



**INSTITUTE
OF MEDICINE**

ROYAL COLLEGE OF
PHYSICIANS OF IRELAND

HIGHER SPECIALIST TRAINING IN

RHEUMATOLOGY



This curriculum of training in Rheumatology was developed in 2010 and undergoes an annual review by Dr John Ryan, National Specialty Director, Colm Small, Head of Postgraduate Training and Education, and by the Rheumatology Training Committee. The curriculum is approved by the Institute of Medicine.

Version	Date Published	Last Edited By	Version Comments
11.0	01 July 2021	Keith Farrington	No changes

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Introduction

Rheumatology is a sub-specialty of internal medicine involving the diagnosis and treatment of rheumatic diseases. It incorporates the study of joints, soft tissues and related structures called connective tissues. Many rheumatic disorders are defined as 'auto-immune' conditions because the triggers for disease onset and maintenance are related to immune aberrations that identify 'self' proteins as foreign. Equally, newer and more sophisticated treatments use specific components of the immune system to mitigate the disease process.

Untreated, most rheumatic diseases are progressive. However, effective treatment when given in a timely manner can potentially induce remission and prevent the long-term consequences of articular inflammation, which include not only joint damage, but an increased risk of osteoporosis, atherosclerosis, malignancy and amyloidosis.

Rheumatology is thus the prototypic general medical specialty and a comprehensive knowledge of all aspects of internal medicine is essential.

There is a close link between rheumatology and related fields such as immunology, neurology, orthopaedics, plastics surgery, pain management, sports medicine and radiology, amongst others. Rheumatologists work in association with nurses, physiotherapists, occupational therapists, podiatrists and orthotists to provide a holistic approach to patient care.

A trainee in Rheumatology must therefore have an in-depth knowledge of internal medicine, excellent general diagnostic skills, an aptitude for clinical analysis and an ability to work in a team environment with clinicians and health professionals from different specialties. Proficiency in joint and soft tissue aspiration and injection is also essential.

Aims

Upon satisfactory completion of specialist training in Rheumatology, the 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 Rheumatology, 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 Rheumatology.
- 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 Rheumatology must have a certificate of completion of Basic Specialist Training (BST) in General Internal Medicine and obtained the MRCPI.

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

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

Duration & Organisation of Training

The duration of HST in Rheumatology and General Internal Medicine is five years, one year of which **may** be gained from a period of full-time research.

Trainees must spend the first two years of training in clinical posts in Ireland before undertaking any period of research or Out of Programme Clinical Experience (OCPE). The earlier years of training will usually be directed towards acquiring a broad general experience of Rheumatology under appropriate supervision. An increase in the content of hands-on experience follows naturally, and, as confidence is gained and abilities are acquired, the trainee will be encouraged to assume a greater degree of responsibility and independence.

If an intended career path would require a trainee to develop further an interest in a sub-specialty within Rheumatology (e.g. Stroke, falls etc.), this should be accommodated as far as possible within the training period, re-adjusting timetables and postings accordingly.

Trainees on HST programme in Rheumatology are given a rotation of posts at the start of the programme. Each rotation will provide the trainee with experience in different hospitals so as to acquire the broad range of training required. A degree of flexibility to meet the individuals training needs is possible especially towards the end of the training programme following discussion with the NSDs.

Generic knowledge, skills and attitudes support competencies which are common to good medical practice in all the medical and related specialties. It is intended that all Specialist Registrars should fulfil those competencies during Higher Specialist Training. No time-scale of acquisition is offered, but failure to make progress towards meeting these important objectives **at an early stage** would cause concern about a Specialist Registrar's suitability and ability to become independently capable as a specialist.

Training Programme

The training programme offered will provide opportunities to fulfil all the requirements of the curriculum of training for Rheumatology in both general hospitals and teaching 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 for Rheumatology or, in the case of GIM, the Regional Specialty Advisor. 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. A Specialist Registrar may **not** remain in the same unit for longer than 2 years of clinical training; or with the same trainer for more than 1 year.

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.

Dual Specialty Training

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.

Each post must include 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.

General Education in Training:

The trainee is expected to spend four hours per week, in formal general professional education for certification of training. In the types of experience noted below, time must be fairly distributed between GIM and the other specialty in dual training programmes. Review of all these activities will form part of the training record for each trainee.

