INSTITUTE
OF MEDICINE

ROYAL COLLEGE OF
PHYSICIANS OF IRELAND

HIGHER SPECIALIST TRAINING IN

NEPHROLOGY AND GENERAL INTERNAL MEDICINE

Outcome Based Curriculum

This Outcome Based curriculum of training in Nephrology and General Internal Medicine was developed in 2022 by Dr Aisling O'Riordain, National Specialty Director, Dr Ann O'Shaughnessy, Head of Education, and by the Nephrology Specialty Training Committee. The curriculum is approved by the Institute of Medicine.

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Introduction

This curriculum describes the purpose of the curriculum in Nephrology and General Internal Medicine (GIM), the content of the outcomes-based learning, the organisation of training and the requirements to be completed by trainees leading to the award of the Certificate of Satisfactory Completion of Specialist Training (CSCST).

Nephrology and GIM are specialties recognised and accredited by the Medical Council and graduates of the programme may register on the specialist division of register of the Medical Council.

Purpose of training in Nephrology and General Internal Medicine

The curriculum for Higher Specialist Training in Nephrology and GIM in Ireland is based upon the requirements for proficiency in clinical practice in both specialties. The curriculum that guides the training programme is intended to produce doctors with the specialty specific and core professional skills needed to work as a consultant in Nephrology and GIM in Ireland.

Outcome based education (OBE)

This Nephrology and GIM curriculum introduced in 2022 is an outcomes-based curriculum. This means that the curriculum is broken down into overarching goals of training corresponding to the domains of practice of Nephrology. The domains of practice were established by consensus amongst Nephrology trainers as corresponding to job analyses of both trainers and trainees. They include the day-to-day work of a trainee and subspecialty areas considered of importance to trainee development and required to practice as a Nephrology specialist.

The overarching areas, called goals, are further divided into achievable units of proficiency called outcomes. Outcomes reflect closely the day-to-day practice of Nephrology trainees and offer a tangible link between service provision and the training programme. Trainees achieve proficiency in each individual outcome by performing defined activities such as recording case experiences, receiving informal feedback, undergoing workplace-based assessments, attending courses and study days, and engaging in regular formal assessments such as quarterly assessment (QA) and end of year evaluation (EYE)and sitting examinations.

The accumulation of experience and informal feedback as well as successful completion of assessments by the trainee is reviewed by the trainer, and trainees can be signed off as proficient in the particular outcome. Multiple outcomes (and goals) are worked on concomitantly by the trainee and these reflect the real-world working conditions experienced in training sites (hospitals).

Trainees are expected to demonstrate proficiency in certain goals and outcomes within a specific time frame. However, it is recognised that although the five-year training programme provides a uniform experience, at any particular time, the experience thus far of each trainee may vary.

The outcome-based curriculum takes this into consideration in two ways:

1. It allows trainees to develop/advance at their own pace within the overall structure of the training programme.

2. It facilitates explicit documentation of a trainee moving towards independent practice as a specialist Nephrologist.

Goals and outcomes

The curriculum is divided into six goals (overarching domains of practice) as shown in Figure 1.

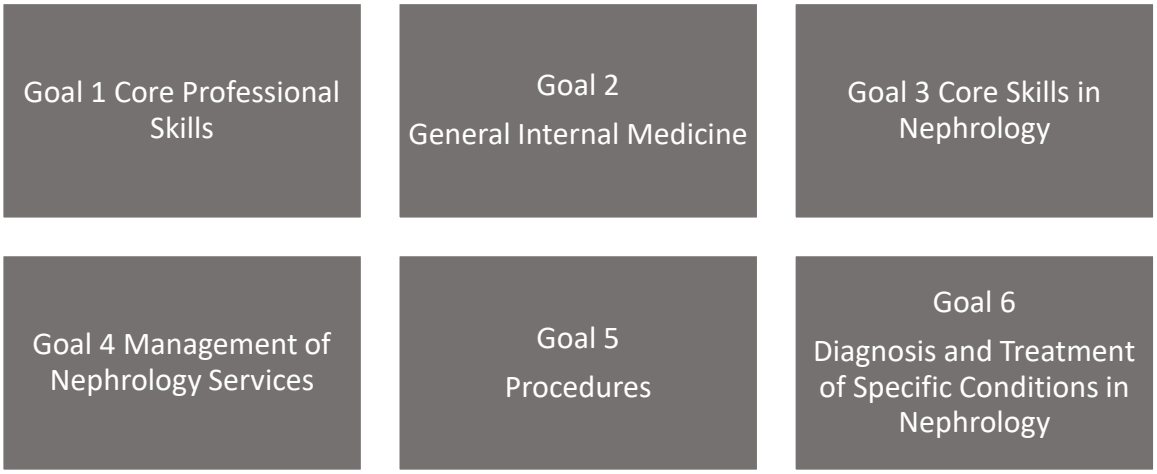

Figure 1 Outline of goals associated with the Nephrology and GIM curriculum

Not all the goals are of equal weight, and some may require the full duration of the programme to complete, for example goal 4 (Diagnosis and Treatment of Specific Conditions in Nephrology). Others, for example goal 1 (Core Skills in Nephrology,) are expected to be completed relatively early in the programme.

Each of the training goals consists of outcomes, completion of which, contribute towards completing the goal over time. The outcomes may be best defined as the actual work components of the goal. Some goals will have more outcomes than others and even within a particular goal, not all outcomes are necessarily equal either in terms of experience or workload. The outcomes for each goal are shown in Figure 2.

Goal 1 - Core Professional Skills
Partnership
Performance
Practice

Goal 2 - General Internal Medicine
Presentations
Emergency Management
Skills and Knowledge in the General Medicine Setting
Procedures

Goal 3 - Core Skills in Nephrology
History and Physical Examination
Communication Skills
Interpretation of Investigations
Safe Prescribing in Renal Patients

Goal 4 - Management of Nephrology Services
Management of Inpatient and Consultant Services
Management of Outpatient Services
Management of End Stage Renal Disease
Management of Renal Transplant Patients

Goal 5 - Procedures
Kidney Biopsy
Ultrasound Scanning
Insertion of Temporary Haemodialysis Catheters
Insertion of Peritoneal Catheters

Goal 6 - Diagnosis and Treatment of Specific Conditions in Nephrology
Fluid, Electrolyte, and Acid Base Disturbance
Disorders of Divalent Ions and CKD Mineral Bone Disease
AKI and Critical Care Nephrology
CKD Progression and Complications
Hypertension and Renovascular Disease
Glomerular, Vascular and Tubulointerstitial Disease
Renal Disease and Diabetes
Urological Presentations
Special Circumstances (Pregnancy & Inherited Diseases)

Figure 2 Outcomes associated with each goal

Development of the curriculum and governance structure

This outcomes-based curriculum was developed by the National Specialty Director (NSD) in 2022. Active trainers in Nephrology and members of the Specialty Training Committee (STC) in Ireland contributed to the validation of the content. It is expected that the curriculum will be reviewed annually. Nephrology training in the Royal College of Physicians of Ireland (RCPI) is organised by the Nephrology STC. The STC reports to the Education and Training Committee of the Institute of Medicine (IOM.) The IOM is one of six constituent postgraduate medical training bodies associated with the RCPI.

Why outcomes-based education?

A report issued by Dr Kevin Imrie to RCPI in 2016 (the Imrie Report) recommended that RCPI consider moving its curricula for all training bodies to competency-based models. Furthermore, it was a recommendation of the Medical Council accreditation of the IOM specialties in 2021 that the Institutes curricula move to outcome-based models.

The outcomes-based Nephrology curriculum will ensure that trainees develop the proficiencies necessary to practice at a specialist or consultant level. It will also ensure that trainees develop the ability to support acute hospital medical or GIM take and other specialties where appropriate.

Entrustable professional activities (EPA)

An important part of outcomes-based education in postgraduate medical training is the use of Entrustable Professional Activities (EPA.) The EPA concept allows faculty to make competency-based decisions on the level of supervision required by trainees. EPAs are units of professional practice, defined as tasks or responsibilities to be entrusted to a trainee once he/she has attained sufficient specific proficiency. However, an EPA and proficiency are not the same thing, rather a means to translate competencies into clinical practice. How to use EPA's is further explained in the Trainers handbook.

About the training programme

Eligibility for entry to the programme is based on the successful completion of Basic Specialist Training in GIM or equivalent, including successful completion of the MRCPI General Medicine examination.

The Nephrology and GIM training programme is of at least five years duration. In general, within the programme all trainees must rotate through five posts of 12 months duration each. In some instances, post lengths may be shorter. No particular order or sequence of training will be imposed, and programmes should be flexible and capable of being adjusted to meet trainees' needs. However, the general structure of training is as follows:

- Trainees should spend the first two years of their training in clinical posts in Ireland before undertaking any period of Out of Programme Experience (OPE)

- The first 3 years of clinical training will usually be directed towards acquiring a broad general experience of Nephrology and GIM and one of these years should be a pure GIM year

- One year of the programme will be spent engaged in purely Nephrology specific training including dedicated Nephrology on call and acute transplant exposure and will be free of any GIM component

- Up to one year of the 5 may be spent gaining a period of OPE (research, further clinical training e.g., sub-specialty interest). The year OPE must be approved by the NSD in advance and cannot be substituted for either of the 2 GIM or Nephrology specific years

Each 5-year rotation will provide the trainee with experience in a variety of hospitals to acquire a broad range of experience. A degree of flexibility to meet the individuals' training needs is possible especially towards the end of the training programme following discussion with trainers and the NSD.

Trainees will learn in a variety of methods – experiential, through direct instruction, by receiving feedback, engaging in formal and informal assessments, attending study days and courses, self-directed learning, and peer teaching.

The contents of the curriculum can be broadly divided into three categories:

- Core professional skills (goal 1)
- General Internal Medicine skills (goal 2)
- Nephrology specific skills (goals 3-6)

Summary and goals of the curriculum

This curriculum is designed so trainees develop a full range of core professional, and specialty specific skills and knowledge required for the practice of Nephrology at consultant level.

This curriculum will clearly set out the following:

- Goals, expectations, and endpoints of training for each of the domains of practice of Nephrology
- The expected standards of practice for each area of practice
- The expected timeframes for achievement of proficiency in each area of practice
- The assessments required to demonstrate proficiency and expectations for EPAs

Personal goals form

It is a requirement for trainees to meet formally with their trainer (ideally within the first month) of taking up a new post and set out goals for the post. These are the trainees' personal goals (professional, educational, clinical) and not to be confused with the training goals on which OBE is built. This must be completed at the beginning of every post and documented in the e-portfolio.

What will the form look like?

Trainees are asked to comment on whether they have had a hospital induction, received a timetable for the post and are aware of onsite teaching availability. Personal goals are then listed along with

how they intend to achieve the goal, measure success and the date by which the goal will be achieved. This form should be signed off by the trainer.

When should this be recorded?

The personal goals form should be completed in the first month of starting a new post.

Case experience

This facilitates recording case experiences that trainees must document for proof of experience.

Examples:

- Recording a case of management of a specific condition or patient
- Experience with a laboratory procedure e.g., urine microscopy
- Attendance at a specific clinic type
- Number of ward round or consults seen
- Specific types of discussion with a patient e.g., consent or ceiling of care
- Research activities or audit/quality improvement activities

What will the form look like?

Trainees record cases of a specific condition that they have seen or activity. There will be a text box for a brief description. Trainees will be asked how often they see such cases or perform such tasks and indicate if they received workplace feedback. Some activities may need to be recorded per programme (within specific time frames), yearly, per post or per quarter and the details are outlined in each of the curriculum requirements.

When should these activities be recorded?

Certain activities may need to be recorded in specific posts; others may need to be recorded by a specific year. In some instances, trainees are expected to display skills/knowledge commensurate with consultant level by a specific time in the programme and are assessed as such. For example, trainees may be expected to display high level skills for example, in history taking or safe prescribing early in the programme, while proficiency in more advanced skills such as management of patients with specific conditions is expected later in the programme. Trainees may have to record the bulk of the activities on a timed basis e.g., per year or per post.

Informal feedback

Many of the outcomes require informal feedback or discussion. This is a process analogous to formative feedback. This is an opportunity for trainees to receive feedback in a “safe environment.” It is strongly recommended that trainees engage in a process of informal discussion and feedback at least once per year before the formal assessment. The individual providing the feedback should be a consultant, but it does not have to be a trainer (or a consultant in a substantive post) and that the feedback is recorded. The consultant should make recommendations about the trainee’s progression (commensurate with the trainee’s experience) and whether he/she judges that the trainee is ready to undergo the formal assessment.

