Nuclear Medicine

Specialty Specific Guidance
This guidance is to help doctors who are applying for entry onto the Specialist Register with a CESR in Nuclear Medicine. You will also need to read the Nuclear Medicine CCT curricula.
Introduction

This document is designed to provide helpful information and guidance to enable you to make an application for a Certificate of Eligibility for Specialist Registration (CESR) in Nuclear Medicine. This is not a standalone document and should be read in conjunction with the Nuclear Medicine curriculum – please see the Nuclear Medicine page on the Joint Royal Colleges of Physicians Training Board (JRCPTB) website for more details. You can contact us for advice before you apply.

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

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

The structure of the training programme (in indicative timescales) is as follows:

- Two years of Internal Medicine (stage 1) or three years of Acute Care Common Stem - Internal Medicine (ACCS – IM) including MRCP (UK) or one of the following alternative pathways
  - Two years of Core Surgical Training (including MRCS)
  - Three years of Level 1 Paediatrics training (including MRCPCH)
- Six years of Nuclear Medicine specialty training which commences with three years of clinical radiology training, achieving both FRCR and the Post Graduate Diploma in Nuclear Medicine.

Applicants need to demonstrate that they have achieved the learning outcomes required for all stages of the Nuclear Medicine curriculum including those for Clinical Radiology noted below.
Curriculum Framework

The **Nuclear Medicine** curriculum is structured into high-level learning outcomes, known as Capabilities in Practice (CiPs). The CiPs are split into generic and specialty specific capabilities, as outlined below. Acquiring a CESR depends upon you providing evidence demonstrating that you are working at the level of a UK consultant and are able to perform safely and independently for each CiP (described in the curriculum as 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 five Nuclear Medicine specialty CiPs describe the clinical tasks or activities which are essential to the practice of Nuclear Medicine. The six Clinical Radiology specialty CiPs describe the learning outcomes for the Clinical Radiology components of Nuclear Medicine. The CiPs have been mapped to the GPC domains to reflect the professional generic capabilities required to undertake the clinical tasks.

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.

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

1. Advising and authorising appropriate Nuclear Medicine diagnostic and therapeutic interventions for individual patients.
2. Ability to direct optimisation of imaging and non-imaging diagnostic Nuclear Medicine investigations in terms of patient preparation, data and image acquisition, post processing and display.
3. Providing timely, accurate and clinically pertinent reports on all Nuclear Medicine diagnostic studies.
4. Providing a safe and comprehensive radionuclide therapy service.
5. Leading all the clinical aspects of the Nuclear Medicine department in terms of compliance with regulations.

### Clinical Radiology Specialty CiPs

1. Appropriately select and tailor imaging to patient context and the clinical question(s).
2. Provide timely, accurate and clinically useful reports on imaging studies.
3. Appropriately manage imaging examination lists/procedures according to clinical need and professional expertise.
4. Evaluate image quality and utilise the knowledge of imaging sciences to optimise image quality.
5. Safely manage the imaging and image-guided intervention needed to support emergency care.
6. Effectively contribute a clinical/imaging opinion to a multidisciplinary team (MDT) meeting.
Submitting your evidence

Please keep the following in mind when gathering your evidence:

- The evaluators want to see quality, relevant evidence to demonstrate the required CiPs. It is more important to carefully select your evidence and present it in an organised way, than provide large volumes of minimally relevant evidence
- Triangulated evidence will make a stronger application
- Evidence of your recent practice (i.e. less than 5 years old) will be given more weight, as it reflects current capabilities
- Your evidence must be legible

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

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

Your evidence **must** be accurate and may be verified at source should we have any queries or justifiable doubts about the accuracy of your evidence. All evidence submitted will be cross checked against the rest of your application and documents.

