

Paediatric Cardiology

Specialty Specific Guidance (SSG)

This guidance is to help doctors who are applying for entry onto the Specialist Register via the Portfolio pathway in Paediatric Cardiology. You will also need to read the [curricula for the specialty](#).

This document was last updated on 15/11/2023

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Introduction

This document is designed to provide helpful information and guidance to enable you to make an application for specialist registration in Paediatric Cardiology. This is not a standalone document and should be read in conjunction with the [curricula](#) – please see the Paediatric Cardiology curriculum on the Joint Royal Colleges of Physicians Training Board (JRCPTB) website for more details. You can [contact us](#) and ask for advice before you apply.

It is worth noting that it is sometimes more difficult to make a successful application if you have not worked in the NHS and that applicants with a license to practise in the UK will have already provided some of the evidence below in order to achieve this. Key features of training and practice in the NHS are unlikely to be covered in the same way outside it and the types of evidence may differ. This might include, for example, multidisciplinary team meetings, appraisal, multisource feedback and patient feedback, safety and quality activity especially in clinical audit and quality improvement projects and other areas. You must look at the curriculum and this guidance carefully to make sure that you can demonstrate the knowledge, skills and evidence for entry to the Specialist Register for Paediatric Cardiology using an assessment framework of the high level learning outcomes in the curriculum rather than assessing your progress through a programme.

Your evidence should focus on summative assessments rather than formative ones. If you are or have recently been practising in an environment that is not comparable to practice in the NHS you might find it useful to consolidate your experience elsewhere before applying.

Applicants need to demonstrate that they have achieved the learning outcomes required for all stages of the curriculum.

Curriculum Framework

The curriculum is structured into high-level learning outcomes, known as Capabilities in Practice (CiPs). The CiPs are split into generic, clinical and specialty specific capabilities, as outlined below. To meet the standard you will need to provide evidence that you're working at the level of being entrusted to perform safely and independently for each CiP (described in the curriculum as Level 4 – entrusted to act unsupervised).

Level descriptors for clinical CiPs

Level	Descriptor
Level 1	Entrusted to observe only: No provision of clinical care

Level 2	Entrusted to act with direct supervision: May provide clinical care, but the supervising physician is physically within the hospital or other site of patient care and is immediately available if required to provide direct bedside supervision
Level 3	Entrusted to act with indirect supervision: May provide clinical care when the supervising physician is not physically present within the hospital or other site of patient care, but is available by means of telephone and/or electronic media to provide advice, and can attend at the bedside if required to provide direct supervision
Level 4	Entrusted to act unsupervised

The first six CiPs are generic and shared across all physician specialties, covering the universal requirements of [Good Medical Practice](#) and the [Generic Professional Capabilities \(GPC\) framework](#).

The next 13 CiPs describe the clinical tasks or activities which are essential to the practice of Paediatric Cardiology. The CiPs have been mapped to the GPC domains to reflect the professional generic capabilities required to undertake the clinical tasks. An applicant will also need to identify and demonstrate one further Specialty themed for service CiP to the entrustment level appropriate to the chosen CiP.

The range of experience needed to achieve the CiPs is outlined in the curriculum – this covers different settings, contexts, clinical problems, conditions and stages of a person’s life and illness.

Generic CiPs
1. Able to function successfully within NHS organisational and management systems
2. Able to deal with ethical and legal issues related to clinical practice
3. Communicates effectively and is able to share decision making, while maintaining appropriate situational awareness, professional behaviour and professional judgement
4. Is focussed on patient safety and delivers effective quality improvement in patient care
5. Carries out research and manages data appropriately
6. Acts as a clinical teacher and clinical supervisor

Specialty Specific CiPs

1. Diagnoses and manages acute and chronic structural congenital and paediatric heart disease in general, developing knowledge and ability to contribute to the patient / family centred care of this life-long disease process including awareness of comorbidities and end of life care
2. Diagnose and manage acute and chronic functional and acquired heart disease in fetal life and childhood
3. Diagnose and manage acute and chronic heart rhythm abnormalities in fetal life, childhood, and in adults with congenital heart disease, including knowledge of pacing
4. Participate in and contribute to the acute and chronic care of adult patients with congenital heart disease (ACHD) including during pregnancy
5. Working with a complex multidisciplinary team, including community and network provision of patient centred care

Specialty Themed for service CiPs

1. Provide an arrhythmia service including ablation and device therapy for paediatric and CHD patients
2. Provide a complex structural interventions service for paediatric and CHD patients
3. Provide a comprehensive imaging service for paediatric and CHD patients (this could be echocardiographic and / or cross-sectional imaging)
4. Provide a fetal diagnostic and management service for pregnancies affected by CHD
5. Manage all aspects of the heart failure service, including transplant assessment and on-going follow up
6. Provide a comprehensive diagnosis and treatment service for patients with pulmonary hypertension
7. Provide a comprehensive adult congenital heart disease service
8. Provide a comprehensive inherited cardiac conditions service

Currency of evidence

Evidence which demonstrates that you have met a curriculum outcome can be drawn from any point in your career. However, there should be corresponding evidence of recent (within the last five years of clinical practice (WTE) to confirm the maintenance of the skill or competency.

Evidence of your recent practice will be given more weight to reflect current capabilities and we suggest that approximately 50% of your evidence for a curriculum outcome is drawn from within the last five years of clinical practice (WTE).

Structured reports

You should nominate a minimum of three referees for the GMC to obtain structured reports from. They should include:

- Current Head of Department or other senior colleague with knowledge of the breadth of your clinical activity. Ideally, they should be an Educational Supervisor with at least 5 years experience themselves or appropriate training experience.
- One Internal medicine referee of consultant level who is able to provide comments based on direct observation. This is especially important if you are relying on your structured reports as evidence of your procedural competencies.
- At least one other report from a colleague working with you at consultant level in your specialty.

Submitting your evidence

Do not submit original documents. You must provide your evidence electronically – it's important that you follow the structure in our [user guide](#) when doing so.

You will need to make sure your evidence meets our requirements, this includes:

- [Anonymising](#) (redacting) identifiable information
- Verifying your evidence to confirm its authenticity
- Authenticating overseas qualifications
- Translating any documents not in English

It is important that you read and follow our [guidance](#). If your evidence does not meet these requirements, it may not be included in your application.

Please keep in mind when gathering your evidence:

- Triangulated evidence (evidence comprised of three different sources) will make a stronger application
- Evidence of your recent practice (≤ within the last 5 years of clinical practise (WTE)) will be given more weight to reflect current capabilities; where some evidence is historical (> than last 5 years of clinical practise (WTE)), the assessors will want to see evidence that the applicant has maintained capabilities in that particular area and the applicant is working at the level of a senior independent clinician.
- Your evidence must be legible

How much evidence to submit

As a general guide, most applications are expected to include around 100 electronically uploaded documents. You must ensure that you follow our guidance on how to present and group your evidence in the online application.

