JRCPTB

Joint Royal Colleges of Physicians Training Board

Rough Guide to Implementation
Clinical Genetics Curriculum
Guidance for training programme directors, supervisors and trainees

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ROYAL COLLEGE of PHYSICIANS of EDINBURGH

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW

Royal College of Physicians

Contents

Introduction

This guide for Clinical Genetics is to help training programme directors (TPDs), supervisors, trainees and others with the practicalities of implementing the new curriculum. It is intended to supplement rather than replace the curriculum document itself. The curriculum, ARCP decision aid and this guide are available on the JRCPTB website.

The Rough Guide has been put together by members of the Clinical Genetics SAC with additional help from many external stakeholders especially trainees. It is intended to be a 'living document' and we value feedback via curriculum@jrcptb.org.uk.

What is different about the 2021 Clinical Genetics curriculum?

Background

There have been two major drives to the need for change. Firstly the move away from the 'tick-box' approach associated with the current competency-based curricula to the holistic assessment of high level learning outcomes. The new curriculum has a relatively small number of 'capabilities in practice' (CIPs) which are based on the concept of entrustable professional activities (EPAs). Secondly, the GMC has mandated that all postgraduate curricula must incorporate the essential generic capabilities required by all doctors as defined in the Generic Professional Capabilities (GPC) framework..

Duration of training

Clinical Genetics higher specialty training will usually be completed in 4 years of full-time training. There will be options for those trainees who demonstrate exceptionally rapid development and acquisition of capabilities to complete training sooner than the indicative time. There may also be trainees who develop more slowly and will require an extension of training as indicated in the Reference Guide for Postgraduate Specialty Training in the UK (The Gold Guide).

The Clinical Genetics curriculum

The purpose of the curriculum is to produce doctors with the generic professional and specialty specific capabilities required to practice in Clinical Genetics.

The speciality of Clinical Genetics is evolving at a rapid pace, driven in part by enormous advances in the technology available to make genetic or genomic diagnoses. This in turn has meant that testing has shifted from a focussed enquiry of single genes to genome wide analyses with subsequent data interrogation.

Clinical Genetics is the discipline that is concerned with the diagnosis and management of genetic and genomic disorders and birth defects, with counselling of family members regarding risk, surveillance or prevention. Physicians in this speciality work in multidisciplinary regional centres in close collaboration with genetic counsellors, laboratory and academic colleagues.

The purpose of the Clinical Genetics curriculum is to produce doctors with the generic professional and speciality specific capabilities needed to undertake a consultant role in a Regional Clinical Genetics Service. Clinical Genetics trainees will be entrusted to practice within a Regional Clinical Genetics Service operating both within inpatient and outpatient settings and also in a liaison capacity with genomic laboratory services, which may in some instances be local and in others may be regional or national. Training will also include training in genomic variant interpretation and bioinformatics as applied to the clinical setting and will produce doctors able to apply for consultant roles in the discipline.

Doctors in training will learn in a variety of settings using a range of methods, including workplace-based experiential learning, formal postgraduate teaching and simulation-based education.

By the end of their final year of training, the trainee will receive a CCT in Clinical Genetics

Capabilities in Practice (CiPs)

The **generic CiPs** cover the universal requirements of all specialties as described in the GPC framework. The generic CiPs are common across all physician specialties. Assessment of the generic CiPs will be underpinned by the GPC descriptors. Satisfactory sign off will indicate that there are no concerns.

The **specialty CiPs** describe the professional tasks or work within the scope of Clinical Genetics.

Each CiP has a set of descriptors associated with that activity or task. Descriptors are intended to help trainees and trainers recognise the minimum level of knowledge, skills and attitudes which should be demonstrated for an entrustment decision to be made.

By the completion of training and award of CCT, the doctor must demonstrate that they are capable of unsupervised practice (level 4) in all specialty CiPs.

Capabilities in practice (CiPs)

Generic CiPs

1. Able to successfully function 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. Carrying out research and managing data appropriately
6. Acting as a clinical teacher and clinical supervisor to be assessed by DOPS

Specialty CiPs for Clinical Genetics

1. Managing a comprehensive genetic medicine service for both inpatients and outpatients
2. Working within multidisciplinary teams and consultations related to the management and treatment of complex genetic disorders
3. Managing predictive genetic testing and advising on cascade testing in families
4. Managing storage and testing of genetic material in the prenatal and post-mortem settings
5. Interrogating and interpreting genetic data and communicating effectively with laboratory colleagues
6. Contributing to genetic research and clinical trials

Evidence of capability

The curriculum describes the evidence that can be used by the educational supervisor to make a judgement of the trainee's capability (please see the CiPs tables and the assessment blueprint). The educational supervisor will make a holistic judgement based on the evidence provided, particularly the feedback from clinical supervisors and the multi disciplinary team. The list of evidence for each CiP is not exhaustive and other evidence may be equally valid.