Anonymising your evidence

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

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

This includes:

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

The following details do not need to be anonymised:
- Gender
- Date of birth

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

**How much evidence to submit**

*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. We recognise that you may not have all the evidence that is required but it will help us process your application more quickly if you ensure that you only submit evidence that is directly relevant. Triangulation of evidence will strengthen an application, and we recommend that you delay submitting an application until you have achieved this.

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 are advised to review the curriculum and ARCP decision aid to see what is expected from doctors in training in Nuclear Medicine in the UK.

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 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.

**Our guidance on compiling your evidence will help you to decide what is relevant and what is not. We recommend that you read it carefully.**

**Organising your evidence**

Your evidence will need to be organised to reflect the structure of the online application. You need to gather your evidence by CiP and then attach this under the relevant section in your online application.

Please refer to our [user guide](#) for information on grouping and uploading your evidence.

Your evidence must be mapped to the curriculum by providing primary evidence for knowledge, skills and qualifications to demonstrate the required CiPs for all areas of the [Nuclear Medicine curriculum](#). If evidence is missing from any area of the curriculum, your application may be unsuccessful.

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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.

**Tips for a successful application**

In our experience, CESR applications fail because they provide inadequate or poor evidence of current capability covering the entire curriculum. Below are some tips for you to consider when making an application:

- Before submitting an application, you should review the current CCT curriculum in conjunction with this document. A strong CESR application will provide evidence to demonstrate that knowledge, skills and experience are equivalent in both the breadth and level of capability, to that set out in the curriculum.

- Provide evidence of your **current capability** in all areas of the curriculum. This includes the maintenance of CiPs and key skills over the last five years – 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 equivalent evidence of knowledge, and evidence 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 or MRCS.

- You will need to demonstrate you have the nuclear medicine capabilities as set out in this document and the curriculum. The knowledge based assessment required is the Diploma in Nuclear Medicine, therefore you must demonstrate you hold this or provide evidence to demonstrate equivalence.

- Applicants should be aware that core clinical radiology is an integral part of nuclear medicine training and applicants will need to provide evidence of core radiology capabilities and possession of the FRCR, or equivalent.

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- 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 training and registration in Nuclear Medicine in the UK

- Provide evidence of managing a broad range of patients, as seen daily by Nuclear Medicine 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 consultant level across all of the specialty CiPs

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

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, do not 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 would like to cross reference it.

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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.

A description of the assessments below, together with template forms, can be found on the [JRCPTB website](https://www.jrcptb.org).

<table>
<thead>
<tr>
<th>Evidence / requirement</th>
<th>About</th>
<th>Minimum expectation over five years</th>
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<tbody>
<tr>
<td><strong>Supervised Learning Events (SLEs)</strong></td>
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<tr>
<td>Case-based discussion and/or mini-clinical evaluation exercise (mini-CEX)</td>
<td>These should have been undertaken with a consultant. CbDs and Mini-CEX should cover different aspects of Nuclear Medicine.</td>
<td>30</td>
</tr>
<tr>
<td><strong>Workplace Based Assessments (WPBAs)</strong></td>
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<td></td>
</tr>
<tr>
<td>Direct Observation of Procedural Skills (DOPS)</td>
<td>Evidence of practice of procedures acquired in the last five years. Examples include; radiopharmaceutical draw up, radiopharmaceutical dose calibration, radiopharmaceutical dose administration, interventions such as cardiac stressing, image post processing and quantification. Additional evidence of other procedure relevant to Nuclear Medicine may be provided to demonstrate the achievement of independent safe practice.</td>
<td>30</td>
</tr>
<tr>
<td><strong>Quality Improvement Project Assessment Tool (QIPAT)</strong></td>
<td>Can be used to demonstrate active involvement in service audit or development projects.</td>
<td>1</td>
</tr>
</tbody>
</table>
| **Patient Survey (PS)** | 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, as does the GMC. A reflective entry reflecting on the survey must be made. Alternative evidence could include:  
  - Thank you letters/cards from patients  
  - Statements from referees  
  - Testimonial letters from colleagues  
  - Feedback from patients/colleagues | 1 completed in last 12 months |
| **Teaching observation (TO)** | At least one should be completed by a consultant in Nuclear Medicine. | 1 completed in last 12 months |
| **Multi Source Feedback (MSF)** | MSF is a strong piece of evidence as it is an anonymous feedback exercise. Minimum of one in the year before the application has been submitted – any available from the last five years should also be submitted. MSF should include approximately 15 colleagues, and not more than four should be doctors. | 1 completed in last 12 months |