What will the form look like?

Trainees will record a brief description of the case. They will also record the name and position of the person who provided the feedback along with the main points of the feedback. The feedback provider will also make a recommendation about whether he/she thinks the trainee would be ready for assessment at the appropriate level (consultant level) for the outcome.

Formal assessment

Many of the outcomes have been deemed to be of critical importance and require formal assessment. Formal assessment is performed in the workplace and falls into one of 4 types.

- Mini-clinical exercise (Mini-CEX) - This is an observation of a trainee-patient interaction and allows trainer assessment of history taking, examination and communication skills. The trainer should consider, and give feedback on, the trainee's ability to engage in reflective practice, prioritisation of patient safety and ethical practice, effective communication, appropriate clinical examination, and good clinical judgement.

- Observed consultant ward round (OCWR) – This activity is specific for Nephrology and allows an assessor (consultant) to appraise the performance of a trainee leading a ward round in terms of professionalism, ability to lead and manage a team, interpersonal and communication skills, problem-solving and strategic planning ability, and ability to cope with pressure and challenges.

- Case based discussion (CBD) – Trainees engage in a case presentation and discussion of an area of practice with examples from a case(s) that the trainee has recently managed. It assesses record keeping, clinical judgement, decision making skills, insight, and the nuances of the specialty area.

- Directly observed of procedural skill (DOPS) -The Trainee is directly observed performing a procedure (either on a patient) or in a laboratory setting. The assessor gives feedback on the trainee-patient interaction, the trainees understanding of the procedure, preparation, technical ability, post procedure documentation and care, professionalism, and competency.

In an outcomes-based curriculum, trainees are expected to perform satisfactorily in a workplace-based assessment (WBA) to a pre-defined level. Often this pre-defined level is the ability to perform independently (or at least in this instance the trainee performed to this level). WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

What will the forms look like?

The forms will be initiated by the trainee who will provide details of the case along with a self-assessment of skills (at appropriate level). Trainers will receive instruction about the level of proficiency required to be demonstrated by the trainee in the workplace. Trainers will then complete the form answering specific question about the trainee's performance, decision making, clinical judgement, communication, professionalism etc., and the trainer will then make a definitive recommendation (satisfactory or needs to repeat). If satisfactory, the assessment will automatically count towards ePortfolio progression. If not, the trainee must repeat the assessment until the required level is reached.

Study days or courses

Some of the activities are supported with courses or study days. Although many of the courses facilitate the development of professionalism such as leadership and ethics, other courses directly support the acquisition of proficiencies in Nephrology outcomes.

Study days

A schedule of mandatory Nephrology and GIM study days is developed by the relevant NSD and members of the STC annually. There is a requirement to attend a pre-specified number of study days each year.

- GIM study days
  - GIM year 6 per year
  - Dual specialty years 3 per year
- Nephrology study days
  - Dual specialty years 4 per year
  - Nephrology year 5 per year

Mandatory courses

Attendance at the following courses is required at the time indicated:

- Advanced cardiac life support (year 1 or 2)
- RCPI Ethics foundation (year 1 or 2)
- RCPI Ethics for general medicine (at a point after ethics foundation)
- RCPI An introduction to health research methods (online, year 1)
- RCPI HST leadership in clinical practice (years 3+)
- RCPI Mastering communication (year 1)
- RCPI Performing audit – (online, year 1)
- RCPI Wellness matters (years 1-3)
- NIHSS Stroke scale (once per training programme in GIM years)
- RCPI Delirium recognition and response (once per training programme in GIM years)
- RCPI Bedside ultrasound for GIM (once per training programme in GIM years)

Non-mandatory courses

There are a wide variety of courses available that trainees can take to further their knowledge and skills. Options for these can be discussed with the trainer depending on individual training goals.

What will the form look like?

Trainees will record the name of the course/study day along with the date and what year they are in. Some courses ae required to be attended in specific years and this can be determined at QA/EOPA. Non-mandatory courses can also be recorded. Proof of attendance should be attached.

Special experience

Some goals or outcomes may require special experience, either specific posts or specific protected time. This can be determined based on trainee requirements at the QA/EOPA and reviewed by the NSD at the EYE.

What will the form look like?

These can be recorded in the case experience form.

Examinations

The American Society of Nephrology (ASN) self-assessment programme (NephSAP or KSAP) multiple choice questions covering a wide variety of Nephrology topics are recommended for all trainees to stay up to date and examine their knowledge. Ideally, five should be completed annually and the result uploaded to the e-portfolio.

Two formal examinations are used to assess knowledge and progress for Nephrology trainees.

1. American Society of Nephrology in Training Exam (ASN-ITE) is typically taken twice during training. It is recommended that trainees do this in year 1 or 2 and again in year 4 or 5. Along with a result, detailed feedback is provided on areas for improvement. The results are sent to the NSD and are then sent to the trainee and their current trainer.

2. European Specialty Exam in Nephrology (ESENeph) can be completed at any point, but it is recommended that it be done towards the end of training.

Both exams are mandatory to complete although it is not currently mandatory that trainees pass all exams to achieve satisfactory CSCST (although this is obviously desirable).

Exams can contribute to outcomes and goals, as passing the exam confirms a certain degree of knowledge and can increase the confidence of the trainee. Only areas that are directly assessed in the exams should be considered possible to advance by passing the exam. Furthermore, as a trainee may pass the exam and yet not explicitly pass every component of the exam related to the outcome, it may be more appropriate to use the exam to sign off at goal level.

What will the form look like?

The title of the exam can be detailed in the HST examinations form, and the result of the exam attached.

In-house activities

Trainees are *required* to participate in in-house activities from the categories below:

- Grand rounds - Trainees must record the frequency of attendance at grand rounds –required at least once every 2 weeks

- Multi-disciplinary team meeting (MDTs) – Trainees must record the frequency of attendance at MDTs or specialty meetings – required at least once per month

- Other clinical meetings – Trainees must record the frequency of attendance at other clinical meetings e.g., radiology or pathology conferences - ideally once per month depending on local availability

- Journal clubs/educational meetings (peer led acceptable) – Trainees must record frequency of attendance at educational meetings such as journal clubs, seminars, lectures, peer led teaching such as book clubs and kidney clubs – required at least once every 2 weeks

- Attendance at national/international meetings – Trainees must attend one educational meeting or conference either virtually or in person - once per year

- Delivery of teaching – Trainees must deliver teaching to undergraduates/interns/inter-professional teaching/bedside teaching – required at least once every 2 weeks

- Audit and quality improvement (QI) activities – Trainees are expected to perform an audit and complete the full cycle and/or engage in QI projects. It is a requirement to either start or complete a project at least once per year so to fully complete 2 audits or QI projects over the course of the 5-year programme

- Committee attendance – Trainees must attend some committee meetings to gain management and leadership experience (e.g., NCHD, clinical governance, audit etc.) – required once per year

It is *desirable* that trainees participate in in house activities from the categories below:

- Research and publications – It is desirable that trainees will be involved in research and record any research activity such as laboratory or clinical research and any publications or presentations that may result. At least once instance of each per programme is desirable

- Presentations – It is desirable that trainees present their work (audit/QI/research) at a national/international conference - at least once per year of training

- Additional qualifications – It is desirable that trainees gain an additional qualification, depending on their personal goals (e.g., teaching, statistics, research methodology, ethics etc.) – at least once per training programme

Quarterly and end of post examinations (QA and EOPA)

Trainees must engage in a formal assessment with their assigned trainer once every three months. If the assessment coincides with finishing a post it is termed the EOPA. The trainer may review the performance of the trainee over the preceding three months (or post) and make recommendations for the next post. Trainers will also comment on the trainee's personal goals, progression, and course attendance etc. At the start of each post, trainees complete a personal goals form outlining their plans for the post and what they expect and aim to achieve – educational, professional and specialty specific. The trainer will review these goals at the QA/EOPA. The QA/EOPA also allows Trainers to review general performance and provide specific feedback and comment on progression in each goal of the curriculum.

What will the form look like?

Trainees will activate the form by completing a self-assessment. Trainers will review the self-assessment and meet with the trainee in person. They will review clinical requirements, attendance at courses and study days, additional professional activities, communication and interpersonal skills, progress against personal goals, strengths, and areas for ongoing development.

Entrustable Professional Activities (EPA)

Having completed all the curricular requirements for a particular outcome, a trainee may be deemed "entrustable" to carry out all activities associated with treating certain patients/conditions, performing a certain procedure etc. This is termed an entrustable professional activity or EPA. This does not mean that a trainee is acting independently as they are still reviewed at QA/EOPA. It is a recognition however that they have achieved the desired standard of practice in the domain and are deemed capable of independent practice. Trainees may be deemed entrustable at the EYE.

What will the form look like?

On completion of all activities associated with an outcome the trainee should initiate a request for being deemed entrustable (on the form). The trainer will then complete her/his part of the form indicating that in his/her opinion and based on the trainee's performance, it is recommended to the EYE panel that the trainee be deemed entrustable.

End of year evaluation (EYE)

Trainees engage with the EYE panel at or close to the end of each academic year. The evaluation panel make key recommendations for the trainee and approve progression to the next stage of the programme. If the trainee has not progressed as expected because of e.g., lack of engagement with assessments, then the trainee may be given specific goals they need to achieve prior to being signed off for the year. Under OBE (and based on trainer's feedback), the panel can also deem performance of certain activities entrustable. The penultimate EYA, held prior to the anticipated CSCST date will include an external assessor from outside the training programme. This will identify any outstanding targets that the trainee will need to complete to meet all the outcomes.

What will the form look like?

This form is central to the EYE process. Trainees will initiate the form with a self-assessment questionnaire. Trainees then meet with trainers to discuss and document progress towards achieving goals and outcomes of the curriculum, areas of strength and continued development.

Core Professional Skills

Partnership

Communication and interpersonal skills

- Facilitate the exchange of information, be considerate of the interpersonal and group dynamics, have a respectful and honest approach.
- Engage with patients and colleagues in a respectful manner
- Actively listen to the thoughts, concerns, and opinions of others
- Consider data protection, duty of care and appropriate modes of communication when exchanging information with others

Collaboration

- Collaborate with patients, their families, and your colleagues to work in the best interest of the patient, for improved services and to create a positive working environment.
- Work cooperatively with colleagues and team members to deliver an excellent standard of care
- Seek to build trust and mutual respect with patients
- Appropriately share knowledge and information, in compliance with GDPR guidelines
- Take on-board available, relevant feedback

Health promotion

- Communicate and facilitate discussion around the effect of lifestyle factors on health and promote the ethical practice of evidence-based medicine.
- Seek up to date evidence on lifestyle factors that:
    - negatively impact health outcomes
    - increase risk of illness
    - positively impact health and decrease risk factors
- Actively promote good health practices with patients individually and collectively

Caring for patients

- Take into consideration patient's individuality, personal preferences, goals, and the need to provide compassionate and dignified care.
- Be familiar with
    - Ethical guidelines
    - Local and national clinical care guidelines
- Act in the patient's best interest
- Engage in shared decision making and discuss consent

Performance

Patient safety and ethical practice

- Put the interest of the patient first in decisions and actions.
- React in a timely manner to issues identified that may negatively impact the patient's outcome
- Follow safe working practices that impact patient's safety
- Understand ethical practice and the medical council guidelines
- Support a culture of open disclosure and risk reporting
- Be aware of the risk of abuse, social, physical, financial, and otherwise, of vulnerable persons

Organisational behaviour and leadership

- The activities, personnel and resources that impact the functioning of the team, hospital, and health care system.
- Understand and work within management systems
- Know the impacts of resources and necessary management
- Demonstrate proficient self-management

Wellbeing

- Be responsible for own well-being and health and its potential impact on the provision of clinical care and patient outcomes.
- Be aware of signs of poor health and well-being
- Be cognisant of the risk to patient safety related to poor health and well-being of self and colleagues
- Manage and sustain your own physical and mental well-being

Practice

Continuing competence and lifelong learning

- Continually seek to learn, to improve clinical skills and to understand established and emerging theories in the practice of medicine.
- Meet career requirements including those of the medical council, your employer, and your training body
- Be able to identify and optimise teaching opportunities in the workplace and other professional environments
- Develop and deliver teaching using appropriate methods for the environment and target audience

Reflective practice and self-awareness

- Bring awareness to your actions and decisions and engage in critical appraisal of own work to drive lifelong learning and improve practice.
- Pay critical attention to the practical values and theories which inform everyday practice
- Be aware of your own level of practice and your learning needs
- Evaluate and appraise your decisions and actions with consideration as to what you would change in the future
- Seek to role model good professional practice within the health service

Quality assurance and improvement

- Seek opportunities to promote excellence and improvements in clinical care through the audit of practice, active engagement in and the application of clinical research and the dissemination of knowledge at all levels and across teams.
- Gain knowledge of quality improvement methodology
- Follow best practice in patient safety
- Conduct ethical and reproducible research

General Internal Medicine

Objective

On completion of Higher Specialist Training the trainee will be able to identify and treat immediate life-threatening causes of common medical presentations, form a differential diagnosis for non-life-threatening cases and effectively manage the patient including further investigation and appropriate referral. They will have acquired a broad range of procedural and clinical skills to manage diverse presentations.