Presentations and Conditions

The curriculum provides guidance on the presentations and conditions which form the clinical context in which the capabilities are demonstrated. The presentation and conditions listed are either common or serious and trainees will be expected to know about these but they will not need to be signed off for individual items.

Assessment: What is required from trainees and trainers?

Introduction

Decisions about a trainee's competence progression will be based on an assessment of how they are achieving their CiPs. For the generic CiPs it will be a straightforward statement as to whether they are operating at, above, or below level expected for the current year of training. For the specialty CiPs there will be a judgement made at what level of supervision they require (i.e. unsupervised or with direct or indirect supervision). For each of these CiP there is a level that is to be achieved at the end of each year in order for a standard outcome to be achieved at the Annual Review of Competence Progression (ARCP). The levels expected are given in the grid below and in the ARCP decision aid.

What the trainee needs to do

Trainees need to do an appropriate number of supervised learning events (SLEs) and workplace based assessments (WPBAs). The requirements are documented in the ARCP decision aid (see ARCP section below) but it should be appreciated by trainer and trainee that the decision aid sets out the absolute minimums. SLEs and formative DOPS are not pass/fail summative assessments but should be seen by both trainer and trainee as learning opportunities for a trainee to have one to one teaching and receive helpful and supportive feedback from an experienced senior doctor. Trainees should therefore be seeking to have SLEs performed as often as practical. Trainees must also complete the Specialty Certificate Examination in Medical Genetics prior to completion of training. Further information including details of the format of the exam can be found on the webpage: https://www.rcpath.org/trainees/examinations/examinations-by-specialty/medical-genetics.html.

Trainees must also continue to attend and document their teaching sessions and must continue to reflect (and record that reflection) on teaching sessions, clinical incidents and any other situations that would aid their professional development. They should record how many clinics they have attended e.g. by maintaining a logbook of cases in which they have been involved.

Each trainee must ensure that they have acquired multi-source feedback (MSF) on their performance each year and that this feedback has been discussed with their Educational Supervisor (ES) and prompted appropriate reflection. They also need to ensure that they have received a minimum of 3 reports from consultants who are familiar with their work and who will contribute to the Multiple Consultant Report (MCR). Each consultant contributing to the MCR will give an advisory statement about the level at which they assess the trainee to be functioning for each clinical CiP.

As the ARCP approaches, trainees need to arrange to see their ES to facilitate preparation of the ES report (ESR). They will have to self-assess the level at which they feel they are operating at for each CiP. In an analogous fashion to the MSF, this self- assessment allows the ES to see if the trainee's views are in accord with those of the trainers and will give an idea of the trainee's level of insight.

Interaction between trainer and trainee

Regular interaction between trainees and their trainers is critical to the trainee's development and progress through the programme. Trainees will need to engage with their clinical and educational supervisors.

At the beginning of the academic year there should be a meeting with the ES to map out a training plan for the year. This should include;

- how to meet the training requirements of the programme, addressing each CiP separately
- a plan for taking the Specialty Certificate Examination in Medical Genetics if appropriate for the year ahead
- a discussion about what resources are available to help with the programme
- development of a set of SMART Personal Development Plans (PDPs) for the training year
- a plan for using study leave
- use of the various assessment/development tools

The trainee should also meet with the clinical supervisor (CS) to discuss the opportunities in the current placement including;

- development of a PDP including SMART objectives for the placement
- access to clinics and how to meet the learning objectives
- expectations for any inpatient or ward-based experience
- expectations to gain experience in end-of-life care

Depending on local arrangements there should be regular meetings (we recommend approximately one hour most weeks) for personalised, professional development discussions which will include;

- writing and updating the PDP
- reviewing reflections and SLEs
- reviewing MCR and other feedback
- discussing leadership development
- discussing the trainee's development as a physician and career goals
- discussing things that went well or things that went not so well

Self-assessment

Trainees are required to undertake a self-assessment of their engagement with the curriculum and in particular the CiPs. This is not a 'one-off' event but should be a continuous process from induction to the completion of the programme and is particularly important to have been updated ahead of the writing of the ES report and subsequent ARCP. Self-assessment for each of the CiPs should be recorded against the curriculum on the trainee's ePortfolio account.

