Cardiology

Specialty Specific Guidance
This guidance is to help doctors who are applying for entry onto the Specialist Register with a CESR in Cardiology. You will also need to read the Cardiology Curriculum documentation.
**Introduction**

You can [contact us](#) and for advice before you apply.

**What is the indicative period of training for a Certificate of Completion of Training (CCT) in Cardiology?**

The indicative period of training for a CCT in Cardiology is seven years and it is unlikely that you would achieve all the learning outcomes required for a CCT in a shorter period of time.

The structure of the programme is an indicative two years in Core Medical Training or Acute Care Common Stem (ACCS) followed by an indicative five years of training in cardiology. Therefore, applicants need to demonstrate that they have achieved the competencies in both of these areas.

**Submitting your evidence**

Do not submit original documents.

All your evidence, other than qualifications you’re getting authenticated, **must** be accompanied by a pro-forma signed by the person who is attesting to the validity and accuracy of your evidence (your verifier). It’s very important that you read an explanation of how to do this in our [important notice about evidence](#).

You will also need to submit translations of any documents that are not in English. Please ensure the translations you submit meet our [translation requirements](#).

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Please make sure you are reading the latest version. You can find all the guidance you need at [www.gmc-uk.org](http://www.gmc-uk.org).
Your evidence **must** be accurate and may be verified at source should we have any queries or justifiable doubts about the accuracy of your evidence. All evidence submitted will be cross checked against the rest of your application and documents.

**Anonymising your evidence**

It is important that you anonymise your evidence before you submit it to us. You must remove:

- All patient identifying details
- Details of patients’ relatives
- Details of colleagues that you have assessed, written a reference for, or who have been involved in a complaint you have submitted.

This includes:

- Names (first and last)
- Addresses
- Contact details such as phone numbers or email addresses
- NHS numbers
- Other individual patient numbers
- GMC numbers

The following details don’t need to be anonymised:

- Gender
- Date of birth
It is your responsibility to make sure that your evidence has been anonymised. Evidence which has not been anonymised will be returned to you. More information can be found on our website.

**How much evidence to submit**

This guidance on documents to supply is not exhaustive and you may have alternative evidence. You do not necessarily have to supply every type of evidence listed, but you must submit sufficient evidence to address each of the required learning outcomes and the associated capabilities. We recognise that you may not have all the evidence listed here and we recommend that you delay submitting an application until you are able to gather it.

Your evidence **must** cover the knowledge, skills and qualifications to demonstrate the required learning outcomes and capabilities in all areas of the Cardiology Curriculum documentation. If evidence is missing from any area of the curriculum, then the application may fail.

If you have a piece of evidence that is relevant to more than one area, do not include multiple copies in your evidence. Instead, include one copy and list it in your application under each relevant area, stating that the document is located elsewhere, and you would like to cross-reference it.

It will help us to deal with your application more quickly if you make sure that you send us only evidence that is directly relevant.

Evidence of your competence should be recent. In general, evidence of skills or experience more than five years old should not be submitted, as typically it does not demonstrate that the competences have been recently maintained.

As a general guide, we would want no more than 100 uploaded documents (this translates to around 1,000 pages of evidence). Our guidance on compiling your evidence will help you to decide what is relevant and what is not. We recommend that you read it carefully.

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Organising your evidence

You need to gather your evidence by area of competence in the curriculum and then attach this under the relevant section in your online application.

It is important to note that you will not be able to compensate for shortfalls in your evidence of training and experience in a particular area of the curriculum by providing extra evidence in other areas.

The amount of evidence needed for each curriculum learning outcome will vary, according to the documentation required to cover each capability.

Specialty Learning Outcomes

Specialty training in Cardiology consists of core and higher speciality training. Core training provides physicians with the ability to investigate, treat and diagnose patients with acute and chronic medical symptoms; and with high quality review skills for managing inpatients and outpatients. Higher speciality training then builds on these core skills to develop the specific competencies required to practise independently as a consultant cardiologist.

Core training is usually completed in either a Core Medical Training (CMT) or Acute Care Common Stem (ACCS) programme. The full curriculum for specialty training in Cardiology therefore consists of the curriculum for either CMT or ACCS plus specialty training as set out in the curriculum for Cardiology. Full MRCP(UK) must be obtained for ST3 entry and applicants should be able to demonstrate training equivalent to CMT or ACCS and a test of knowledge equivalent to MRCP(UK).

