be the direction of travel nationally. The application form should be available on your Deanery website along with details of how to submit the form. Make sure you give yourself plenty of time as most Deaneries request at least 16 weeks’ notice, prior to the date you wish to start training LTFT.

Impact on Duration of Training

Training LTFT means that your training will be longer than if you had decided to continue training full time. Table 2 below shows the extra time needed to achieve 6, 12, 24 and 36 months of full-time training depending on %LTFT.

Example full time equivalent (months)	6 Months	12 Months	24 Months	36 Months
50% (24-28 hours per week)	12 months	24 months	48 months	72 months
60% (28-32 hours per week)	10 months	20 months	40 months	60 months
70% (32-36 hours per week)	8.5 months	17 months	34 months	51 months
80% (36-40 hours per week)	7.5 months	15 months	30 months	45 months

Pay

Basic pay for LTFT trainees is divided into five discrete time categories and labelled F5-F9:

- F5 is 20-24 hours of actual work a week: 50 per cent of full-time basic salary
- F6 is 24- 28 hours of actual work a week: 60 per cent of the full-time basic salary
- F7 is 28-32 hours of actual work a week: 70 per cent of the full-time basic salary
- F8 is 32-36 hours of actual work a week: 80 per cent of the full-time basic salary
- F9 is 36-40 hours of actual work a week: 90 per cent of the full-time basic salary

The BMA Less Than Full Time Guidance booklet contains some further information regarding pay. ⁴

Help and Advice

Sarah Birkhoelzer is the BJCA Women in Cardiology and Flexible Training Representative. She is more than happy to answer any questions about LTFT in cardiology please contact: womenincardiologyltft@gmail.com or direct message to @BJCA_women_LTFT

References:

1. The Gold Guide 6th edition. February 2016. A reference guide for post graduate training in the UK. <https://www.copmed.org.uk/images/docs/publications/Gold-Guide-6th-Edition-February-2016.pdf> (Accessed 14/6/2018)
2. Royal College of Physicians. Census of consultant physicians and higher specialty trainees 2017–18. <https://www.rcplondon.ac.uk/projects/outputs/focus-physicians-2017-18-census-uk-consultants-and-higher-specialty-trainees> (Accessed 11 Apr 2019).
3. BJCA survey results 2018
4. Dobson R, Joshi A, Allen C and HC Sinclair. Less than full-time training in cardiology. *Heart* Published Online First: 21 May 2019. doi:10.1136/heartjnl-2019-315226
5. BMA less than full time guidance <file:///Users/hannah.sinclair/Downloads/BMA%20Less%20than%20full%20time%20guidance.pdf> (Accessed 14/6/2018)

Categories of LTFT training:

Category 1

- Disability or ill health (this may include IVF programs)
- Responsibility for caring (men and women) for children
- Responsibility for caring for ill or disabled partner, relative or dependent
- Category 1 applicants are treated as ‘priority’ applicants.

Category 2

- Unique opportunities for personal professional development, e.g. training for national/international sporting events, or short-term extraordinary responsibility (a national committee)
- Religious commitment (e.g. involving training for a religious role which requires a specific amount of time commitment)
- Non-medical professional development such as management courses, law courses, fine arts courses or diploma in complementary therapies Category 2 applicants are treated on their individual merits.

APPENDIX A to Cardiology Trainees' Toolkit (August 2020)

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.

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 Membership (Associate BJCA) (Cost for trainees: £105 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)
- 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.bjca.co or contact the Affiliates Coordinator, bjca@bcs.com
or +44 (0) 20 7380 1918.

APPENDIX B to Cardiology Trainees' Toolkit (August 2020)

ARCP DECISION AID – Amended 2016

2010 Cardiology (amendments 2016) ARCP Decision Aid

The table that follows includes a column for each training year which documents the targets that have to be achieved for a satisfactory ARCP outcome at the end of the training year. This decision aid replaces all previous versions from 1 November 2016. Please refer to curriculum for definition of competency levels and guidance on number and format of assessments.