GIM training is expected to be completed in the first 3 years of the programme. One of these years is a GIM specific year. During the other 2 years trainees must complete their GIM training as per the minimum requirements.
Except for the pure Nephrology year, each post must include a general medicine on-call commitment for acute unscheduled/emergency care with attendance at relevant post-take rounds.

Acute medicine:
There must be evidence of direct supervision of the activity of the more junior members of the "on-take" team and a minimum of 10 (480 per year) new acute medical assessments and admissions during the 24-hour period are expected. In addition, the trainee will be expected to have ongoing care/responsibility for a proportion of the patients for the duration of the clinical inpatient journey as well as follow up post discharge. In this capacity you should develop skills in non-technical aspects of care including discharge planning and end of life care.

Inpatient responsibilities:
The trainee will have front line supervisory responsibilities for general medical inpatients. This will require supervising the activities (e.g., being available for advice) of the more junior members (SHO/Intern) of the clinical team at all times. In addition to personal ward rounds, a minimum of two ward rounds with the consultant each week is expected for educational experience. Ongoing responsibility for shared care of the team's inpatients whilst in the ITU/HDU/CCU is also essential. If this is not possible in a particular hospital/training institution, then a period of secondment to the appropriate unit will be required.

Outpatient responsibilities:
The trainee is expected to have personal responsibilities for the assessment and review of general medicine outpatients with a minimum of at least one consultant led GIM clinic per week. The trainee should assess new patients; access to consultant opinion/supervision during the clinic is essential. In the event of clinics being predominantly subspecialty orientated, a trainee must attend other clinics to ensure comprehensive General Internal Medicine training.

Procedures:
During training the trainee should acquire those practical skills that are needed in the management of medical emergencies, particularly those occurring out of normal working hours. Some exposure to these skills may have occurred during the period of BST but experience must be consolidated, and competencies reviewed during HST. The procedures, with which the trainee must be familiar and show competencies in, either as essential to acquire, or as additional procedural skills i.e., desirable to acquire.

Essential & additional experience:

The trainee will be expected to have had experience of/be familiar with the management of a wide range of cases presenting to hospitals as part of an unselected acute medical emergency "take". Whilst trainees will not need to be expert in all these areas, they will be expected to be able to plan and interpret the results of immediate investigations, initiate emergency therapy and triage cases to the appropriate specialist care. These emergency situations have been considered under each specialty section and are indicative of what should be covered but are not prescriptive. It should form the basis of regular discussions between the trainee and trainers as training progresses. The various clinical situations listed for experience have been divided into those, which are considered "essential" and others, which are "additional".

Assessment and learning methods

Learning opportunities during HST are through:

- Self-Directed Learning
- Attendance at Study days
- Participation in In-house activities
- Unselected acute on call
- General Medicine outpatient clinics
- Department education sessions (black box, journal club, tutorials)
- Completion of Required courses
- Attendance at additional learning events such as recommended courses and masterclasses

Progress is assessed through:

- Case Based Discussion
- ePortfolio
- Annual assessment
- DOPS

In the acute setting

During HST, the trainee will encounter common acute presentations and demonstrate the following competencies:

- Recognising and assessing urgency
- Stabilising the patient
- Prioritising
    - Tasks
    - Investigations
- Managing co-existing morbidities
- Making appropriate referrals
- Decision making and appropriate delegation

The presentations listed in this section represent the most common acute presentations and conditions currently seen in Irish hospitals, accounting for over 95% of admissions. It is expected that HST trainees in general internal medicine will have a comprehensive knowledge of, and be able to provide a differential diagnosis for, these conditions.

Presentations

1. Shortness of breath
2. Cough
3. Chest pain
4. Blackout/ collapse/ dizziness
5. The frail older patient in the acute setting
6. Abdominal pain
7. Fever
8. Alcohol and substance dependence or withdrawal
9. Falls and decreased mobility
10. Weakness and paralysis
11. Headache
12. Limb pain and/or swelling
13. Nausea and vomiting
14. Seizure
15. Diarrhoea
16. Delirium/acute confusion
17. Acute psychological illness
18. Palpitations
19. Hepatitis or jaundice
20. Gastrointestinal bleeding
21. Haemoptysis
22. Rash
23. Acute back pain
24. Poisoning and drug overdose
25. Hyper-glycaemia

Emergency management

Recognising and managing emergency cases including:

- Acute coronary syndrome
- Acute kidney injury
- Acute respiratory failure
- Acute seizure
- Anaphylaxis / angioedema
- Cardio-respiratory arrest
- Critical electrolyte abnormalities (calcium, sodium, potassium)
- Hypo- or hyperglycaemia
- Sepsis and septic shock
- Stroke/ TIA
- The unconscious patient
- Unstable hypotensive patient

Skills and knowledge in the General Medicine setting

On completion of HST the trainee should know life threatening causes, clinical feature, classifications, investigations, and management, including indications for urgent referral, for common general medicine presentations. The following outlines commonly associated features, causes and/or routes of investigation for these presentations, both acutely and for ongoing case

management, the trainee is expected to know and the competencies they are expected to demonstrate.

When a patient presents with a general medicine complaint the trainee should demonstrate an ability to:

- Assess their signs and symptoms, formulating a differential diagnosis
    - Take history as part of an investigation
    - Undertake primary assessment
    - Recognise and assess urgency
    - Undertake secondary assessment
- Initiate appropriate investigations
    - Interpret results for common investigations
- Initiate appropriate treatment, including stabilising the patient where necessary
- Manage co-existing morbidities
- Manage on-going cases including
    - Confirming a diagnosis for those not requiring urgent referral
    - Assessing response to initial treatment
    - Recognising signs to escalate management when needed
- Appropriately refer based on:
    - Response to treatment
    - Local guidelines
    - Culture
    - Self-awareness of their own knowledge and ability
    - Services available
- Provide ongoing management of the case

Shortness of breath

When a patient presents with shortness of breath a trainee should demonstrate knowledge of the clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for common causes.

- Life threatening causes of breathlessness
    - Airway obstruction
    - Acute severe asthma
    - Acute exacerbation of COPD
    - Pulmonary oedema
    - Tension pneumothorax
    - Acute presentations of ischaemic heart disease
    - Acute severe left ventricular failure
    - Dysrhythmia
    - Pulmonary embolus
    - Cardiac tamponade
    - Metabolic acidosis

Cough

When a patient presents a cough a trainee should demonstrate knowledge of the clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Common causes of acute cough
    - Viral and pertussis type cough
    - Acute bronchitis
    - Pneumonia
    - Tuberculosis
    - Lung cancer
    - Understand the relevance of subacute and chronic cough
    - Common causes (asthma, upper airway, GORD)
    - When to refer for assessment of lung cancer
    - Consideration of interstitial lung disease

Chest pain

When a patient presents with chest pain a trainee should demonstrate knowledge of the clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for common causes.

- Life threatening causes of chest pain
    - Myocardial infarction
    - Dissecting aortic aneurysm
    - Pulmonary emboli
    - Tension pneumothorax
    - Oesophageal rupture
- Clinical features of:
    - Cardiac chest pain
    - Chest pain caused by respiratory disease and oesophageal rupture
    - Chest pain caused by gastrointestinal disease
    - Chest wall pain
    - Functional chest pain

Blackout / collapse / dizziness

When a patient blacks out, collapses, or presents with dizziness a trainee should demonstrate that they know the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Stroke
    - Cerebral infarction
    - Primary intracerebral haemorrhage
    - Subarachnoid haemorrhage
- Syncope
    - Cardiac causes (arrhythmia, cardiogenic shock)
    - Vasovagal syncope
    - Postural hypotension (e.g., drugs, neurocardiac, autonomic)
    - Localised vascular disease (posterior circulation)
    - Metabolic causes (e.g., hypoglycaemia)
- Seizures and epilepsy

Management of the frail older patient in the acute setting

When a frail older patient presents a trainee should demonstrate knowledge of the appropriate approach to assessment, risk factors, appropriate investigations, and necessary management, including indications for urgent referral, for this population.

- Understand the broad differential diagnosis and management of complex multi-morbid illness in older patients
- Approach to investigation and management of recurrent falls
- Non-pharmacological and pharmacological management of behavioural complications of dementia
- Investigation of causes, non-pharmacological and pharmacological management of delirium
- Polypharmacy and inappropriate prescribing in older patients (e.g., renal dose adjustment)
- Medical management of nursing home residents, identifying aspiration risk
- Palliative care and pain management in the acute setting
- Acute stroke thrombolysis delivery and criteria for referral for intravascular intervention
- Completion of NIHSS stroke scale

Abdominal pain

When a patient presents with abdominal pain a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Initial assessment of abdominal pain
- Differential Diagnosis:
    - Intra-abdominal
        - Gastrointestinal
        - Vascular (aneurysm, ischemia)
        - Urological
        - Gynaecological
    - Extra-abdominal causes of pain
- Ability to identify and initiate management of life-threatening conditions causes of abdominal pain
- Indications for surgical consultation and urgent referral
- Identifying constipation and urinary retention in older patients

Fever

When a patient presents with fever a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Recognize the symptoms and signs of sepsis
- Identify common causes of fever
    - Infection
    - Non-infectious including PE, drugs, vasculitis,
- Delivery of initial management of septic patient
- Knowledge of the choice of empiric and infection targeted antibiotics

Alcohol and substance dependence or withdrawal

When a patient presents with dependence or withdrawal a trainee should demonstrate that they know the classifications and necessary management, including indications for referral.

- Recognition
- Psychosocial dysfunction
- Autonomic disturbances
- Stress and panic disorders
- Insomnia and sleep disturbance
- Understand the role of psychiatrist and referral to rehabilitation services

Falls and decreased mobility

When a patient falls or presents with decreased mobility a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Common medical and social causes of falls in medical patients
- Complications of falls
    - Fractures including the neck of the femur
    - Intracranial injury
    - Rib fracture and pneumothorax
    - Loss of mobility and independence

Weakness and paralysis

When a patient presents with weakness or paralysis a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Stroke/ space occupying lesion
- Spinal cord injury
- Underlying neurological causes: e.g., multiple sclerosis, Guillain-Barre syndrome
- Infections and disease-causing weakness

Headache

When a patient presents with headache a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Clinical classifications of headache
- Headache with altered neurological and focal signs
- Headache with features suggestive of raised intracranial pressure
- Headache with papilloedema
- Headache with fever
- Headache with extracranial signs
- Headache with no abnormal signs
- Drugs and toxins

Limb pain and/or swelling

When a patient presents with limb pain or swelling a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- As a result of injury
- As a result of an underlying medical condition
    - Undifferentiated inflammatory arthritis

Nausea and vomiting

When a patient with nausea and vomiting a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Understanding of common causes
    - Abdominal
        - Acute gastroenteritis
        - PUD
        - Pancreatitis
        - Acute hepatitis
        - Bowel obstruction
    - Central causes
    - Poisoning and medications
- Management
    - Identification of underlying cause
    - Control of symptoms
    - Treating dehydration

Seizure

When a patient presents with seizures a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Causes
    - Unprovoked seizures/epilepsy
    - Seizures associated with metabolic, toxic and system illness
    - Cerebral hypoxia
    - Seizures associated with drugs and toxic substances
- Management
    - Emergency supportive treatment
    - Anticonvulsant treatment
    - Work up of first presentation with seizure
    - Understand driving implications for patients with seizures

Diarrhoea

When a patient presents with diarrhoea a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Classification
    - Osmotic
    - Secretary
    - Exudative
- Causes
    - Infectious
    - Inflammatory
    - Ischemic
    - Malignant
- Complications
- Management
    - Acute management
    - Knowledge of appropriate investigations
    - Recognition of associated complications
    - Role of antibiotics
    - When to refer to gastroenterology

Delirium/acute confusion

When a patient presents with delirium or acute confusion a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Clinical features of acute confused state- differentiating delirium, dementia, depression, and psychosis
- Causes of delirium
- Use of screening instruments for delirium and/or cognitive impairment
- Clinical features of acute delirium
- Clinical features of acute functional psychosis
- Causes of confused state associated with alcohol abuse- delirium tremens, Wernicke's encephalopathy
- Drug induced/related confusion/delirium
- Bacterial meningitis, viral encephalitis
- Subarachnoid haemorrhage/ subdural haematoma

Social issues

When a patient presents with social issues a trainee should demonstrate knowledge of the appropriate approach to assessment, risk factors, appropriate investigations, and necessary management, including indications for urgent referral, for this population.