The total number of documents and assessments presented is less important than the quality of the documents, and the breadth of cases covered. This allows the evaluators to form reliable judgements of performance and capabilities.

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.

Your evidence **must** cover the knowledge, skills and experience to demonstrate the required CiPs in all areas of the curriculum. You should focus on providing **good quality** evidence, rather than quantity.

You should bear in mind the following points:

- Evidence should show that you are able to assess and offer a first opinion in any setting and for any age
- Don't duplicate evidence that is relevant to more than one CiP – you should include one copy and then list it under each relevant CiP (cross referencing)
- Evidence should only be cross referenced where it adds significant support to a CiP
- Evidence should be provided from a variety of clinical settings.

You must ensure you follow our [guidance](#) on how to present and group your evidence in the online application

Organising your evidence

Your evidence will need to be organised to reflect the structure of the online application. You should submit your evidence electronically under the correct section of your online application.

You should also submit the evidence requested about your training, qualifications and employment history and your CV in the format set out in the GMC's [CV guidance](#). You will also be asked to nominate referees to provide structured reports.

Your evidence must be mapped to the high level learning outcomes by providing primary evidence for knowledge, skills and experience. If evidence is missing from any of the CiPs, your application may be unsuccessful.

You will not be able to compensate for shortfalls in your evidence of training and experience in a particular area, by providing extra evidence in other areas.

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 evidence is located elsewhere, and you would like to cross-reference it.

Where we ask in our guidance, please group your evidence together to keep the number of individual electronic uploads manageable. This will need to be done prior to uploading on the GMC application. There are many software solutions widely available that can be used for converting documents/excel sheets/PowerPoint presentations and images to PDFs and combining PDF documents.

Tips for a successful application

In our experience, applications fail because they provide inadequate or poor evidence of current capability covering the knowledge, skills and experience required for practising as an eligible specialist in the United Kingdom. Below are some tips for you to consider when making an application:

- Before submitting an application, you should review the current curriculum in conjunction with this document. A strong application will provide evidence that you hold the knowledge, skills and experience which demonstrate the outcomes set out in the curriculum
- Provide evidence of your **current capability** against the high level learning outcomes of the curriculum. This includes the maintenance of CiPs and key skills all evidence should be clearly linked to the CiPs
- Ensure you have evidence demonstrating core medical knowledge and application of this knowledge in practice to the level of two years of Internal Medicine stage 1 training. To demonstrate core internal medical capabilities, applicants need to provide MRCP (UK) or a comparable assessment of applied knowledge showing the application of core skills including outpatient capability. This evidence could include supervised learning events (SLEs) and workplace based assessments (WPBAs) including multisource feedback (MSF). Evidence for alternative core medical knowledge and training can be provided – e.g. MRCPCH.
- Present your evidence in a clear, logical manner. You should refer to our user guide for advice on how to group, title and upload your evidence
- Ensure your referees can provide detailed support for your key skills across all (or most) areas of the curriculum and understand the requirements for specialist registration in the UK
- Provide evidence of managing a broad range of patients, as seen daily by Paediatric Cardiology doctors in the UK
- Provide evidence of your clinical capability across the range of experience, ages and settings
- Ensure your evidence demonstrates you are entrusted to act at an independent level across all of the specialty CiPs

How your evidence can be used to demonstrate key capabilities in different CiPs

You will notice that some of the suggested evidence is listed more than once. This is because these documents are relevant to more than one CiP. For example, MSF can be used to demonstrate competence in most CiPs – therefore, you can use the same MSF to demonstrate the required capability across several CiPs

If you have a document that is relevant to more than one CiP, don't include multiple copies of it. Instead, provide one copy and list it in your application under each relevant CiP, stating that the document is located elsewhere, and you'd like to cross reference it.

Below is a list of evidence that are relevant to most CiPs – it is by no means exhaustive, and you are encouraged to submit a variety of evidence but you should aim to demonstrate knowledge, skills and experience with evidence that is comparable to the examples below.

A description of the assessments below, together with template forms, can be found on the [JRCPTB website](#)

Evidence / requirement	About	Indicative minimum numbers
Supervised Learning Events (SLEs)		
Acute Care Assessment Tool (ACAT)	These should have been undertaken with a consultant. Each ACAT must include a minimum of 5 cases and should be used for global assessment of an applicant's performance on take, or on presenting new patients on ward rounds, encompassing both individual cases and overall performance (eg prioritisation, working with the team)	1 ACAT that indicates that the applicant is performing in an independent manner at Entrustment level 4
Case-based discussion and/ or mini-clinical evaluation exercise (mini-CEX)	These should have been undertaken with a consultant. CbDs and Mini-CEXs should cover different aspects of the specialty.	1 CbD or mini-CEX for each specialty CiP at entrustment level 4. Additional SLEs may be needed for some CiPs, see suggested documentation

Workplace Based Assessments (WPBAs)		
Direct Observation of Procedural Skills (DOPS)	<p>Evidence <u>must be</u> provided for each procedure for which an applicant must be competent to perform unsupervised of procedural/specialist procedures section of this guidance.</p> <p>You should provide either:</p> <p>A structured report concentrating upon the procedural skills in Paediatric Cardiology by a senior colleague – the GMC will request this as part of the application process so you should ensure you nominate at least on GIM doctor who are able to directly comment on your procedural competence</p> <p>OR</p> <p>Provide one summative DOPS for each procedure for which an applicant must be competent to perform unsupervised</p>	
Quality Improvement Project Assessment Tool (QIPAT)	Can be used to demonstrate active involvement in service audit or development projects.	1 completed in last 5 years of most recent practise (WTE)
Patient Survey (PS)	<p>Formal patient feedback is strong evidence as it's an anonymous feedback exercise. It should include approximately 15 patients. The JRCPTB has a template available on their website. A reflective entry reflecting on the survey must be made.</p> <p>If it is not possible to provide a formal patient survey an applicant could provide alternative evidence. However, this must provide equivalent details and breadth of information.</p> <p>Alternative evidence could include:</p> <ul style="list-style-type: none"> ▪ Thank you letters/cards from patients ▪ Statements from referees ▪ Testimonial letters from colleagues 	1 completed in last 12 months of most recent practise (WTE)