**Other evidence**

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| To be included in the portfolio of evidence | ▪ **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 four in the last 12 months.  
▪ **Logbooks** must cover the last five years and show the type of procedures you performed and your role in the procedure  
▪ **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  
▪ **Academic activities**  
▪ **Management activities**  
▪ **Structured reports** | 4 completed in the last 12 months (MCRs) |
| **Continuing Professional Development (CPD)** | CPD represents the acquisition and maintenance of knowledge, skills and key skills. Courses you may want to provide evidence of include:  
- Life support  
- Teaching  
- Simulation  
- Management  
- Research methodology  
- Business  
- Communication  
- Education | Advanced life support qualification is considered mandatory, otherwise a record of regular relevant CPD is required.  
Examples of evidence could include a personal, reflective diary of learning achievements, in addition to detailed evidence of courses attended. |
## Evidence of training and qualifications

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

| **Primary medical qualification (PMQ)** | If you hold full registration with us, you do not need to submit your PMQ as we saw it when we assessed your application for registration.  
If you do not hold registration, you will need to have your PMQ independently verified by ECFMG before we can grant you full registration with a licence to practise.  
You can find out more about [primary source verification](#) on our website.  
You only need to get your PMQ verified by ECFMG. The rest of your evidence should be verified in line with [our guidance](#). |
| **Specialist medical qualification(s)** | Please provide an **authenticated copy** of any specialist medical qualifications you hold.  
Evidence of completion of full **MRCP(UK)** or equivalent. Alternative tests of knowledge are acceptable for applicants demonstrating alternative core capabilities in paediatrics or surgery – **MRCPCH or MRCS**.  
Applicants must have evidence of an appropriate tests of knowledge, or equivalent, to those required for CCT which are the **Diploma in Nuclear Medicine** and the **Fellowship of the Royal College of Radiologists (FRCR)**. |
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 older than 5 years)

### Recent specialist training

If you have worked in posts approved for a specialist training programme for a relevant qualification outside the UK in the past five years, please provide an authenticated copy of the curriculum or syllabus that was in place when you undertook your training.

If a formal curriculum or syllabus (including assessment methods) is not available please provide a letter from the awarding body outlining the content of the training programme or examination.

You must provide evidence of formal periodic assessment during your training. This evidence must have been completed at the time the training was undertaken (if it is completed retrospectively less weight will be given to the information provided). If you do not supply formal assessment documents, the curriculum must demonstrate how you were assessed. A detailed letter of verification from an educational supervisor would satisfy this requirement.
If areas for development were highlighted, please provide evidence to demonstrate that you have subsequently addressed them.

If you have undertaken approved specialty training towards a CCT or CESR(CP) in Nuclear Medicine in the UK in the past five years, you should provide a copy of your ARCPs.

<table>
<thead>
<tr>
<th>Specialist registration outside the UK</th>
<th>Please provide an <strong>authenticated copy</strong> of details of the registration requirements of that authority.</th>
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</thead>
<tbody>
<tr>
<td>Other relevant qualifications and certificates</td>
<td>You may include postgraduate qualifications if they are relevant to associated capabilities e.g. teaching, management, research methodology. Please provide <strong>copies</strong> of certificates.</td>
</tr>
</tbody>
</table>

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

| Employment letters and contracts of employment | The information in these letters and contracts **must** match your CV. They will confirm the following:  
  - dates you were in post  
  - post title, grade, training  
  - type of employment: permanent, fixed term, or part time (including percentage of whole time equivalent) |
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<tbody>
<tr>
<td>Job descriptions</td>
<td>These <strong>must</strong> match the information in your CV. They will confirm the following:</td>
</tr>
</tbody>
</table>
- your position within the structure of your department
- your post title
- your clinical and non-clinical commitment
- your involvement in teaching or training.