1. Core curriculum requirements for all trainees

	ST3	ST4	ST5	ST6	ST7
ALS (Course and certificate) also 2.24	Valid	Valid	Valid	Valid	Valid
IRMER (Course and certificate) also 2.25			Valid	Valid	Valid
Examination			Specialist Exam attempted/passed	Specialist Exam attempted/passed	Specialist Exam passed
Audit (cumulative requirement)			1 Completed Audit or Quality Improvement Project		2nd Completed Audit or Quality Improvement Project
MSF to assess Good Medical Practice		Satisfactory		Satisfactory	
Patient Survey to assess Good Medical Practice (e.g. post ward round or outpatients)			1 Survey		1 Survey
Management and teaching Courses					Completed
Teaching skills	Teaching Observation				Teaching Observation
CPD (annual attendance requirements at organised teaching or equivalent as organised by local programme)	60% attendance	60% attendance	60% attendance	60% attendance	60% attendance

Common competencies [^]	ES confirmation that satisfactory progress is being made	ES confirmation that satisfactory progress is being made	ES confirmation that satisfactory progress is being made	ES confirmation that satisfactory progress is being made	ES confirmation that level 3 / 4 achieved for all common competencies
Log book of procedures	Documentation completed	Documentation completed	Documentation completed	Documentation completed	Documentation completed
Educational Supervisor's report	Satisfactory	Satisfactory	Satisfactory	Satisfactory	Satisfactory
Multiple Consultant reports (MCR)	4 - 6	4 - 6	4 - 6	4 - 6	4 - 6
SLE requirements to cover Core Cardiology Curriculum, General Medical Competencies relevant to Cardiology and Core Procedures (See checklist below)	5 CbD or mini-CEX 3 ACATs (Acute Medical or Cardiac take)*	5 CbD or mini-CEX 3 ACATs (Acute Medical or Cardiac take)*	5 CbD or mini-CEX 3 ACATs (Acute Medical or Cardiac Take)*		
SLE requirements to cover Advanced Modular Syllabi and core topics not covered in ST3-5 (see checklist below)				5 CbD or mini-CEX 2 ACATs (Acute Cardiac Take)	5 CbD or mini-CEX 2 ACATs (Acute Cardiac Take)
Minimum DOPS requirements (see table below and assessment section of curriculum)	4-6	4-6	4-6	4-6	4-6

* ACAT for medical take if on GIM rota and cardiac take if on Cardiology rota

[^]10 of the common competencies do not require directly linked evidence in the ePortfolio

2. Checklist for curricular competencies

Please refer to Cardiology page of the [JRCPTB website](#) for the current curriculum, definition of competency levels and guidance on number and format of assessments.

General Medicine Competencies Relevant to Cardiology (to be completed by the end of ST5)	ST3	ST4	ST5		
Chest Pain 2.1.a*					
Breathlessness 2.2 & 2.3*					
Syncope and pre-syncope 2.7*					
Palpitation 2.8*					
Black out/collapse*					
Shocked patient					
Unconscious patient					
GI bleeding					
Acute Confusion					
Medical Complications during acute illness and following surgical procedure					
<i>* Note overlap with Cardiology Core Curriculum topics below</i>					
Core Cardiology Curricula Topics (to be completed by the end of ST7)	ST3	ST4	ST5	ST6	ST7
1. Chest pain					
2. Stable angina					
3. Acute coronary syndromes and myocardial infarction					
4. Acute breathlessness					
5. Chronic breathlessness					
6. Heart failure					
7. Cardiomyopathy					
8. Patients with valvular heart disease					

9. Pre-syncope and syncope					
10. Arrhythmias					
11. Atrial fibrillation					
12. Pericardial disease					
13a. Primary and secondary prevention of cardiovascular disease					
13b. Hypertension					
13c. Lipid Disorders					
14. Adult Congenital Heart Disease					
15. The prevention and management of endocarditis					
16. Diseases of the Aorta and Cardiac Trauma					
17. Cardiac Tumours					
18. Cardiac rehabilitation					
19. Assessment of Patients with CV Disease Prior to Non-Cardiac Surgery					
20. Assessments of Patients Prior to Cardiac Surgery					
21. Care of Patients Following Cardiac Surgery					
22. Management of Critically Ill Patients with Haemodynamic Disturbances					
22. Heart Disease in Pregnancy					
24. Resuscitation – Basic and Advanced Life Support					
25. Radiation Use and Safety					
26. Community Cardiology					
27. Pulmonary Arterial Hypertension (PAH)					
28. Clinical Genetics and Inherited Cardiovascular Conditions					

Core Procedures and Investigations (to be completed by the end of ST5)	ST3	ST4	ST5		
1. Basic investigations: ECG, Ambulatory ECG and BP, Exercise Testing, CXR					
2. Echo (core)					
3. Nuclear Cardiology (core)					
4. CMR Resonance (core)					
5. Cardiac CT (core)					
6. Heart Rhythm Training (core)					
7. Interventional Cardiology (core)					
8. Pericardiocentesis					

3. Checklist for curricular competencies - Specialist area syllabus

Please refer to Cardiology page of the [JRCPTB website](#) for the current curriculum, definition of competency levels and guidance on number and format of assessments during specialist area training.