	<ul style="list-style-type: none"> Feedback from patients/colleagues 	
Teaching observation (TO)	At least one should be completed by a consultant in the specialty.	2 completed in last 12 months clinical practise (WTE) or the structured report could include commentary on teaching observation/teaching experience
Multi Source Feedback (MSF)	<p>MSF is a strong piece of evidence as it is an anonymous feedback exercise.</p> <p>Minimum of one in the 12 months clinical practise (WTE) before the application has been submitted – any available from the last 5 years clinical practise (WTE) should also be submitted.</p> <p>MSF should include approximately 12 colleagues, including medical and non-medical sources.</p>	1 completed in last 12 months clinical practise (WTE)
Other evidence		
To be included in the portfolio of evidence	<ul style="list-style-type: none"> Appraisal is good evidence of engaging with systems, processes and mandatory requirements and demonstrates performance (clinical and non-clinical) Reflective diaries/ evidence of self-reflection Supervisor report reports from trainers and supervisors are important evidence to affirm and support capabilities and performance in both clinical and non-clinical activities. JRCPTB provides a Multiple Consultant Report (MCR) template for the purpose of these reports of which there should be 4 in the last 12 months clinical practise (WTE). Training events (courses, study days, meetings) over the last five years Evidence of seeing patients over the last five years covering a range of settings, referral contexts, conditions, stages of illness, ages 	4 MCRs completed in the last 12 months clinical practise (WTE)

	<ul style="list-style-type: none"> ▪ Academic activities ▪ Management activities ▪ Structured reports ▪ APLS Certificate or equivalent ▪ Valid IRMER for those working in interventional cardiology or advanced imaging (CT/MRI). ▪ EACVI Echo Accreditation - recommended 	
Continuing Professional Development (CPD)	<p>CPD represents the acquisition and maintenance of knowledge, skills and key skills.</p> <p>Courses which would provide evidence towards a specific CiP have been listed in the suggested evidence.</p> <p>Examples of evidence could include a personal, reflective diary of learning achievements, in addition to detailed evidence of courses attended.</p>	

Evidence of training, qualifications, and employment

You can see below the evidence you must submit in these general areas. It is useful to submit evidence of your training as background evidence – this allows the evaluators to see your whole career pathway.

Evidence of training and qualifications	
Primary medical qualification (PMQ)	<p>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.</p> <p>If you do not hold registration, you will need to have your PMQ independently verified before we can grant you full registration with a licence to practise.</p>

You can find out more about [primary source verification](#) on our website.

You only need to get your PMQ verified by our provider. The rest of your evidence should be verified in line with [our guidance](#).

Please provide an **authenticated copy** of any overseas specialist medical qualifications you hold. You do not need to authenticate qualifications awarded in the UK.

You should provide:

Evidence of completion of full **MRCP(UK)** or comparable qualification MRCPCH is also an accepted test of core knowledge for Paediatric Cardiologists.

The MRCP(UK) is comprised of three tests, designed to assess acquisition of the full range of knowledge, skills and behaviour, as well as clinical understanding and execution, as detailed in the UK curriculum for Core Medical/Internal Medicine Training. For further information on the MRCP(UK), [click here](#).

Specialist medical qualification(s)

If you do not hold the MRCP (UK) or MRCPCH or a comparable qualification as above, you can aim to demonstrate the same level of knowledge by providing:

A detailed, thorough and succinct cross-referencing mapping exercise, demonstrating how each and every competency in the qualification has been covered in your own qualifications. The evaluators will then determine whether what has been provided is comprehensive enough to demonstrate the same level of knowledge. It will be assessed on a case by case basis and will involve the applicant to produce a portfolio of evidence.

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.

If your specialist medical qualification is from outside the UK, please ensure that you provide the following evidence **in addition** to your qualification:

- Training curriculum or examination syllabus

- Formal period assessments completed during training (these may be from any point in your career)

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.

Should you wish to provide further evidence obtained within your UK specialty training, this evidence should have been reviewed and signed off through an ARCP from completed years in training.

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.

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

CV	You must provide an up to date copy of your CV, which includes all the details listed in the guidance on our website .
Employment letters	<p>The information in these letters must match your CV. They should confirm the following:</p> <ul style="list-style-type: none"> ● dates you were in post ● post title, grade, training ● type of employment: permanent, fixed term, or part time (including percentage of whole time equivalent) <p>Usually this will be set out in the letters offering you the post and renewing your contracts. We do not need to see contracts and terms and conditions of employment.</p>
Job descriptions	<p>These must match the information in your CV. They will usually confirm the following:</p> <ul style="list-style-type: none"> ● your position within the structure of your department ● your post title ● your clinical and non-clinical commitment ● your involvement in teaching or training.
Rotas	You must provide samples of your rotas drawn from (not covering) the last three years of clinical practise (WTE). These should demonstrate your weekly clinical and non-clinical activities. For example, if you worked a 1:8 rota, you should submit eight consecutive weeks' rota to represent that placement.
Departmental/Unit annual caseload statistics	You should provide departmental and unit caseload statistics, activity data, range and scope of work undertaken in a placement from the last three years clinical practise (WTE).
Appraisal	Those working in an NHS or managed environment should submit evidence of annual appraisals or performance reviews. A revalidation or appraisal portfolio would be appropriate (if it is completed retrospectively less weight will be given to the information provided).

For non-training posts you should provide evidence of ongoing evaluation of your performance. This may take the format of formal appraisals by the department head or line manager (clinical director, medical director, professor).

For those applicants working in independent practice it is recommended that at least one employer appraisal is undertaken and summary documentation of this submitted with the application.

Where an applicant is not based in the UK alternative forms of appraisal are strongly advised. Alternative evidence may include letters (written at the time) commenting on your performance. In addition, where no formal appraisal or assessment forms are available you must provide information on the method of career review or progression.

Practical Procedures

Below details the practical procedures and the level of competency you will be expected to evidence. You can provide evidence for these procedures using logbooks and DOPS.

Specialty Procedures

Procedure	Level of competence required
Transthoracic echo	Competent to perform the procedure unsupervised
Trans-oesophageal & epicardial echo	Able to perform the procedure with limited supervision
Emergency pericardiocentesis*	Competent to perform the procedure unsupervised
Cardioversion	Competent to perform the procedure unsupervised
Pacing	Able to perform the procedure with limited supervision Insertion of temporary pacing wire (DOPS) Management of post-op pacing (CbD)
12 lead ECG/CXR	Competent to perform the procedure unsupervised
Ambulatory ECG/event recorder/exercise tolerance test	Competent to perform the procedure unsupervised
Balloon atrial septostomy (echo guidance only)	Competent to perform the procedure unsupervised
Cardiac catheterisation	Able to perform the procedure under direct supervision

Generic CiPs

The suggested documentation is given below each CiP and the overall numbers expected are given in the section above. Each piece of evidence can support more than one CiP and you should cross reference

CiP 1: Able to function successfully within NHS organisational and management systems

Key skills:

- Aware of, and adheres to, the GMC professional requirements
- Aware of public health issues including population health, social determinants of health and global health perspectives
- Demonstrates effective clinical leadership
- Demonstrates promotion of an open and transparent culture
- Keeps up to date through learning and teaching
- Demonstrates engagement in career planning
- Demonstrates capabilities in dealing with complexity and uncertainty
- Aware of the role and processes for commissioning
- Aware of the need to use resources wisely