Higher specialty training in Cardiology is divided into the four areas set out below. In each area there are a number of learning outcomes that must be achieved.

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The core clinical syllabus and procedural competencies are divided into five themes. Applicants must prove competence in each theme. The curriculum and procedural competencies needed for each theme are listed in the description of the learning outcome, and applicants should refer to the Cardiology curriculum for detailed description of the competency and standards required. For these core cardiology competencies applicants should achieve the standards expected at the end of ST7, as set out in the ARCP decision aid.

In addition to the core cardiology competencies required of all applicants, applicants should also have pursued advanced training in one or more specialist areas. Some specialist areas are larger than others, and each area module is given a weighting of one, two or four units. Applicants should demonstrate competence in one or more advanced modules that add up to at least four and no more than five units.

In addition to competencies in Cardiology, applicants will need to demonstrate that they are competent to independently manage general medical conditions that they are likely to encounter in patients undergoing Cardiology treatment. Applicants should refer to the General (Internal) Medicine curriculum for detailed descriptions of these competencies, and should be able to demonstrate competency at the level set out for ST7 in the ARCP decision aid.

1. Common competencies
   - The common competencies are those that should be acquired by all physicians during their training period starting within their undergraduate career and developed further throughout their postgraduate career (learning outcomes 1 – 8).

2. Cardiovascular medicine core clinical syllabus and procedural skills
   - The cardiovascular medicine learning objectives with the knowledge, skills, attitudes and competencies needed to fulfil the objectives. Applicants will be expected to manage the clinical problems detailed in this section and will be expected to select appropriately, interpret correctly and where appropriate perform competently these procedures and investigations (learning outcomes 9-13)

3. Cardiovascular medicine advanced specialist area modules

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• The knowledge, skills, attitudes and competencies required for expertise in the one or more advanced specialist areas. Applicants will be expected to select appropriately, interpret correctly and where appropriate perform competently the specialist area procedures and investigations in order to manage patients presenting to or referred to the particular specialist area (learning outcome 14).

4. Concomitant general medical competencies

• Applicants should have built on core training in medicine at a higher specialist trainee level of responsibility, achieving competencies at the highest level of descriptors in as broad a range of conditions as encountered. Essential competencies are set out in learning outcome 15.

Unsuccessful applications or poor evidence

It is our experience that applications from doctors in the specialty of Cardiology are often submitted with inadequate or poor evidence in the following areas.

• Core medical training competencies: CESR applications in cardiology need to demonstrate core medical knowledge and an application of this knowledge in practice. MRCP (UK) is the most effective was to demonstrate core medical knowledge; however, this alone is not sufficient to demonstrate the breadth of core competencies. In order to demonstrate core competencies applicants need to provide:
  o MRCP (UK) and evidence showing the application of core skills. This evidence could include supervised learning events (SLEs)/workplace based assessments (WPBAs), multisource feedback (MSF), quality improvement projects and direct observation of procedures (DOPS).

Or

  o Evidence of rigorous evaluation of core knowledge and clinical skills either by examination or suitable alternative assessment (to the same level as MRCP (UK) or above) and evidence showing the application of core skills. This evidence could include supervised learning events (SLEs)/workplace-based assessments (WPBAs), multisource feedback (MSF), quality improvement projects and direct observation of procedures (DOPS).

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• **Appraisals and assessments:** evidence of on-going formal appraisal and assessment is essential to demonstrate the competencies outlined in the Cardiology CCT curriculum.

• **360 and MSF feedback:** you must ensure that your evidence in this section is recent.

• **Teaching feedback.**

• **Audits:** you must show recent evidence of audits and ensure that it demonstrates completion of the audit loop (a re-audit). You should submit evidence of at least two completed audits.

• **Advanced training:** please make sure that it is clear in your application which area or areas of advanced training you wish to have assessed, ensuring this reflects the modules outlined in the curriculum.

We strongly recommend that you closely match your experiences against the current curriculum and provide evidence of equivalence across all areas.

We also strongly recommend that your referees are able to provide detailed support for your competences across all or most areas and understand the requirements for specialist training in cardiology and specialist registration in the UK.

**Evidence of training and qualifications**

Substantial primary evidence for any previous training towards a medical qualification should only be submitted if the training is directly relevant to your CESR capabilities and dates from the past five years. Otherwise, certificates of completion are sufficient evidence of training.

