

National Training Requirements

IRELAND

Specialty
Clinical Pharmacology and Therapeutics

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**IRISH COMMITTEE
ON HIGHER
MEDICAL TRAINING**

ROYAL COLLEGE OF
PHYSICIANS OF IRELAND

HIGHER SPECIALIST TRAINING IN

**CLINICAL
PHARMACOLOGY**



This curriculum of training in Clinical Pharmacology & Therapeutics was developed in 2013 and undergoes an annual review by Prof David Williams National Specialty Directors, Dr. Ann O’Shaughnessy, Head of Education, Innovation & Research and by the Clinical Pharmacology & Therapeutics Training Committee. The curriculum is approved by the Irish Committee on Higher Medical Training.

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Introduction

The Higher Specialist Training Programme in Clinical Pharmacology and Therapeutics commenced in 1997 and there are currently approximately 8-10 practicing clinical pharmacologists in Ireland. There is a need to maintain a pool of expertise in the Irish Healthcare system where medicines constitute the main intervention in healthcare. There is also a need to deliver essential undergraduate and ongoing, lifelong postgraduate teaching and to train specialists in Clinical Pharmacology & Therapeutics in order to maintain a critical mass in the Irish Healthcare setting.

Clinical Pharmacology and Therapeutics continues to contribute to national activities such as rational and safe prescribing, drug licensing, technology appraisal, pharmacoconomics and pharmacovigilance. All healthcare providers should aim to encourage rational prescribing practices and balance medicines budgets through activities such as Drug and Therapeutics committees, formulary management, and reviews of drug use. Whilst these activities are not the preserve of Clinical Pharmacologists, they are, however, ideally prepared, following training in medicine development and use, and have a working understanding of the work of the pharmaceutical industry. These skills are also essential for teaching rational therapeutics to medical students and prescribers, managing drug overdoses, and advising research ethics committees.

The new and revised curriculum in Clinical Pharmacology and Therapeutics is designed to attract sufficient high-quality trainees into the discipline by providing the flexibility necessary to allow doctors in different branches of clinical medicine to undergo training in Clinical Pharmacology and Therapeutics and to provide links with an Academic training pathway. It aims to achieve this flexibility by adopting a modular structure, all trainees taking the core module but with additional modules, usually of one year's duration, from within the range of CPT special interests (e.g. Hypertension, Stroke Medicine) according to their specific training requirements.

Aims

Upon satisfactory completion of specialist training in Clinical Pharmacology and Therapeutics a doctor will be **competent** to undertake comprehensive medical practice in that specialty in a **professional** manner, unsupervised and independently and/or within a team, in keeping with the needs of the healthcare system.

Competencies, at a level consistent with practice in the specialty of Clinical Pharmacology and Therapeutics, will include the following:

- Patient care that is appropriate, effective and compassionate dealing with health problems and health promotion.
- Medical knowledge in the basic biomedical, behavioural and clinical sciences, medical ethics and medical jurisprudence and application of such knowledge in patient care.
- Interpersonal and communication skills that ensure effective information exchange with individual patients and their families and teamwork with other health professionals, the scientific community and the public.
- Appraisal and utilisation of new scientific knowledge to update and continuously improve clinical practice.
- The ability to function as a supervisor, trainer and teacher in relation to colleagues, medical students and other health professionals.
- Capability to be a scholar, contributing to development and research in the field of Clinical Pharmacology and Therapeutics.
- Professionalism.
- Knowledge of public health and health policy issues: awareness and responsiveness in the larger context of the health care system, including e.g. the organisation of health care, partnership with health care providers and managers, the practice of cost-effective health care, health economics and resource allocations.
- Ability to understand health care and identify and carry out system-based improvement of care.

Professionalism

Being a good doctor is more than technical competence. It involves values – putting patients first, safeguarding their interests, being honest, communicating with care and personal attention, and being committed to lifelong learning and continuous improvement. Developing and maintaining values are important; however, it is only through putting values into action that doctors demonstrate the continuing trustworthiness with the public legitimately expect. According to the Medical Council, Good Professional Practice involves the following aspects:

- Effective communication
- Respect for autonomy and shared decision-making
- Maintaining confidentiality
- Honesty, openness and transparency (especially around mistakes, near-misses and errors)
- Raising concerns about patient safety
- Maintaining competence and assuring quality of medical practice

Entry Requirements

Applicants for Higher Specialist Training (HST) in Clinical Pharmacology and Therapeutics must have a certificate of completion Basic Specialist Training (BST) in General Internal Medicine and obtained the MRCPI.

BST should consist of a minimum of 24 months involved with direct patient care supervised by senior clinicians and based on a clinical curriculum and professional and ethical practice learnt through mentorship by senior clinicians and supported by RCPI's mandatory courses.

BST in General Internal Medicine (GIM) is defined as follows:

- A minimum of 24 months in approved posts, with direct involvement in patient care and offering a wide range of experience in a variety of specialties.
- At least 12 of these 24 months must be spent on a service or services in which the admissions are acute and unselected.
- Assessment of knowledge and skills gained by each trainee during their clinical experience. This assessment takes place in the form of the mandatory MRCPI examination (*The MRCPI examination was introduced as mandatory for BST as of July 2011)
- For further information please review the BST curriculum

Entrants who have completed BST in other specialties may also be considered. Other entrants could be considered with appropriate higher examinations.

Those who do not hold a BST certificate and MRCPI must provide evidence of equivalency.

A period of experience in Clinical Pharmacology and Therapeutics at Senior House Officer Grade is considered desirable before entry to HST, although not essential.

Entry on the training programme is at year 1. Deferrals are not allowed on entry to Higher Specialist Training.

Duration and Organisation of Training

Whilst the curriculum is competency-based, the duration of training must meet the European Minimum of 4 yrs for full time specialty training adjusted accordingly for flexible training. Therefore the duration of HST in Clinical Pharmacology & Therapeutics and General Internal Medicine is 5 years, one year of which **may** be gained from a period of full-time research.

For further information on dual training in General Internal Medicine please refer to the GIM Curriculum on our website www.rcpi.ie

Trainees must spend the first 2 years of training in clinical posts in Ireland before undertaking any period of research or Out of Programme Experience (OCPE).

Core CPT Module

- Critical evaluation of literature relevant to CPT including basic pharmacology, toxicology and phase I, II, III and IV clinical trials and meta-analyses
- Understanding uses and limitations of basic statistical tests as related to analysis of pharmacological data
- Use of knowledge of mechanisms of drug action to extrapolate likely effect of new drugs, doses and combinations
- Use of knowledge of pharmacological principles to use, devise or advise on appropriate dosing regimens to optimise drug effects.
- Prescribe rationally in individual patients
- Collaborate in devising policies for rational, safe, and cost-effective prescribing.
- Understand and work within the current regulatory framework
- Understand and influence what determines the pattern of use of medicines in populations.
- Anticipate (and hence minimise), detect, manage, report and analyse adverse drug reactions (ADR).
- Anticipate (and hence minimise), detect, manage, report possible drug prescription or administration errors.
- Advise on cases of overdose or poisoning, and to manage such cases as are relevant to their clinical speciality (e.g. Children for Paediatricians)

Industrial Experience

Some trainees seeking accreditation in Clinical Pharmacology and Therapeutics may be planning a career in the Pharmaceutical Industry. The entry criteria and duration of Higher Medical Training will be the same for these trainees, though approved experience in the Pharmaceutical Industry can be counted towards the overall requirement.

Flexible Training

National Flexible Training Scheme – HSE NDTP

The HSE NDTP operates a National Flexible Training Scheme which allows a small number of Trainees to train part time, for a set period of time.

Overview

- Have a well-founded reason for applying for the scheme e.g. personal family reasons
- Applications may be made up to 12 months in advance of the proposed date of commencement of flexible training and no later than 4 months in advance of the proposed date of commencement
- Part-time training shall meet the same requirements as full-time training, from which it will differ only in the possibility of limited participation in medical activities to a period of at least half of that provided for full-time trainees

Job Sharing - RCPI

The aim of job sharing is to retain doctors within the medical workforce who are unable to continue training on a full-time basis.