No	Units	Specialist area description	ST6	ST7
4.1	4	Advanced Adolescent and Adult Congenital Heart Disease		
4.1b.	1	Heart disease in Pregnancy		
4.2.	4	Advanced Rhythm Training - EP + devices		
	2	Devices only		
4.3	2	Heart Failure (Advanced)		
4.4.	4	Interventional Cardiology		
5a	2	Cardiac Imaging - Echo 1		
	4	Cardiac Imaging - Echo 2		

5b	2	Nuclear		
5c	2	CMR		
5d	2	Cardiac CT		
6	1	Inherited Cardiovascular Conditions		

When two x 2 unit modules are chosen the balance between the completed competencies by the end of ST6 may differ but should be 50% overall combined for both modules. Guidance on allocation to advanced modules and dual CCT training in cardiology and GIM is available on the cardiology page of the [JRCPTB website](#).

4. Core procedures and investigations requiring DOPs assessment

Please refer to Cardiology page of the [JRCPTB website](#) for the current curriculum, definition of competency levels and guidance on number and format of assessments.

	ST3	ST4	ST5	ST6	ST7
Transthoracic Echocardiography	Level 1	Level 2	Level 3 or BSE accreditation	Level 3 or BSE accreditation	Level 3 or BSE accreditation
Cardiac Catheterization	Level 1	Level 1-2	Level 2 *	Level 2-3	Level 3
Temporary Pacing	Level 1	Level 2	Level 3	Level 3	Level 3
Permanent Pacing	Level 1	Level 1	Level 2	Level 2	Level 2
Pericardiocentesis	Level 1	Level 1	Level 2	Level 2	Level 3
Cardioversion	Level 2	Level 3	Level 3	Level 3	Level 3

*Trainees who wish to train in PCI must have achieved Level 3 competency in angiography by the end of ST5

APPENDIX C to Cardiology Trainees' Toolkit (August 2020)

MODULAR SPECIALIST AREA TRAINING MODEL (ST6-ST7):

- Trainees must combine 4 or 5 “units” for CCT. Modules to be taken in full
- Modular Weightings:

Subspecialty		Units
1a	ACHD	2 or 4
1b	Heart Disease in Pregnancy (must be with ACHD)	1
2a	Advanced Rhythm Management EP + Devices	4
2b	Advanced Rhythm Management Device Therapy	2
3	Heart Failure	2
4	Coronary Intervention	4
5a	Advanced Echocardiography 1	2
	Advanced Echocardiography 2	4
5b	Nuclear	2
5c	Cardiac CT	2
5d	Cardiac MR	2
6	Academic Cardiology (Academic post-holders)	Up to 4
7	GIM	2

The cardiology SAC has produced guidance for TPDs and trainees on the recommended procedures for allocating trainees to the advanced training modules for training years ST6 and ST7. Please refer to the JRCPTB website: <https://www.jrcptb.org.uk/sites/default/files/ALLOCATION%20TO%20CARDIOLOGY%20ADVANCED%20MODULES%202012.pdf> for links to the document: ‘Allocation to cardiology advanced modules 2012’ and the person specifications for each of the advanced modules.

The two options for trainees undertaking dual training in cardiology and GIM training are shown in the table below.

Options	ST3-ST5	ST6	ST7	ST8	Maximum training time
A	Cardiology GIM ^a	Cardiology advanced specialist area modules (4 units)		Cardiology GIM ^b	72 months
B	Cardiology GIM ^a	Cardiology advanced specialist area modules (2 units) / GIM (2 units)		N/A	60 months

^aVariable proportions of GIM to Cardiology training depending on region

^bMinimum of 30% training time spent in cardiology to maintain competencies, but may require a higher percentage depending on competencies achieved by the end of ST7

APPENDIX D to Cardiology Trainees' Toolkit (August 2020)

BJCA GUIDE TO ECHO ACCREDITATION FOR REGISTRARS



The BSE accreditation is a formal process to certify competence in basic echocardiography. Although BSE accreditation is still not officially mandatory, the alternative arrangements to satisfy “end of ST5” requirements are equally, if not more stringent and labour intensive (see the Echo curriculum delivery tool Nov 2016 available at <https://www.jrcptb.org.uk/documents/echo-curriculum-based-assessment-tool-october-2016-cbat>). We therefore strongly advise all trainees to strive for BSE TTE accreditation which is a highly desirable qualification and is recognised throughout the United Kingdom and in Europe. In addition, BSE accreditation in adult TTE can be used in place of DOPS assessments (i.e. no further DOPS in echo are required once accreditation has been achieved).