- Managing medical conditions with an uncooperative patient
- Identifying potential elder abuse
- Recognising substance abuse
- Basic principles of psychiatry
- Recognising an at-risk patient

Palpitations

When a patient presents with palpitations a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Anxiety
- Exercise induced
- In relation to pre-existing conditions including
    - Thyroid disease
    - Anaemia
    - Fever
    - Dehydration
    - Low blood sugar
    - Low blood pressure
- Resulting from medications or toxins
- Hormonal changes
- After prior myocardial infarct
- Coronary artery disease
- Other heart problems including congestive heart failure, heart valve or heart muscle problems

Hepatitis or jaundice

When a patient presents with hepatitis or jaundice a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Incubation and prodromal phase
- Virus-specific
- Toxic hepatitis
- Autoimmune
- Acute liver failure

Gastrointestinal bleeding

When a patient presents with gastrointestinal bleeding a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Understanding of the initial assessment and stabilization of patients with GI bleeding
- Understanding of haemovigilance and blood transfusion protocols
- Upper gastrointestinal bleeding including
    - Peptic ulcer disease
    - Gastritis
    - Esophageal varices
    - Mallory-Weiss tears
    - Gastrointestinal cancers
    - Inflammation of the gastrointestinal lining from ingested material
- Lower gastrointestinal bleeding including
    - Diverticular disease

- Gastrointestinal cancers
- Inflammatory bowel disease (IBD)
- Infectious diarrhoea
- Angiodysplasia
- Polyps
- Haemorrhoids and anal fissures

Haemoptysis

When a patient presents with haemoptysis a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Recognition and management of massive Haemoptysis
- Common causes of haemoptysis
    - Acute and chronic bronchitis
    - Tuberculosis
    - Lung cancer
    - Pneumonia
    - Bronchiectasis
    - Pulmonary Embolus
    - Alveolar Haemorrhage (vasculitis)

Rash

When a patient presents with a rash a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Urticaria
- Anaphylaxis and angio-oedema
- Erythroderma and exfoliation
- Psoriasis and seborrhaoeic/contact dermatitis
- Purpura and vasculitis
- Blistering eruptions
- Infections and the skin

Acute back pain

When a patient presents with acute back pain a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations and necessary management, including indications for urgent referral, for the common causes.

- Non-specific acute back pain
- Causes of chronic low back pain
- Neurologic findings in back pain
- Identifying serious etiologies of back pain e.g.,
    - Cancer
    - Fracture
    - Infection
    - Cauda equina syndrome

Poisoning and drug overdose

When a patient presents with poisoning or overdose a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Diagnostic clues in the assessment of overdoses
- Identification of toxic agent (paracetamol, SSRI, benzodiazepines, opiates, amphetamines, TCAD
- Immediate management
- Mental health assessment and definitive care

Hyper-glycaemia

When a patient presents with hyper-glycaemia a trainee should demonstrate knowledge of the life-threatening causes, clinical feature, classifications, appropriate investigations, and necessary management, including indications for urgent referral, for the common causes.

- Symptoms of acute hyper-glycaemia
- Recognition and management of diabetic ketoacidosis
- Recognition and management of Hyperosmolar non ketotic hyperglycaemic states

Procedures

Objectives: To develop proficiency in common procedures required for general internal medicine.

Abdominal paracentesis under ultrasound

ECG Interpretation

Emergency DC cardioversion

- Up to date ACLS training to cover:
    - Necessity of synchronised shock
    - Starting voltage
    - Safe use of defibrillator

Emergency care of tracheostomy

- In cases of:
    - Cardiac arrest
    - Dealing with a compromised airway

Femoral venous lines with ultrasound guidance

- Ultrasound guided femoral venous line placement
- Anatomical markers for femoral veins
- Safe cannulation of vein
- Secure line in place/review position on X-ray

Intercostal drain under ultrasound

- Anatomical markings
- Insertion of intercostal tube (small bore seldinger)
- Connection to underwater seal and secure in place
- Assessment and management of drain
- Safe removal of the tube

Joint aspiration

- Sterile field
- Fluid analysis
- Injectable compounds

Lumbar puncture

- Anatomical markers
- Cannula selection
- Safe puncture including appropriate preparation
- Measurement of CSF pressure
- Removal of samples and interpretation of results
- Management of post lumbar puncture headache

Non-invasive ventilation

- Principles of BIPAP and CPAP
- Monitoring and limitations
- Mask fitting
- Understanding of pressures

Pleural and ascitic fluid aspiration under ultrasound

- Safe approach and role of ultrasound guidance
- Puncture pleural / peritoneal space
- Withdrawal of fluid

Goal 1 Core Professional Skills

About this goal

Core professional skills are critical component of practice as a Nephrologist and trainees must explicitly demonstrate and understanding of the eight domains of professional practice and three pillars of professionalism as communicated by the medical council. The IOM through RCPI lists eleven areas of practice that trainees must adhere to in all workplace interactions and interaction with patients, families, and carers. As outlined in the Introduction section the Medical Council identify eight domains of professionalism which are mapped to the RCPI generic competencies as shown below.

Trainees must demonstrate an understanding of the following areas of professionalism as outline din the core professional skills section.

Partnership

- Communication and interpersonal skills
- Collaboration
- Health promotion
- Caring for patients

Performance

- Patient safety and ethical practice
- Organisational behaviour and leadership
- Wellbeing

Practice

- Continuing competence and lifelong learning
- Reflective practice and self-awareness
- Quality assurance and improvement

Core professional skills activities can be recorded at the goal level.

Case experience

Record a case mix of professional activities per programme covering activities related to professionalism

Informal feedback

Record at least two instances of informal feedback (from a consultant) on aspects of practice related to core professional skills per programme.

Workplace based assessments

Record at least one CBD on core professional skills before year 3 and another in year 4-5 (topics agreed with trainer).

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

Mandatory courses

Attendance at the following courses is required at the time indicated:

- Advanced cardiac life support (year 1 or 2)
- RCPI Ethics foundation (year 1 or 2)
- RCPI Ethics for general medicine (at a point after ethics foundation)
- RCPI An Introduction to health research methods (online, year 1)
- RCPI HST leadership in clinical practice (years 3+)
- RCPI Mastering communication (year 1)
- RCPI Performing audit – (online, year 1)
- RCPI Wellness matters (years 1-3)
- NIHSS Stroke scale (once per training programme in GIM years)
- RCPI Delirium recognition and response (once per training programme in GIM years)
- RCPI Bedside ultrasound for GIM (once per training programme in GIM years)

In-house activities

Trainees are required to participate in in house activities that may be applicable to core professional skills including:

- Grand rounds, MDTs, attendance at or delivery of teaching, attendance at national/international meetings, research, audit, and quality improvement, (QI) activities, presentations & publications, committee attendance

Goal 2 General Internal Medicine (GIM)

About this goal

This a dual training programme in Nephrology and GIM. There are specific GIM requirements which must be met for recording unselected admissions, GIM procedures, study days and courses (detailed before). Ideally the GIM requirements will be met before the end of year 3.

There are 4 outcomes underpinning this goal

Outcome 1 Presentations

Outcome 2 Emergency management

Outcome 3 Skills and knowledge in the general medicine setting

Outcome 4 Procedures

Outcomes 1-3 Presentations/emergency management/skills and knowledge in the general medicine setting

To complete these three outcomes, the following must be recorded in the ePortfolio:

1. Unselected admissions (To be completed within the first three years of training)

GIM year 480 total

Dual specialty years 480 total (over the two years)

2. Attend GIM study days and courses

GIM year 6 per year

Dual specialty years 3 per year

3. Trainees must attend a series of mandatory courses– see the introduction and core professional skills sections for details.

Outcome 4 Procedures

Ideally GIM procedures should be recorded in the GIM year and certainly within the first three years

- BIPAP/CPAP – 10 required and 1 DOPS required
- Communication e.g., chairing care planning meeting for complex discharge or procedure consent - 1 DOPS required
- Emergency DC cardioversion - 10 required and 1 DOPS required
- ECG interpretation - 50 required and 1 DOPS required
- Joint aspiration - 4 required and 1 DOPS required

- Lumbar puncture - 20 required and 1 DOPS required
- Abdominal paracentesis under ultrasound - 4 desired and 1 DOPS desired
- Femoral venous line placement under ultrasound – 1 desired and 1 DOPS desired
- Pleural aspiration under ultrasound – 4 desired and 1 DOPS desired
- Intercostal drain insertion under ultrasound – 1 desired but DOPS not required

Goal 3 Core Skills in Nephrology

About this goal

Proficiency in the outcomes associated with this goal establish a solid foundation for all aspects of the practice of Nephrology at SpR and subsequently consultant level practice. In general, it is expected that trainees will be able to demonstrate a high level of proficiency in most aspects of basic skills in Nephrology early in training and by the end of year 3. It is recognised that this may differ from trainee to trainee depending on the experience gained and variations in post-rotation.

There are 4 outcomes underpinning this goal

Outcome 1 History and physical examination

Outcome 2 Communication skills

Outcome 3 Interpretation of investigations

Outcome 4 Safe prescribing in renal patients

Outcome 1 History and physical examination

About this outcome

All Nephrology specialists must be able to elicit an accurate history and perform an appropriate physical examination. It is expected that trainees will be able to demonstrate proficiency in history and physical examination before the end of year 1, however some recording activities and continual demonstration of proficiency is required until at least year 3. Trainees may undergo WBA at any stage and this decision can be trainee led or in conjunction with the trainer.

Case experience

Record (present) a case mix of outpatients, inpatients, post-take patients per post in years 1 - 3 to demonstrate proficiency at history taking and examination.

Informal feedback

Record at least one instance per year in years 1-3 of informal discussion with a senior colleague (any consultant) on history taking and examination.

Workplace based assessments

Record at least one WBA (CBD, Mini-CEX or OCWR – to be agreed with trainer) should be performed before the end of year 1. These can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity can be completed following year 3 and satisfactory completion of the WBAs to a level where the trainee is entrusted to act unsupervised.

Outcome 2 Communication skills

About this outcome

Effective communication with other clinicians and medical staff, patients, carers, and families are a critical part of the practice of all specialties. It is expected that trainees will be able to demonstrate proficiency in communication skills i.e., before the end of year 1, however some recording activities and continual demonstration of proficiency is required until at least year 3. Trainees may undergo WBAs at any stage and this decision can be trainee led or in conjunction with the trainer.

Case experience

Record a case mix per post in years 1-3 to demonstrate proficient communication skills to include examples of the following:

- Obtaining informed consent for a procedure
- Breaking bad news
- Ceiling of care/end of life discussion
- Ward rounds/MDT discussion
- Shared decision making

Informal feedback

Record at least one instance per year in years 1-3 of informal discussion with a senior colleague (any consultant) on communication skills.

Workplace based assessments

Record at least one WBAs (CBD, Mini-CEX, OCWR – to be agreed with trainer) before the end of year 3. These can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained. The WBAs should cover at least one of the following:

- Obtaining informed consent for a procedure
- Breaking bad news
- Ceiling of care/end of life discussion
- Ward round/MDT discussion
- Shared decision making

An Entrustable Professional Activity can be completed following year 3 and satisfactory completion of the WBAs to a level where the trainee is entrusted to act unsupervised.