Overview

- A training post can be shared by two trainees who are training in the same specialty and are within two years on the training pathway
- Two trainees will share one full-time post with each trainee working 50% of the hours
- Ordinarily it will be for the period of 12 months from July to July each year in line with the training year
- Trainees who wish to continue job sharing after this period of time will be required to re-apply
- Trainees are limited to no more than 2 years of training at less than full-time over the course of their training programme

Post Re-assignment – RCPI

The aim of post re-assignment is to support trainees who have had an unforeseen and significant change in their personal circumstances since the commencement of their current training programme which requires a change to the agreed post/rotation.

Overview:

- Priority will be given to trainees with a significant change in circumstances due to their own disability, it will then be given to trainees with a change in circumstances related to caring or parental responsibilities. Any applications received from trainees with a change involving a committed relationship will be considered afterwards
- If the availability of appropriate vacancies is insufficient to accommodate all requests eligible trainees will be selected on a first come, first serve basis

For further details on all of the above flexible training options, please see the Postgraduate Specialist Training page on the College website www.rcpi.ie

Training Programme

The training programme offered will provide opportunities to fulfil all the requirements of the curriculum of training for Clinical Pharmacology and Therapeutics in accredited training hospitals. Each post within the programme will have a named trainer/educational supervisor and programmes will be under the direction of the National Specialty Director(s) for Clinical Pharmacology and Therapeutics. Programmes will be as flexible as possible consistent with curricular requirements, for example to allow the trainee to develop a sub-specialty interest.

The experience gained through rotation around different departments is recognised as an essential part of HST. It is preferable that a SpR does not remain in the same unit for longer than 2 years of clinical training or with the same trainer for more than 1 year. However, given that Clinical Pharmacology and Therapeutics is a small speciality, there is flexibility in this respect and a trainee will mostly likely spend 2 years with the same trainer.

Where an essential element of the curriculum is missing from a programme, access to it should be arranged, by day release for example, or if necessary by secondment.

Teaching, Research and Audit

All trainees are required to participate in teaching. They should also receive basic training in research methods, including statistics, so as to be capable of critically evaluating published work.

A period of supervised research relevant to Clinical Pharmacology and Therapeutics is considered highly desirable and will contribute up to 12 months towards the completion of training. Some trainees may wish to spend two or three years in research leading to an MSc, MD, or PhD, by stepping aside from the programme for a time. For those intending to pursue an academic path, an extended period of research may be necessary in order to explore a topic fully or to take up an opportunity of developing the basis of a future career. Such extended research may continue after the CSCST is gained. However, those who wish to engage in clinical medical practice must be aware of the need to maintain their clinical skills during any prolonged period concentrated on a research topic, if the need to re-skill is to be avoided.

Trainees are required to engage in audit during training and to provide evidence of having completed the process.

ePortfolio

The trainee is required to keep their ePortfolio up to date and maintained throughout HST. The ePortfolio will be countersigned as appropriate by the trainers to confirm the satisfactory fulfilment of the required training experience and the acquisition of the competencies set out in the Curriculum. This will remain the property of the trainee and must be produced at the annual Evaluation meeting.

The trainee also has a duty to maximise opportunities to learn, supplementing the training offered with additional self-directed learning in order to fulfil all the educational goals of the curriculum. Trainees must co-operate with other stakeholders in the training process. It is in a SpR's own interest to maintain contact with the Medical Training Department and Dean of Postgraduate Specialist Training, and to respond promptly to all correspondence relating to training. "Failure to co-operate" will be regarded as, in effect, withdrawal from the HST's supervision of training.

At the annual Evaluation, the ePortfolio will be examined. The results of any assessments and reports by educational supervisors, together with other material capable of confirming the trainee's achievements, will be reviewed.

Assessment Process

The methods used to assess progress through training must be valid and reliable. The Curriculum has been re-written, describing the levels of competence which can be recognised. The assessment grade will be awarded on the basis of direct observation in the workplace by consultant supervisors. Time should be set aside for appraisal following the assessment e.g. of clinical presentations, case management, observation of procedures. As progress is being made, the lower levels of competence will be replaced progressively by those that are higher. Where the grade for an item is judged to be deficient for the stage of training, the assessment should be supported by a detailed note which can later be referred to at the Annual Evaluation Meeting. The assessment of training may utilise the Mini-CEX, DOPS and Case Based Discussions (CBD) methods adapted for the purpose. These methods of assessment have been made available by HST for use at the discretion of the NSD and nominated trainer. They are offered as a means of providing the trainee with attested evidence of achievement in certain areas of the Curriculum e.g. competence in procedural skills, or in generic components. Assessment will also be supported by the trainee's portfolio of achievements and performance at relevant meetings, presentations, audit, in tests of knowledge, attendance at courses and educational events.

Annual Evaluation of Progress

Overview

The HST Annual Evaluation of Progress (AEP) is the formal method by which a trainee's progression through her/his training programme is monitored and recorded each year. The evidence to be reviewed by the panel is recorded by the trainee and trainer in the trainee's e-Portfolio.

There is externality in the process with the presence of the National Specialty Director (NSD), a Chairperson and an NSD Forum Representative. Trainer's attendance at the Evaluation is mandatory, if it is not possible for the trainer to attend in person, teleconference facilities can be arranged if appropriate. In the event of a penultimate year Evaluation an External Assessor, who is a consultant in the relevant specialty and from outside the Republic of Ireland will be required.

Purpose of Annual Evaluation

- Enhance learning by providing formative Evaluation, enabling trainees to receive immediate feedback, measure their own performance and identify areas for development;
- Drive learning and enhance the training process by making it clear what is required of trainees and motivating them to ensure they receive suitable training and experience;
- Provide robust, summative evidence that trainees are meeting the curriculum standards during the training programme;
- Ensure trainees are acquiring competencies within the domains of Good Medical Practice;
- Assess trainees' actual performance in the workplace;
- Ensure that trainees possess the essential underlying knowledge required for their specialty;
- Inform Medical Training, identifying any requirements for targeted or additional training where necessary and facilitating decisions regarding progression through the training programme;
- Identify trainees who should be advised to consider a change in career direction.

Structure of the Meeting

The AEP panel speaks to the trainee alone in the first instance. The trainee is then asked to leave the room and a discussion with the trainer follows. Once the panel has talked to the trainer, the trainee is called back and given the recommendations of the panel and the outcome of the AEP.

At the end of the Evaluation, all panel members and the Trainee agree to the outcome of the Evaluation and the recommendations for future training. This is recorded on the AEP form, which is then signed electronically by the Medical Training Coordinator on behalf of the panel and trainee. The completed form and recommendations will be available to the trainee and trainers within their ePortfolio.

Outcomes

- Trainees whose progress is satisfactory will be awarded their AEP
- Trainees who are being certified as completing training receive their final AEP
- Trainees who need to provide further documentation or other minor issues, will be given 2 weeks (maximum 8) from the date of their AEP to meet the requirements. Their AEP outcome will be withheld until all requirements have been met.
- Trainees who are experiencing difficulties and/or need to meet specific requirements for that year of training will not be awarded their AEP. A date for an interim AEP will be decided and the trainee must have met all the conditions outlined in order to be awarded their AEP for that year of training. The "Chairperson's Overall Assessment Report" will give a detailed outline of the issues which have led to this decision and this will go the Dean of Postgraduate Specialist Training for further consideration.
- Trainees who fail to progress after an interim Evaluation will not be awarded their AEP.

The Dean of Postgraduate Training holds the final decision on AEP outcomes. Any issues must be brought to the Dean and the Annual Chairperson's Meeting for discussion.

Facilities

A consultant trainer/educational supervisor has been identified for each approved post. He/she will be responsible for ensuring that the educational potential of the post is translated into effective training which is being fully utilized. The training objectives to be secured should be agreed between trainee and trainer at the commencement of each posting in the form of a written training plan. The trainer will be available throughout, as necessary, to supervise the training process.

All training locations approved for HST have been inspected by the medical training department. Each must provide an intellectual environment and a range of clinical and practical facilities sufficient to enable the knowledge, skills, clinical judgement and attitudes essential to the practice of Clinical Pharmacology and Therapeutics to be acquired.

Physical facilities include the provision of sufficient space and opportunities for practical and theoretical study; access to professional literature and information technologies so that self-learning is encouraged and data and current information can be obtained to improve patient management.

Trainees in Clinical Pharmacology and Therapeutics should have access to an educational programme of e.g. lectures, demonstrations, literature reviews, multidisciplinary case conferences, seminars, study days etc, capable of covering the theoretical and scientific background to the specialty. Trainees should be notified in advance of dates so that they can arrange for their release. For each post, at inspection, the availability of an additional limited amount of study leave for any legitimate educational purpose has been confirmed. Applications, supported if necessary by a statement from the consultant trainer, will be processed by the relevant employer.