Suggested documentation:

- | |
|--|
| ▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR) |
| ▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF) |
| ▪ Evidence of taking an active role in governance structures, including service development. This may, for example, include the minutes of meetings for governance and unit management in which the applicant has been involved, MDT meetings, and any documented service development initiatives such as QIPAT. |
| ▪ Evidence of attendance at an NHS / health service management course |
| ▪ CPD evidence including courses in management and business |

CiP 2: Able to deal with ethical and legal issues related to clinical practice

Key skills:

- Aware of national legislation and legal responsibilities, including safeguarding vulnerable groups
- Behaves in accordance with ethical and legal requirements
- Demonstrates ability to offer apology or explanation when appropriate
- Demonstrate ability to lead the clinical team in ensuring that ethical and legal factors are considered openly and consistently

Suggested documentation:

▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Evidence of ability to assess the mental capacity of patients to make healthcare decisions. Evidence could include: <ul style="list-style-type: none">• Reflections on cases where you had to assess a patient's mental capacity
▪ Evidence of involvement in making 'best interests' decisions, such as: <ul style="list-style-type: none">• Notes• Letters• Meeting minutes
▪ Awareness of relevant legislation, including mental capacity legislation by completion of an online training course, for example: <ul style="list-style-type: none">• eLfH Mental Capacity Act: https://www.e-lfh.org.uk/programmes/mental-capacity-act/• CPD Online Mental Capacity Act: https://cpdonline.co.uk/course/mental-capacity-act/• SCIE Mental Capacity Act: https://www.scie.org.uk/e-learning/mca

CiP 3: Communicates effectively and is able to share decision making, while maintaining appropriate situational awareness, professional behaviour and professional judgement

Key skills:

- Communicates clearly with patients and carers in a variety of settings
- Communicates effectively with clinical and other professional colleagues
- Identifies and manages barriers to communication (e.g. cognitive impairment, speech and hearing problems, capacity issues)
- Demonstrates effective consultation skills including effective verbal and non-verbal interpersonal skills
- Shares decision making by informing the patient, prioritising the patient's goals and wishes, and respecting the patient's beliefs, concerns and expectations
- Shares decision making with children and young people
- Applies management and team working skills appropriately, including influencing, negotiating, re-assessing priorities and effectively managing complex, dynamic situations

Suggested documentation:

▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Evidence of your ability to analyse a patient's communication difficulties: <ul style="list-style-type: none">• Reflective diaries
▪ Feedback from patients, such as a patient survey
▪ Reflective practice entries about patients or families who posed difficulties
▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
▪ CPD evidence including courses in simulation (including clinical scenarios and human factors) and communication

CiP 4: Is focused on patient safety and delivers effective quality improvement in patient care

Key skills:

- Makes patient safety a priority in clinical practice
- Raises and escalates concerns where there is an issue with patient safety or quality of care
- Demonstrates commitment to learning from patient safety investigations and complaints
- Shares good practice appropriately
- Contributes to and delivers quality improvement
- Understands basic Human Factors principles and practice at individual, team, organisational and system levels
- Understands the importance of non-technical skills and crisis resource management
- Recognises and works within limit of personal competence
- Avoids organising unnecessary investigations or prescribing poorly evidenced treatments

Suggested documentation:

▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Reflective practice entries about patients or families who posed difficulties
▪ Evidence that you have arranged and attended meetings about a patient with Social Services or other non-health organisations. For example: <ul style="list-style-type: none">• Meeting minutes, demonstrating your attendance and participation• Invites sent from you demonstrating arranging meetings
▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
▪ Documented evidence of development of procedures to improve inter-service and inter-agency communication, you will need to demonstrate your involvement in the new procedure and its effectiveness
▪ Evidence of specific quality improvement activity, such as evidence of specific quality improvement activity, such as a QIPAT
▪ Copies of letters you have written to NHS and non-NHS services involved with patients

- CPD evidence including courses in simulation (including clinical scenarios and human factors)

CiP 5: Carries out research and manages data appropriately

Key skills:

- Manages clinical information / data appropriately
- Understands principles of research and academic writing
- Demonstrates ability to carry out critical appraisal of the literature
- Understands the role of evidence in clinical practice and demonstrates shared decision making with patients
- Understands public health epidemiology and global health patterns
- Demonstrates appropriate knowledge of research methods, including qualitative and quantitative approaches in scientific enquiry
- Demonstrates appropriate knowledge of research principles and concepts and the translation of research into practice
- Follows guidelines on ethical conduct in research and consent for research
- Recognises potential of applied informatics, genomics, stratified risk and personalised medicine and seeks advice for patient benefit when appropriate

Suggested documentation:

- Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports
- Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
- Evidence of completion of Good Clinical Practice (GCP) training:
 - www.nihr.ac.uk/health-and-care-professionals/learning-and-support/good-clinical-practice
- Documented evidence of research activity. This may include evidence of:
 - Helping in a project
 - Reviewing research papers / grants
 - Writing and co-authoring research papers
 - Contributing to research projects
- Presentations – either lectures (podium presentations) or poster presentations

- Documented evidence of development of procedures to improve quality of care beyond personal practice, e.g. QIPAT or evidence of performing an audit
- Publications
- CPD evidence including courses in research methodology

CiP 6: Acts as a clinical teacher and clinical supervisor

Key skills:

- Delivers effective teaching and training to medical students, junior doctors and other healthcare professionals
- Delivers effective feedback with action plan
- Able to supervise less experienced trainees in their clinical assessment and management of patients
- Able to supervise less experienced trainees in carrying out appropriate practical procedures
- Able to act as a clinical supervisor to doctors in earlier stages of training

Suggested documentation:

- Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports
- Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
- Completion of relevant Medical Education training course(s)
- **Teaching Observation (TO) or other observational assessment of teaching**
- Evidence of organising educational events / programs, with feedback.
- CPD evidence including courses in education and teaching

Specialty Specific CiPs

Applicants must demonstrate that they are currently practising at the level of 'entrusted to act independently' in all specialty CiPs. Further detail regarding the descriptors for the key skills in each specialty specific CiP can be found in the [curriculum](#).