<table>
<thead>
<tr>
<th>Rotas</th>
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<tbody>
<tr>
<td>You must provide samples of your rotas from the last three years. 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.</td>
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<table>
<thead>
<tr>
<th>Departmental/ Unit annual caseload statistics</th>
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<tbody>
<tr>
<td>You should provide departmental and unit caseload statistics, activity data, range and scope of work undertaken in a placement from the last three years.</td>
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<tr>
<th>Appraisal</th>
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<tr>
<td>Those working in a NHS or managed environment should submit evidence of annual appraisals. 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...</td>
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performance. In addition, where no formal appraisal or assessment forms are available you must provide information on the method of career review or progression.
Generic CiPs

The suggested documentation is given below each CiP and the overall numbers expected are given in the table 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), 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 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

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:
  - Reflections on cases where you had to assess a patient’s mental capacity
  - SLEs
Evidence of involvement in making best interests’ decisions, such as:
- Notes
- Letters
- Meeting minutes

Awareness of relevant legislation, including mental capacity legislation by completion of an online training course, for example:
- 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

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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. Evidence could include reflective diaries
- Feedback from patients, such as a patient survey
- Reflective practice entries about patients or families who posed difficulties

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

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**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:
  - Meeting minutes, demonstrating your attendance and participation
  - Invites sent from you demonstrating arranging meetings
- Specific quality improvement activity, such as a QIPAT
- Copies of letters you have written to NHS and non-NHS services involved with patients
- 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
- Supervised learning events:
  - CbDs and mini-CEX

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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
- 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
- Understands public health epidemiology and global health patterns
- 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:
Documented evidence of research activity. This may include evidence of:
- Helping in a project
- Reviewing research papers / grants
- Writing research papers
- Contributing to research projects

Presentations – either lectures (podium presentations) or poster presentations
- Publications

**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)

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- Completion of relevant training course(s), such as management or leadership courses

- Feedback from formal teaching sessions to medical and non-medical staff:
  - Teaching Observation
Specialty Specific CiPs

Applicants must demonstrate that they are currently practising at the level of ‘entrusted to act unsupervised’ 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: Advising and authorising appropriate Nuclear Medicine diagnostic and therapeutic interventions for individual patients

Key skills:

- Have a comprehensive understanding of Nuclear Medicine investigations and interventions pertinent to pathologies
- Collaborate effectively with referrers to determine the most appropriate imaging pathway or therapeutic intervention for each patient
- Exercise evidence-based practice by utilising current peer-reviewed literature to inform selection for all patient groups
- Weigh up the relative clinical and radiation risk/benefit when advising on imaging or therapeutic intervention according to the clinical information provided by referrers and all available imaging
- Tailor Nuclear Medicine scan protocols appropriately as per Ionising Radiation (Medical Exposure) Regulations, IR(ME)R
- Prescribe diagnostic and therapeutic radiopharmaceutical doses accurately and appropriately according to accepted local Diagnostic Reference Levels (DRLs) based on Administration of Radioactive Substances Advisory Committee (ARSAC) limits
- Safeguard patients, including vulnerable groups such as paediatric patients and patients with dementia, acting in accordance with current safety guidelines and legislation with respect to ionising radiation protection

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Be able to advise referrers and patients regarding radiation exposure tailored to individual clinical contexts to facilitate informed decision making