Generic Components

This chapter covers the generic components which are relevant to HST trainees of all specialties but with varying degrees of relevance and appropriateness, depending on the specialty.

As such, this chapter needs to be viewed as an appropriate guide of the level of knowledge and skills required from all HST trainees with differing application levels in practice.

Standards of Care

Objective: To be able to consistently and effectively assess and treat patients' problems

Medical Council Domains of Good Professional Practice: Patient Safety and Quality of Patient Care; Relating to Patients; Communication and Interpersonal Skills; Collaboration and Teamwork; Management (including Self-Management); Clinical Skills.

KNOWLEDGE

Diagnosing Patients

- How to carry out appropriate history taking
- How to appropriately examine a patient
- How to make a differential diagnosis

Investigation, indications, risks, cost-effectiveness

- The pathophysiological basis of the investigation
- Knowledge of the procedure for the commonly used investigations, common or/and serious risks
- Understanding of the sensitivity and specificity of results, artefacts, PPV and NPV
- Understanding significance, interpreting and explaining results of investigations
- Logical approach in choosing, sequencing and prioritising investigations

Treatment and management of disease

- Natural history of diseases
- Quality of life concepts
- How to accurately assess patient's needs, prescribe, arrange treatment, recognise and deal with reactions / side effects
- How to set realistic therapeutic goals, to utilise rehabilitation services, and use palliative care approach appropriately
- Recognising that illness (especially chronic and/or incapacity) has an impact on relationships and family, having financial as well as social effects e.g. driving

Disease prevention and health education

- screening for disease, (methods, advantages and limitations),
- health promotion and support agencies; means of providing sources of information for patients
- Risk factors, preventive measures, strategies applicable to smoking, alcohol, drug abuse, lifestyle changes
- Disease notification; methods of collection and sources of data

Notes, records, correspondence

- Functions of medical records, their value as an accurate up-to-date commentary and source of data
- The need and place for specific types of notes e.g. problem-orientated discharge, letters, concise out-patient reports
- Appreciating the importance of up-to-date, easily available, accurate information, and the need for communicating promptly e.g. with primary care

Prioritising, resourcing and decision taking

- How to prioritise demands, respond to patients' needs and sequence urgent tasks
- Establishing (clinical) priorities e.g. for investigations, intervention; how to set realistic goals; understanding the need to allocate sufficient time, knowing when to seek help
- Understanding the need to complete tasks, reach a conclusion, make a decision, and take action within allocated time
- Knowing how and when to conclude

Handover

- Know what are the essential requirements to run an effective handover meeting
 - Sufficient and accurate patients information
 - Adequate time
 - Clear roles and leadership
 - Adequate IT
- Know how to prioritise patient safety
 - Identify most clinically unstable patients
 - Use ISBAR (Identify, Situation, Background, Assessment, Recommendations)
 - Proper identification of tasks and follow-ups required
 - Contingency plans in place
- Know how to focus the team on actions
 - Tasks are prioritised
 - Plans for further care are put in place
 - Unstable patients are reviewed

Relevance of professional bodies

- Understanding the relevance to practice of standards of care set down by recognised professional bodies – the Medical Council, Medical Colleges and their Faculties, and the additional support available from professional organisations e.g. IMO, Medical Defence Organisations and from the various specialist and learned societies

SKILLS

- Taking and analysing a clinical history and performing a reliable and appropriate examination, arriving at a diagnosis and a differential diagnosis
- Liaising, discussing and negotiating effectively with those undertaking the investigation
- Selecting investigations carefully and appropriately, considering (patients') needs, risks, value and cost effectiveness
- Appropriately selecting treatment and management of disease
- Discussing, planning and delivering care appropriate to patient's needs and wishes
- Preventing disease using the appropriate channels and providing appropriate health education and promotion
- Collating evidence, summarising, recognising when objective has been met
- Screening
- Working effectively with others including
 - Effective listening
 - Ability to articulate and deliver instructions
 - Encourage questions and openness
 - Leadership skills
- Ability to prioritise
- Ability to delegate effectively
- Ability to advise on and promote lifestyle change, stopping smoking, control of alcohol intake, exercise and nutrition
- Ability to assess and explain risk, encourage positive behaviours e.g. immunisation and preventive measures
- Ability to enlist patients' involvement in solving their health problems, providing information, education
- Availing of support provided by voluntary agencies and patient support groups, as well as expert services e.g. detoxification / psychiatric services
- Valuing contributions of health education and disease prevention to health in a community
- Compiling adequate case notes, with results of examinations, investigations, procedures performed, sufficient to provide an accurate, detailed account of the diagnostic and management process and outcome, providing concise, informative progress reports (both written and oral)
- Maintaining legible records in line with the Guide to Professional Conduct and Ethics for Registered Medical Practitioners in Ireland
- Actively engaging with professional/representative/specialist bodies

ASSESSMENT & LEARNING METHODS

- Consultant feedback
- Workplace based assessment e.g. Mini-CEX, DOPS, CBD
- Educational supervisor's reports on observed performance (in the workplace)
- Audit
- Medical Council Guide to Professional Conduct and Ethics

Dealing with & Managing Acutely Ill Patients in Appropriate Specialties

Objectives: To be able to assess and initiate management of patients presenting as emergencies, and to appropriately communicate the diagnosis and prognosis. Trainees should be able to recognise the critically ill and immediately assess and resuscitate if necessary, formulate a differential diagnosis, treat and/or refer as appropriate, elect relevant investigations and accurately interpret reports.

Medical Council Domains of Good Professional Practice: Patient Safety and Quality of Patient Care, Clinical Skills.

KNOWLEDGE

Management of acutely ill patients with medical problems

- Presentation of potentially life-threatening problems
- Indications for urgent intervention, the additional information necessary to support action (e.g. results of investigations) and treatment protocols
- When to seek help, refer/transfer to another specialty
- ACLS protocols
- Ethical and legal principles relevant to resuscitation and DNAR in line with National Consent Policy
- How to manage acute medical intake, receive and refer patients appropriately, interact efficiently and effectively with other members of the medical team, accept/undertake responsibility appropriately
- Management of overdose
- How to anticipate / recognise, assess and manage life-threatening emergencies, recognise significantly abnormal physiology e.g. dysrhythmia and provide the means to correct e.g. defibrillation
- How to convey essential information quickly to relevant personnel: maintaining legible up-to-date records documenting results of investigations, making lists of problems dealt with or remaining, identifying areas of uncertainty; ensuring safe handover

Managing the deteriorating patient

- How to categorise a patients' severity of illness using Early Warning Scores (EWS) guidelines
- How to perform an early detection of patient deterioration
- How to use a structured communication tool (ISBAR)
- How to promote an early medical review, prompted by specific trigger points
- How to use a definitive escalation plan

Discharge planning

- Knowledge of patient pathways
- How to distinguish between illness and disease, disability and dependency
- Understanding the potential impact of illness and impairment on activities of daily living, family relationships, status, independence, awareness of quality of life issues
- Role and skills of other members of the healthcare team, how to devise and deliver a care package
- The support available from other agencies e.g. specialist nurses, social workers, community care
- Principles of shared care with the general practitioner service
- Awareness of the pressures/dynamics within a family, the economic factors delaying discharge but recognise the limit to benefit derived from in-patient care

SKILLS

- BLS/ACLS (or APLS for Paediatrics)
- Dealing with common medical emergencies
- Interpreting blood results, ECG/Rhythm strips, chest X-Ray, CT brain
- Giving clear instructions to both medical and hospital staff
- Ordering relevant follow up investigations
- Discharge planning
- Knowledge of HIPE (Hospital In-Patient Enquiry)
- Multidisciplinary team working
- Communication skills
- Delivering early, regular and on-going consultation with family members (with the patient's permission) and primary care physicians
- Remaining calm, delegating appropriately, ensuring good communication
- Attempting to meet patients'/ relatives' needs and concerns, respecting their views and right to be informed in accordance with Medical Council Guidelines
- Establishing liaison with family and community care, primary care, communicate / report to agencies involved
- Demonstrating awareness of the wide ranging effects of illness and the need to bridge the gap between hospital and home
- Categorising a patients' severity of illness
- Performing an early detection of patient deterioration
- Use of structured communication tool (e.g. ISBAR)

ASSESSMENT & LEARNING METHODS

- ACLS course
- Record of on call experience
- Mini-CEX (acute setting)
- Case Based Discussion (CBD)
- Consultant feedback

Good Professional Practice

Objective: Trainees must appreciate that medical professionalism is a core element of being a good doctor and that good medical practice is based on a relationship of trust between the profession and society, in which doctors are expected to meet the highest standards of professional practice and behaviour.