The purpose of asking trainees to undertake this activity is:

- To guide trainees in completing what is required of them by the curriculum and helping to maintain focus of their own development. To initiate the process it is important that the induction meeting with a trainee's ES reviews how the trainee will use the opportunities of the coming academic year to best advantage in meeting the needs of the programme. It will allow them to reflect on how to tailor development to their own needs, over-and-above the strict requirements laid out in the curriculum
- To guide the ES and the ARCP panel as to how the trainee considers they have demonstrated the requirements of the curriculum as set out in the Decision Aid and where this evidence may be found in the trainee's portfolio. This will help the ARCP panel make a more informed judgement as to the trainee's progress and reduce the issuing of outcome 5s as a result of evidence not being available or found by the panel

What the Educational Supervisor (ES) needs to do

The educational supervisor and trainee should meet beforehand to plan what evidence will need to be obtained. This can be used by the ES to write an important and substantial ES report (ESR).

The ESR will be the central piece of evidence considered by the ARCP Panel when assessing whether the trainee has attained the required standard as set out in the Decision Aid. As such, both time and planning will need to be given to writing it; this process will need to start at the beginning of the training year.

Educational Supervisor Report (ESR)

The ESR should be written ahead of the ARCP and discussed between the supervisor and the trainee before the ARCP, with any aspects likely to result in a non-standard outcome at ARCP made clear. This conversation should be documented. The report documents the entrustment decisions made by the supervisor for all the CiPs set out in the curriculum. The decisions should be based on evidence gathered across the training year as planned at the Induction Meeting with the trainee and modified through subsequent, regular, professional development meetings. The evidence should be gathered from several sources as appropriate for the particular CiP.

In completing the ESR, assessments are made for each **generic CiP** using the following anchor statements:

Below expectations for this year of training; may not meet the requirements for critical progression point
Meeting expectations for this year of training; expected to progress to next stage of training
Above expectations for this year of training; expected to progress to next stage of training

Comments must be made, as a minimum, for any rating of below expectation. It is good practice to narrate all decisions. The narration should include;

- Source of the evidence and its context, outlining contradicting evidence if appropriate
- Examples (of statements)
- Direction for future development/improvement

For **specialty CiPs**, the ES makes a judgement using the levels of entrustment in the table below.

Level 1: Entrusted to observe only – no provision of clinical care
Level 2: Entrusted to act with direct supervision: The trainee 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: The trainee 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

Only the ES makes entrustment decisions. Detailed comments must be given to support entrustment decisions that are below the level expected. As above, it is good practice to provide a narrative for all ratings given.

Important Points

- Plan the evidence strategy from the beginning of the training year
- Write the report in good time ahead of the ARCP
- Discuss the ESR with the trainee before the ARCP
- Give specific, examples and directive narration for each entrustment decision

Types of Evidence

Local Faculty Groups (LFG)

This type of group has been recommended in training previously but is not universally implemented. If available this should be a group of senior clinicians (medical and non-medical) who get together to discuss trainees' progress. The purpose is not only to make an assessment of a trainee but to determine and plan on-going training. It is recommended again as an optimal way of providing information about trainees' progress.

The LFG set-up will depend on the circumstances of the organisation. In smaller units the LFG make include all the physicians; while in larger units there may be several LFGs, each in a different department. In all circumstances, as a minimum, an LFG must be able to consider, direct and report on the performance of trainees in the acute medicine/on-call setting.

The LFG should meet regularly to consider the progress of each trainee and identify training needs, putting in place direction as to how these needs are to be met. This should be documented and communicated to trainee's Educational Supervisor and hence to the trainee. A mechanism for this to happen should be established.

Multi-Source Feedback (MSF)

The MSF provides feedback on the trainee that covers areas such as communication and team working. It closely aligns to the Generic CiPs. Feedback should be discussed with the trainee. If a repeat MSF is required, it should be undertaken in the subsequent placement.

Multiple Consultant Report (MCR)

The MCR captures the views of consultant (and other senior staff) based on observation of a trainee's performance in practice. The MCR feedback gives valuable insight into how well the trainee is performing, highlighting areas of excellence and areas of support required.

The ***minimum*** number of MCRs considered necessary is 3

Consultant supervisors completing the MCR will use the global anchor statements [meets, below or above expectations] to give feedback on areas of clinical practice. If it is not possible for an individual to give a rating for one or more area they should record 'not observed'. Comments must be made, as a minimum, for any rating of below expectation. It is good practice to narrate all decisions. The narration should include:

- Source of the evidence and its context, outlining contradicting evidence if appropriate
- Examples (of statements)
- Direction for future development/improvement

MCR feedback will be available to the trainee and contribute to the educational supervisor's report.

Supervised Learning Events

Case based Discussion (CbD)

This tool is designed to provide feedback on discussions around elements of the care of a particular patient. This can include elements of the particular case and the general management of the condition. It is a good vehicle to discuss management decisions.

Mini-Clinical Evaluation (mini-CEX)

This tool is designed to allow feedback on the directly observed management of a patient and can focus on the whole case or particular aspects.