**Suggested documentation:**
- Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
- Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports
- Minimum of one of each of the below supervised learning events (SLEs):
  - Mini-CEX
  - Mini-IPEX
  - CbD
- Diploma in Nuclear Medicine
- FRCR

**Specialty CiP 2: Ability to direct optimisation of diagnostic Nuclear Medicine image quality in terms of patient preparation, image acquisition, post processing and display**

**Key skills:**
- Have understanding of Nuclear Medicine investigations and how these may be optimised
- Have understanding of importance of patient preparation and pharmaceutical interventions

*This is the specialty specific guidance for Nuclear Medicine updated August 2021*

Please make sure you are reading the latest version. You can find all the guidance you need at [www.gmc-uk.org](http://www.gmc-uk.org).
- Work closely with physicists and Nuclear Medicine technologists to optimise image quality
- Able to process and enhance image quality with various software and analysing data, including quantification
- Recognise image artefacts from various sources and the importance of regular gamma camera quality control (QC) and quality assurance (QA)
- Recognise the importance of national and international guidelines and their appropriate implementation at a local level

**Suggested documentation:**

| Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF) |
| Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports |
| Minimum of one of each of the below supervised learning events (SLEs):
  - Mini-CEX |
  - Mini-IPEX |
  - CbD |
| Evidence of procedural skills – e.g. DOPS |
| Diploma in Nuclear Medicine |
| FRCR |
| Quality improvement activity, such as a QIPAT |

**Specialty CiP 3: Providing timely, accurate and clinically pertinent reports on all Nuclear Medicine diagnostic studies**

*This is the specialty specific guidance for Nuclear Medicine updated August 2021*

Please make sure you are reading the latest version. You can find all the guidance you need at [www.gmc-uk.org](http://www.gmc-uk.org).
**Key skills:**

- Demonstrate sound knowledge of the normal physiological distribution of commonly used radiopharmaceuticals, normal variants and artefacts and relevant anatomy as demonstrated on diagnostic Nuclear Medicine imaging studies
- Combine knowledge of physiology/function and anatomy with pathology, adopting a safe and systematic approach to interpretation of diagnostic imaging
- Formulate a clinically relevant written report targeted to the referrer, providing where appropriate relevant differential diagnoses and using clinical judgement to provide recommendations for further imaging investigations, follow-up and/or management
- Communicate imaging findings to the referrers (and to patients if appropriate) in a timely manner including significant, unsuspected or critically urgent findings
- Demonstrate insight into personal level of expertise and appropriately refer or seek a second opinion if required
- Recognise and appropriately respond to imaging findings that may raise safeguarding concerns
- Demonstrate insight into diagnostic certainty and communicate this in written and/or verbal reports

**Suggested documentation:**

- Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
- Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports
- Minimum of one of each of the below supervised learning events (SLEs):
  - Mini-CEX
  - Mini-IPEX
  -CbD
- Diploma in Nuclear Medicine
- FRCR

This is the specialty specific guidance for Nuclear Medicine updated August 2021

Please make sure you are reading the latest version. You can find all the guidance you need at [www.gmc-uk.org](http://www.gmc-uk.org).
Specialty CiP 4: Providing a safe and comprehensive radionuclide therapy service

Key skills:

- Demonstrate sound knowledge of tracer distribution, in normal and pathological conditions, of commonly used therapeutic radio-pharmaceuticals
- Good understanding and use of diagnostic and therapeutic agents for tailoring a personalised management and therapy pathway for the individual patient (theragnostics) using evidence based practice
- Demonstrate the ability to appropriately select patients for therapy working closely with local or regional multidisciplinary teams (MDTs)
- Have strong physicianly skills in history taking and clinical examination in patients undergoing consideration for therapy for holistic care
- Able to explain the radiopharmaceutical therapy and obtain informed consent for treatment
- Sound knowledge of radiation effects and hazards, and effective communication with physics and radiation safety experts to provide a safe environment for the patient and staff
- A sound knowledge of appropriate patient preparation, prescription, dispensing, handling and administration of therapeutic radiopharmaceuticals appropriately tailored to the patient condition and requirements
- Have a sound knowledge of the efficacy and side-effects of therapy and their management
- Working knowledge of the radiation protection measures and procedures for safe administration and treatment, to minimise radiation to the public & staff, including contamination management
- Arrange for appropriately timed follow-up and further management to monitor therapy effects