Specialty CiP 1: Diagnose and manage acute and chronic structural congenital and paediatric heart disease in general, developing knowledge and ability to contribute to the patient / family centred care of this life-long disease process including awareness of comorbidities and end of life care

Key skills:

- Demonstrates theoretical knowledge of morphology, genetics/genomics, pathophysiology and natural history across the spectrum of congenital heart disease
- Applies knowledge of the wide range of conditions and comorbidities that can be found in conjunction with congenital heart disease to practise.
- Recognises the signs and symptoms suggestive of congenital heart disease in children
- Able to assess, investigate and instigate appropriate management in patients presenting with signs and symptoms of congenital heart disease
- Able to assess, investigate and instigate appropriate management in critically ill children with cardiovascular collapse
- Able to conduct paediatric cardiac outpatient reviews
- Demonstrates ability to counsel patients and families about specific congenital cardiac defects, explaining possible treatment options and prognosis
- Appropriately manages patients pre and post cardiac surgery and cardiac catheterisation
- Provides cardiology input and advice on patients under the care of other specialities including patients in intensive care
- Able to perform and report echocardiograms to diagnose abnormalities in cardiac structure or function
- Demonstrates appropriate use and interpretation of ECG based investigations
- Refers patients appropriately for TOE, cardiac MRI and CT
- Able to perform cardiac catheterisation and angiography under supervision
- Able to prepare and present patients at congenital heart disease MDT discussions
- Safely prescribes drugs commonly used in patients with congenital heart disease
- Appropriately advises and refers children with congenital heart disease for support with feeding and nutrition.
- Appropriately advises on lifestyle factors and promotes healthy behaviours to minimise risk of future comorbidities
- Able to identify patients with indications for cardiac transplantation and initiate appropriate investigations.
- Identifies when ongoing treatment may not be in the patient's best interest. Able to counsel and refer patients to the palliative care service appropriately

- Provides cardiology advice to referring teams transferring patients to cardiac centres
- Provides advice on patients with congenital heart disease undergoing non cardiac treatment
- Supports patients transitioning from paediatric to young adult services

Suggested documentation:

▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD
▪ Evidence of direct observation of procedural skills such as DOPS
▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Attendance at relevant course/conference
▪ CPD evidence including courses in Cardiac morphology and congenital echocardiography
▪ Participation in MDT, morbidity and mortality case presentations

Specialty CiP 2: Diagnose and manage acute and chronic functional and acquired heart disease in childhood and in fetal life

Key skills:

- Demonstrates theoretical knowledge of pathophysiology and natural history across the spectrum of acquired heart disease in children (including Kawasaki disease, rheumatic heart disease, endocarditis and cardiomyopathy)
- Able to assess, investigate and instigate management of children presenting with signs and symptoms of acquired heart disease
- Demonstrates knowledge of the role of advanced echo techniques including tissue Doppler imaging, speckle tracking, myocardial

- Demonstrates knowledge of the natural history of functional heart disease in utero and how this differs from postnatal disease.
 - Able to advise patients with CHD on precautions to reduce the risk of acquired heart disease
 - Manages patients with acquired heart disease in clinic
 - Provides cardiology input and advice to patients under shared care and patients in intensive care with acquired heart disease
 - Provides cardiology advice to referring teams transferring patients to cardiac centres
 - Able to perform and report echocardiograms to diagnose abnormalities in cardiac function and coronary abnormalities associated with acquired heart disease in children
 - Recognises the signs and symptoms of chronic and acute heart failure in children
- deformation imaging and dysynchrony studies to serially assess cardiac function in children with functional heart disease
 - Refers patients appropriately for TOE, cardiac MRI and CT
 - Safely prescribes drugs commonly used in children with acquired heart disease
 - Able to advise and refer children with chronic functional heart disease for support with feeding and nutrition.
 - Able to identify patients with indications for cardiac transplantation and initiate appropriate investigations.
 - Demonstrates understanding of the indications for ECMO and VAD support in patients with severely impaired cardiac function
 - Identifies when ongoing treatment may not be in the patient's best interest. Able to counsel and refer patients to the palliative care service appropriately
 - Supports patients transitioning from paediatric to young adult services

Suggested documentation:

▪ Assessments of acute care such as ACATs
▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD
▪ Evidence of direct observation of procedural skills such as DOPS
▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Attendance at relevant course/conference
▪ Reflective practice

Specialty CiP 3: Diagnose and manage acute and chronic heart rhythm abnormalities in fetal life, childhood, and in adults with congenital heart disease, including knowledge of pacing

Key skills:

- Able to review patients with suspected heart rhythm disease in the outpatient setting
- Demonstrates theoretical knowledge of pathophysiology of arrhythmias
- Demonstrates instigation of appropriate investigations (including non-invasive and invasive cardiac event recorders) to determine the cause of symptoms of heart rhythm disease
- Able to interpret non-invasive ECG monitoring including ambulatory monitors and exercise tests
- Able to identify major abnormalities on invasive cardiac event recorders
- Conducts discussions with young people and families on the options available to manage paediatric arrhythmia
- Instigates treatment for arrhythmias including DC Cardioversion
- Demonstrates knowledge of the diagnosis and principles of management of fetal arrhythmia
- Demonstrates knowledge and application of national guidance and evidence-based medicine in arrhythmia treatment
- Demonstrates theoretical knowledge of pharmacotherapy of arrhythmia including side effects and appropriate monitoring in both children and adults with CHD
- Safely prescribes rhythm control drugs
- Refers appropriately to Electro-Physiology services for invasive event recorders, pacemakers and EP or ablation therapy
- Demonstrates knowledge of invasive investigation and treatment options for paediatric arrhythmia including procedural risk
- Able to manage arrhythmias in the acutely unwell patient (including referral for ECMO when appropriate)
- Able to assess, investigate and instigate management in patients with arrhythmias following cardiac surgery, including the use of postoperative pacing
- Identifies and is able to instigate management in patients with complications of Implantable Cardiac Devices
- Able to assess, investigate and instigate management in patients at risk of arrhythmic events due to family history of Inherited Cardiac Conditions
- Able to prepare and present patients at cardiac genetics MDT discussions

Suggested documentation:

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| <ul style="list-style-type: none"> ▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD |
| <ul style="list-style-type: none"> ▪ Evidence of direct observation of procedural skills such as DOPS |
| <ul style="list-style-type: none"> ▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR) |
| <ul style="list-style-type: none"> ▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX |
| <ul style="list-style-type: none"> ▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF) |
| <ul style="list-style-type: none"> ▪ Attendance at relevant course/conference |
| <ul style="list-style-type: none"> ▪ Advanced Paediatric Life Support course of equivalent |

Specialty CiP 4: Participate in and contribute to the acute and chronic care of adult patients with congenital heart disease (ACHD) including during pregnancy

Key skills:

- Recognise signs and symptoms suggestive of congenital heart disease in adults
- Instigate appropriate investigation and management in patients with signs and symptoms of congenital heart disease
- Appropriately refer newly diagnosed adults with congenital heart disease to specialist services including inherited cardiac conditions/cardio-genetics where appropriate
- Initiate management in patients with known congenital heart disease during acute cardiac presentations
- Provide advice on patients with congenital heart disease undergoing non cardiac treatment
- Manage patients in adult congenital heart disease clinics under supervision
- Prepare and present patients at congenital heart disease multidisciplinary team meetings
- Apply knowledge of the epidemiology, anatomy and pathophysiology of common congenital heart abnormalities to practice
- Support patients transitioning from paediatric to young adult services under supervision
- Provide contraceptive advice and pre-pregnancy counselling for patients with congenital cardiac conditions under supervision
- Manage patients with congenital heart disease during pregnancy under supervision
- Investigate and instigate management in pregnant patients presenting with cardiac symptoms