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**Primary medical qualification (PMQ)**

If you hold full registration with us, you do not need to submit your PMQ as we saw it when we assessed your application for registration.

If you do not hold registration, you will need to have your PMQ independently verified by ECFMG before we can grant you full registration with a licence to practise.

You can find out more about primary source verification on our website.

You only need to get your PMQ verified by ECFMG. The rest of your evidence should be verified in line with our guidance.

**Specialist medical qualification(s)**

Please provide an **authenticated copy** of any specialist medical qualifications you hold.

Applicants must demonstrate an appropriate test of knowledge to that required for the CCT, which is the European Examination in Core Cardiology (EECC), and eligible applicants should pass this exam before submitting their application.

If you do not meet the eligibility criteria to sit the EECC, you should provide evidence that you have the knowledge required in the Cardiology Curriculum. If you have passed a different test of knowledge, please submit the syllabus or curriculum for that particular examination.

There are no qualifications from outside Europe that enable automatic entry to the Specialist Register in any specialty. An evaluation is made based on an applicant’s whole career and therefore two applicants with the same qualifications but different training and/or experience may not receive the same decision. Please list unsuccessful attempts at examinations (where you have not subsequently been successful) in the application form.”
| **Recent specialist training** | If you have worked in posts approved for a specialist training programme for a relevant qualification outside the UK in the past five years, please provide an **authenticated copy** of the curriculum or syllabus that was in place when you undertook your training.  
If a formal curriculum or syllabus (including assessment methods) is not available, please provide a letter from the awarding body outlining the content of the training programme or examination.  
You must provide evidence of formal periodic assessment during your training. This evidence must have been completed at the time the training was undertaken (if it is completed retrospectively less weight will be given to the information provided). If you do not supply formal assessment documents, the curriculum must demonstrate how you were assessed. A detailed letter of verification from an educational supervisor would satisfy this requirement.  
If areas for development were highlighted, please provide evidence to demonstrate that you have subsequently addressed them.  
If you have undertaken approved specialty training towards a CCT or CESR(CP) in cardiology in the UK in the past five years, you should provide a copy of your ARCPs. |
| **Specialist registration outside the UK** | Please provide an **authenticated copy** of details of the registration requirements of that authority. |
| **Other relevant qualifications and certificates** | You may also include postgraduate qualifications in other areas if they are relevant to associated capabilities e.g. teaching, management, research methodology.  
Please provide **copies** of certificates. |

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### Evidence of employment in posts and duties (including training posts)

<table>
<thead>
<tr>
<th>Employment letters and contracts of employment</th>
<th>The information in these letters and contracts <strong>must</strong> match your CV. They will confirm the following:</th>
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<tbody>
<tr>
<td>• dates you were in post</td>
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<td>• post title, grade, training</td>
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<tr>
<td>• type of employment: permanent, fixed term, or part time (including percentage of whole time equivalent)</td>
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</table>

<table>
<thead>
<tr>
<th>Job descriptions</th>
<th>These <strong>must</strong> match the information in your CV. They will confirm the following:</th>
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<tr>
<td>• your position within the structure of your department</td>
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<tr>
<td>• your post’s title</td>
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<td>• your clinical and non-clinical commitment</td>
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<tr>
<td>• your involvement in teaching or training</td>
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Evidence of Achieving Learning Objectives

The following table outlines types of evidence common across all curriculum learning outcome and what is expected from these types of evidence.

| Workplace-based Assessments | These are the preferred form of evidence for demonstration of the key competencies. Please see the JRCPTB website for a full description of these assessments (www.jrcptb.org.uk/assessment/workplace-based-assessments).

Evidence of engagement with the learning objectives is provided by supervised learning events (SLE), such as mini-clinical evaluation exercises (mini-CEX), case-based discussion (CBD) and acute care assessment tool (ACAT).

The number of SLEs required to demonstrate achievement of the learning objective will vary according to the number of competencies described and the breadth of the knowledge, skills and behaviours required. For guidance, candidates for CCT are expected to provide at least two pieces of evidence per curriculum competence, at least one of which should be a WBA. WBAs can be linked to a maximum of two competencies (eight for ACATs).