Medical Council Domains of Good Professional Practice: Relating to Patients, Communication and Interpersonal Skills, Professionalism, Patient Safety and Quality of Patient Care.

KNOWLEDGE

Effective Communication

- How to listen to patients and colleagues
- Disclosure – know the principles of open disclosure
- Knowledge and understanding of valid consent
- Teamwork
- Continuity of care

Ethics

- Respect for autonomy and shared decision making
- How to enable patients to make their own decisions about their health care
- How to place the patient at the centre of care
- How to protect and properly use sensitive and private patient information according to Data Protection Act and how to maintain confidentiality
- The judicious sharing of information with other healthcare professionals where necessary for care following Medical Council Guidelines
- Maintaining competence and assuring quality of medical practice
- How to work within ethical and legal guideline when providing clinical care, carrying research and dealing with end of life issues

Honesty, openness and transparency (mistakes and near misses)

- When and how to report a near miss or adverse event
- Knowledge of preventing and managing near misses and adverse events. Incident reporting; root cause and system analysis
- Understanding and learning from errors
- Understanding and managing clinical risk
- Managing complaints
- Following open disclosure practices
- Knowledge of national policy and National Guidelines on Open Disclosure

Raising concerns about patient safety

- The importance of patient safety relevance in health care setting
- Standardising common processes and procedures – checklists, vigilance
- The multiple factors involved in failures
- Safe healthcare systems and provision of a safe working environment
- The relationship between 'human factors' and patient safety
- Safe working practice, role of procedures and protocols in optimal practice
- How to minimise incidence and impact of adverse events
- Knowledge and understanding of Reason's Swiss cheese model
- Understanding how and why systems break down and why errors are made
- Health care errors and system failures
- human and economic costs

SKILLS

- Effective communication with patients, families and colleagues
- Co-operation and collaboration with colleagues to achieve safe and effective quality patient care
- Being an effective team player
- Ability to learn from errors and near misses to prevent future errors
- Using relevant information from complaints, incident reports, litigation and quality improvement reports in order to control risks
- Minimising errors during invasive procedures by developing and adhering to best-practice guidelines for safe surgery
- Minimising medication errors by practicing safe prescribing principles
- Using the Open Disclosure Process Algorithm
- Managing errors and near-misses
- Managing complaints
- Ethical and legal decision making skills

ASSESSMENT & LEARNING METHODS

- Consultant feedback at annual assessment
- Workplace based assessment e.g. Mini-CEX, DOPS, CBD
- Educational supervisor's reports on observed performance (in the workplace): prioritisation of patient safety in practice
- Patient Safety (on-line) – recommended
- RCPI Leadership in Clinical Practice III
- Quality improvement methodology course - recommended
- RCPI Ethics programmes (I-IV)
- Medical Council Guide to Professional Conduct and Ethics
- Reflective learning around ethical dilemmas encountered in clinical practice

Infection Control

Objective: To be able to appropriately manage infections and risk factors for infection at an institutional level, including the prevention of cross-infections and hospital acquired infection

Medical Council Domains of Good Professional Practice: Patient Safety and Quality of Patient Care; Management (including Self-Management).

KNOWLEDGE

Within a consultation

- The principles of infection control as defined by the HIQA
- How to minimise the risk of cross-infection during a patient encounter by adhering to best practice guidelines available (including the 5 Moments for Hand Hygiene guidelines)
- The principles of preventing infection in high risk groups e.g. managing antibiotic use to prevent *Clostridium difficile*
- Knowledge and understanding the local antibiotic prescribing policy
- Awareness of infections of concern, e.g. MRSA, *Clostridium difficile*
- Best practice in isolation precautions
- When and how to notify relevant authorities in the case of infectious disease requiring notification
- In surgery or during an invasive procedure, understanding the increased risk of infection in these patients and adhering to guidelines for minimising infection in such cases
- The guidelines for needle-stick injury prevention and management

During an outbreak

- Guidelines for minimising infection in the wider community in cases of communicable diseases and how to seek expert opinion or guidance from infection control specialists where necessary
- Hospital policy/seeking guidance from occupational health professional regarding the need to stay off work/restrict duties when experiencing infections the onward transmission of which might impact on the health of others

SKILLS

- Practicing aseptic techniques and hand hygiene
- Following local and national guidelines for infection control and management
- Prescribing antibiotics according to antibiotic guidelines
- Encouraging staff, patients and relatives to observe infection control principles
- Communicating effectively with patients regarding treatment and measures recommended to prevent re-infection or spread
- Collaborating with infection control colleagues to manage more complex or uncommon types of infection including those requiring isolation e.g. transplant cases, immunocompromised host
- In the case of infectious diseases requiring disclosure:
 - Working knowledge of those infections requiring notification
 - Undertaking notification promptly
 - Collaborating with external agencies regarding reporting, investigating and management of notifiable diseases
 - Enlisting / requiring patients' involvement in solving their health problems, providing information and education
 - Utilising and valuing contributions of health education and disease prevention and infection control to health in a community

ASSESSMENT & LEARNING METHODS

- Consultant feedback at annual assessment
- Workplace based assessment e.g. Mini-CEX, DOPS, CBD
- Educational supervisor's reports on observed performance (in the workplace): practicing aseptic techniques as appropriate to the case and setting, investigating and managing infection, prescribing antibiotics according to guidelines
- Completion of infection control induction in the workplace

Therapeutics and Safe Prescribing

Objective: To progressively develop ability to prescribe, review and monitor appropriate therapeutic interventions relevant to clinical practice in specific specialities including non-pharmacological therapies and preventative care.

Medical Council Domains of Good Professional Practice: Patient Safety and Quality of Patient Care.

KNOWLEDGE

- Pharmacology, therapeutics of treatments prescribed, choice of routes of administration, dosing schedules, compliance strategies; the objectives, risks and complications of treatment cost-effectiveness
- Indications, contraindications, side effects, drug interaction, dosage and route of administration of commonly used drugs
- Commonly prescribed medications
- Adverse drug reactions to commonly used drugs, including complementary medicines
- Identifying common prescribing hazards
- Identifying high risk medications
- Drugs requiring therapeutic drug monitoring and interpretation of results
- The effects of age, body size, organ dysfunction and concurrent illness or physiological state e.g. pregnancy on drug distribution and metabolism relevant to own practice
- Recognising the roles of regulatory agencies involved in drug use, monitoring and licensing e.g. IMB, and hospital formulary committees
- Procedure for monitoring, managing and reporting adverse drug reaction
- Effects of medications on patient activities including potential effects on a patient's fitness to drive
- The role of The National Medicines Information Centre (NMIC) in promoting safe and efficient use of medicine
- Differentiating drug allergy from drug side effects
- Good Clinical Practice guidelines for seeing and managing patients who are on clinical research trials

SKILLS

- Writing a prescription in line with guidelines
- Appropriately prescribing for the elderly, children and pregnant and breast feeding women
- Making appropriate dose adjustments following therapeutic drug monitoring, or physiological change (e.g. deteriorating renal function)
- Reviewing and revising patients' long term medications
- Anticipating and avoiding defined drug interactions, including complementary medicines
- Advising patients (and carers) about important interactions and adverse drug effects including effects on driving
- Providing comprehensible explanations to the patient, and carers when relevant, for the use of medicines
- Being open to advice and input from other health professionals on prescribing
- Participating in adverse drug event reporting
- Taking a history of drug allergy and previous side effects

ASSESSMENT & LEARNING METHODS

- Consultant feedback
- Workplace based assessment e.g. Mini-CEX, DOPS, CBD
- Educational supervisor's reports on observed performance (in the workplace): prioritisation of patient safety in prescribing practice
- Principles of Antibiotics Use (on-line) – recommended
- Guidance for health and social care providers - Principles of good practice in medication reconciliation (HIQA)

Self-Care and Maintaining Well-Being

Objectives:

1. To ensure that trainees understand how their personal histories and current personal lives, as well as their values, attitudes, and biases affect their care of patients so that they can use their emotional responses in patient care to their patients' benefit
2. To ensure that trainees care for themselves physically and emotionally, and seek opportunities for enhancing their self-awareness and personal growth

Medical Council Domains of Good Professional Practice: Patient Safety and Quality of Patient Care, Relating to Patients, Communication and Interpersonal Skills, Collaboration and Teamwork, Management (including self-management).