- Safely prescribe in pregnant and breast-feeding patients

Suggested documentation:

▪ Evidence of a case-based discussion with a consultant to assess professional judgement, three are required in ACHD including one in pregnancy.
▪ Evidence of direct observation of procedural skills such as DOPS
▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Attendance at relevant course/conference
▪ Evidence of attendance at ACHD clinics or MDTs

Specialty CiP 5: Working with a complex multidisciplinary team, including community and network provision of patient centred care

Key skills:

- Demonstrates engagement in discharge planning
- Understands the role of the paediatric cardiologist in congenital heart disease management including presentation of evidence for decision making and the requirement for accurate documentation and communication
- Demonstrates participation in the wider network MDT including working with paediatricians with expertise in cardiology, other referring paediatricians including community paediatrics
- Demonstrates high quality verbal and written communication
- Demonstrates the ability to manage appropriate technology for presentation of multi modal cardiac imaging, including the use of remote technology

Suggested documentation:

<ul style="list-style-type: none"> Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD
<ul style="list-style-type: none"> Evidence of direct observation of procedural skills such as DOPS
<ul style="list-style-type: none"> Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
<ul style="list-style-type: none"> Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
<ul style="list-style-type: none"> Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
<ul style="list-style-type: none"> Attendance at relevant course/conference

Paediatric Cardiology Themed for Service CiPs

SPECIALIST TRAINING REQUIREMENTS		
As well as meeting the specialist CiPs, applicants need to demonstrate meeting two Themed for Service CiPs at entrustment level 3 OR one Themed for Service CiP at entrustment level 4		
	Two of the below at entrustment level 3	One of the below at entrustment level 4
Fetal Cardiology	Able to perform the procedure with limited supervision scanning/reporting/counselling	Competent to perform the procedure unsupervised scanning/reporting/counselling
Advanced Echo	Able to perform the procedure with limited supervision for intra-operative echo Able to perform the procedure with limited supervision for advanced functional assessment	Competent to perform the procedure unsupervised for intra-operative echo Competent to perform the procedure unsupervised for advanced functional assessment
Specialist Imaging (MRI ± CT)	Able to perform the procedure with limited supervision scanning/reporting	Competent to perform the procedure unsupervised scanning/reporting

Cardiac Catheterisation	Competent to perform the procedure unsupervised as second operator Able to perform the procedure with limited supervision as first operator for less complex procedures	Competent to perform the procedure unsupervised as first operator for less complex procedures Able to perform the procedure with limited supervision for complex procedures (eg PPVI, Ductal stenting)
Pacing and Electrophysiology	Able to perform the procedure with limited supervision for pacemaker implantation Level 4 as second operator for EP studies	6 months experience in adult EP department Competent to perform the procedure unsupervised for pacemaker implantation Competent to perform the procedure unsupervised as first operator for less complex EP studies (eg. Accessory pathway, AVNRT) Able to perform the procedure with limited supervision for complex EP studies (eg 3D mapping in structurally abnormal hearts)

Themed for Service Specialty CiP 1: Working with a complex multidisciplinary team, including community and network provision of patient centred care

Key skills:

- Accept electrophysiology referrals from the general paediatric cardiology service, and reviews patients and / or non-invasive monitoring in order to
 - Perform appropriate further invasive investigation
 - Medically manage with pharmacotherapy where appropriate
 - Discuss in cardiac genetics MDT for management
- Manage a paediatric implantable device service including
 - Routine EPS and ablation for AVRT/AVNRT
 - Trans-septal puncture in adults and older children
 - Focal Cryotherapy
 - Understand when to perform VT ablation in children
 - Understand strengths and weaknesses of electro-anatomic (3D) and magnetic mapping systems
- Manage a paediatric implantable device service including
 - Being able to manage basic interrogation and programming of devices in children and adults with CHD

- Understand when to consider, and to perform, an electrophysiology study +/- ablation including
 - Understand indications for and complications of, device implantation including epicardial and transvenous, both temporary and permanent
 - Understand the issues specific to device use in the growing infant and child
 - Understand indications for lead extractions
- Implant a standard trans-venous pacemaker device in an adult or older child
- Be a competent second operator at Implantable Cardioverter Defibrillator implantation in an adult or older child

Suggested documentation:

▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD
▪ Evidence of direct observation of procedural skills such as DOPS
▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Attendance at relevant course/conference

Themed for Service Specialty CiP 2: Provide a complex structural interventions service for paediatric and CHD patients

Key skills:

- Demonstrates knowledge of the indication, risks / benefits of the full range of diagnostic and therapeutic paediatric and adult congenital cardiac catheterisation procedures
- Correctly interprets complementary intra-procedural imaging investigations such as TOE

- Holds valid IRMER accreditation and practices in a way that minimises radiation exposure to the patient and staff at all times.
- Ensures appropriate patient listing, pre-procedural assessment and obtain fully informed consent using a suitable level of language
- Able to undertake diagnostic and less complex interventional procedures (e.g. angioplasty, valvoplasty, ASD, PDA and collateral occlusion) including balloon atrial septostomy and pericardiocentesis in an emergency setting
- Able to lead or assist in more complex interventional procedures (e.g. stenting, percutaneous valve implantation and hybrid procedures) with senior supervision
- Recognises potentially serious complications during cardiac catheterisation (eg device embolisation, vascular perforation) and know standard approaches to urgently address these.
- Communicates effectively with the multi-professional team – lead comprehensive pre-procedural brief, communicate clearly during the procedure, concisely document procedure findings and lead team debrief
- Provides appropriate post-procedural care, including identification and management of potential complications, explanation of catheter findings to the patient / family and appropriate discharge / follow-up recommendations

Suggested documentation:

▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a Cbd
▪ Evidence of direct observation of procedural skills such as DOPS
▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Attendance at relevant course/conference
▪ IRMER Certificate

Themed for Service Specialty CiP 3: Provide a comprehensive imaging service for paediatric and CHD patients (this could be echocardiographic and / or cross-sectional imaging)

Key skills:

- Advanced Echocardiography;
- Able to perform and report transthoracic and transoesophageal echocardiography independently across a full range of congenital cardiac pathology and recommend further investigation and management
- Provides expert advice on the use of echo imaging techniques to plan surgical and intervention approaches in patients with complex CHD
- Able to acquire and post-process 3D echo data-sets to diagnose and plan the management of children with CHD
- Provides expert advice on the use of, advanced echo imaging techniques (e.g. Speckle tracking myocardial deformation imaging) to diagnose and manage patients with cardiomyopathies
- Identifies patients in need of additional cross-sectional imaging with MRI and CT
- Demonstrates knowledge and understanding of the advantages and disadvantages of different imaging modalities (CMR, CT, TOE) and utilises them appropriately in the clinical setting
- Able to perform and interpret intra-operative imaging for children undergoing cardiac surgery and plan further management in collaboration with surgical colleagues
- Able to perform 2D TTE and TOE echocardiography to guide catheter interventions
- Recognises indications for, perform and report bubble contrast studies, strain imaging and dyssynchrony studies
- Is able to confidently demonstrate transthoracic and transoesophageal echo imaging at cardiac MDTs
- Prepares children to safely undergo transoesophageal echocardiography under GA
- Utilises novel imaging techniques, emerging evidence base and established guidelines appropriately
- Able to lead an imaging service through full competence to perform, supervise and teach techniques in transthoracic and TOE
- Supervise an echo service encompassing TOE, 3D echo techniques, LV strain assessment, stress echocardiography and contrast echo techniques
- Cardiac MRI (CMR) and congenital CT (may comprise 2 years of training or be combined with 1 year of advanced echocardiography imaging);
- Demonstrates knowledge of basic MR physics
- Refers appropriately for CMR and congenital CT
- Able to triage referrals for cardiac MRI and Congenital CT
- Is able to perform, report and utilise congenital CT to plan the management of children with CHD
- Is able to perform, report, and utilise cardiac MRI to diagnose and risk stratify patients followed up after surgery for CHD
- Is able to perform, report and utilise CMR to assess ventricular function and diagnose children with acquired heart disease
- Provides advice on MR safety to referring clinicians
- Is able to confidently demonstrate CMR and Congenital CT data at cardiac MDTs

Suggested documentation:

- Assessments of acute care such as ACATs

<ul style="list-style-type: none"> ▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD
<ul style="list-style-type: none"> ▪ Evidence of direct observation of procedural skills such as DOPS
<ul style="list-style-type: none"> ▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
<ul style="list-style-type: none"> ▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
<ul style="list-style-type: none"> ▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
<ul style="list-style-type: none"> ▪ Attendance at relevant course/conference
<ul style="list-style-type: none"> ▪ Logbook of procedures
<ul style="list-style-type: none"> ▪ EACVI certification (for Level 4 Advanced ECHO)
<ul style="list-style-type: none"> ▪ Accreditation in congenital CT
<ul style="list-style-type: none"> ▪ Accreditation in CMR

Themed for Service Specialty CiP 4: Provide a fetal diagnostic and management service for pregnancies affected by CHD

Key skills:

- Able to perform detailed fetal echocardiography and diagnosis congenital heart disease in utero
- Demonstrates understanding of the limitations of fetal echocardiography
- Complies with national safety standards for ultrasound in pregnancy
- Able to perform detailed echocardiographic assessment of fetal arrhythmias to allow appropriate treatment
- Demonstrates knowledge of the natural history of congenital heart defects in utero understands how this differs from postnatal lesions and communicates this appropriately
- Understands the risks and natural history of fetal arrhythmias, demonstrates knowledge of the drugs used to treat fetal arrhythmias and their safe use in pregnancy and communicates this appropriately
- Demonstrates knowledge of the postnatal management and outcome of cardiac lesions

- Demonstrates knowledge of the risk factors for congenital heart disease, the indications for referral to fetal cardiology and appropriate timing of fetal echo
- In collaboration with obstetric and fetal medicine and neonatal teams formulates plans for delivery and immediate postnatal care of babies with prenatal diagnosis of CHD and fetal arrhythmias.
- Able to lead multidisciplinary team meetings to discuss cases including those in which postnatal outcome is uncertain
- Demonstrates knowledge of the legal framework around termination of pregnancy
- Able to provide evidence-based counselling with clear explanation of diagnosis, management and pregnancy options for patients with prenatal diagnosis of CHD
- Demonstrates understanding of the associations between fetal cardiac abnormalities and chromosomal and genetic abnormalities and refers to other specialists such as clinical genetics as necessary
- Demonstrates an awareness of the psychological impact of prenatal diagnosis of CHD and difficulties for patients in decision making, facilitating additional support from within team, awareness of available parent support groups and referral to psychology as appropriate

Suggested documentation:

▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD, 2 required in fetal cardiology
▪ Evidence of direct observation of procedural skills such as DOPS
▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF). Patient feedback
▪ Attendance at relevant course/conference

Themed for Service Specialty CiP 5: Manage all aspects of the heart failure service, including transplant assessment and on-going follow up

Key skills:

Heart failure (HF) and Mechanical Circulatory Support (MCS)

- Recognises the signs and symptoms of HF in children
- Able to generate a differential diagnosis for heart failure in children and initiate medical management
- Is able to appropriately adjust medical treatment in children with established HF
- Demonstrates knowledge of the pathophysiology of HF through its application to treatment
- Utilises investigations appropriately to establish an accurate diagnosis (including imaging, genetic evaluation, metabolic assessment, endomyocardial biopsy, and cardiac catheterisation)
- Is able to interpret the results of arrhythmia testing, exercise testing, biomarker levels, non-invasive imaging, and cardiac catheterisation to plan treatment
- Safely prescribes diuretics, antiarrhythmics, inotropic and lusitropic agents, anticoagulation, angiotensin-converting enzyme inhibitors, beta-blockers in children with HF
- Demonstrates knowledge and understanding of the utility of non-medical therapies in the HF management, including the creation of an interatrial communication in patients supported by extracorporeal membrane oxygenation (ECMO), cardiac resynchronization therapy and arrhythmia management
- Demonstrates knowledge of MCS application including ECMO, ventricular assist device (VAD) support in the treatment of end-stage HF as a bridge to transplantation and potentially as a bridge to recovery or as destination therapy in selected groups

Heart transplantation

- Demonstrates knowledge of the indications and contraindications for heart transplantation
- Understands the process of assessment of donor suitability including matching criteria, importance of human leucocyte antibodies and blood group status
- Demonstrates knowledge of outcomes of heart transplantation including complications
- Demonstrates knowledge of the physiology of the denervated, transplanted heart
- Safely prescribes immunosuppressive medications and demonstrates knowledge of side effects and interactions
- Demonstrates knowledge of Blood group (ABO) and Human leucocyte antibodies mismatch transplantation and complications
- Is able to recognise and initiate investigation and treatment for post-transplant rejection
- Demonstrates knowledge of the evidence base as it relates to heart transplant in children.