Accreditation involves a written exam and practical assessment. Full details of the processes required for BSE accreditation are available at www.bsecho.org

A diagrammatic representation of the accreditation process/pathway with helpful pointers for trainees (Timeline from ST3) is shown below:

Start of ST3



- Learn to perform, interpret and report echocardiograms
- Ensure you have a dedicated echo training list
 - Purchase (and read) an echo book – see section 5D
 - Consider attending an echo course – see BSE website for list of courses: www.bsecho.org
 - Perform bedside echocardiograms at every opportunity (in and out of hours) to further develop echo skills

Consider registration with the British Society of Echocardiography now – there are many educational benefits (see BSE website) and you will need to be a registered member to undertake the accreditation process.



Start compiling your logbook of 250 cases of a **specific case mix** (see guidance on BSE website). Look out for and collect cases of rare and interesting pathology (myxoma, hypertrophic

cardiomyopathy). Aim to collect 100 cases in your first year of training.

Start of ST4



Register and start preparing for the written assessment part of the accreditation process

- The BSE written assessment is held on two occasions each year: a spring examination and an autumn examination in multiple locations using Pearson VUE centres.
- The written assessment 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 ST3 year should be sufficient
- Consider attending a BSE exam preparation course

Sit for (and hopefully pass) the BSE written assessment

- If you are concerned that you do not have enough knowledge and experience to pass the written exam or may struggle to complete your logbook within 2 years of sitting the exam, consider deferring to the next sitting
- You must pass the written assessment before attending the practical assessment.

Focus on the practical assessment immediately after passing the written exam

- **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**
- Compile your logbook of 250 reports of a specific case mix. Ensure you keep a tally of the primary diagnosis for each case and actively seek to obtain the specified number of cases for each section. (no more than 25 studies should be completely normal).
- Start collecting your 5 video cases of the required diagnoses: [1] a normal study, [2] moderate or severe AS, [3] moderate or severe AR or MR, [4] regional wall motion abnormality, [5] another pathology (prosthetic valve, mass/thrombus, simple congenital, significant LVH)

Start of ST5



End of ST5

Intensify efforts to complete logbook. Do not leave it till the last minute – you only have 3-4 months left.

The practical assessment is currently held 4 times a year (soon to increase to 6 times a year). **NOTE:** These are often oversubscribed – thus please ensure you **book a date for your practical assessment well in advance** (look out for dates on the BSE website). If you are having difficulty in securing a place try contacting Ms Jo Thanjal, BSE Accreditation Administrator (jo@bsecho.org)

Full details of the practical assessment are available in the BSE TTE accreditation pack (effective March 2015). Essentially there are 3 stations

1. Review of Logbook – ensure the logbook is fully anonymised and submitted in 1 ring binder/file folder with the different case categories separated by dividers
2. Viva assessing video cases

Acquisition of a number of echo views on a normal volunteer

Hopefully you would have achieved BSE accreditation in transthoracic echocardiography!

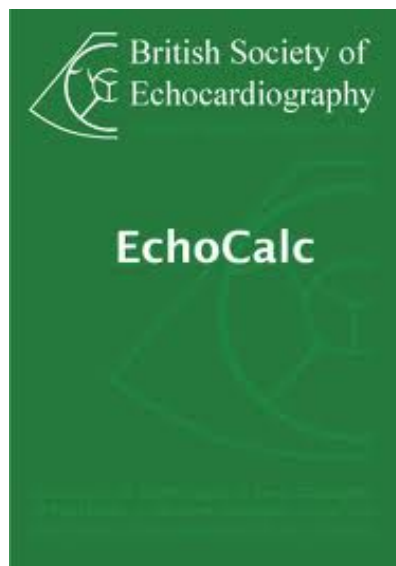
BSE App

EchoCalc is the official App of the British Society of Echocardiography (BSE) made freely available to download. It contains all of the BSE normal reference values for transthoracic echocardiography and other widely used reference values, including those for prosthetic aortic and mitral valves.

Currently free to download, it is available for iPhone/iPod Touch/iPad users, Android users and Blackberry Playbook users.