KNOWLEDGE

- Self knowledge – understand own psychological strengths and limitations
- Understand how own personality characteristics (such as need for approval, judgemental tendencies, needs for perfection and control) affect relationships with patients and colleagues
- Knowledge of core beliefs, ideals, and personal philosophies of life, and how these relate to own goals in medicine
- Know how family-of-origin, race, class, religion and gender issues have shaped own attitudes and abilities to discuss these issues with patients
- Understand the difference between feelings of sympathy and feelings of empathy for specific patients
- Know the factors between a doctor and patient that enhance or interfere with abilities to experience and convey empathy
- Understanding of own attitudes toward uncertainty and risk taking and own need for reassurance
- How own relationships with certain patients can reflect attitudes toward paternalism, autonomy, benevolence, non-maleficence and justice
- Recognise own feelings (love, anger, frustration, vulnerability, intimacy, etc) in “easy” and difficult patient-doctor interactions
- Recognising the symptoms of stress and burn out

SKILLS

- Exhibiting empathy and showing consideration for all patients, their impairments and attitudes irrespective of cultural and other differences
- Ability to create boundaries with patients that allow for therapeutic alliance
- Challenge authority appropriately from a firm sense of own values and integrity and respond appropriately to situations that involve abuse, unethical behaviour and coercion
- Recognise own limits and seek appropriate support and consultation
- Work collaboratively and effectively with colleagues and other members of health care teams
- Manage effectively commitments to work and personal lives, taking the time to nurture important relationship and oneself
- Ability to recognise when falling behind and adjusting accordingly
- Demonstrating the ability to cope with changing circumstances, variable demand, being prepared to re-prioritise and ask for help
- Utilising a non-judgemental approach to patient's problem
- Recognise the warning signs of emotional ill-health in self and others and be able to ask for appropriate help
- Commitment to lifelong process of developing and fostering self-awareness, personal growth and well being
- Be open to receiving feedback from others as to how attitudes and behaviours are affecting their care of patients and their interactions with others
- Holding realistic expectations of own and of others' performance, time-conscious, punctual
- Valuing the breadth and depth of experience that can be accessed by associating with professional colleagues

ASSESSMENT & LEARNING METHODS

- On-going supervision
- Ethics courses
- RCPI Leadership in Clinical Practice III course
- RCPI Physician Wellbeing and Stress Management
- RCPI Building Resilience in a Challenging Work Environment

Communication in Clinical and Professional Setting

Objective: To demonstrate the ability to communicate effectively and sensitively with patients, their relatives, carers and with professional colleagues in different situations.

Medical Council Domains of Good Professional Practice: Relating to Patients; Communication and Interpersonal Skills.

KNOWLEDGE

Within a consultation

- How to effectively listen and attend to patients
- How to structure an interview to obtain/convey information; identify concerns, expectations and priorities; promote understanding, reach conclusions; use appropriate language.
- How to empower the patient and encourage self-management

Difficult circumstances

- Understanding of potential areas for difficulty and awkward situations, knowing how and when to break bad news, how to negotiate cultural, language barriers, dealing with sensory or psychological and/or intellectual impairments, how to deal with challenging or aggressive behaviour
- How to communicate essential information where difficulties exist, how to appropriately utilise the assistance of interpreters, chaperones, and relatives.
- How to deal with anger, frustration in self and others
- Selecting appropriate environment; seeking assistance, making and taking time

Dealing with professional colleagues and others

- How to communicate with doctors and other members of the healthcare team; how to provide concise, problem-orientated statement of facts and opinions (written, verbal or electronic)
- Knowledge of legal context of status of records and reports, of data protection (confidentiality), Freedom of Information (FOI) issues
- Understanding of the relevance to continuity of care and the importance of legible, accessible, records
- Knowing when urgent contact becomes necessary and the appropriate place for verbal, telephone, electronic, written communication
- Recognition of roles and skills of other health professionals
- Awareness of own abilities/limitations and when to seek help or give assistance, advice to others; when to delegate responsibility and when to refer

Maintaining continuity of care

- Understanding the relevance to outcome of continuity of care, within and between phases of healthcare management
- The importance of completion of tasks and documentation (e.g. before handover to another team, department, specialty), of identifying outstanding issues and uncertainties
- Knowledge of the required attitudes, skills and behaviours which facilitate continuity of care such as maintaining (legible) records, being available and contactable, alerting others to avoid potential confusion or misunderstanding through communications failure

Giving explanations

- The importance of possessing the facts, and of recognising uncertainty and conflicting evidence on which decisions have to be based
- How to secure, retain attention avoid distraction
- Understanding how adults receive information best, the relative value of the spoken, written, visual means of communication, use of reinforcement to assist retention
- Knowledge of risks of information overload
- Interpreting results, significance of findings, diagnosis, explaining objectives, limitations, risks of treatment, using communication adjusted to recipients' ability to comprehend
- Ability to achieve level of understanding necessary to gain co-operation (compliance, informed choice, acceptance of opinion, advice, recommendation)

Responding to complaints

- Value of hearing and dealing with complaints promptly; the appropriate level, the procedures (departmental and institutional); sources of advice, assistance available
- The importance of obtaining and recording accurate and full information, seeking confirmation from multiple sources
- Knowledge of how to establish facts, identifying issues and responding quickly and appropriately to a complaint received

SKILLS

- Ability to elicit facts, using a mix of open and closed-ended questions appropriately
- Using "active listening" techniques such as nodding and eye contact
- Giving information clearly, avoiding jargon, confirming understanding, ability to encourage co-operation, compliance; obtaining informed consent
- Showing consideration and respect for other's culture, opinions, patient's right to be informed and make choices
- Respecting another's right to opinions and to accept or reject advice
- Valuing perspectives of others contributing to management decisions
- Conflict resolution
- Dealing with complaints
- Communicating decisions in a clear and thoughtful manner
- Presentation skills
- Maintaining (legible) records
- being available, contactable, time-conscious
- Setting (and attempting to reach) realistic objectives, identifying and prioritising outstanding problems
- Using language, literature (leaflets) diagrams, educational aids and resources appropriately
- Ability to establish facts, identify issues and respond quickly and appropriately to a complaint received
- Accepting responsibility, involving others, and consulting appropriately
- Obtaining informed consent
- Discussing informed consent
- Giving and receiving feedback

ASSESSMENT & LEARNING METHODS

- Mastering Communication course (Year 1)
- Consultant feedback at annual assessment
 - Workplace based assessment e.g. Mini-CEX, DOPS, CBD
 - Educational supervisor's reports on observed performance (in the workplace): communication with others e.g. at handover. ward rounds, multidisciplinary team members
- Presentations
- Ethics courses
- RCPI Leadership in Clinical Practice III Course

Leadership

Objective: To have the knowledge, skills and attitudes to act in a leadership role and work with colleagues to plan, deliver and develop services for improved patient care and service delivery.

Medical Council Domains of Good Professional Practice: Patient Safety and Quality of Patient Care; Communication and Interpersonal Skill; Collaboration and Teamwork; Management (including Self-Management); Scholarship.