Suggested documentation:

- Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
- Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports

This is the specialty specific guidance for Nuclear Medicine updated August 2021

Please make sure you are reading the latest version. You can find all the guidance you need at www.gmc-uk.org.
Minimum of one of each of the below supervised learning events (SLEs):
  - Mini-CEX
  - CbD

Feedback from patients, such as patient surveys

Diploma in Nuclear Medicine

Evidence of procedural skills – e.g. DOPS

Specialty CiP 5: Leading all the clinical aspects of the Nuclear Medicine department in terms of compliance with regulations

Key skills:

- Understand and apply the roles of Administration of Radioactive Substances Advisory Committee (ARSAC), the Environment Agency (EA), the Health and Safety Executive (HSE) and Medicine and Healthcare products Regulatory Agency (MRHA), and their legislative framework governing clinical study, research, production, transport, storage and disposal of radioactive substances

- Understand and apply the legislative regulations of Ionising Radiation (Medical Exposure) regulations - IR(ME)R. Understand the responsibilities of the practitioner, operator and referrer which deals with justification and optimisation of each exposure

- Work closely with Radiation Protection Advisor (RPA), Radiation Protection Supervisors (RPS) and Employers (University, NHS and Private)

- Ensuring compliance with Good Clinical Practice (GCP) for all research studies

- Understanding legal framework for dealing with the young, the old, the vulnerable and their/guardians/parents/carers

- Recognise the importance of monitoring performance through audits, quality improvement projects; learning from mistakes through discrepancy, morbidity and mortality meetings and adopting a no blame culture in order to ensure high standards of care and optimise patient safety

This is the specialty specific guidance for Nuclear Medicine updated August 2021
Please make sure you are reading the latest version. You can find all the guidance you need at www.gmc-uk.org.
Suggested documentation:

- Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
- Reports from consultants who have worked with you, such as the Multiple Consultant Report (MCR), end of placement and appraisal reports
- Minimum of one of each of the below supervised learning events (SLEs):
  - CbD
- Diploma in Nuclear Medicine
- Quality improvement activity, such as a QIPAT

Clinical Radiology CiP 1: Appropriately select and tailor imaging to patient context and the clinical question(s)

Key skills:

- Collaborate effectively with referrers to determine the most appropriate imaging pathway for a given presentation
- Exercise evidence-based practice by utilising current peer-reviewed literature to inform imaging selection for all patient groups
- Protocol CT and MRI scans appropriately
- Safeguard patients, including vulnerable groups, and act in accordance with current safety guidelines and legislation in respect of ionising radiation and other imaging techniques/equipment
- Be able to advise referrers and patients regarding radiation exposure tailored to individual clinical contexts to facilitate informed decision making

This is the specialty specific guidance for Nuclear Medicine updated August 2021

Please make sure you are reading the latest version. You can find all the guidance you need at www.gmc-uk.org.
Suggested documentation:

- Radiology reports - you must submit sufficient examples of personally generated, dated and anonymised radiology reports, covering the appropriate range of techniques
- Clinical correspondence (including evidence of justification or protocolling imaging examinations) - you should submit a range of letters and emails to and from referring clinicians; you can also include patient consent forms and other correspondence you consider relevant
- Courses and CPD
- Workload statistics
- Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)
- Patient feedback
- Appraisal

Clinical Radiology CiP 2: Provide timely, accurate and clinically useful reports on imaging studies

Key skills:

- Possess a sound understanding of radiological anatomy, normal variants and artefacts as demonstrated on all of the common imaging modalities.
- Combining a sound knowledge of radiological anatomy, physiology and pathology, adopt a safe, systematic approach to interpretation of imaging
- Formulate a clinically useful written report targeted appropriately to the referrer, providing where appropriate

This is the specialty specific guidance for Nuclear Medicine updated August 2021

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a refined differential diagnosis, and demonstrate clinical judgement by providing recommendations for further investigation and/or management.