Procedural skills are assessed by direct observation of procedural skills (DOPS). There is a basic requirement that, for reliable assessment, a minimum of six DOPS by at least two different assessors is performed. |
## Logbooks

Logbooks of procedures performed do not prove competence but provide evidence that the applicant has had adequate exposure to the relevant procedure and is likely to have experience of the common difficulties in and management of complications of the procedure.

Logbooks should provide a summary of the total number of each procedure listed.

## Medical reports, case histories, copies of medical correspondence

These can be used to provide evidence of your involvement in cases of interest and demonstrate the breadth of your practice, but do not prove competence. These may provide an alternative to workplace-based assessments if accompanied by evidence of discussion with senior colleagues and reflection on learning.

## CPD

Certificated of attendance at CPD events provide useful evidence of knowledge and skills relevant to key competencies, but when presented without accompanying workplace-based evidence, or equivalent, do not prove competence.
Curriculum LO 1: history taking, clinical examination, therapeutics and safe prescribing

Standard expected

Applicants should practice these key clinical skills to a very high standard (see Cardiology Curriculum 2010 (amendments 2016) p52-56).

Key competences

- The ability to obtain a relevant history from complex patients in challenging circumstances
- The ability to perform focussed and accurate clinical examination in complex patients and challenging circumstances
- The ability to relate physical findings to history in order to establish diagnosis and formulate a management plan
- The ability to prescribe, review and monitor appropriate medication relevant to clinical practice including therapeutic and preventative indications

Documentation required

- MRCP(UK) or equivalent
- Satisfactory structured references
- WBA evidence (CBD, mini-CEX or ACAT; or equivalent) of assessing patients and making a management plans in complex patients and challenging circumstances.
• WBA evidence (CBD, mini-CEX or ACAT; or equivalent) of good practice in prescribing

**Curriculum LO 2: patient needs at the centre of care, the promotion of patient safety, team working and infection control**

**Standard expected**

The prevalence of long-term conditions in patients presenting to Cardiology and General (Internal) Medicine means that specific competencies have been defined in the management of this group of patients, including competence in managing end-of-life care. Many of these competencies will have been acquired during core training but as part of the maturation process for the cardiologist, these competencies will become more finely honed and applicants should be able to demonstrate the competencies described (see Cardiology Curriculum 2010 (amendments 2016) p56-69).

**Key competences**

• Time management and decision making
• Decision making and Clinical reasoning
• The patient as the central focus of care
• Patient Safety in clinical practice
• Team working
• Principles of quality and safety improvement
• Infection control

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• Managing long-term conditions and promoting patient self-care
• End-of-life care in cardiology

**Documentation required**

- **Two** patient feedback surveys conducted within the last 5 years

- Evidence of involvement in clinical governance (e.g. minutes of governance meetings, reflection on patient safety incidents)

- **Two** colleague feedback surveys (multi-source feedback, 360 assessments or team assessments of behaviour) conducted within the last 5 years

- Evidence of participation in a management course within the last 5 years

- Evidence of performance of **two audits, with completion of the audit loop**, within the last 5 years. Applicants may submit ‘Audit Assessments’ (see [www.jrcptb.org.uk/assessment/workplace-based-assessments](http://www.jrcptb.org.uk/assessment/workplace-based-assessments)), or provide full details of the audit carried out, including presentation of results, recommendations and evidence of re-audit

- Evidence of training in infection control (e.g. up-to-date mandatory training records, CPD certificates)

- Evidence of engagement with palliative care in the management of patients with end-stage heart disease (e.g. WBA’s (CBD, mini-CEX or ACAT), correspondence with palliative care teams)

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Evidence of training in equality and diversity (e.g. up-to-date employer mandatory training records, CPD certificates)

Evidence of training in mental capacity assessment and deprivation of liberty safeguards (e.g. up-to-date employer mandatory training records, CPD certificates)

Workplace-based assessments (CBD, mini-CEX or ACAT) covering consent to treatment

Workplace-based assessments (CBD, mini-CEX or ACAT) covering consent to treatment in special circumstances, e.g. patient incapacity

Curriculum LO 3: communication

Standard expected

Issues of communication both with patients and carers and within the healthcare team are often causes of complaint and inadequate communication can lead to poorer standards of patient care. Specific issues are highlighted within this section to promote better communication generally and within certain situations such as the impact of a patient’s background (nationality and culture) on their health (see Cardiology Curriculum 2010 (amendments 2016) p70-75).