Workplace-Based Assessments

Direct Observation of Procedural Skill (DOPS)

This tool is designed to give feedback and assessment for trainees on how they have undertaken a procedural skill. This may be in a simulated or real environment. Formative DOPS may be undertaken as many times as the trainee and supervisor feel is necessary. A trainee can be signed off as able to perform a procedure unsupervised using the summative DOPS.

Teaching Observation (TO)

The TO form is designed to provide structured, formative feedback to trainees on their competences at teaching. The TO form can be based on any instance of formalised teaching by the trainee which has been observed by the assessor. The process should be trainee-led (identifying appropriate teaching sessions and assessors).

Quality Improvement Project Assessment Tool (QIPAT)

The QIPAT is designed to assess a trainee's competence in completing a quality improvement project. The QIPAT can be based on a review of quality improvement documentation or on a presentation of the quality improvement project at a meeting. If possible, the trainee should be assessed on the quality improvement project by more than one assessor.

Guidance on how to assess QI skills and behaviours has been developed by the Academy of Medical Royal Colleges and is available via this link.

Examination

Trainees must complete the Specialty Certificate Examination in Medical Genetics, provided by the Royal College of Pathologists. The examination must be completed prior to completion of training, it is usually taken by trainees in ST5. Further information including details of the format of the exam can be found on the webpage: https://www.rcpath.org/trainees/examinations/examinations-by-specialty/medical-genetics.html

Reflection

Undertaking regular reflection is an important part of trainee development towards becoming a self-directed professional learner. Through reflection a trainee should develop SMART learning objectives related to the situation discussed. These should be subsequently incorporated into their PDP. Reflections are also useful to develop 'self-knowledge' to help trainees deal with challenging situations.

It is important to reflect on situations that went well in addition to those that went not so well. Trainees should be encouraged to reflect on their learning opportunities and not just clinical events

Suggested evidence for each CiP

The suggested evidence to inform entrustment decisions is listed for each CiP in the curriculum and ePortfolio. However, it is critical that trainers appreciate that trainees do not

need to present every piece of evidence listed and the list is not exhaustive and other evidence may be equally valid.

Induction Meeting with ES: Planning the training year

Writing the ESR essentially starts with the induction meeting with the trainee at which the training year should be planned. The induction meeting between the ES and the trainee is pivotal to the success of the training year. It is the beginning of the training relationship between the two and needs both preparation and time. The induction meeting should be recorded formally in the trainee's ePortfolio. The meeting should be pre-planned and undertaken in a private setting where both can concentrate on the planning of the training year. This is also a time for ES and trainee to start to get to know each other.

Ahead of the meeting review:

- Review Transfers of Information on the trainee
- Review previous ES, ARCP etc. reports if available
- Agree with the placement CSs how other support meetings will be arranged. Including;
    - Arrangements for LFGs or equivalent
    - Arrangements for professional development meetings

At the meeting the following need to be considered:

- Review the placements for the year
- Review the training year elements of the generic educational work schedule or its equivalent
- Construct the personalised educational work schedule for the year or its equivalent
- Construct the annual PDP and relevant training courses
- Discuss the trainee's career plans and help facilitate these
- Discuss the use of reflection and make an assessment of how the trainee uses reflection and dynamic PDPs
- Discuss the teaching programme
- Discuss arrangements for LTFT training if appropriate
- Plan additional meetings including the professional development meetings and the interaction with the placement CSs
- Planning of SLEs and WPBA
- Arrangements for MSF
- Review the ARCP decision aid
- Arrangements for Interim Review of Competence Progression (IRCP)
- Arrangements for ARCP and the writing and discussion of the ESR
- Pastoral support
- Arrangements for reporting of concerns
- Plan study leave

At the end of the meeting, the trainee should have a clear plan for providing the evidence needed by the ES to make the required entrustment decisions.

Important Points

- Prepare for the meeting
- Make sure that knowledge of the curriculum is up-to-date
- Set up a plan for the training year

Induction Meeting with Clinical Supervisor (CS)

The trainee should also have an induction meeting with their placement CS (who may also be their ES). The meeting should be pre-planned and undertaken in a private setting where both can concentrate on the planning of the placement. This is also a time for CS and trainee to start to get to know each other.