Please visit the BSE website for further information

www.bsecho.org/bse-app/



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) is possible but requires a lot of organisation and effort over a 2.5 year period. Start preparing early as suggested by the timeline above and refer to the BSE website and Information Pack on Accreditation in Adult Echocardiography.

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 JRCPTB 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 lists clinics and attend departmental, regional or national echo meetings.

Preparing for the BSE written exam

Consider attending a basic echo course about 6-12 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 might wish to check these views with a BSE accredited sonographer and bring the patient back for a second scan if required.

Submission and practical assessment

Find an efficient way to **anonymise** your 250 echo reports. **Do this prospectively and it will avoid any last-minute rush.** One option is to export reports from TOMCAT to MS Word and remove the patient details electronically. A second option is to photocopy each report with the patient details covered by a 'cut out'. A third option is to photocopy after 'blacking out' details with a marker (ensure details are definitely no longer visible). In addition to echo findings, each report must have an indication, a conclusion, your full name and **signature**.

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 to Cardiology Trainees' Toolkit - June 2018

CMR TRAINING – REQUIREMENTS AND RESOURCES

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

Sabrina Nordin sabrina.nordin@nhs.net
Antonio De Marvao antoniomarvao@yahoo.com

Core Training (ST3-5)

Requirement: 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

Requirement: 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.

CMR Pocket Guides:

CMR Phone App:

Includes a great repository of "classic" cases with cines as well as a calculator for common CMR calculations.



General CMR:

https://www.escardio.org/static_file/Escardio/Subspecialty/EACVI/CMR-guide-2013.pdf

CMR Physics:

https://www.escardio.org/static_file/Escardio/Subspecialty/EACVI/CMR%20Physics%20Pocket%20Guide%20iBook%20v1.0.pdf

Congenital CMR:

https://www.escardio.org/static_file/Escardio/Subspecialty/EACVI/CMR-guide-CHD-2014.pdf

Web Resources:

<http://www.bscmr.org/>

Links to UK and regional activities.

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

EuroCMR Conference webcasts, CMR accreditation and more.

www.scmr.org

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

<http://jcmr-online.biomedcentral.com/>

The latest CMR research (also look at Imaging sub-journals of EHJ, Circulation and JACC).

SCMR Level-1 course

<http://education.scmr.org/>

Free online course (certificate can only be obtained if signing in via the BCS website).

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.

Conferences:

BSCMR: A 1-day UK conference in March-April each year. Often includes a core-competency course aimed towards achieving Level 1 the day before the main conference (2019 will conference will take place in Oxford).

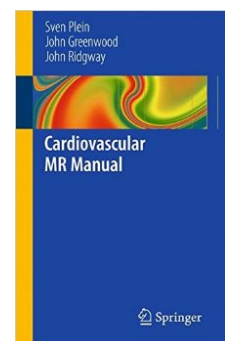
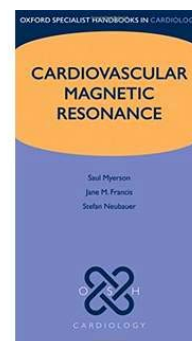
EuroCMR: Takes place in May each year. The EuroCMR exam is a part of EuroCMR/ESC Level 2 and Level 3 certification.

SCMR: January- February each year, though combined SCMR/EuroCMR meetings are held in Europe once every 4 years.

Recommended Books:

Cardiovascular Magnetic Resonance
(Oxford Specialist Handbooks in Cardiology)
25 Apr 2013 by Saul G. Myerson and Jane Francis

Cardiovascular MR Manual. 17 Oct 2015 by
Sven Plein, John Greenwood and John Ridgway.
Detailed explanations of CMR Physics,
as well as clinical applications.



APPENDIX F to Cardiology Trainees' Toolkit - August 2019

CARDIOLOGY SAC APPROVED LIST OF STUDY LEAVE COURSES

Event / Course Title	ST3	ST4	ST5	ST6	ST7	Duration	Status	Curriculum page
Cardiology core training / curriculum mandated								
ALS	x	x	x	x	x	1-2 days	Mandatory	P112
Ionising Radiation (Medical Exposure) Regulations (IRMER) Certificate course or online equivalent^	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	link
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

Optional courses / meetings [Link](#)