Key competences

- The ability to communicate effectively and sensitively with patients, relatives and carers

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• The ability to recognise the fundamental importance of breaking bad news. To have strategies for skilled delivery of bad news according to the needs of individual patients and their relatives / carers
• The ability to respond appropriately to complaints and medical error
• Recognition and acceptance of the responsibilities and role of the doctor in relation to other healthcare professionals
• The ability to communicate succinctly and effectively with other professionals as appropriate

**Documentation required**

• Workplace-based evidence (CBD, mini-CEX or ACAT; or equivalent) of competence in breaking bad news

• Evidence of involvement in dealing with complaints (e.g. correspondence about complaints, reflection on formal or informal complaints, CPD on handling complaints)

• Evidence of reflection on medical errors (e.g. reflective diary entries)

**Curriculum LO 4: public health, health promotion, health inequalities and occupational health.**

**Standard expected**

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For all hospital-based physicians there is a need to be aware of public health issues, health promotion, health inequalities and occupational health (see Cardiology Curriculum 2010 (amendments 2016) p76-78).

**Key competences**

- The ability to work with individuals and communities to reduce levels of ill health, remove inequalities in healthcare provision and improve the general health of a community
- The ability to assess the effects of work on cardiac health
- The ability to assess the effects of cardiac disease on work
- The ability to advise patients on return to work after cardiac illnesses
- The ability to advise patients regarding effect of cardiac disease on specific occupational matters, e.g. driving, flying

**Documentation required**

- Evidence of knowledge of the epidemiology of cardiovascular disease (e.g. European Exam in Core Cardiology or equivalent)

WBAs and/or correspondence with patients to demonstrate the following:

- delivery of health promotion and risk factor reduction advice
- delivery of advice on returning to work after cardiovascular disease
- delivery of advice on driving and flying in patients with cardiovascular disease
Curriculum LO 5: the law, ethics and research

Standard expected

The legal and ethical framework associated with healthcare is a vital part of the practitioner’s competence for safe practice. Within this the ethical aspects of research must be considered.

It is the responsibility of each practitioner to ensure that they are aware of relevant developments in clinical care and also ensure that their practice conforms to the highest standards of practice that may be possible. Awareness of the evidence base behind current practice and the need to audit one’s own practice is vital for the physician training in cardiology (see Cardiology Curriculum 2010 (amendments 2016) p79-86).

Key competences

- Knowledge, understanding and application of the principles, guidance and laws regarding medical ethics and confidentiality
- The ability to obtain valid consent from the patient
- Understanding of the legal framework within which healthcare is provided in the UK in order to ensure that personal clinical practice is always provided in line with this legal framework
- The ability to ensure that research is undertaken using relevant ethical guidelines
- The ability to make the optimal use of current best evidence in making decisions about the care of patients
- The ability to construct evidence based guidelines in relation to medical practice
- The ability to perform an audit of clinical practice and to apply the findings appropriately

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Documentation required

- Evidence of training in information governance (e.g. through employer mandatory training records, CPD certificates)
- Evidence of training in research governance (e.g. through a course in Good Clinical Practice within the last 5 years)
- Evidence of audit (this evidence can be cross referenced with LO2)

Curriculum LO 6: teaching and training

Standard expected

Applicants need the ability to teach and train other health care professionals, including doctors in training, seeking and acting upon assessment of the quality of their teaching. They should be able to plan and deliver a training programme with appropriate assessments (see Cardiology Curriculum 2010 (amendments 2016) p86-88).

Key competences

- Knowledge of the principles of adult learning
- The ability to deliver teaching in different formats

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• The ability to deliver effective feedback

**Documentation required**

- Evidence of completion of formal training in teaching, of at least two days’ duration

- Two ‘teaching observation’ workplace-based assessments, or equivalent assessment of the applicant’s teaching skills within the last 5 years

- Evidence of involvement in the assessment of other trainees, giving effective feedback

**Curriculum LO 7: personal behaviour**

**Standard expected**

Applicants will be expected to have appropriate attitudes and behaviours that help deal with complex situations. They must have developed clinical leadership in order to work effectively as part of the healthcare team, exhibiting behaviours that will enable the doctor to become a senior leader able to deal with complex situations and difficult behaviours and attitudes.

Applicants must work effectively with many teams and to be known to put the quality and safety of patient care as a prime objective, be recognised as someone who is trusted to be able to manage complex human, legal and ethical problem, be trusted and known to act fairly in all situations (see Cardiology Curriculum 2010 (amendments 2016) p88-90).