Ahead of the meeting review the following should be considered;

- Review Transfers of Information on the trainee
- Review previous ES, ARCP etc. reports if available
- Arrangements for LFGs or equivalent

The following areas will need to be discussed, some of which will reinforce areas already covered by the ES but in the setting of the particular placement:

- Review the training placement elements of the generic educational work schedule or its equivalent
- Construct the personalized educational work schedule for the placement or its equivalent
- Construct the set of placement-level SMART objectives in the PDP
- Discuss the use of reflection and make an assessment of how the trainee uses reflection and dynamic PDPs
- Discuss arrangements for LTFT training if appropriate
- Plan additional meetings including professional development meetings and the interaction with the placement CSs (depending on whether the ES or CS will be undertaking these)
- Arrangements for MSF
- Review the ARCP decision aid
- Pastoral support
- Arrangements for reporting of concerns
- Plan study leave

Professional Development Meetings

Trainers and trainees need to meet regularly across the training year. The GMC recommend an hour per week is made available for this activity. While it is not expected or possible for it

to be an hour every week, the time not used for these meetings can be used to participate in LFG and ARCPs etc.

These meetings are important and should cover the following areas. This list is not exhaustive. Meet away from the clinical area regularly to:

- Discuss cases
- Provide feedback
- Monitor progress of learning objectives
- Discuss reflections
- Provide careers advice
- Monitor and update the trainee's PDP

- Record meeting key discussion points and outcomes using the Educational Meeting form on the ePortfolio
- Record progress against the CiPs by updating the comments in the CiP section of the portfolio (this will make writing the ESR at the end of the year much easier)
- Provide support around other issues that the trainee may be encountering

Transition arrangements for trainees already in programme

Any trainee within 12 months of their CCT date will remain on the previous curriculum. All other trainees including those in St6 who are less than full-time trainees or those in Out of Programme Experiences will transition to the 2021 curriculum.

Trainees who have come from alternative entry pathways

Entry into Clinical Genetics is usually at ST3 level, either as a clinical or an academic trainee. Most trainees have previously had a background in adult or paediatric medicine and must have MRCP(UK) or MRCPCH prior to entry at ST3. The specialty is now also open to trainees from all patient facing specialties who can demonstrate their competence through completion of the Alternative Competence Certificate (see link to Person Specification for Clinical Genetics which summarises eligibility criteria).

Annual Review of Competence Progression (ARCP)

Introduction

The ARCP is a procedure for assessing competence annually in all medical trainees across the UK. It is owned by the four Statutory Education Bodies (Health Education England, NHS

Education for Scotland, Health Education and Improvement Wales and Northern Ireland Medical & Dental Training Agency) and governed by the regulations in the Gold Guide. The JRCPTB can therefore not alter the way in which an ARCP is run but can provide guidance for trainees and trainers in preparing for it and guide panel members on interpretation of both curricular requirements and the decision aid when determining ARCP outcomes. Although receiving a non-standard ARCP outcome (i.e. anything but an outcome 1 or 6) should not be seen as failure, we know that many trainees are anxious about such an outcome and everything possible should be done to ensure that no trainee inappropriately receives a non-standard outcome.

The ARCP gives the final summative judgement about whether the trainee can progress into the subsequent year of training (or successfully complete training if in the final year). The panel will review the ePortfolio (especially the ES report) in conjunction with the decision aid for the appropriate year. The panel must assure itself that the ES has made the appropriate entrustment decisions for each CiP and that they are evidence based and defensible. The panel must also review the record of trainee experience to ensure that each trainee has completed (or is on track to complete over ensuing years) the various learning experiences mandated in the curriculum.

At the same time as the ST5 ARCP, trainees undertake the PYA (Penultimate Year Assessment). This assessment reviews the trainee's progression, gain of competencies and achievements throughout their training to date. The purpose is to ensure the trainee is on track to complete their training within the remaining time-frame. Targets are also set for requirements to be achieved during the last year of their training (ST6). This ensures smooth progression to Consultant level.

Clinical Genetics training and the ARCP

The change from the tick-box style competencies to the high-level Capabilities in Practice (CiPs) will have a major impact on how trainees are assessed and how they will progress through their ARCPs. It is vital we avoid an increase in trainees failing to achieve a standard ARCP outcome by helping trainees and trainers to prepare for the ARCPs and by stressing to ARCP panels the basis of their assessment. ARCP panel members must ask the question: "Overall, on reviewing the ePortfolio, including the Educational Supervisor report, the Multiple Consultant Reports, the Multi-Source Feedback and (if necessary) other information such as workplace based assessments, reflection etc, is there evidence to suggest that this trainee is safe and capable of progressing to the next stage of training?"

Relationship with Educational Supervisor (ES)

It is vital that the trainee and the ES develop a close working relationship and meet up as soon as possible after the start of training. At that meeting, the ES should discuss how the various curriculum requirements will be met and how evidence will be recorded to ensure that it can be demonstrated that the Capabilities in Practice have been achieved at the appropriate level. This meeting should also result in the production of a Personal

Development Plan (PDP) consisting of a number of SMART objectives that the trainee should seek to achieve during that training year. The trainee should meet up with their ES on a number of other occasions during the training year so that the ES can be reassured that appropriate evidence is being accumulated to facilitate production of a valid ES report towards the end of the year and guide the trainee as to further evidence that might be required.