Courses

Attend a Mastering Communication course (in year 1)

Outcome 3 Interpretation of investigations

About this outcome

Trainees must be able to correctly request and interpret a range of investigations related to renal disorders including but not limited to biochemical, microbiological, immunological, radiological, and histological investigations. It is expected that trainees will display proficiency in interpretation of investigations relatively early in the programme.

Case experience

Record a case mix per post in years 1-3 of interpretation of relevant investigations including the following:

- Biochemistry, haematology, microbiology, immunology, endocrinology, histopathology, urine microscopy, urine dipstick, imaging, bedside ultrasound

Informal feedback

Record at least one instance per year in years 1-3 of informal discussion with a senior colleague (any consultant) on interpretation of investigations.

Workplace based assessments

Record at least one WBA (Mini-CEX, CBD, OCWR or DOPS – to be agreed with trainer) before the end of year 3 on interpretation of investigations. These can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study days and courses

The 4-year cycle of study days covering all curriculum topics will detail the relevant investigations for each area

Document attendance at radiology and histopathology meetings

Attend an RCPI POCUS course

Examinations

Topics relevant to interpretation of investigations will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 4 Safe prescribing in renal patients

About this outcome

Safe prescribing is a critical specialty and core professional skill.in Nephrology. Trainees must be able to prescribe both pharmacological and non-pharmacological treatments appropriately and safely for a wide range of renal and systemic conditions. It is expected that trainees will demonstrate proficiency in safe prescribing relatively early in the programme.

Case experience

Record a case mix per post in years 1-3 of examples of safe prescribing to include examples of the following:

- Prescribing dialysis and haemofiltration including complex cases
- Prescribing immunosuppressive therapy regimes
- Adjusting medical prescriptions for GFR
- Discussions with a renal pharmacist

Informal feedback

Record at least one instance per year in years 1-3 of informal discussion with a senior colleague (any consultant) on safe prescribing.

Workplace based assessments

Record at least one WBA (CBD, OCWR and or mini-CEX – to be agreed with Trainer) before the end of year 3. These can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained. The WBAs should cover at least one of the following:

- Prescribing dialysis and haemofiltration including complex cases
- Prescribing immunosuppressive therapy regimes
- Adjusting medical prescriptions for GFR
- Discussions with a renal pharmacist

An Entrustable Professional Activity can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study days and courses

The 4-year cycle of study days covering all curriculum topics will detail examples of and information on safe prescribing.

Examinations

Topics relevant to safe prescribing will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Goal 4 Management of Nephrology Services & Patients

About this goal

Trainees must be capable of managing patients with different and complex needs in different care settings to a high standard. The settings include outpatient clinics, ambulatory settings including dialysis units, emergency departments and inpatients. Trainees are expected to display professional behaviour with regards to patients, carers and colleagues and deliver patient centered care using shared decision making where appropriate. It is expected that trainees are unlikely to reach proficiency in this goal until at least year 4.

There are 4 outcomes underpinning this goal

Outcome 1 Management of inpatient and consultation services

Outcome 2 Management of outpatient services

Outcome 3 Management of end stage renal disease

Outcome 4 Management of renal transplant patients

Outcome 1 Management of inpatient and consultation services

About this outcome

Trainees must be capable of managing a renal inpatients service and those referred acutely from e.g., the emergency department or other hospitals. They must also be able to provide advice and guidance on the investigation and management of patients with renal problems under the care of other specialties including the critical care unit and emergency department. In addition, trainees must demonstrate ability to show leadership, good communications skills, an ability to delegate appropriately and to manage a multidisciplinary team (MDT). Trainees must be skilled in management of this patient cohort including, but not limited to, effective resuscitation and managing the acutely deteriorating patient.

Case experience

Record a case mix per post for years 1-5 (specialty years) of inpatients and consultations.

Trainees must also record (per post):

- The frequency of ward rounds (consultant and trainee led)
- The average number of inpatients and / or consultations seen weekly
- Attendance at relevant inpatient MDTs

Informal feedback

Record at least one instance per post in years 1-5 (specialty years) of informal discussion on ward or consult rounds with a senior colleague (any consultant).

Workplace based assessments

Record at least one WBA (CBD, Mini-CEX or OCWR) before the end of year 5. These can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained. The WBAs should cover at least one of the following:

- Management of renal inpatient services
- Management of consultation services

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBAs to a level where the trainee is entrusted to act unsupervised.

Study days / courses

The 4-year cycle of study days covering all curriculum topics will provide teaching relevant to renal inpatients and consult services.

Several RCPI courses are also relevant to this outcome:

- RCPI HST Leadership in Clinical Practice (year 3+)
- RCPI Mastering Communication (year 1)
- Advanced Cardiac Life Support (year 1 or 2)
- RCPI Ethics Foundation (year 1 or 2)
- RCPI Ethics for General Medicine (at a point after Ethics Foundation)

Examinations

Topics relevant to renal inpatient and consult services will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 2 Management of outpatient services

About this outcome

Trainees must demonstrate an ability to manage outpatient clinics and exhibit appropriate knowledge, professional and technical skills. They must be able to explain clinical reasoning behind diagnostic tests and clinical management decisions. Trainees must have good communication skills with patients, their families and GPs and engage in shared decision making with patients. They must also be able to manage co-morbidities in outpatient clinics or other ambulatory settings.

Case experience

Record a case mix per post for years 1-5 (specialty years) of outpatients seen.

Trainees must also record (per post):

- The frequency of attendance at outpatient clinics (both in person and virtual)
- The average number of patients seen weekly
- The types of outpatient clinics attended (e.g., vasculitis, general nephrology, transplant etc.).

Informal feedback

Record at least one instance per post in years 1-5 (specialty years) of informal discussion at outpatient clinics with a senior colleague (any consultant).

Workplace Based Assessments

Record at least one WBA (CBD, Mini-CEX or OCWR) before the end of year 5 on management of outpatients. These can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study Days / Courses

The 4-year cycle of study days covering all curriculum topics will provide teaching on the variety of cases seen as outpatients.

Several RCPI courses are also relevant to this outcome:

- RCPI Mastering Communication (year 1)
- RCPI Ethics Foundation (year 1 or 2)
- RCPI Ethics for General Medicine (at a point after Ethics Foundation)

Examinations

Topics relevant to management of patients as an outpatient will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 3 Management of end stage renal disease (ESRD)

About this outcome

Trainees must have the skills and knowledge to identify, counsel and manage patients with chronic kidney disease (CKD) stage 5 or ESRD at a specialist level. They must demonstrate appropriate communications skills and shared decision-making capabilities to create a patient centred and timely plan for education and renal replacement therapy, if appropriate. There are 3 elements to this outcome.

1. Comprehensive Conservative Care (Supportive or non-dialysis or care)

For patients who do not wish to undergo renal replacement therapy when they reach ESRD, comprehensive conservative care will be required. Trainees must demonstrate knowledge and skills in the following areas:

- Good communications skills including an ability to facilitate shared decision making
- Symptoms of advanced CKD / ESRD and how to manage them effectively
- Principles of bereavement management

- The medicolegal framework around advanced directives and capacity
- When to involve other members of the MDT and other colleagues e.g., GPs, palliative care
- Recognition and management of end of life
- An ability to identify patients who are deteriorating despite dialysis and to counsel them on their options including dialysis withdrawal

2. Haemodialysis (HD)

Trainees must demonstrate the skills and knowledge to manage HD patients at a specialist level in the following areas:

- Principles of HD
- Ability to counsel patients about HD and the different options including home HD
- Preparation for and management of vascular access and any complications that might arise
- How and when to initiate HD including initial and subsequent dialysis prescription
- Monitoring of patients while on regular HD (blood results, medications, adequacy, ultrafiltration, access complications, comorbidities, dialysis complications)
- Liaison with the MDT and other clinicians including vascular surgeons, radiologists, dieticians, GPs etc. as needed
- The day-to-day management of the HD unit including protocol and service development, audit and quality assessment, infection control, water quality and equipment safety

3. Peritoneal Dialysis (PD)

Trainees must have the skills and knowledge to be able to manage patients on PD at a specialist level in the following areas:

- Principles of PD
- Ability to counsel patients on the various aspects of PD including lifestyle, risks, benefits and contraindications and the different modalities available
- Preparation for and management of PD catheter insertion and any complications that might arise
- How and when to initiate and prescribe PD and adjust it thereafter
- Monitoring of patients on PD (blood results, medications, adequacy, assessment of peritoneal membrane characteristics, ultrafiltration, access complications, comorbidities, dialysis complications)
- Liaison with the MDT and other clinicians including surgeons, radiologists, dieticians, GPs etc. as needed

- The day-to-day management of a PD service including protocol and service development, audit and quality assessment, infection control, distribution of patient supplies and support and training

Case experience

Record a case mix per post for years 1-5 (specialty years) of management of patients with end stage renal disease to include each of the following:

- Pre-dialysis (low clearance) care
- HD patients
- PD patients
- Comprehensive conservative care (non-dialysis or supportive care) patients

Trainees must also record (per post):

- The frequency of attendance at dialysis rounds or clinics (pre-dialysis / PD)
- The average number of ESRD (HD and PD) patients seen weekly
- Experience with monthly blood test reviews
- Attendance at relevant MDTs

Informal feedback

Record at least one instance per post for years 1-5 (specialty years) of informal discussion with a senior colleague (any consultant) on each of the following:

- Pre-dialysis (low clearance) care of those with ESRD / CKD stage 5
- HD patients
- PD patients
- Comprehensive conservative care (non-dialysis or supportive care)

Workplace based assessments

Record at least one WBA (CBD, Mini-CEX, OCWR) before the end of year 5. These can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained. The WBAs should cover each of the following:

- Pre-dialysis (low clearance) care of those with ESRD / CKD stage 5
- HD patients
- PD patients
- Comprehensive conservative care (non-dialysis or supportive care)

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study days / courses

The 4-year cycle of study days covering all curriculum topics will provide specific teaching on all aspects of ESRD.

A variety of other relevant courses are also available (discuss with trainer).

Examinations

Topics relevant to management of patients with ESRD will be examined in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 4 Management of renal transplant patients

About this outcome

Trainees must have the skills and knowledge to manage all aspects of renal transplantation at a specialist level. There are 3 elements to this outcome.

1. Assessment of the potential living donor and recipient

Trainees must have the skills and knowledge to manage potential living donors and recipients at a specialist level in the following areas:

- The role of transplantation in the management of patients with ESRD
- The principles of kidney transplantation
- The medical, surgical, ethical, and social contraindications
- The relative benefits and risks of transplantation (living, deceased, pre-emptive) compared with other treatment modalities for ESRD
- An ability to counsel patients and their families about the above
- A knowledge of living donor work up requirements and process, and short- and long-term benefits and risks
- The principles of blood group and HLA matching, and donor–recipient cross matching
- Development and execution of protocols for pre-emptive assessment of recipients and potential living donors

2. Early management of the kidney transplant recipient (< 3 months)

Trainees must demonstrate skills and knowledge to be able to manage patients in the early stages post kidney transplant at a specialist level in the following areas:

- The issues influencing outcomes early post kidney transplantation
- Medical and surgical problems and complications that can occur early post kidney transplant and how to manage them

- Indications for and ability to interpret the results of relevant radiological and laboratory investigations and transplant kidney biopsies
- Mechanism of action and potential side effects and interactions of immunosuppressive agents and how to modify doses and regimens
- An ability to work together as part of an MDT and with other colleagues (transplant surgeons, specialist nurses, dieticians, radiologists, GPs etc.) to manage these patients
- How to counsel patients and their relatives in all aspects of renal transplantation

3. Long-term care of the kidney transplant recipient (after 3 months)

Trainees require skills and knowledge to manage the long-term supervision and management of kidney transplant recipients at a specialist level in the following areas:

- Factors that influence long-term patient and kidney transplant survival
- Long-term medical and surgical problems which can occur (including infectious and cardiovascular disease and malignancy) and how to prevent and manage these
- Causes of graft dysfunction more than 3 months after kidney transplantation and how to investigate and manage this
- Potential long-term adverse effects of immunosuppression and how to modify dosing regimens and tailor them to an individual patient
- Strategies to maximise long-term graft function and patient survival
- Management of a patient with a failing graft
- An ability to work together as part of an MDT and with other colleagues (transplant surgeons, specialist nurses, dieticians, radiologists, GPs etc.)
- How to counsel patient and their relatives in all aspects of renal transplantation

Case experience

Record a case mix per post for years 1-5 (specialty years) of management of each of the following:

- Assessment of potential living donors and recipients
- Early management of kidney transplant recipients (under 3 months) – this experience may not be available in all training sites
- Long-term care of the kidney transplant recipient

Informal feedback

Record at least one instance per year in years 1-5 (specialty years) of informal discussion with a senior colleague (consultant) on each of the following:

- Assessment of potential living donors and recipients
- Early management of kidney transplant recipients (under 3 months) – this may not be available in all training sites

- Long-term care of the kidney transplant recipient

Workplace based assessments

At least one WBA (CBD, Mini-CEX, OCRW) before the end of year 5 on each of the following:

- Assessment of potential living donors and recipients
- Early management of kidney transplant recipients (under 3 months) – this may not be available in all training sites
- Long-term care of the kidney transplant recipient (after 3 months)

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBA.