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Key competences

- Knowledge of one’s own values and principles and how these may differ from those of others
- Knowledge of the potential impact of personal beliefs on the delivery of healthcare
- Knowledge of the impact of one’s own emotions and behaviour
- Knowledge of how to deal with inappropriate patient and family behaviour
- The ability to practice with integrity, compassion, altruism and respect for cultural and ethnic diversity
- Honesty and probity
- The ability to admit to errors and discharge duty of candour
- The ability to communicate effectively

Documentation required

- Evidence of the key competencies (e.g. reflective practice diary entries, CPD in communication skills, dealing with conflict etc)
- Evidence of delivery of duty of candour (e.g. correspondence with patients)
Curriculum LO 8: management and NHS structure

**Standard expected**

Applicants are expected to understand the structure of the NHS and how local healthcare systems are managed, and participate in the management of healthcare provision.

**Key competences**

- Knowledge of the principles of healthcare management
- Knowledge of the structure of the NHS
- Knowledge of the principles of the use of local demographic, socioeconomic and health inequalities data to improve system performance
- The ability to work with others to assess and improve system performance

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Documentation required

- Evidence of participation in an NHS management course
- Evidence of participation in departmental or institutional governance
- Evidence of working with other healthcare partners in service development (e.g. correspondence, minutes of meetings)

Curriculum LO 9: managing coronary artery disease and associated conditions

Standard expected

The ability to carry out specialist assessment and treatment of patients with or with suspected coronary artery disease, to the standard expected of a trainee eligible for a CCT in cardiology (i.e. at the standard for ST7 on the ARCP decision aid).

To meet this standard an applicant will be expected to demonstrate through their curriculum vitae or structured reports that they have had training of at least one year’s duration in a cardiology department with an associated cardiac surgical department and intensive care unit.

Key competences

Cardiology core clinical syllabus competencies (see Cardiology Curriculum 2010 (amendments 2016) p92-116)

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1. Chest pain
2. Stable angina
3. Acute coronary syndromes and myocardial infarction
13a. Primary and secondary prevention of cardiovascular disease
13b. Hypertension
13c. Lipid disorders
18. Cardiac rehabilitation
19. Assessment of patients with cardiovascular 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
24. Resuscitation – basic and advanced life support
25. Radiation use and safety. Core procedures and investigations

Core procedures and investigations (see Cardiology Curriculum 2010 (amendments 2016) p116-123)
1. Basic investigations
7. Invasive and interventional cardiology

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Documentation required

- Workplace-based assessments, or similar evidence of practice supervised by a senior clinician with feedback provided, demonstrating competence in each of the core clinical syllabus competencies listed above

- Evidence of CPD in this area with appropriate reflection

- Clinic lists, logbooks and examples of correspondence demonstrating experience in managing patients with suspected or proven coronary artery disease

- Evidence of competence in the management of cardiac arrest through The Resuscitation Council (UK) Advanced Life Support (ALS) course or equivalent

- Evidence of training in radiation protection

- Appropriate WBA or equivalent evidence of competence in the supervision and interpretation of non-invasive investigations

- Logbook of non-invasive investigations carried out, including ambulatory ECG and blood pressure analysis and exercise stress testing

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DOPS or equivalent evidence of competence in invasive coronary angiography and left and right heart catheterisation. See the section on ‘Guideline for the Use of Workplace-Based Assessments’ in the cardiology curriculum for an indication of the numbers required.

Logbook of cardiac catheterisation procedures carried out, including evidence of having assisted in percutaneous coronary artery intervention.

Curriculum LO 10: management of valvular heart disease, aortopathy and cardiac tumours and cardiac imaging

Standard expected

To be able to carry out specialist assessment and treatment of patients with valvular heart disease, aortopathy and cardiac tumours to the standard expected of a trainee eligible for a CCT in cardiology.

To have sufficient knowledge and experience of common cardiac imaging techniques to be able to understand the indications for, limitations of and interpretation of these techniques.