KNOWLEDGE

Personal qualities of leaders

- Knowledge of what leadership is in the context of the healthcare system appropriate to training level
- The importance of good communication in teams and the role of human interactions on effectiveness and patient safety

Working with others

- Awareness of own personal style and other styles and their impact on team performance
- The importance of good communication in teams and the role of human interactions on effectiveness and patient safety

Managing services

- The structure and function of Irish health care system
- Awareness of the challenges of managing in healthcare
 - Role of governance
 - Clinical directors
- Knowledge of planning and design of services
- Knowledge and understanding of the financing of the health service
 - Knowledge of how to prepare a budget
 - Defining value
 - Managing resources
- Knowledge and understanding of the importance of human factors in service delivery
 - How to manage staff training, development and education
- Managing performance
 - How to perform staff appraisal and deal effectively with poor staff performance
 - How to rewards and incentivise staff for quality and efficiency

Setting direction

- The external and internal drivers setting the context for change
- Knowledge of systems and resource management that guide service development
- How to make decisions using evidence-based medicine and performance measures
- How to evaluate the impact of change on health outcomes through ongoing service evaluation

SKILLS

- Effective communication with patients, families and colleagues
- Co-operation and collaboration with others; patients, service users, carers colleagues within and across systems
- Being an effective team player
- Ability to manage resources and people
- Managing performance and performance indicators

Demonstrating personal qualities

- Efficiently and effectively managing one-self and one's time especially when faced with challenging situations
- Continues personal and professional development through scholarship and further training and education where appropriate
- Acting with integrity and honesty with all people at all times
- Developing networks to expand knowledge and sphere of influence
- Building and maintaining key relationships
- Adapting style to work with different people and different situations
- Contributing to the planning and design of services

ASSESSMENT & LEARNING METHODS

- Mastering Communication course (Year 1)
- RCPI Leadership in Clinical Practice III (Year 3 – 5)
- Consultant feedback at annual assessment
- Workplace based assessment e.g. Mini-CEX, DOPS, CBD
- Educational supervisor's reports on observed performance (in the workplace): on management and leadership skills
- Involvement in hospital committees where possible e.g. Division of Medicine, Drugs and Therapeutics, Infection Control etc.

Quality Improvement

Objective: To demonstrate the ability to identify areas for improvement and implement basic quality improvement skills and knowledge to improve patient safety and quality in the healthcare system.

Medical Council Domains of Good Professional Practice: Patient Safety and Quality of Patient Care; Communication and Interpersonal Skills; Collaboration and Teamwork; Management; Relating to Patients; Professionalism

KNOWLEDGE

Personal qualities of leaders

- The importance of prioritising the patient and patient safety in all clinical activities and interactions

Managing services

- Knowledge of systems design and the role of microsystems
- Understanding of human factors and culture on patient safety and quality

Improving services

- How to ensure patient safety by adopting and incorporating a patient safety culture
- How to critically evaluate where services can be improved by measuring performance, and acting to improve quality standards where possible
- How to encourage a culture of improvement and innovation

Setting direction

- How to create a 'burning platform' and motivate other healthcare professionals to work together within quality improvement
- Knowledge of the wider healthcare system direction and how that may impact local organisations

SKILLS

- Improvement approach to all problems or issues
- Engaging colleagues, patients and the wider system to identify issues and implement improvements
- Use of quality improvement methodologies, tools and techniques within every day practice
- Ensuring patient safety by adopting and incorporating a patient safety culture
- Critically evaluating where services can be improved by measuring performance, and acting to raise standards where possible
- Encouraging a culture of improvement and innovation

Demonstrating personal qualities

- Encouraging contributions and involvement from others including patients, carers, members of the multidisciplinary team and the wider community
- Considering process and system design, contributing to the planning and design of services

ASSESSMENT & LEARNING METHODS

- RCPI Leadership in Clinical Practice III (Year 3 – 5)
- Consultant feedback at annual assessment
- Involvement in hospital committees where possible e.g. Division of Medicine, Drugs and Therapeutics, Infection Control etc.

Scholarship

Objective: To develop skills in personal/professional development, teaching, educational supervision and research

Medical Council Domains of Good Professional Practice: Scholarship

KNOWLEDGE

Teaching, educational supervision and assessment

- Principles of adult learning, teaching and learning methods available and strategies
- Educational principles directing assessment methods including, formative vs. summative methods
- The value of regular appraisal / assessment in informing training process
- How to set effective educational objectives and map benefits to learner
- Design and delivery of an effective teaching event, both small and large group
- Use of appropriate technology / materials

Research, methodology and critical evaluation

- Designing and resourcing a research project
- Research methodology, valid statistical analysis, writing and publishing papers
- Ethical considerations and obtaining ethical approval
- Reviewing literature, framing questions, designing a project capable of providing an answer
- How to write results and conclusions, writing and/or presenting a paper
- How to present data in a clear, honest and critical fashion

Audit

- Basis for developing evidence-based medicine, kinds of evidence, evaluation; methodologies of clinical trials
- Sources from which useful data for audit can be obtained, the methods of collection, handling data, the audit cycle
- Means of determining best practice, preparing protocols, guidelines, evaluating their performance
- The importance of re-audit

SKILLS

- Bed-side undergraduate and post graduate teaching
- Developing and delivering lectures
- Carrying out research in an ethical and professional manner
- Performing an audit
- Presentation and writing skills – remaining impartial and objective
- Adequate preparation, timekeeping
- Using technology / materials

ASSESSMENT & LEARNING METHODS

- Health Research – An Introduction
- Effective Teaching and Supervising Skills course - recommended
- Educational Assessment Skills course - recommended
- Performing audit course –mandatory
- Health Research Methods for Clinicians - recommended

Management

Objective: To understand the organisation, regulation and structures of the health services, nationally and locally, and to be competent in the use and management of information on health and health services, to develop personal effectiveness and the skills applicable to the management of staff and activities within a healthcare team.

Medical Council Domains of Good Professional Practice: Management.

KNOWLEDGE

Health service structure, management and organisation

- The administrative structure of the Irish Health Service, services provided in Ireland and their funding and how to engage with these for best results
- Department of Health, HSE and hospital management structures and systems
- The national regulatory bodies, health agencies and patient representative groups
- Understanding the need for business plans, annual hospital budgets, the relationship between the hospital and PCCC

The provision and use of information in order to regulate and improve service provision

- Methods of collecting, analysing and presenting information relevant to the health of a population and the apportionment of healthcare resources
- The common ways in which data is presented, knowing of the sources which can provide information relevant to national or to local services and publications available

Maintaining medical knowledge with a view to delivering effective clinical care

- Understanding the contribution that current, accurate knowledge can make to establishing clinical effectiveness, best practice and treatment protocols
- Knowledge of sources providing updates, literature reviews and digests

Delegation skills, empowerment and conflict management

- How to assess and develop personal effectiveness, improve negotiating, influencing and leadership skills
- How to manage time efficiently, deal with pressure and stress
- How to motivate others and operate within a multidisciplinary team

SKILLS

- Chairing, organising and participating in effective meetings
- Managing risks
- Managing time
- Delegating tasks effectively
- Managing conflicts
- Exploring, directing and pursuing a project, negotiating through the relevant departments at an appropriate level
- Ability to achieve results through an understanding of the organisation and its operation
- Ability to seek / locate information in order to define an issue needing attention e.g. to provide data relevant to a proposal for change, establishing a priority, obtaining resources
- Ability to make use of information, use IT, undertake searches and obtain aggregated data, to critically evaluate proposals for change e.g. innovative treatments, new technologies
- Ability to adjust to change, apply management, negotiating skills to manage change
- Appropriately using management techniques and seeking to improve these skills and personal effectiveness

ASSESSMENT & LEARNING METHODS

- Mastering Communication course
- Performing Audit course
- RCPI Leadership in Clinical Practice III
- Annual audit
- Consultant feedback on management and leadership skills
- Involvement in hospital committees

Specialty Section

Assessing Clinical Pharmacology Literature

Objective: To critically evaluate literature relevant to CPT including basic pharmacology, toxicology and phase I, II, III and IV clinical trials and meta-analyses

KNOWLEDGE

- The different phases of drug development and the information to be gained at each stage
- The different designs of both observational and interventional drug studies
- The major sources of error for each design
- The principles of controlled experiments, randomisation, use of placebo control and blinding

SKILLS

- Critical analysis of papers regarding rationale, cogency, experimental design, analytical methodology, method of analysis, potential sources of bias, confounding, conflict of interest, appropriateness of discussion, validity of conclusions
- Critical analysis of advertising claims made for medicinal products
- Appropriate use of electronic databases (e.g. Medline, Embase, Toxbase, Cochrane, NeLH).