Study days / courses

The 4-year cycle of study days covering all curriculum topics will provide specific teaching on all aspects of renal transplantation.

A variety of other relevant courses are also available (discuss with trainer).

Examinations

Topics relevant to management of transplant patients will be examined in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Goal 5 Procedures

About this goal

Trainees should be able to demonstrate knowledge of kidney biopsy, ultrasound scanning (native and transplant), insertion of temporary HD catheters, and insertion of peritoneal dialysis catheters. Insertion of temporary HD catheters is a mandatory requirement for training. Practical experience with the other procedures stated below is desirable rather than mandatory however, trainees should still have knowledge of the theory around the procedure even if they are not independently proficient. Where possible trainees should seek out procedures and perform. It is recognised however, that trainees may not have such opportunities, in which observation of procedures is acceptable.

There are 5 outcomes underpinning this goal

Outcome 1 Urine microscopy

Outcome 2 Kidney biopsy

Outcome 3 Ultrasound (US) scanning

Outcome 4 Insertion of a temporary haemodialysis (HD) catheter

Outcome 5 Insertion of a peritoneal dialysis (PD) catheter

Outcome 1 Urine microscopy

About this outcome

Trainees must have the knowledge and skills at a specialist level regarding the following:

- The use of urine sediment examination in assessing patients with acute kidney injury, proteinuria, haematuria, and leukocyturia
- The identification of urinary cell morphology, cellular and non-cellular casts, and various crystals
- Collection of urine samples, urine dipstick, centrifugation, and light microscopic techniques

Case experience

Record a case mix of urine microscopy activities per post for years 1-5 (specialty years). Ideally this should include a minimum of 10 cases per year to acquire the knowledge and skills detailed above.

Informal feedback

Record at least one instance per post for years 1-5 (specialty years) of informal discussion with a senior colleague (any consultant) on urine microscopy activities.

Workplace based assessments

Record at least one WBA (CBD) before the end of year 5 on urine microscopy related activities.

Record at least one satisfactory DOPS before the end of year 5.

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBAs to a level where the trainee is entrusted to act unsupervised.

Study days / courses

The 4-year cycle of study days covering all curriculum topics will provide specific teaching on the relevance of urine microscopy in various Nephrology conditions.

Examinations

Topics relevant to urine microscopy will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 2 Kidney biopsy

About this outcome

Trainees must have the knowledge and skills at a specialist level regarding the following:

- The indications and contraindications for kidney biopsy
- The potential complications of a renal biopsy
- To discuss the procedure with a patient in a manner to facilitate informed consent
- How to perform native and transplant kidney biopsies under ultrasound guidance (desirable skill)
- To minimise and manage the complications of a kidney biopsy
- To interpret kidney biopsy findings (with the assistance of a Histopathologist)
- To discuss the biopsy findings with a patient

Case experience

Record a case mix of kidney biopsy activities (observed or performed) per post for years 1-5 (specialty years). Ideally this should include a minimum of 10 cases per programme to acquire the kidney biopsy knowledge and skills detailed above.

Informal feedback

Record at least one instance per post for years 1-5 (specialty years) of informal discussion with a senior colleague (any consultant) on kidney biopsy activities.

Workplace based assessments

Record at least one WBA (CBD, Mini-CEX) before the end of year 5 on kidney biopsy related activities.

Record at least one satisfactory DOPS before the end of year 5 (desirable).

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBAs to a level where the trainee is entrusted to act unsupervised.

Study days / courses

The 4-year cycle of study days covering all curriculum topics will provide specific teaching on procedures.

Other relevant courses are also available (discuss with trainer).

Examinations

Topics relevant to kidney biopsy will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 3 Ultrasound scanning

About this outcome

It is desirable that trainees have the knowledge and skills at a specialist level regarding the following:

- To understand the anatomy of native and transplant kidneys, bladder, central veins, and characteristics of vascular access for dialysis
- To perform native and transplant kidney and bladder US and interpret the results. This can be during clinical assessment or to facilitate kidney biopsy
- To identify anatomy and patency of central veins to facilitate central venous catheter placement and differentiate from arteries
- To use of point of care ultrasound (POCUS) to assess HD vascular access for patency, deepness, and suitability for needling

Case experience

Record a case mix of US scanning activities (observed or performed) per post for years 1-5 (specialty years). Ideally this should include a minimum of 20 cases per programme to acquire the US scanning knowledge and skills detailed above.

Informal feedback

Record at least one instance per post for years 1-5 (specialty years) of informal discussion with a senior colleague (any consultant) on US scanning activities.

Workplace based assessments

Record at least one WBA (CBD, Mini-CEX) before the end of year 5 on US scanning related activities.

Record at least one satisfactory DOPS before the end of year 5 (desirable).

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of a WBA to a level where the trainee is entrusted to act unsupervised.

Study days / courses

The 4-year cycle of study days covering all curriculum topics will provide specific teaching on procedures.

RCPI course – POCUS for GIM

Other relevant renal specific US courses are also available (discuss with trainer).

Outcome 4 Insertion of temporary HD catheters

About this outcome

It is mandatory that trainees have the knowledge and skills regarding the following:

- The indications and contraindications for a temporary HD catheter insertion
- The potential complications of the procedure
- To discuss the procedure, risks, and benefits with a patient in a manner to facilitate informed consent
- To insert temporary HD catheters using the Seldinger technique and US guidance for bilateral internal jugular and femoral veins
- To manage any complications that might arise

Case experience

Record a case mix of temporary HD catheter insertion activities per post for years 1-5 (specialty years). Ideally this should include a minimum of 10 cases per programme to acquire the knowledge and skills detailed above.

Informal feedback

Record at least one instance per post for years 1-5 (specialty years) of informal discussion with a senior colleague (any consultant) on insertion of a temporary HD catheter.

Workplace based assessments

Record at least one WBA (CBD, Mini-CEX) before the end of year 5 on temporary HD catheter insertion related activities.

Record at least one satisfactory DOPS before the end of year 5.

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of a WBA to a level where the trainee is entrusted to act unsupervised.

Study days / courses

The 4-year cycle of study days covering all curriculum topics will provide specific teaching on procedures.

Other relevant courses (e.g., a simulation course) are also available (discuss with trainer).

Outcome 5 Insertion of PD catheters

About this outcome

It is desirable that trainees have the knowledge and skills at a specialist level regarding the following:

- The different methods of inserting PD catheters
- To assess a patient's suitability for insertion of a PD catheter by different techniques such as the percutaneous approach
- The anatomy of the anterior abdominal wall, abdominal cavity and peritoneum, the different types of catheters and their use
- To discuss the procedure, risks, and benefits with a patient in a manner to facilitate informed consent
- To insert a PD catheter by the percutaneous method (desirable)
- To manage acute complications following catheter insertion – catheter malposition, catheter related sepsis and occluded catheter
- The role of nurses in the management of a catheter after its insertion

Case experience

Record a case mix of PD catheter insertion activities per post for years 1-5 (specialty years). Ideally this should include a minimum of 5 cases per programme to acquire the knowledge and skills detailed above.

Informal feedback

Record at least one instance per post for years 1-5 (specialty years) of informal discussion with a senior colleague (any consultant) on PD catheter insertion activities.

Workplace based assessment

Record at least one WBA (CBD, Mini-CEX) before the end of year 5 on PD catheter insertion related activities.

Record at least one satisfactory DOPS before the end of year 5 (desirable).

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of a WBA to a level where the trainee is entrusted to act unsupervised.

Study days / courses

The 4-year cycle of study days covering all curriculum topics will provide specific teaching on procedures.

Other relevant courses are also available (discuss with trainer.)

Goal 6 Diagnosis and Management of Specific Conditions in Nephrology

About this goal

Trainees must demonstrate a significant knowledge base which is required for the practice of Nephrology at consultant level. Each of the outcomes associated with this goal are regarded as a clinical context in which trainees must be able to demonstrate proficiency. Based on the core skills learned, trainees must demonstrate core bedside skills, including information gathered through history and physical examination and information sharing with patients, families, and colleagues. Conditions and issues are listed as outcomes either because they are common or serious (having high morbidity, mortality and/or serious implications for treatment or public health.) For each outcome (grouped conditions), trainees must be familiar with such aspects as aetiology, epidemiology, clinical features, investigation, differential diagnosis, management, and prognosis.

There are 9 outcomes underpinning this goal

Outcome 1	Fluid, electrolyte, and acid base disturbances
Outcome 2	Disorders of divalent ions and chronic kidney disease mineral bone disease (CKD-MBD)
Outcome 3	Acute kidney injury (AKI) and critical care nephrology
Outcome 4	CKD progression and complications
Outcome 5	Hypertension and renovascular disease
Outcome 6	Glomerular, vascular, and tubulointerstitial disease
Outcome 7	Renal disease and diabetes
Outcome 8	Urological presentations
Outcome 9	Special circumstances

Outcome 1 Fluid, electrolyte, and acid base disturbances

About this outcome

Trainees must demonstrate skills and knowledge to assess and manage patients with fluid, electrolyte, and acid base disturbances at a specialist level. This involves the following:

- Understanding the pathophysiology of fluid, electrolyte and acid base metabolism and disorders
- Appropriate assessment and investigation of such disorders including interpretation of results
- Managing patients with such disorders
- Diagnosis and management of poisonings presenting as electrolyte / acid base disorders

- Explaining the implications of familial disorders to patients

Case experience

Record a case mix per post in specialty years to demonstrate assessment and management of patients with disorders of fluid, electrolyte, and acid base disturbances.

Informal feedback

Record at least one instance per year in specialty years of informal discussion with a senior colleague (consultant) on management of patients with disorders of fluid, electrolyte, and acid base disturbances.

Workplace based assessments

Record at least 1 WBA (CBD, Mini-CEX, OCWR) before the end of year 4 on management of patients with disorders of fluid, electrolyte, and acid base disturbances. WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study Days

The 4-year cycle of study days covering all curriculum topics includes a focused study day on this topic.

Additional courses are available – discuss with trainer.

Examinations

Topics relevant to patients with fluid, electrolyte and acid base disorders will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 2 Disorders of divalent ions and CKD mineral bone disease (CKD-MBD)

About this outcome

Trainees must be able to assess and manage patients with disorders of divalent ions and CKD-MBD at a specialist level. This involves the following:

- Understanding the pathophysiology of disorders of divalent ions and CKD-MBD
- Assessment and identification of disorders of phosphate, magnesium, and calcium balance
- Interpretation of relevant laboratory, radiology, and histological results
- Appropriate management including dietary modification, pharmaceutical and surgical intervention for patients prior to and on renal replacement therapy
- Understanding preventative strategies

Case Experience

Record a case mix per post in specialty years to demonstrate assessment and management of patients with disorders of divalent ions and CKD-MBD.

Informal Feedback

Record at least one instance per year in specialty years of informal discussion with a senior colleague (consultant) on management of patients with disorders of divalent ions and CKD-MBD.

Workplace Based Assessments

Record at least 1 WBA (CBD, Mini-CEX, OCWR) before the end of year 4 on management of patients with disorders of divalent ions and CKD-MBD. WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study Days

The 4-year cycle of study days covering all curriculum topics includes a focused study day on this topic.

Additional courses are available – discuss with trainer.