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Key competences

- Cardiology core clinical syllabus competencies (See Cardiology Curriculum 2010 (amendments 2016) p92-116)
  - 8. Patients with valvular heart disease
  - 15. The prevention and management of endocarditis
  - 16. Diseases of the aorta and cardiac trauma;
  - 17. Cardiac tumours.
- Core procedures and investigations: (See 2010 Cardiology Curriculum (amendments 2016) p116-123)
  - 2. Echocardiography
  - 3. Nuclear cardiology
  - 4. Cardiac magnetic resonance
  - 5. Cardiac CT.

Documentation required

- Workplace-based assessments, or similar evidence of practice supervised by a senior clinician with feedback provided, demonstrating competence in each of the core clinical syllabus competencies listed above. At least two pieces of evidence should be provided for each competence, but more may be required to fully demonstrate the required knowledge, skills and behaviours.

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• Evidence of CPD in this area with appropriate reflection

• Clinic lists, logbooks and examples of correspondence demonstrating competence in managing patients with the above conditions

• British Society of Echocardiography accreditation in transthoracic echocardiography, or equivalent (demonstrated through evidence of a test of the theoretical knowledge of echocardiography, a practical assessment of echocardiographic skills by direct observation and assessment of recorded cases performed by the applicant, and a logbook of echocardiographic procedures performed). Applicants who hold European Association of Cardiovascular Imaging certification need only submit a log book and viva cases at a practical assessment to achieve BSE accreditation

• Workplace-based assessments, or similar evidence of practice supervised by a senior clinician with feedback provided, demonstrating competence in selecting and interpreting nuclear cardiology, cardiac magnetic resonance and cardiac CT studies

• Logbook of imaging studies observed or performed

Curriculum LO 11: Management of cardiac arrhythmias and cardiac implantable electronic devices

Standard expected

To be able to carry out specialist assessment and treatment of patients presenting with arrhythmias, including the implantation and management of implanted devices to the standard expected of a trainee eligible for a CCT in cardiology.

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To meet this standard an applicant will be expected to demonstrate through their curriculum vitae or structured reports that they have had training of at least two months’ duration in a cardiology department where invasive electrophysiology studies and ablation procedures are carried out.

**Key competences**

- Cardiology core clinical syllabus competencies (see Cardiology Curriculum 2010 (amendments 2016) p92-116)
  - 9. Pre-syncope and syncope
  - 10. Arrhythmias
  - 11. Atrial fibrillation
- Core procedures and investigations: (See 2010 Cardiology Curriculum (amendments 2016) p116-123)
  - 6. Heart rhythm training

**Documentation required**

- Workplace-based assessments, or similar evidence of practice supervised by a senior clinician with feedback provided, demonstrating competence in each of the core clinical syllabus competencies listed above. At least two pieces of evidence should be provided for each competence, but more may be required to fully demonstrate the required knowledge, skills and behaviours.
- Evidence of CPD in this area with appropriate reflection
• DOPS (or equivalent evidence) in the following areas: See the section on ‘Guideline for the Use of Workplace-Based Assessments’ in the cardiology curriculum’ for an indication of the numbers required.
  o DC cardioversion
  o Temporary pacing
  o Implanting permanent pacemakers (supervised or independently)
  o Basic pacemaker programming

• Logbook evidence for each of the following procedures:
  o DC cardioversion
  o Temporary pacing
  o Permanent pacemaker implantation
  o Electrophysiology studies and ablation (observed or carried out)
  o Implantation of cardiac resynchronisation and defibrillator devices (observed or carried out)

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Curriculum LO 12: management of adult congenital heart disease and heart disease in pregnancy

**Standard expected**

To be able to carry out, under supervision, specialist assessment and treatment of adolescent and adult patients with congenital heart disease.

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To understand the principles and importance of appropriate assessment, counselling and treatment of women with heart disease who are or who are planning to become pregnant.

To meet this standard an applicant will be expected to demonstrate that they have had an attachment of at least two weeks’ duration in a ACHD surgical specialist centre.