- Demonstrates knowledge of the evidence base as it relates to HF in children. Applies the emerging evidence base and guidelines to develop heart failure service
- Has observed surgical procedures for organ procurement and implantation, ventricular assist device implantation and extracorporeal membrane oxygenation deployment
- Provides evidence-based counselling with a clear explanation of diagnosis and management options for patients with heart failure

Suggested documentation:

▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD
▪ Evidence of direct observation of procedural skills such as DOPS
▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Attendance at learning events such as The International Society for Heart and Lung Transplantation or International Paediatric Transplant Association

Themed for Service Specialty CiP 6: Provide a comprehensive diagnosis and treatment service for patients with pulmonary hypertension

Key skills:

- Demonstrates theoretical knowledge of the pathophysiology of pulmonary hypertension
- Demonstrates knowledge of the potential sources of error when calculating PVR from data obtained by cardiac catheterisation

- Demonstrates knowledge and application of international guidance and evidence-based medicine in pulmonary hypertension investigation and treatment
- Is able to identify patients at risk of developing pulmonary hypertension
- Understands the clinical utility and limitations of genetic testing and the principles of family screening
- Recognises the signs and symptoms suggestive of pulmonary hypertension in children and adolescents
- Instigates appropriate investigations to establish causes and contributors in children with pulmonary hypertension
- Utilises imaging (Echo, MRI, CT, Angiography) to diagnose and risk stratify patients with known and suspected pulmonary hypertension
- Refers patients with known or suspected pulmonary hypertension appropriately for right heart catheterisation
- Is able to interpret and interrogate data obtained from right heart catheterisation in patients with known or suspected pulmonary hypertension
- Able to Supports patients transitioning from paediatric to adult pulmonary hypertension services
- Instigates appropriate management of children with pulmonary hypertension during acute presentations
- Is able to conduct outpatient consultations for children with known or suspected pulmonary hypertension
- Provides management advice to other specialities caring for patients with pulmonary hypertension including on the ITU and in cooperation with primary and intermediate care
- Provides advice on patients with pulmonary hypertension undergoing non-cardiac procedures under general anaesthesia
- Manages patients with pulmonary hypertension in cooperation with primary and intermediate care
- Is able to identify patients for referral to transplant services
- Demonstrate theoretical knowledge of pharmacology of targeted therapy for pulmonary hypertension
- Safely prescribes oral, subcutaneous and IV pulmonary arterial hypertension medication
- Able to confidently present haemodynamic and imaging data of with pulmonary hypertension at cardiac MDTs
- Demonstrates knowledge of the evidence base as it relates to pulmonary hypertension in children

Suggested documentation:

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| ▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD |
| ▪ Evidence of direct observation of procedural skills such as DOPS |
| ▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR) |
| ▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX |

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| <ul style="list-style-type: none"> ▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF) |
| <ul style="list-style-type: none"> ▪ Attendance at relevant course/conference |
| <ul style="list-style-type: none"> ▪ Logbook of procedures |

Themed for Service Specialty CiP 7: Provide a comprehensive adult congenital heart disease service

Key skills:

- Diagnose, assess and manage adults presenting with new diagnoses of Adult Congenital Heart Disease
- Manage patients with known congenital heart disease transitioning from paediatric to adult care
- Perform transoesophageal echocardiography in Adult Congenital Heart Disease patients and interpret results to manage care
- Understand indications and interpret MRI to investigate Adult Congenital Heart Disease patients in conjunction with imaging specialists
- Understand indications and interpret CT to investigate Adult Congenital Heart Disease patients in conjunction with imaging specialists
- Manage heart failure in Adult Congenital Heart Disease patients
- Manage **acute** arrhythmias in Adult Congenital Heart Disease patients
- Manage pulmonary hypertension in Adult Congenital Heart Disease patients in collaboration with National PH Centres
- Lead the Adult Congenital Heart Disease Multidisciplinary Team
- Diagnose and manage the long-term sequelae of native, repaired and palliated Adult Congenital Heart Disease lesions
- Perform transthoracic echocardiography in Adult Congenital Heart Disease patients and interpret results to manage care
- Identify Adult Congenital Heart Disease patients with indications for cardiac transplantation. Investigate, counsel and refer patients appropriately
- Identify Adult Congenital Heart Disease patients who would benefit from supportive and palliative care, refer and share care appropriately
- Manage services for pregnant patients with congenital heart disease in cooperation with general cardiologists, obstetricians, obstetric anaesthetists, haematologists, midwives and Inherited Cardiac Conditions/genetic specialists
- Undertake pre-pregnancy counselling in patients with pre-existing or newly diagnosed congenital heart disease including risks to mother and fetus and risk of recurrence
- Coordinate care plans for pregnant patients with established or newly diagnosed congenital cardiac conditions in conjunction with maternity services and general cardiology

- Identify, investigate, counsel and refer patients appropriately for surgical and catheter interventions
- Contribute to the care of the peri-operative Adult Congenital Heart Disease patient in theatre, intensive care and the ward
- Manage Adult Congenital Heart Disease patients post procedure in conjunction with the procedural team
- Supervise the management of congenital cardiac patients in the postpartum period
- Assist with diagnostic catheterisation and intervention in the Adult Congenital Heart Disease patient if appropriately trained to do so

Suggested documentation:

▪ Assessments of acute care such as ACATs
▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD
▪ Evidence of direct observation of procedural skills such as DOPS
▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR)
▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX
▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
▪ Attendance at relevant course/conference

Themed for Service Specialty CiP 8: Manage inherited cardiac conditions (including cardiomyopathies, inherited arrhythmia syndromes and aortopathy syndromes)

Key skills:

- Demonstrates knowledge and application of international guidance and evidence-based medicine in ICC investigation and treatment, including family screening
- Applies knowledge of the epidemiology, anatomy and pathophysiology of common ICC to practice

- Understands clinical utility and limitation of genetic testing and the principles of family screening
- Recognise signs and symptoms suggestive of ICC in children and adolescents
- Able to assess and instigate appropriate investigation and management in patients with signs and symptoms of ICC
- Appropriately refers newly diagnosed children with ICC to specialist services
- Initiates management in patients with ICC during acute cardiac presentations
- Provides advice on patients with ICC undergoing non cardiac treatment
- Manages patients in specialist ICC clinics under supervision
- Able to prepare and present patients at ICC MDTs
- Supports patients transitioning from paediatric to young adult ICC services under supervision
- Appropriately requests and interprets ECG and imaging based investigations
- Able to assess, investigate and instigate management in patients at risk of arrhythmic events including identifying patients who may be indicated cardiovascular implanted electronic devices (CIEDs)
- Able to identify and instigate management in ICC patients with complications of CIEDs
- Demonstrates safe prescribing of rhythm control, heart failure and anticoagulant drugs
- Able to advise patients with ICC on safety and legality of driving

Suggested documentation:

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| ▪ Assessments of acute care such as ACATs |
| ▪ Evidence of a case-based discussion with a consultant to assess professional judgement, such as a CbD |
| ▪ Evidence of direct observation of procedural skills such as DOPS |
| ▪ Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR) |
| ▪ Assessment of observed clinical skills, attitudes and behaviours, such as a Mini-CEX |
| ▪ Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF) |
| ▪ Attendance at relevant course/conference |
| ▪ Logbook of procedures |