All trainees are required to undergo training in management. This will take the form of day-to-day involvement in the administration of the team/firm and must include attendance at a management course during the training period.

Trainees are expected to be actively involved in audit throughout their training and should have experience of running the unit’s audit programme and presenting results of projects at audit meetings.

They should also regularly attend other activities, journal clubs, X-ray conferences, pathology meetings etc.

Trainees should be expected to show evidence of the development of effective communication skills. This can be assessed from taking part in formal case presentations or in giving lectures/seminars to other staff or research/audit presentations at unit meetings.

All trainees must have a current ACLS certificate throughout their HST.

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 of 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 Process

The methods used to assess progress through training must be valid and reliable. The Rheumatology 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 annual review. 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.

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.

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
- 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 in accordance with data protection legislation 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)

- Preventing and managing near misses and adverse events.
- When and how to report a near miss or adverse event
- 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

- Safe working practice, role of procedures and protocols in optimal practice
- The importance of standardising practice through the use of checklists, and being vigilant
- Safe healthcare systems and provision of a safe working environment
- Awareness of the multiple factors involved in failures
- 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 in system failures
- The important of informing a person of authority of systems or service structures that may lead to unsafe practices which may put patients, yourself or other colleagues at risk
- Awareness of the Irish Medical Councils policy on raising concerns about safety in the environment in which you work

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
- Ethical and legal decision making skills
- Minimising errors during invasive procedures by developing and adhering to best-practice guidelines for safe surgery
- Minimising medication errors by practicing safe prescribing principles
- Ability to learn from errors and near misses to prevent future errors
- Managing errors and near-misses
- Using relevant information from complaints, incident reports, litigation and quality improvement reports in order to control risks
- Managing complaints
- Using the Open Disclosure Process Algorithm

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
- RCPI HST Leadership in Clinical Practice
- RCPI Ethics programmes
- Medical Council Guide to Professional Conduct and Ethics
- Reflective learning around ethical dilemmas encountered in clinical practice
- Quality improvement methodology course - recommended

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 of 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 notifiable infectious disease
- Understanding the increased risk of infection to patients in surgery or during an invasive procedure 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
- Personal Protective Equipment Training Course (In hospital)

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-awareness including preferences and biases
- Personal psychological strengths and limitations
- Understand how personality characteristics, such as need for approval, judgemental tendencies, needs for perfection and control etc., affect relationships with patients and others
- 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
- 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 in straightforward and complex 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
- RCPI Ethics programmes
- Wellness Matters Course
- RCPI HST Leadership in Clinical Practice course

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
- How to negotiate cultural, language barriers, dealing with sensory or psychological and/or intellectual impairments and how to deal with challenging or aggressive behaviour
- Knowing how and when to break bad news
- How to communicate essential information where difficulties exist, how to appropriately utilise the assistance of interpreters, chaperones, and relatives.
- How to deal with anger and 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 a concise, written, verbal, or electronic, problem-orientated statement of facts and opinions
- The legal context of status of records and reports, of data protection confidentiality
- Freedom of Information (FOI) issues
- Understanding of the importance of legible, accessible, records to continuity of care
- Knowing when urgent contact becomes necessary and the appropriate place for verbal, telephone, electronic, or 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 of continuity of care to outcome, within and between phases of healthcare management
- The importance of completion of tasks and documentation, e.g. before handover to another team, department, specialty, including identifying outstanding issues and uncertainties
- Knowledge of the required attitudes, skills and behaviours which facilitate continuity of care including, 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 and retain attention avoiding 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 the risks of information overload
- Tailoring the communication of information to the level of understanding of the recipient
- Strategies to achieve the level of understanding necessary to gain co-operation and partnership; 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, and assistance available
- The importance of obtaining and recording accurate and full information, seeking confirmation from multiple sources
- Knowledge of how to establish facts, identify issues and respond quickly and appropriately to a complaint received

SKILLS

- Ability to appropriately elicit facts, using a mix of open and closed-ended questions
- 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 realistic objectives, identifying and prioritising outstanding problems
- Using language, literature (e.g. leaflets) diagrams, educational aids and resources appropriately
- 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
- RCPI Ethics programmes
- RCPI HST Leadership in Clinical Practice 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 HST Leadership in Clinical Practice (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 HST Leadership in Clinical Practice
- 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