Examinations

Topics relevant to disorders of divalent ions and CKD-MBD will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 3 Acute kidney injury (AKI) and critical care Nephrology

About this outcome

Evaluation

Trainees must demonstrate skills and knowledge to assess and manage patients with AKI at a specialist level. This involves the following:

- Understanding the epidemiology and pathophysiology of AKI
- Identifying appropriate differential diagnoses and staging AKI
- Appropriate investigations and interpretation of results including laboratory testing, examination of urine sediment and performing bedside ultrasound where available
- Identification of patients at high risk of AKI and introducing preventative strategies
- Initiation of appropriate management depending on the underlying cause of AKI
- Appropriate prescribing for patients with AKI
- When to initiate, prescribe and manage renal replacement therapy (RRT)
- Adjusting dialysis prescription in complex cases

- Understanding the principles of the various modalities of RRT available including continuous RRT options
- Assessing and managing patients requiring RRT in a critical care environment
- Working together effectively with intensive care unit colleagues

Case Experience

Record a case mix per post in specialty years including the following:

- Cases of AKI, including those requiring RRT
- Evaluation of patients requiring critical care Nephrology input

Informal Feedback

Record at least one instance per year in specialty years of informal discussion with a senior colleague (consultant) for each of:

- Cases of AKI, including those requiring RRT
- Evaluation and management of patients requiring critical care Nephrology input

Workplace Based Assessment

Record at least 1 WBA (CBD, Mini-CEX, OCWR) before the end year of 4 for each of:

- Cases of AKI, including those requiring RRT
- Evaluation of patients requiring critical care Nephrology input.

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBAs to a level where the trainee is entrusted to act unsupervised.

Study Days

The 4-year cycle of study days covering all curriculum topics includes a focused study day on this topic.

Additional courses are available – discuss with a trainer.

Examinations

Topics relevant to patients with AKI and those requiring critical care will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 4 CKD progression and complications

About this outcome

CKD and progression

Trainees must demonstrate skills and knowledge to assess and manage patients with CKD at a specialist level including the following:

- Understanding the classification and stages of CKD
- Identifying and treating causes of CKD
- Managing risk factors for progression of CKD
- Managing non-renal complications of CKD
- Identifying and treating cardiovascular risk factors in CKD patients
- Making appropriate plans for RRT if required in liaison with the MDT and utilizing a shared decision-making approach
- Appropriate drug prescribing in CKD

Renal anaemia

Trainees must demonstrate the skills and knowledge to diagnose and manage renal anaemia and to:

- Understand the pathophysiology
- Appropriately investigate and develop a differential diagnosis
- Safely prescribe and monitor erythropoietic stimulating agents (ESA) in patients pre and on RRT
- Prescribe and monitor iron replacement therapy in patients pre and on RRT
- Audit the use of ESA's

Cardiovascular disease in patients with CKD

Trainees must demonstrate the skills and knowledge to assess and treat renal patients with cardiovascular disease including the following:

- Understanding the impact of cardiovascular disease on morbidity and mortality
- Identification and modification of risk factors for progression of CKD including discussion of self-management strategies
- Recognising the need for referral for specialist cardiology input

Case experience

Record case mix per post in specialty years for management of each of:

- CKD and progression
- Renal anaemia
- CKD patients with cardiovascular disease

Informal feedback

Record at least one instance per year in specialty years of informal discussion with a senior colleague (consultant) on management of each of the following:

- CKD and progression
- Renal anaemia
- Cardiovascular disease in patients with CKD

Workplace based assessment

Record at least 1 WBA (CBD, Mini-CEX, OCWR) before the end of year 4 on management of each of the following:

- CKD and progression
- Renal anaemia
- Cardiovascular disease in patients with CKD

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study days

The 4-year cycle of study days covering all curriculum topics includes a focused study day on this topic.

Additional courses are available – discuss with a trainer.

Examinations

Topics relevant to patients with CKD and its complications will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 5 Hypertension and renovascular disease

About this outcome

Hypertension

Trainees must demonstrate skills and knowledge to assess and manage patients with hypertension at a specialist level. This involves the following:

- Understanding the pathophysiology of hypertension including secondary causes
- Assessing and investigation of patients with hypertension and interpretation of results
- Management of hypertension including any underlying causes, dietary modification and prescribing anti-hypertensive medicine
- Management of resistant and hypertensive emergencies
- Monitoring and reviewing the effectiveness of blood pressure control

Renovascular disease

Trainees must have the skills and knowledge to assess and manage patients with renovascular disease at a specialist level. This involves the following:

- Understanding the pathophysiology of renovascular disease
- Appropriate radiological investigation
- Management of renovascular disease and the outcomes of angiographic intervention
- Management of extrarenal cardiovascular problems

Case experience

Record a case mix per post in specialty years to demonstrate assessment and management of patients with hypertension and renovascular disease.

Informal feedback

Record at least one instance of informal discussion per year in specialty years with a senior colleague (consultant) on management of patients with hypertension and renovascular disease.

Workplace based assessments

Record at least 1 WBA (CBD, Mini-CEX, OCWR) before the end of year 4 on management of patients with each of the following:

- Hypertension
- Renovascular disease

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study days

The 4-year cycle of study days covering all curriculum topics includes a focused study day on this topic.

Additional courses are available – discuss with a trainer.

Examinations

Topics relevant to patients with hypertension and renovascular disease will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 6 Glomerular, vascular, and tubulointerstitial disease

About this outcome

Clinical presentation and assessment of glomerular disease

Trainees must demonstrate skills and knowledge to undertake specialist assessment and management of patients with haematuria and / or proteinuria. This involves the following:

- Understanding the pathophysiology of haematuria and proteinuria
- Formulating a differential diagnosis based on the presentation and initial investigations
- Determining the appropriate initial management plan depending on the presentation and differential diagnosis
- Recognizing indications for a kidney biopsy
- Assessing severity of proteinuria and risk of extra-renal complications

Primary glomerular diseases

Trainees must demonstrate skills and knowledge to assess, diagnose and treat patients with primary glomerulonephritis including the following:

- Understanding the aetiology, pathophysiology, and clinical manifestations of the various primary glomerular diseases
- Clinical assessment and interpretation of the various laboratory and histopathological investigations
- Managing the complications of the diseases and their treatment, and both the systemic and local kidney manifestations
- Treatment of primary glomerular diseases including the place for immunosuppression, balancing risks and benefits and monitoring long term use
- Understanding the implications of the primary glomerular disease diagnosis for renal transplantation

Systemic diseases with secondary glomerular involvement

Trainees must demonstrate skills and knowledge to assess, diagnose and treat patients with systemic diseases with secondary glomerulonephritis including the following:

- Understanding the aetiology, pathophysiology and clinical manifestations of the various systemic conditions causing glomerular disease
- Clinical assessment and interpretation of investigations in the various conditions
- Treatment of the various secondary glomerulonephritis, including treatment of the underlying cause and immunosuppression
- Understanding the place and timing of renal transplantation

Tubulointerstitial nephritis

Trainees must demonstrate skills and knowledge to assess, diagnose and treat patients with interstitial nephritis or tubulo-interstitial disease including the following:

- Understanding the aetiology, pathophysiology, and clinical manifestations of tubulointerstitial nephritis
- Clinical assessment and interpretation of appropriate investigations

- Treatment of interstitial nephritis including when to introduce immunosuppression

Case experience

Record case mix per post in specialty years for each of the following:

- Clinical presentation and assessment of glomerular disease
- Primary glomerular disease
- Systemic diseases with secondary glomerular involvement
- Tubulointerstitial nephritis

Informal feedback

Record at least one instance per year in specialty years of informal discussion with a senior colleague (consultant) on each of the following:

- Clinical presentation and assessment of glomerular disease
- Primary glomerular disease
- Systemic diseases with secondary glomerular
- Tubulointerstitial nephritis

Workplace based assessments

Record at least 1 WBA (CBD, Mini-CEX, OCWR) before the end of year 4 on each of the following:

- Clinical presentation and assessment of glomerular disease
- Primary glomerular disease
- Systemic diseases with secondary glomerular involvement
- Tubulointerstitial nephritis

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study Days

The 4-year cycle of study days covering all curriculum topics includes a focused study day on this topic.

Additional courses are available – discuss with a trainer.

Examinations

Topics relevant to patients with glomerular, vascular and tubulointerstitial disease will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 7 Renal disease and diabetes

About this outcome

Trainees must demonstrate skills and knowledge to assess and treat patients with diabetes and kidney disease including the following:

- Understanding the pathophysiology of diabetic nephropathy
- Distinguishing diabetic nephropathy from incidental kidney disease in diabetic patients
- Strategies to slow progression of disease and management of diabetic nephropathy including lifestyle modification, diabetes and hypertension control and cardiovascular risk
- The role of pancreatic and / or renal transplantation in diabetic patients with kidney disease

Case experience

Record a case mix per post in specialty years to demonstrate management of renal disease and diabetes.

Informal feedback

Record at least one instance per year in specialty years of informal discussion with a senior colleague (consultant) on management of renal disease and diabetes.

Workplace based assessments

Record at least 1 WBA (CBD, Mini-CEX, OCWR) before the end of year 4 on management of renal disease and diabetes.

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study days

The 4-year cycle of study days covering all curriculum topics includes a focused study day on this topic.

Additional courses are available – discuss with a trainer.

Examinations

Topics relevant to patients with diabetic renal disease will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 8 Urological presentations

About this outcome

Kidney stones

Trainees must demonstrate skills and knowledge to do the following:

- Understand the pathophysiology of stone formation
- Assess and investigate a patient with renal stone disease
- Formulate a management plan including lifestyle modification
- Recognising the need to appropriately involve other clinicians including dieticians, urologists, and radiologists

Urinary tract infections

Trainees must demonstrate skills and knowledge to manage patients with urinary tract infections including the following:

- The bacteriological causes of urinary tract infections
- The modes of presentation of urinary tract infections including in special circumstances such as pregnancy and immunosuppressed patients
- Assessing and investigation of patient with urinary tract infections, especially if recurrent
- The underlying predisposing causes of urinary tract infections e.g., structural abnormalities
- Management of these patients and involvement of urologists where appropriate

Urinary tract obstruction

Trainees must demonstrate skills and knowledge to assess, investigate and manage patients with urinary tract obstruction including the following:

- Knowledge of the anatomy of the urinary tract and common sites and causes of obstruction
- The pathophysiology and various causes of urinary tract obstruction including neurogenic bladder
- The acute presentation and long-term consequences of urinary tract obstruction
- Investigation and management of obstruction including involving other clinicians including urologists and radiologists
- Understanding the various surgical and reconstructive procedures and radiological interventions that may be required to relieve obstruction

Case experience

Record at least one instance per post in specialty years for each of the following:

- Kidney stones
- Urinary tract infections
- Urinary tract obstructions

Informal feedback

Record at least one instance per year in specialty years of informal discussion with a senior colleague (consultant) on each of the following:

- Kidney stones

- Urinary tract infections
- Urinary tract obstructions

Workplace based assessment

Record at least 1 WBA (CBD, Mini-CEX, OCWR) before the end of year 4 on each of the following:

- Kidney stones
- Urinary tract infections
- Urinary tract obstructions

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study days

The 4-year cycle of study days covering all curriculum topics includes a focused study day on this topic.

Additional courses are available – discuss with a trainer.

Examinations

Topics relevant to patients with urological presentations will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

Outcome 9 Special circumstances

About this outcome

Renal disorders in pregnancy

Trainees must demonstrate skills and knowledge in the following areas:

- Understanding of the effects of pregnancy on renal physiology
- Ability to counsel patients with pre-existing kidney disease or a renal transplant about sexual health issues including fertility, contraception, and the implications of pregnancy for the mother and foetus
- Ability to investigate and manage renal conditions during pregnancy
- Ability to undertake a specialist assessment, investigation and management of a patient who develops a renal disorder during pregnancy
- Understanding of the potential risks of commonly used medications to the foetus and modification of medications including immunosuppression, anti-hypertensives etc.