Clinical supervisor (CS)

The trainee should have a Clinical Supervisor for each attachment and once again the trainee should meet up with the CS at the start of the attachment. Similar discussions should be held with the CS as have been held with the ES and once again, a PDP with SMART objectives should be constructed for each attachment. At the end of the attachment, the CS should be well placed to complete a Multiple Consultant Report (MCR). The CS should also document the progress that the trainee has made towards completing all the objectives of the PDP.

The trainee should provide a MCR from each designated CS as they are best placed to provide such a report but in addition should approach other consultants with whom they have had a significant clinical interaction and ask them also to provide a MCR. Throughout the attachment the trainee should be having SLEs completed by both consultants and more senior trainees. The number of SLEs demanded by the decision aid should be regarded as an absolute minimum and additional ones should be sought because

- Although they are formative, not summative assessments, they do provide additional evidence to show that a trainee is acquiring clinical (and generic) capabilities
- They may give the trainee the opportunity to have additional one to one clinical teaching from a senior colleague
- They allow the excuse for trainees to receive targeted and constructive feedback from a senior colleague.

Completing reports

When completing reports, all consultants should do more than just tick a box and make some generic comment such as “good trainee”. It is important that they make meaningful comments about why they have assigned that particular level of performance/behaviour to that particular trainee. In doing this, the descriptors assigned to each CiP should be especially useful as an *aide-memoire*. They should specifically not be used as a tick list that requires a comment for each descriptor but should just allow the senior doctor completing the report to reflect on what comments would be helpful to the ES for completion of their report and to the ARCP panel in determining whether the trainee can progress to the next year of training. Constructive comments are also of course valued by the trainee. It is very helpful if the trainee can have constructive comments if they are progressing along the “normal” trajectory and especially if they are exceeding expectations either globally or in certain areas. If a trainee is performing below expectations then it is absolutely mandatory that meaningful, insightful and precise comments are provided.

ARCP preparation

As the ARCP approaches, it is essential that the trainee reviews their ePortfolio and ensures that all requisite information is available in a logical and accessible format. In particular, they should ensure that:

- All appropriate certificates have been uploaded to the personal library and are clearly signposted
- An appropriate amount of reflection has been documented
- As a bare minimum (see comments above), the requisite number of SLEs (as demanded by the annual decision aid) has been completed and recorded in the ePortfolio
- MSF has been completed and the results released by the ES. It is critical that appropriate discussion/reflection has occurred and been recorded in response to the MSF
- A patient survey has been completed for the relevant years of training
- MCR has been completed by each CS and additional ones have been completed by any supervisor with whom the trainee has had significant clinical/educational interaction
- The trainee has self-rated themselves for each CiP on the curriculum page
- The SMART objectives documented in their PDP have either been achieved fully and the evidence for that achievement has been clearly documented. If any objectives of the PDP have not been fully achieved, then the reasons for that have been clearly documented and evidenced.
- An appointment has been made with their ES to discuss the annual ES report that will inform the ARCP panel

The ES should review the portfolio to ensure that all the above requirements have been met and record a final rating for each CiP on the curriculum page. The ES should meet up with the trainee to discuss the ESR so that there are no surprises.

The ARCP

At the ARCP, the panel should review the ePortfolio and in particular it should focus on the ESR report but also review the MCRs, the MSF, the PDPs and reflection. It should also reassure itself that all the mandatory courses and exams have been attended/passed. If members of the panel have any concerns that the trainee under review is not eligible for a standard outcome (outcome 1 or outcome 6) then they should examine more detail in the ePortfolio and review more of the SLEs and other subsidiary information.

ARCP Decision Aid for Clinical Genetics

This decision aid provides guidance on the requirement to be achieved for a satisfactory ARCP outcome at the end of each training year. This document is available on the JRCPTB website https://www.jrcptb.org.uk/training-certification/arcp-decision-aids

Evidence / requirement	Notes	Year 1 (ST3)	Year 2 (ST4)	Year 3 (ST5)	Year 4 (ST6)
Educational supervisor (ES) report	One per year to cover the training year since last ARCP (up to the date of the current ARCP)	Confirms meeting or exceeding expectations and no concerns	Confirms meeting or exceeding expectations and no concerns	Confirms meeting or exceeding expectations and no concerns	Confirms will meet all requirements needed to complete training
Generic capabilities in practice (CiPs)	Mapped to Generic Professional Capabilities (GPC) framework and assessed using global ratings. Trainees should record self-rating to facilitate discussion with ES. ES report will record rating for each generic CiP	ES to confirm trainee meets expectations for level of training	ES to confirm trainee meets expectations for level of training	ES to confirm trainee meets expectations for level of training	ES to confirm trainee meets expectations for level of training
Specialty capabilities in practice (CiPs)	See grid below of levels expected for each year of training. Trainees must complete self-rating to facilitate discussion with ES. ES report will confirm entrustment level for each CiP	ES to confirm trainee is performing at or above the level expected for all CiPs	ES to confirm trainee is performing at or above the level expected for all CiPs	ES to confirm trainee is performing at or above the level expected for all CiPs	ES to confirm level 4 in all CiPs by end of training