Focussed echo course (e.g. Focused echocardiography in emergency life support (FEEL))	x						Optional	link
Foundation echocardiography course (e.g. BSE or equivalent)	x	x					Optional	
BJCA HeadStart in Cardiology - ST3 introduction course	x					2 days	Optional	link
BSE core knowledge training / equivalent echo exam preparation course	x	x	x	x	x	2 days	Optional	link
BCS Annual Conference	x	x	x	x	x	3 days	Optional	link
BCS A Year in Cardiology	x	x	x	x	x	1 day	Optional	link
BCS first steps in cardiology research	x	x	x	x	x	1 day	Optional	link
BCS cardiology update	x	x	x	x	x	1 day	Optional	link
British Heart Valve Society (BHVS) core knowledge day	x	x	x	x	x	1 day	Optional	link
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	link
Hands-on cardiac morphology		x	x	x	x	1-2 days	Optional	link
ACHD transthoracic echo course (e.g. Bristol ACHD Echo)		x	x	x	x	2 days	Optional	link
ACHD transoesophageal echo (TOE) course (e.g. UCLH European)		x	x	x	x	2 days	Optional	link
RSM ACHD training days		x	x	x	x	1 day	Optional	

Advanced rhythm training

Anatomy for electrophysiologists		x	x	x	x	3 days	Optional	link
Electrophysiology core curriculum course (e.g. Leeds or equivalent)		x	x	x	x	2 days	Optional	link
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	link
Arrhythmia Alliance - London Arrhythmia Summit		x	x	x	x	1 day	Optional	link
BHRS Heart Rhythm Congress		x	x	x	x	4 days	Optional	link

Heart failure							
British Society for Heart Failure (BSH) annual conference	x	x	x	x	2 days	Optional	link
BSH: Heart Failure Day for Revalidation and Training	x	x	x	x	1 day	Optional	link
Cardiac imaging							
Advance course on 3D Echocardiography	x	x	x	x	1 day	Optional	link
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	link
BCS/BSCMR Level 1 course - Cardiovascular Magnetic Resonance or equivalent	x	x	x	x	1 day	Optional	link
Clinical workshop on cardiac MR stress imaging	x	x	x	x	3 days	Optional	link
British Society of Cardiovascular Magnetic Resonance (BSCMR) annual meeting	x	x	x	x	1 day	Optional	link
BSCI/BSCCT annual meeting	x	x	x	x	3 days	Optional	link
British Nuclear Cardiology Society (BNCS) annual meeting	x	x	x	x	3 days	Optional	link
Inherited cardiovascular conditions							
Hypertrophic cardiomyopathy: from foetus to adulthood	x	x	x	x	1 day	Optional	link
AICC annual meeting	x	x	x	x	2 days	Optional	link
Cardiomyopathy UK annual conference	x	x	x	x	1 day	Optional	link
Interventional cardiology							
Lecture-based intervention course (e.g. BCIS advanced cardiovascular interventional trainees' course)	x	x	x	x	2 days	Optional	link
BCIS study day: interventional pharmacology	x	x	x	x	2 days	Optional	link
BCIS study day: out of hospital cardiac arrest	x	x	x	x	2 days	Optional	link
BCIS annual conference: advanced cardiovascular intervention (ACI)	x	x	x	x	3 days	Optional	link
Advanced coronary imaging course (e.g. Practical IVUS and OCT)	x	x	x	x	1 day	Optional	link
Chronic Total Occlusion (CTO) course (e.g. CTO live)	x	x	x	x	1-2 days	Optional	link
Complex angioplasty course (e.g. CHIP UK)	x	x	x	x	1-2 days	Optional	link

Aspirational courses / meetings

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

Selected general international conferences

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

Selected sub-specialty international conferences

ICNC - Nuclear Cardiology & Cardiac CT	x	x	x	x	3 days	Aspirational	link
EANM European Association of Nuclear Medicine Congress	x	x	x	x	3 days	Aspirational	link
EuroGUCH	x	x	x	x	2 days	Aspirational	link
EuroCMR	x	x	x	x	3 days	Aspirational	link
EuroEcho & Imaging	x	x	x	x	3 days	Aspirational	link
SCMR	x	x	x	x	3 days	Aspirational	link
EuroPCR	x	x	x	x	4 days	Aspirational	link
PCR London Valves	x	x	x	x	2 days	Aspirational	link
Transcatheter Cardiovascular Therapeutics (TCT)	x	x	x	x	2 days	Aspirational	link

^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

In the rare event where a trainee wishes to undertake a course or event that is not included on the Mandated and Optional Lists, the trainee should discuss with their educational supervisor and Training Programme Director to ensure that the course or event is relevant to their professional development, and that sufficient funds are available. The Head of Speciality School will have final sign off for such aspirational events depending on current funding available.

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