### Key competences

- Cardiology core clinical syllabus competencies (see Cardiology Curriculum 2010 (amendments 2016) p92-116)
  - 14. Adult congenital heart disease
  - 23. Heart disease in pregnancy

### Documentation required

- Workplace-based assessments or similar evidence of practice supervised by a senior clinician with feedback provided, demonstrating competence in each of the core clinical syllabus competencies listed above. At least two pieces of evidence should be provided for each competence, but more may be required to fully demonstrate the required knowledge, skills and behaviours.
- Evidence of CPD in this area with appropriate reflection
- Evidence of exposure to common congenital heart conditions, for example by completion of the 'Cardiology ACHD Checklist' available on the JRCPTB website

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• Evidence of attendance at heart disease in pregnancy clinics, or attendance at heart disease in pregnancy courses to gain sufficient knowledge of the principles and importance of appropriate assessment, counselling and treatment of women with heart disease who are or who are planning to become pregnant

**Curriculum LO 13: management of disorders of heart muscle, pericardium and pulmonary vasculature**

**Standard expected**

To be able to carry out specialist assessment and treatment of disorders of heart muscle, pericardium and pulmonary vasculature to the standard expected of a trainee eligible for a CCT in cardiology

**Key competences**

• Cardiology core clinical syllabus competencies: (See 2010 Cardiology Curriculum (amendments 2016) p92-116)
  - 4. Acute breathlessness
  - 5. Chronic breathlessness
  - 6. Heart failure
  - 7. Cardiomyopathy
  - 12. Pericardial disease

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Please make sure you are reading the latest version. You can find all the guidance you need at [www.gmc-uk.org](http://www.gmc-uk.org).
26. Community cardiology
27. Pulmonary arterial hypertension

- Core procedures and investigations: (See 2010 Cardiology Curriculum (amendments 2016) p116-123)
  - 8. Pericardiocentesis

**Documentation required**

- Workplace-based assessments or similar evidence of practice supervised by a senior clinician with feedback provided, demonstrating competence in each of the core clinical syllabus competencies listed above. At least two pieces of evidence should be provided for each competence, but more may be required to fully demonstrate the required knowledge, skills and behaviours.

- Evidence of CPD in this area with appropriate reflection

- DOPS evidence or equivalent of competence in performing pericardiocentesis. See the section on’ Guideline for the Use of Workplace-Based Assessments’ in the cardiology curriculum’ for an indication of the numbers required.

- Logbook of pericardiocentesis procedures carried out

**Curriculum LO 14: Advanced Specialist Areas**

**Standard expected**

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Candidates for CCT in cardiology should have completed training in at least one area of advanced practice, as described in the curriculum. Some of the areas described should be combined with another area of advanced practice to achieve the standard expected of a CCT holder in Cardiology (Please see the Cardiology curriculum for a full description of the advanced specialist area modules).

The advanced specialist areas should be chosen from the following list:

- Adolescent and adult congenital heart disease
- Advanced rhythm management
- Heart failure
- Coronary intervention
- Advanced echocardiography
- Nuclear cardiology
- Cardiac magnetic resonance
- Cardiac computed tomography

Key competences

- Please see the Cardiology curriculum for a detailed description of the competencies required for each of the advanced specialist areas.

Documentation required

- A cover note that clearly states the advanced specialist areas selected for assessment

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• Testimonials from colleagues highlighting that the candidate has the necessary training in an appropriate clinical setting to meet the standard expected

• Evidence of relevant CPD in this area

• Workplace-based assessments or equivalent demonstrating:
  - competence in the selection and preparation of appropriate patients for procedures relevant to the chosen advanced specialist area
  - competence in management of patients in the chosen advanced specialist area(s)

• DOPS (or equivalent) demonstrating competence in performing procedures relevant to the advanced specialist area

• Logbook of procedures undertaken

For guidance on the numbers of assessments needed, and indicative numbers of procedures in logbooks, please see the relevant sections of the cardiology curriculum and the section on ‘Guideline for the Use of WPBA during Specialist area Cardiovascular medicine Training’.

**Curriculum LO 15: general medical competencies relevant to cardiology**

**Standard expected**

A number of key competencies form the G(IM) curriculum are considered mandatory for cardiologists. Candidates should provide evidence of their competence to the standard expected of a trainee eligible for a CCT in cardiology.

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Key competences

- Please see the G(I)M curriculum 2009 (amended 2012) for a detailed description of the competencies required for each of the areas.
  - Shocked patient
  - Unconscious patient
  - GI bleeding
  - Acute confusion
  - Medical complications during acute illness and following surgical procedure

Documentation required

- Workplace-based assessments or similar evidence of practice supervised by a senior clinician with feedback provided, demonstrating competence in each of the core clinical syllabus competencies listed above. At least two pieces of evidence should be provided for each competence, but more may be required to fully demonstrate the required knowledge, skills and behaviours.

  - Evidence of CPD in this area with appropriate reflection

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