Evidence / requirement	Notes	Year 1 (ST3)	Year 2 (ST4)	Year 3 (ST5)	Year 4 (ST6)
Multiple consultant report (MCR)	Indicative requirement. Each MCR is completed by a consultant who has supervised the trainee's clinical work. The ES should not complete an MCR for their own trainee	4	4	4	4
Multi-source feedback (MSF)	Minimum of 12 raters including 3 consultants and a mixture of other staff (medical and non-medical). MSF report must be released by the ES and feedback discussed with the trainee before the ARCP. If significant concerns are raised then arrangements should be made for a repeat MSF	1	1	1	1
Supervised Learning Events (SLEs): Case-based discussion (CbD) and/or mini-clinical evaluation	Indicative requirement to be carried out by consultants. Trainees are encouraged to undertake more and supervisors may require additional SLEs if concerns are identified. SLEs should be undertaken throughout the training year by a range of assessors. Structured feedback	4 CbD and 4 miniCEX	4 CbD and 4 miniCEX	4 CbD and 4 miniCEX	4 CbD and 4 miniCEX

Evidence / requirement	Notes	Year 1 (ST3)	Year 2 (ST4)	Year 3 (ST5)	Year 4 (ST6)
exercise (mini-CEX)	should be given to aid the trainee's personal development and reflected on by the trainee				
KBA Clinical Genetics			Attempt/Pass KBA Clinical Genetics	Attempt/Pass KBA Clinical Genetics	KBA Clinical Genetics obtained in order to gain CCT
Patient Survey		1	1	1	1
Adult life support and paediatric life support (basic))		Valid	Valid	Valid	Valid
Quality improvement (QI) project	Project to be assessed with quality improvement project tool (QIPAT)	Evidence of participation in audit	Evidence of participation in audit	Evidence of completion of an audit with major involvement in design, implementation, analysis and recommendations	Satisfactory portfolio of audit involvement
Teaching attendance	Indicative requirement of hours per training year to be specified at induction	Evidence of participation in teaching of medical students, junior	Evidence of participation in teaching of medical students, junior	Evidence of participation in teaching. Evidence of understanding of	Portfolio of evidence of ongoing evaluated participation in teaching.

Evidence / requirement	Notes	Year 1 (ST3)	Year 2 (ST4)	Year 3 (ST5)	Year 4 (ST6)
		doctors, counsellors and other HP's Assessed by T.O.	doctors, counsellors and other HP's	the principles of adult education via a training course. Assessed by T.O.	
Clinical Activity, genetics consultations (outpatient and inpatient and complex MDT discussions)	Many new consultant roles will require practice in a broad area of clinical genetics and it is vital that both general and cancer genetics have recent experience.	150-200 indicative (Trainees may wish to count some consultations that were observed if these provided significant learning)	200-250 indicative (Trainees may wish to count some consultations that were observed if these provided significant learning)	200-250 indicative	250-300 indicative Evidence of clinical activity in areas of general and cancer genetics during final year.
Research		Evidence of critical thinking around relevant research questions.	Evidence of critical thinking around relevant research questions.	Evidence of developing research competence through participation in research studies, critical reviews, presentations or participation in courses	Satisfactory academic portfolio with evidence of research competence. This could include a completed study with presentations, publication, a completed higher degree with a research component or a research degree (MD or PhD).

Evidence / requirement	Notes	Year 1 (ST3)	Year 2 (ST4)	Year 3 (ST5)	Year 4 (ST6)
Management		Involvement in some aspects of management systems: examples may include responsibility for rotas, ward rounds or teaching sessions.	Involvement in some aspects of management systems: examples may include responsibility for rotas, ward rounds or teaching sessions.	Awareness of managerial structures within the NHS, which may include attendance at relevant courses or participation in relevant local management meetings	Evidence of understanding of managerial structures which may include attendance at relevant courses or reflective entries regarding relevant managerial activities.

Training programme

The training programme in Clinical Genetics involves trainees attending outpatient clinics covering the diverse aspects of the speciality. This will involve a mixture of trainee-led consultation and observation of Consultant or Genetic Counsellor consultations. There may also be opportunities for inpatient work, such as reviewing ward patients who require a genetic opinion. Trainees will also be expected to regularly attend and participate in their Clinical Genetics departmental meetings and MDMs, both internally and outwards-facing with other specialities within the hospital. Trainees will work closely alongside their Clinical Scientist colleagues in the laboratory, gaining an insight into relevant cytogenetic and molecular genetic analyses through their work.