- Communicate pertinent imaging findings to referrers, and where appropriate to patients, in a time-appropriate manner, including significant, unexpected or incidental findings.

**Suggested documentation:**

- **Radiology reports** - you must submit sufficient examples of personally generated, dated and anonymised radiology reports, covering the appropriate range of techniques.

- **Reflective diaries** - Your evidence should demonstrate reflective activity as a regular feature of your practice, not all completed on one day. You can find a generic reflective template in the CPD section of the RCR website [https://www.rcr.ac.uk/clinical-oncology/cpd/reflecting-your-cpd](https://www.rcr.ac.uk/clinical-oncology/cpd/reflecting-your-cpd).

- **Feedback from a variety of clinical and non-clinical colleagues** who have worked with you, such as the Multisource Feedback (MSF).

- **Patient feedback**

- **Appraisal**

**Clinical Radiology CiP 3: Appropriately manage imaging examination lists/procedures according to clinical need and professional expertise**

**Key skills:**

- Explain imaging examinations, risks and findings facilitating informed patient choice
- Obtain informed consent for relevant imaging examinations and/or procedures from all patients including vulnerable groups, showing sensitivity to issues of equality and diversity
- Understand and safely prescribe medication relevant to imaging and procedures

*This is the specialty specific guidance for Nuclear Medicine updated August 2021*

Please make sure you are reading the latest version. You can find all the guidance you need at [www.gmc-uk.org](http://www.gmc-uk.org).
- Manage adverse reactions (including anaphylaxis) to administered contrast and drugs
- Maintain an up to date knowledge of cardiopulmonary resuscitation (CPR) techniques
- Implement current health and safety and infection control techniques in the context of imaging examinations/procedures
- Demonstrate insight into level of personal expertise and appropriately refer/seek second opinion

**Suggested documentation:**

<table>
<thead>
<tr>
<th>Suggested Documentation</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiology reports, including those relating to relevant procedures - you must submit sufficient examples of personally generated, dated and anonymised radiology reports, covering the appropriate range of techniques</td>
<td></td>
</tr>
<tr>
<td>Clinical correspondence - you should submit a range of letters and emails to and from referring clinicians; you can also include patient consent forms and other correspondence you consider relevant</td>
<td></td>
</tr>
<tr>
<td>Courses and CPD, such as safety-related training known in the UK as mandatory training</td>
<td></td>
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<tr>
<td>Patient consent forms</td>
<td></td>
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<tr>
<td>Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)</td>
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<tr>
<td>Patient feedback</td>
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<tr>
<td>Appraisal</td>
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<tr>
<td>Safety and quality activity</td>
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</table>

**Clinical Radiology CiP 4:** Evaluate image quality and utilise the knowledge of imaging sciences to optimise image quality

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Please make sure you are reading the latest version. You can find all the guidance you need at [www.gmc-uk.org](http://www.gmc-uk.org).
Key skills:

- Evaluate image quality and feed back to the imaging team appropriately to facilitate maintenance of equipment and/or improve practice
- Appropriately refer to image quality within written reports when there is impact on diagnostic certainty

Suggested documentation:

- Radiology reports - you must submit sufficient examples of personally generated, dated and anonymised radiology reports, covering the appropriate range of techniques
- Clinical correspondence (including those relevant to technical recalls, improving image quality, incident reports etc.) - you should submit a range of letters and emails to and from referring clinicians; you can also include patient consent forms and other correspondence you consider relevant
- Reflective diaries - your evidence should demonstrate reflective activity as a regular feature of your practice, not all completed on one day. You can find a generic reflective template in the CPD section of the RCR website https://www.rcr.ac.uk/clinical-oncology/cpd/reflecting-your-cpd
- Evidence of relevant meeting attendance (clinical governance activity)
- Courses and CPD (such as training in radiation protection, IRMER modules etc.)