ASSESSMENT & LEARNING METHODS

- HST Ethics I – IV
- Case Based Discussion: Evaluate expert reviews (e.g. National Medicines Information Centre(NMIC), National Centre for Pharmacoeconomics (NCPE, NICE)
- Attendance at journal clubs, drug and therapeutics and audit committee meetings.
- Annual publication
- Study Day: Evidence based medicine
- Time spent in the National Centre for Pharmacoeconomics (NCPE)

Use of Statistical Techniques Relevant to Clinical Pharmacology

Objective: To understand uses and limitations of basic statistical tests as related to analysis of pharmacological data

KNOWLEDGE

- Sources of biological variation and explain the principles involved in quantifying this.
- Common parametric and non-parametric tests including t-tests, ANOVA, Chi-squared, Mann-Whitney, and linear, Pearson and Spearman rank regression.
- Risks of multiple hypothesis testing and methods to obviate this (e.g. Bonferroni correction)
- Difference between absolute and relative risk reduction

SKILLS

- Interprets P values and confidence intervals (CI) including Confidence intervals of differences
- Use of basic statistics package(s)

ASSESSMENT & LEARNING METHODS

- Health Research - An Introduction
- Research
- Presentations (Oral and/or Poster)
- Publications

Mechanism of Drug Action

Objective: To use knowledge of mechanisms of drug action to extrapolate likely effect of new drugs, doses and combinations

KNOWLEDGE

- Mechanisms of action and modes of use of common therapeutic drugs
- Sources of individual variation including genetic, age- and gender- related (including pregnancy and lactation), and other sources of individual variation especially co-existing renal, hepatic and other disease, and drug interaction (both beneficial and adverse)

SKILLS

- Predict likely effects both beneficial or adverse of a novel drug with known mechanism of action
- Predict effect of deviation from normal dose or dosing regimen
- Predict likely effect of ethnicity, gender, co-morbid or physiological state on drug action in an individual
- Predict effect of combinations of drugs

ASSESSMENT & LEARNING METHODS

- Case Based Discussion
- Diploma in Toxicology

Dosing Regimens

Objective: To have a knowledge-base of pharmacological principles to use, devise or advise on appropriate dosing regimens to optimise drug effects

KNOWLEDGE

- Underlying determinants of drug kinetics including absorption, distribution and elimination
- Basic pharmacokinetic concepts such as Area Under the Curve (AUC), clearance and half-life
- Different types of relationship between blood concentration and drug effect

SKILLS

- Ability to manipulate numerical values of AUC, clearance and half-life using a PK modelling package
- Constructs and adjusts dose regimens correctly
- Checks mathematical calculations

ASSESSMENT & LEARNING METHODS

- Case Based Discussion

Rational Prescribing - Individuals

Objective: To prescribe rationally in individual patients

KNOWLEDGE

- Principles of choosing the correct drug from those available for a particular indication
- Choice of dose, route of administration, duration of treatment
- Methods of measuring drug response
- Know when measurement of drug concentrations (Therapeutic Drug Monitoring) is applicable and how results are to be interpreted

SKILLS

- Identification of desired outcome of treatment
- Ability to negotiate an acceptable therapeutic regimen with the patient where appropriate
- Giving patients appropriate education necessary for safe drug use
- Appropriate interpretation of drug concentration measurements
- Respecting patient/ subject behaviour

ASSESSMENT & LEARNING METHODS

- Record of prescribing for common cases in eLogbook
- Case Based Discussion

Rational Prescribing Population

Objective: To collaborate in devising policies for rational, safe, cost-effective prescribing

KNOWLEDGE

- Methods of determining clinical efficacy from broad/ conflicting literature
- Knowledge of factors that determine difference between efficacy and clinical effectiveness
- Basic principles of pharmacoeconomics
- Factors which are likely to make a drug high risk in routine use

SKILLS

- Performing structured literature search to answer specific efficacy question
- Developing prescribing policies, formularies and guidelines
- Making effective submissions to formulary committees for new drugs
- Auditing drug utilisation.

ASSESSMENT & LEARNING METHODS

- Attend formulary committee/Develop formularies
- Mini-CEX: Review of prescribing skills
- Teaching prescribing to MDT

Drug Regulation

Objective: To understand and work within the current drug regulatory framework.

KNOWLEDGE

- Roles of the National and European bodies including the Irish Medicines Board and the European Medicines Evaluation Agency (EMA)
- Roles of the National Centre for Pharmacoeconomics (NCPE) and other international bodies such as National Institute for Health and Clinical Excellence (NICE) and the Scottish Medicines Consortium (SMC)
- The legislation regarding medicines use in Ireland
- The rules surrounding non-medical prescribing
- The use of over-the counter, complementary and alternative medicine use, and unlicensed and off-label use of drugs in Ireland

SKILLS

- Applies knowledge in individual patient practice and in drafting management guidelines.
- Ability to provide appropriate additional information to patients when prescribing unlicensed drugs or when advising others in this practice

ASSESSMENT & LEARNING METHODS

- Case based Discussion
- Draft local hospital guideline

Pharmacoepidemiology

Objective: To describe and influence what determines the pattern of use of medicines in populations.

KNOWLEDGE

- Knowledge of factors that affect drug utilisation including effects of: social class, ethnicity, nationality (especially within Europe), economic status, co-morbidity, age and gender (including pregnancy and lactation).
- Factors affecting the public perception of drugs and their use in treating and preventing disease, including effects of media on medicines utilisation.
- The role of the pharmaceutical industry in the public perception of drug use.
- The factors which are important in determining adherence in an individual patient

SKILLS

- Applying above knowledge in individual patient practice and in drafting management guidelines
- Handling potential conflicts of interest appropriately
- Respecting ethnic diversity
- Contributing to public education about drugs and their utilisation

ASSESSMENT & LEARNING METHODS

- Study Day: Prescribing skills
- Review utilization patterns of use
- Research
- Case Base Discussion

Adverse Drug Reactions

Objective: To anticipate (and hence minimise), detect, manage, report and analyse adverse drug reactions (ADR)

KNOWLEDGE

- Important (common and/or severe) adverse effects of drugs used in their area of clinical practice.
- The mechanisms whereby drugs cause ADRs
- Common clinical presentations of ADRs
- Appropriate management of suspected ADRs
- How ADRs are identified and reported
- The classification of ADRs

SKILLS

- Managing common and serious ADRs, including anaphylaxis, appropriately
- Using printed and electronic resources to identify unusual or uncertain ADR
- Analysing post-marketing surveillance studies critically
- Reporting suspected ADRs appropriately
- Having a strategy for managing minor ADRs threatening to interrupt necessary drug treatment
- Alerting to the possibility that clinical events are drug-related
- Showing good judgement in when to alert others to possible drug adverse effects
- Consulting with colleagues over judgements such as risk/benefit of re-challenge
- Maintaining a critical but balanced attitude towards promotional literature

ASSESSMENT & LEARNING METHODS

- Case Based Discussion
- Audit of systems
- Patient Safety: Medication Safety module (online)

Drug Errors

Objective: To anticipate (and hence minimise), detect, manage, report possible drug prescription or administration errors

KNOWLEDGE

- The human factors which lead to drug use errors
- The system factors which increase the risk of drug errors
- Methods which can be used to avoid drug use errors

SKILLS

- Observing good practice to avoid errors when personally prescribing
- Showing ability to identify possible medication errors
- Analysing factors contributing to identified error of drug use
- Contributing to policies for avoidance of future errors in drug use
- Non-judgemental attitude in analysis of drug errors
- Participating in audits of unit and personal prescribing

ASSESSMENT & LEARNING METHODS

- Case Based Discussion
- Audit of systems
- Patient Safety: Medication Safety module (online)

Drug Overdose

Objective: To advise on cases of overdose or poisoning, and to manage such cases as are relevant to their clinical specialty (e.g. children for paediatricians)

KNOWLEDGE

- Mechanisms of action of important poisons, including therapeutic drugs commonly taken accidentally or deliberately in overdose.
- Strategies for management of poisoned patients including: protection of staff and other patients, decontamination, resuscitation, monitoring, antidotes including for digoxin, iron, cyanide and cholinesterase inhibitors

SKILLS

- Accessing information effectively, including via the National Poisons Information Service
- Accessing and keeps up to date with National Guidance on chemical attack
- Developing diagnostic skills relevant to the epidemiological context of chemical attack
- Maintaining up-to-date qualifications in resuscitation skills
- Managing poisoning with paracetamol, aspirin, benzodiazepines, tricyclics, opioids, and other drugs of abuse
- Preparing prudently in the face of possible chemical incident, protecting self and other staff and avoiding self contamination
- Once prepared, accepting necessary residual risk in order to care for poisoned patients
- Respecting patients with behavioural and psychiatric problems, and consults appropriately with colleagues in provision of psychiatric support

ASSESSMENT & LEARNING METHODS

- Case Based Discussion
- ACLS certified
- Attachment to poison unit and/or Emergency Department during training
- Attachment to National poison centre during training
- Diploma in Toxicology
- Research in Clinical Pharmacology