Progression through Clinical Genetics training will require gaining all 6 specialist capabilities which build upon those already achieved in foundation training and early broad based speciality training. Clinical Genetics trainees will not be required to provide either medical or paediatric acute unselected care. It is anticipated that most trainees will be entrusted to manage general and cancer genomics consultations by the end of the second year of Clinical Genetics training.

In order to gain appropriate skills in genomic interpretation and achieve the clinical genetics capabilities, trainees may wish to complete a postgraduate certificate in genomics during their training by undertaking appropriate modules of an approved genomics MSc course. Some trainees may however prefer to gain these skills, using online resources, by attending alternative courses with major emphasis on genomic variant interpretation or via appropriate laboratory attachments.

The Clinical Genetics curriculum provides a broad based training in all areas of relevant clinical practice, across a wide age range, and in the interpretation of genomic variants pertinent to medical care. In order to practice as a clinical geneticist, an individual must gain appropriate experience in the clinical areas that are core to the discipline. This must include training in bioinformatics, omics and variant interpretation as applied to the clinical setting and in addition the genomics of common and rare disease, the genomics of developmental disorders, cancer genetics, cardiac genetics, neurogenetics and prenatal genetics. As a practicing geneticist, a physician would often be a key clinician involved in such clinical episodes. However, there are many other areas of clinical practice where clinical geneticists have roles to play in care, but would be less likely to be the lead clinician involved in the episode. For these areas of practice, some experience should be gained during clinical training, but a detailed knowledge of the genomics relevant to clinical care in these areas could be obtained post CCT (via credentialing) where relevant for individual practice.

Variant Interpretation

Trainees will need to gain appropriate expertise in genomic variant interpretation in order achieve the speciality specific CiPs and to practice as a consultant clinical geneticist. Trainees can gain these skills by undertaking appropriate modules of a genomics MSc, as offered by many UK universities, or a PGCert in genomics as offered by St George's University, London. Any trainee who is unable to pursue one of these routes will be able to plan a programme of learning with their Educational Supervisor. This may for instance consist of attending an alternative variant interpretation course such as that offered by Wellcome Genome Courses and Conferences. They could also combine this with practical experience gained by an appropriate period of working with senior scientists in one of the National Genomics Laboratories.

Counselling skills

Effective counselling skills are a crucial skill for doctors practicing in many medical disciplines. However, the concepts to be discussed with patients can be particularly complex in Clinical Genetics and the potential consequences of a patient failing to understand a disorder particularly far reaching. Trainees will be strongly encouraged to attend formal training in counselling skills such as that available via the UK universities' Genomics MSc's, or a similar course as deemed appropriate by the local Programme Director. Some UK training centres may have specific expertise in counselling theory and practice, and trainees in these centres may be able to acquire appropriate skills from local departmental teaching combined with selected clinical experience.

Training resources links

JRCPTB Clinical Genetics Page
ST3 Recruitment Clinical Genetics
British Society for Genetic Medicine
Clinical Genetics Society
RCPath Exam information

Glossary of abbreviations

ACAT	Acute Care Assessment Tool
ALS	Advanced Life Support
ARCP	Annual Review of Competence Progression
AUT	Acute Unselected Take
CiP	Capabilities in Practice
CbD	Case-based Discussion
CCT	Certificate of Completion of Training
CS	Clinical Supervisor
CBME	Competency Based Medical Education

DME	Director of Medical Education
DOPS	Direct Observation of Procedural Skills
EPA	Entrustable Professional Activity
ES	Educational Supervisor
GPC	Generic Professional Capabilities
GMC	General Medical Council
HoS	Head of School
ICU	Intensive Care Unit
IMY1-3	Internal Medicine Year 1-3
JRCPTB	Joint Royal Colleges of Physicians Training Board
MDT	Multidisciplinary Team
MCR	Multiple Consultant Report
Mini CEX	Mini Clinical Evaluation Exercise
mHDU	Medical High Dependency Unit
MMC	Modernising Medical Careers
MSF	Multi-Source Feedback
NTN	National Training Number
PDP	Professional Development Plan
PS	Patient Survey
SLE	Supervised Learning Event
WPBA	Workplace Based Assessment

JRCPTB

Joint Royal Colleges of Physicians Training Board

ROYAL COLLEGE *of* PHYSICIANS *of* EDINBURGH

ROYAL COLLEGE OF PHYSICIANS AND SURGEONS OF GLASGOW

Royal College of Physicians