Clinical Radiology CiP 5: Safely manage the imaging and image-guided intervention needed to support emergency care

Key skills:

- Produce reports in a timely manner according to clinical need in the context of emergency care
- Maintain knowledge and skills required to perform, interpret and report imaging in an emergency setting

This is the specialty specific guidance for Nuclear Medicine updated August 2021

Please make sure you are reading the latest version. You can find all the guidance you need at www.gmc-uk.org.
- Maintain an up to date knowledge of appropriate equipment for image guided biopsies and drains
- Perform or arrange (as appropriate) any clinically urgent image-guided interventional procedures

**Suggested documentation:**

<table>
<thead>
<tr>
<th>Documentation Type</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>Radiology reports in the emergency/on-call setting</td>
<td>- Review of emergency reports - Submit sufficient examples of personally generated, dated and anonymised radiology reports</td>
</tr>
<tr>
<td>Clinical correspondence</td>
<td>- Communicating critical or emergent findings - Submit letters and emails to and from referring clinicians - Include patient consent forms</td>
</tr>
<tr>
<td>Courses and CPD</td>
<td></td>
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<tr>
<td>On-call rotas/weekly activity rotas</td>
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<tr>
<td>WPBAs</td>
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<tr>
<td>Participation in morbidity and mortality meetings</td>
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</tr>
</tbody>
</table>

**Clinical Radiology CiP 6: Effectively contribute a clinical/imaging opinion to a multidisciplinary team (MDT) meeting**

**Key skills:**

- Able to review imaging studies to provide an answer to a clinical question posed by the MDT
- Integrate clinical, pathological and radiological information to refine a differential diagnosis
- Contribute to/lead the decision making of the MDT by clearly articulating a clinical opinion

- Maintain knowledge of local and national guidelines alongside current peer-reviewed literature to ensure recommendations are evidence-based, clinically relevant and safe

**Suggested documentation:**

<table>
<thead>
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</tr>
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<tbody>
<tr>
<td>Radiology reports</td>
<td>You must submit sufficient examples of personally generated, dated and anonymised radiology reports, covering the appropriate range of techniques</td>
</tr>
<tr>
<td>Clinical correspondence</td>
<td>You should submit a range of letters and emails to and from referring clinicians; you can also include patient consent forms and other correspondence you consider relevant</td>
</tr>
<tr>
<td>Multidisciplinary team (MDT) activity</td>
<td>You should submit minutes and records of your participation in MDT meetings covering a period of at least six months with patient histories and any notes. Include your reflective activity on MDTs especially on your personal contribution. Evidence of you leading the MDT is also useful.</td>
</tr>
<tr>
<td>Feedback from colleagues</td>
<td>Feedback from a variety of clinical and non-clinical colleagues who have worked with you, such as the Multisource Feedback (MSF)</td>
</tr>
<tr>
<td>WPBAs and/or trainer's reports</td>
<td>WPBAs and/or trainer's reports describing clinical capabilities in multidisciplinary cases</td>
</tr>
</tbody>
</table>

**Practical procedures**

Evidence of practice of procedures acquired in the last 5 years – this should include logbooks and assessments such as DOPS.

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Examples of procedures include: radiopharmaceutical draw up, radiopharmaceutical dose calibration, radiopharmaceutical dose administration, interventions such as cardiac stressing, image post processing and quantification.

Additional evidence of other procedure relevant to Nuclear Medicine may be provided to demonstrate the achievement of independent safe practice.