- How to manage co-morbid conditions in patients with pre-existing renal disease or renal transplantation
- Understanding of inherited renal disorders and the need for genetic counselling
- Recognising and managing the renal consequences of pre-eclampsia and AKI in pregnancy

Transition of paediatric patients to adult Nephrology services

Trainees must demonstrate skills and knowledge in the following areas for patients transitioning from paediatric to adult services:

- Understanding of common causes of renal disease in paediatric / adolescent patients
- Understanding the developmental stage and maturity of various patients
- The psychosocial impact of renal disease on the patient and family
- Issues relating to consent, confidentiality, and adherence for adolescent patients
- Managing change in personnel, department, and environment for the patient
- Recognition of the appropriate time to transfer patients

Nutrition in patients with renal disease

Trainees must demonstrate skills and knowledge in the following areas:

- To identify, understand and manage the nutritional needs of patients with kidney disease
- To manage the wide range of nutritional issues and dietary regimes for patients with CKD
- To counsel RRT patients regarding the need for any dietary restrictions
- Treatment strategies for hypertension, hyperlipidaemia, weight management, malnutrition
- Managing the nutritional needs of patients with AKI and other complex multisystem disorders

Inherited and rare disease

Trainees must demonstrate skills and knowledge in the following areas:

- The pathophysiology and patterns of genetic inheritance of conditions that cause kidney disease e.g., autosomal dominant kidney disease, Alports etc.
- Understanding of how to assess, diagnose and treat patients with genetic and other rare diseases
- Ability to counsel patients and their relatives on the natural history and inheritance of these conditions
- Ability to determine when screening is required and ability to interpret the results

Case experience

Record at least one instance per post in specialty years for each of the following:

- Renal disorders in pregnancy

- Transition of paediatric patients to adult Nephrology services
- Nutrition in patients with renal disease
- Inherited and rare disease

Informal feedback

Record at least one instance per year in specialty years of informal discussion with a senior colleague (consultant) on management of each of the following:

- Renal disorders in pregnancy
- Transition of paediatric patients to adult Nephrology services
- Nutrition in patients with renal disease
- Inherited and rare disease

Workplace based assessment

Record at least 1 WBA (CBD, Mini-CEX, OCWR) before the end of year 5 on each of the following:

- Renal disorders in pregnancy
- Transition of paediatric patients to adult Nephrology services
- Nutrition in patients with renal disease
- Inherited and rare disease

WBAs can, and should, be performed repeatedly until the trainee is deemed to be proficient and a satisfactory outcome is obtained.

An Entrustable Professional Activity for this outcome can be completed following year 3 and satisfactory completion of the WBA to a level where the trainee is entrusted to act unsupervised.

Study Days

The 4-year cycle of study days covering all curriculum topics includes a focused study day on this topic.

Additional courses are available – discuss with a Trainer.

Examinations

Topics relevant to patients with conditions detailed in this section will be evaluated in the following exams and so passing them will advance progress towards proficiency in this outcome:

- ASN ITE, ASN NephSAP or KSAP, ESENeph

At a glance requirements

Goal	Outcome	Activities to record	Assessments
Core Professional Skills	1. Partnership 2. Practice 3. Performance	• Record a case mix of professional activities per programme covering professional activities • Informal feedback • Attendance at the relevant mandatory RCPI courses (see below for list) • Attendance at or performance of relevant in-house activities (see below for list)	• At least 1 satisfactory WBA before year 3 and 1 after year 3
General Internal Medicine	Presentations Emergency management Skills and knowledge in GIM Setting Procedures	• Record unselected GIM admissions - GIM year: 480 cases - Dual specialty years: 480 cases (over 2 years) • Attendance at GIM study days (see below for details) • Required procedures (per programme): - BIPAP/CPAP (complete 10) - Emergency DC cardioversion (Complete 10) - ECG interpretation (Complete 50) - Joint aspiration (complete 4) - Lumbar puncture (complete 20) • Desirable procedures (per programme) - Abdominal paracentesis – under ultrasound (complete 4) - Femoral line placement under ultrasound (compete 1) - Pleural aspiration under ultrasound (complete 4) - Intercostal drain insertion under ultrasound (complete 1) Attendance at the mandatory courses	• At least 1 satisfactory DOPS before the end of GIM training (typically year 3) required for each of the following: - BIPAP/CPAP (mandatory) - Communication (mandatory) - Emergency DC cardioversion (mandatory) - ECG interpretation (mandatory) - Joint aspiration (mandatory) - Lumbar puncture (mandatory) • DOPs for the remainder of the procedures are desirable - Abdominal paracentesis - Femoral line placement - Pleural aspiration

Core skills in Nephrology	History & physical examination	• Case mix per post: years 1-3 • Informal feedback	At least 1 satisfactory WBA before the end of year 1
	Communication skills	• Case mix per post: years 1-3 • Informal feedback • RCPI mastering communications course	At least 1 satisfactory WBA before the end of year 3
	Interpretation of investigations	• Case mix per post: years 1-3 • Informal feedback • Attendance at radiology and histopathology meetings • Attendance at relevant study days • RCPI POCUS Course	• At least 1 satisfactory WBA before the end of year 3 • ASN ITE, NephSAP or KSAP, ESE Neph
	Safe prescribing	• Case mix per post: years 1-3 • Informal feedback • Attendance at relevant study days	• At least 1 satisfactory WBA before the end of year 3 • ASN ITE, NephSAP or KSAP, ESE Neph
Management of Nephrology services	Management of inpatient and consultation services	• Case mix per post: years 1-5 • Attendance at ward rounds - Frequency and type of ward round - Average number of patients • Informal feedback • Attendance at relevant study days • RCPI courses	• At least 1 satisfactory WBA before the end of year 5 • ASN ITE, NephSAP or KSAP, ESE Neph
	Management of outpatient services	• Case mix per post: years 1-5 • Attendance outpatient clinics - Frequency and type of clinics - Average number of patients • Informal feedback • Attendance at relevant study days • RCPI courses	• At least 1 satisfactory WBA before the end of year 5 • ASN ITE, NephSAP or KSAP, ESE Neph
	Management of end stage renal disease	• Case mix per post in years 1-5 to include cases of the following: - Pre-dialysis care - HD patients - PD patients - Comprehensive conservative care • Attendance at dialysis rounds, relevant MDTs • Informal feedback on the above	• At least 1 satisfactory WBA for each of the following before the end of year 5: - Pre-dialysis care - HD patients - PD patients - Comprehensive conservative care • ASN ITE, NephSAP or KSAP, ESE Neph

		• Attendance at relevant study days	
	Management of renal transplant patients	• Case mix per post in years 1-5 to include cases of the following: - Living donors and recipients - Early post-transplant cases - Chronic post-transplant cases • Informal feedback on the above • Attendance at relevant study days	• At least 1 satisfactory WBA for each of the following cases before the end of year 5: - Living donors and recipients - Early post-transplant - Chronic post-transplant • ASN ITE, NephSAP or KSAP, ESE Neph
Procedures	Urine microscopy Kidney biopsy Ultrasound scanning Insertion of temporary haemodialysis catheter Insertion of peritoneal catheter	• Case mix for each procedure: years 1 – 5 - Urine microscopy (10 per post required) - Ultrasound guided temporary vascular access insertion (10 per programme required) - Ultrasound guided kidney biopsy (10 per programme desirable) - Ultrasound scanning (urinary tract / vascular access) (20 per programme desirable) - Peritoneal dialysis catheter insertion (5 per programme desirable) • Informal feedback • Attendance at a relevant study day • Courses	• At least 1 satisfactory WBA and 1 DOPS for each procedure, before the end of year 5 - The only mandatory procedures are temporary dialysis catheter insertion and urine microscopy. The others are desirable • ASN ITE, NephSAP or KSAP, ESE Neph
Diagnosis and management of specific conditions in Nephrology	Fluid, electrolyte, and acid base disturbances	• Case mix per post in specialty years • Informal feedback • Attendance at a relevant study day	• At least 1 satisfactory WBA, before the end of year 4 • ASN ITE, NephSAP or KSAP, ESE Neph
	Disorders of divalent ions and CKD-MBD	• Case mix per post in specialty years • Informal feedback • Attendance at a relevant study day	• At least 1 satisfactory WBA, before the end of year 4 • ASN ITE, NephSAP or KSAP, ESE Neph
	AKI and critical care Nephrology	• Case mix per post in specialty years for each of: - Cases of AKI	• At least 1 satisfactory WBA for each of the following cases before the

		- Cases requiring critical care Nephrology input • Informal feedback on both • Attendance at a relevant study day	end of year 4: - AKI - Critical care Nephrology input • ASN ITE, NephSAP or KSAP, ESE Neph
	CKD progression and complications	• Case mix per post in specialty years for each of: - CKD and progression - Renal anaemia - Cardiovascular disease in CKD • Informal feedback on the above • Attendance at a relevant study day	• At least 1 satisfactory WBA for each of the following cases before the end of year 4: - CKD and progression - Renal anaemia - Cardiovascular disease in CKD • ASN ITE, NephSAP or KSAP, ESE Neph
	Hypertension & renovascular disease	• Case mix per post in specialty years for each of: - Hypertension - Renovascular disease • Informal feedback on the above • Attendance at a relevant study day	• At least 1 satisfactory WBA for each of the following cases before the end of year 4: - Hypertension - Renovascular disease • ASN ITE, NephSAP or KSAP, ESE Neph
	Glomerular, vascular, and tubulointerstitial disease	• Case mix per post in specialty years for each of: - Presentation and assessment of patients with glomerular disease - Primary glomerular disease - Systemic diseases with glomerular involvement - Tubulointerstitial nephritis • Informal feedback on the above • Attendance at relevant study days	• At least 1 satisfactory WBA for each of the following cases before the end of year 4: - Presentation and assessment of patients with glomerular disease - Primary glomerular disease - Systemic diseases with glomerular involvement - Tubulointerstitial nephritis • ASN ITE, NephSAP or KSAP, ESE Neph
	Renal disease and diabetes	• Case mix per post in specialty years • Informal feedback • Study Day	• At least 1 satisfactory WBA, before the end of year 4 • ASN ITE, NephSAP or KSAP, ESE Neph
	Urological presentations	• Case mix per post in specialty years for each of: - Kidney stones - Urinary tract infection - Urinary tract obstruction • Informal feedback on the above • Attendance at a relevant	• At least 1 satisfactory WBA for each of the following cases before the end of year 4: - Kidney stones - Urinary tract infection - Urinary tract obstruction • ASN ITE, NephSAP or

		study day	KSAP, ESE Neph
	Special Circumstances	• Case mix per post in specialty years for each of: - Renal disorders in pregnancy - Transition of paediatric patients to adult Nephrology services - Nutrition in patients with renal disease - Inherited and rare disease • Informal feedback on the above • Attendance at a relevant study day	• At least 1 satisfactory WBA for each of the following cases before the end of year 5: - Renal disorders in pregnancy - Transition of paediatric patients to adult Nephrology services - Nutrition in patients with renal disease - Inherited and rare disease • ASN ITE, NephSAP or KSAP, ESE Neph
Supporting educational activities and document-ation requirements	Personal goals form	• 1 personal goals form in the first month of each post	• Personal goals form assessed and signed off by trainer
	Mandatory courses	• Attendance at the following mandatory RCPI courses: - Advanced cardiac life support (year 1 -2) - Ethics foundation (year 1) - Ethics for general medicine (at a point after ethics foundation) - An introduction to health research methods (year 1) - HST leadership in clinical practice (years 3+) - Mastering communication (year 1) - Performing audit (year 1) - Wellness matters (year 1) - NIHSS stroke scale (GIM year) - Delirium recognition and response (GIM year) - Bedside ultrasound for GIM (POCUS) (GIM year)	• Upload certificate of attendance
	Non-mandatory courses	• Record any other non-mandatory courses attended	
	Study days	Record attendance at the following: • GIM study days - GIM year: 6 per year - Dual specialty years: 3 per year • Nephrology study days - Dual specialty years: 4 per	

		year - Nephrology year: 5 per year	
	In-house activities	• Record participation in the following each year (number): - Grand rounds (24) - Journal club (12) - Seminar or lecture (10) - Kidney club (3) - MDT meetings (12) - Pathology meeting (4) - Radiology meeting (8) - Delivery of teaching (24) - Audit or quality improvement project (Start or complete a project each year and report on at least 2 completed project over 5 years) - Committee (1) - Attendance at national or international meetings (1) • It is desirable to record participation in the following per programme (number): - Research project (1) - Publications (1) - Presentation at national or international meeting (1) - Additional qualification	• Upload certificate of attendance / other supporting documentation • Audit / quality improvement report (2 per programme)
	Exams	• Record completion of the following exams or self-assessments: - ASN NephSAP or KSAP: 5 per year (dual specialty and Nephrology years) - ASN in training exam: Once in years 1-2 and again in years 4 – 5 - ESE Neph: Once per training programme	• Upload certificates of completion
	Quarterly or end of post assessments	• Record 4 per year	• Requires satisfactory sign off by trainer
	End of year evaluation	• Record 1 at the end of each year • Satisfactory completion of the ePortfolio and requirements for the year	• Requires satisfactory sign of by trainer and the end of year evaluation panel