First in Man Studies

Objective: To undertake and interpret early phase studies of drug action in humans

KNOWLEDGE

- Theories of drug-receptor interactions and the related concepts of agonists, antagonists, structure activity relationships, dose response relationships
- Structures and principles of early phase studies
- Appropriate use of controls
- Appropriate safety measures
- Choice of surrogate endpoints
- Methods for drug level measurement

SKILLS

- Writing trial protocols
- Writing and submitting REC submissions
- Ability to recruit subjects for studies and obtain valid informed consent
- Measuring end points reliably
- Recording data accurately
- Analysing data including risk-benefit analysis and dose determination for definitive phase-3 studies
- Communicating with co-workers and drafts a final manuscript for submission
- Consulting appropriately
- Recognising the primacy of subject safety
- Appreciating the need for meticulous record keeping and research governance
- Appreciating the importance of communicating research data orally and in written form and being diligent in writing and rehearsal

ASSESSMENT & LEARNING METHODS

- Case Based Discussion
- Research projects during training
- HST Ethics III: Research
- Time spent in Clinical trial unit
- Health Research Methods for Clinicians

Advanced Statistical Analysis

Objective: To select prospectively appropriate statistical methods for planned experiments (including clinical trials), perform such analyses, and interpret the resulting statistical output

KNOWLEDGE

- Methods of analysing drug concentration-time data including non-linear least squares fits and concept of population analyses
- Methods of analysis interval outcome data including repeated measures ANOVA
- Methods of analysing survival data including Cox proportional hazards

SKILLS

- Consults effectively with statisticians during the planning stage of complex experimental studies.
- Determines the power of a study to evaluate differences between therapies, and estimate the sample size needed
- Appreciates the limitations of statistical analysis, trial design and the need for trial validation

ASSESSMENT & LEARNING METHODS

- Research projects during training
- HST Ethics III: Research
- Health Research Methods for Clinicians

Clinical Trials

Objective: To design clinical trials, including phase 3 studies, and contribute to their execution and dissemination.

KNOWLEDGE

- Principles of good clinical practice (GCP), as set out in the ICH (International Conference on Harmonisation) and the European Clinical Trials Directive
- Different trial designs, e.g. parallel versus cross-over
- Principles of controlled experiments, randomisation, use of placebo and blinding
- The responsibilities of investigators and their sponsors
- Detection and reporting of suspected unexpected serious adverse drug reactions (SUSARs)
- The role of the Data Safety Monitoring Board
- Types of early stopping rules used in clinical trials

SKILLS

- Selecting a trial design appropriate to the research question
- Writing a Research Ethics Committee(REC) application
- Justifying a research proposal in terms that are understood by the lay members of a REC.
- Ability to recruit research subjects
- Screening potential subjects for inclusion/exclusion criteria
- Obtaining valid informed consent
- Arranging visits of research subject to clinical laboratory or research clinic
- Performing and/ or supervising clinical measurements
- Keeping records to the standard required by GCP
- Ability to assess causation of adverse events
- Ability to understand and interpret in-trial adverse event data
- Ability to weigh adverse event data against risk of terminating trial prematurely
- Contributing to writing papers and reporting findings by oral and poster presentations at meetings
- Maintaining absolute integrity
- Carefully approaching a human investigation where an external sponsor has ultimate control over the right to publish or otherwise disseminate resulting information
- Maintaining meticulous attention to detail
- Exhibiting balanced approach to interpretation of safety data
- Recognising the primacy of safety of the subjects
- Maintaining a professional relationship with study sponsors and their employees

ASSESSMENT & LEARNING METHODS

- Perform clinical trial
- Course in Good Clinical Practice

Documentation of Minimum Requirements for Training

- These are the minimum number of cases you are asked to document as part of your training. It is recommended you seek opportunities to attain a higher level of exposure as part of your self-directed learning and development of expertise.
- You should expect the demands of your post to exceed the minimum required number of cases documented for training.
- If you are having difficulty meeting a particular requirement, please contact your specialty coordinator.

Curriculum Requirement	Required/Desirable	Minimum Requirement	Reporting Period	Form Name
Section 1 - Training Plan				
Personal Goals Plan (Copy of agreed Training Plan for your current training year signed by both Trainee & Trainer)	Required	1	Training Post	Form 052
Personal Goals Review Form	Required	1	Training Post	Form 137
Weekly Timetable (Sample Weekly Timetable for Post/Clinical Attachment)	Required	1	Training Post	Form 045
On Call Rota	Required	1	Training Post	Form 064
Section 2 - Training Activities				
Outpatient Clinics	Required	40	Year of Training	Form 001
Ward Rounds/Consultations (Minimum of 3 per week consultant and independently led)	Required	40	Year of Training	Form 002
Consultant Led	Required	40	Year of Training	Form 002
SpR Led	Required	40	Year of Training	Form 002
Consultations	Required	50	Year of Training	Form 002
Emergencies/Complicated Cases	Desirable	1	Year of Training	Form 003
Procedures/Practical Skills/Surgical Skills				
Draft hospital Prescribing Guideline	Required	2	Year of Training	Form 139
Additional/Special Experience Gained				
National Centre for Pharmacoeconomics (NCPE) or National Medicines information Centre (NMIC)	Required	1	Training Programme	Form 005
Attachment to Poisons unit and/or ED	Required	1	Training Programme	Form 005
Attachment to National Poisons Centre	Required	1	Training Programme	Form 005
Time spent in Clinical trial unit	Desirable	1	Training Programme	Form 005
Relatively Unusual Cases	Desirable	1	Training Programme	Form 019
Chronic Cases/Long term care	Desirable	1	Training Programme	Form 066
Management Experience	Required	1	Training Programme	Form 110

Section 3 - Educational Activities			
Mandatory Courses			
ACLS Certified	Required	1	Training Programme Form 006
Ethics I Professionalism	Required	1	Training Programme Form 006
Ethics II Ethics & Law	Required	1	Training Programme Form 006
Ethics III Research HST	Required	1	Training Programme Form 006
Ethics IV: (End of Life) General Medicine Specialties	Required	1	Training Programme Form 006
Health Research – An Introduction	Required	1	Training Programme Form 006
HST Leadership in Clinical Practice (Year 3 +)	Required	1	Training Programme Form 006
Mastering Communications (1st year)	Required	1	Training Programme Form 006
Patient Safety: Medication Safety Module (online)	Required	1	Training Programme Form 006
Performing Audit (Year 1)	Required	1	Training Programme Form 006
Diploma in Toxicology course or Good Clinical Practice Course	Required	1	Training Programme Form 006
Non – Mandatory Courses			
Health Research Methods for Clinicians	Desirable	1	Training Programme Form 006
Additional speciality or professional development course	Desirable	1	Training Programme Form 007
Study days	Required	4	Year of training Form 008
In-house Activities			
Grand Rounds	Required	10	Year of Training Form 011
Journal Club	Required	6	Year of Training Form 011
Radiology Conference	Required	6	Year of Training Form 011
Pathology conference	Required	6	Year of Training Form 011
MDT Meetings	Required	12	Year of Training Form 011
Seminar	Required	12	Year of Training Form 011
Lecture	Required	6	Year of Training Form 011
Delivery of Teaching			
This should include the following categories:			
Lecture	Required	8	Year of Training Form 013
Tutorial	Required	8	Year of Training Form 013
Bed side teaching	Required	8	Year of Training Form 013
Research			
Perform clinical trial	Required	1	Training Programme Form 014

Audit activities and Reporting (1 per year either to start or complete, Quality Improvement (QI) projects can be uploaded against audit 1 audit a year Review utilisation patterns of drug use)	Required	1	Year of Training	Form 135/152
Publications	Desirable	2	Year of Training	Form 016
Presentations	Required	2	Year of Training	Form 017
National/International meetings (Minimum 1 per year)	Required	1	Year of Training	Form 010
Additional Qualifications	Desirable	1	Training Programme	Form 065
Committee Attendance				
Formulary/Drugs and Therapeutics committee (Develop formularies)	Required	24	Training Programme	Form 063
Section 4 - Assessments				
DOPS				
Record of prescribing for common cases	Required	20	Training Programme	Form 140
CBD	Required	2	Year of Training	Form 020
Mini-CEX (At least two Mini-CEX assessments a year, one in-patient & one out-patient)	Required	2	Year of Training	Form 023
Quarterly Assessments	Required	4	Year of Training	Form 092