- An Introduction to Health Research (online)
- Performing audit course (online)
- Effective Teaching and Supervising Skills course (online) - recommended
- Educational Assessment Skills course - recommended
- 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 (online)
- RCPI HST Leadership in Clinical Practice
- Annual audit
- Consultant feedback on management and leadership skills
- Involvement in hospital committees

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
- Understand the clinical significance of reference ranges, positive and negative predictive value and potential risks of inappropriate tests
- The procedures for 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, and change strategies applicable to smoking, alcohol, drug abuse, and lifestyle
- 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
- An understanding of the need and appropriate use of problem-orientated discharge notes, letters, more detailed case reports, concise out-patient reports and focused reviews
- 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
- Involve patients' in solving their health problems, by providing information and education
- Availing of support provided by voluntary agencies and patient support groups, as well as expert services e.g. detoxification / psychiatric services
- Act in accordance with, up to date standards on palliative care needs assessment
- Valuing contributions of health education and disease prevention to health in a community
- Compile accurate and appropriate detailed medical notes and care reports including the 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)
- Transfer information in an appropriate and timely manner

- 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)
- Annual 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, including complex discharge
- 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 tools (e.g. ISBAR)

ASSESSMENT & LEARNING METHODS

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

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
- Know the difference between an early and late drug allergy, and drug side-effects
- Good Clinical Practice guidelines for seeing and managing patients who are on clinical research trials
- Best practice in the pharmacological management of cancer pain
- The management of constipation in adult patients receiving palliative care

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
- Take and record an accurate drug allergy history and history of 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
- Guidance for health and social care providers - Principles of good practice in medication reconciliation (HIQA)

General Internal Medicine Section

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.

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 the course of 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
 - Extraabdominal 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 (CNS)
 - 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 seborrhoeic/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 hyperglycemic states
-

Procedures

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

Knowledge and Skills

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

Specialty Section

General Principles of Rheumatic Disease Knowledge & Management

Objectives: To provide trainees with a holistic approach to the diagnosis and management of patients with rheumatic disease.

KNOWLEDGE

Holistic approach to the rheumatic diseases

- Patient education, exercise, nutrition, social impact, employment / work disability, lifestyle management
- Importance of multi-disciplinary team
- Pregnancy: planning to conceive / pregnancy and breast-feeding
- Pain management

Diagnostic approach to the rheumatic diseases

- Importance of differential diagnosis
- Laboratory
- Immunology
- Neurophysiology
- Infection
- Radiology
- Medical arthroscopy
- Gait analysis
- Procedures

Education and research in the rheumatic diseases

- Importance of teaching
- Importance of life-long learning
- Audit
- Research
- Medico-legal issues

SKILLS

- Take a history and perform a clinical examination of a patient with a musculoskeletal disorder to include special details and methods outlined in the training record.
- Appropriate investigations
- Multidisciplinary working

ASSESSMENT & LEARNING METHODS

- Mini-CEX
- Case Based Discussion (CBD)
- Quarterly/Annual Assessment

Widespread and Regional Pain

Objective: To understand epidemiology, pathogenesis, clinical presentations, underlying aetiologies and treatment pathways of widespread and regional pain syndromes and sports-related injuries; to know when to refer to other relevant disciplines such as Orthopaedics, plastics surgery, pain management and members of the MDT; to understand relevance of co-morbid conditions for morbidity and mortality; to understand safety aspects and risk-benefit ratio of treatments; to understand the role of patient education in these conditions.

KNOWLEDGE

For all below widespread and regional pain

- Definition
- Epidemiology
- Local anatomy where appropriate
- Pathogenesis
- Pathophysiology
- Clinical features
- Musculoskeletal
- Co-morbid conditions
- Prognosis
- Differential diagnosis
- Clinical assessments
- Investigations
- Treatment

1. Fibromyalgia

2. Specific joints:

- a. Temporomandibular joint (TMJ) dysfunction
- b. Cervical, thoracic or lumbar spine pain
- c. The shoulder
- d. The elbow
- e. The hand and wrist
- f. The hip
- g. The Knee
- h. The ankle and foot

3. Entrapment Neuropathies:

- a. Thoracic outlet syndrome
- b. ulnar nerve compression syndromes
- c. median nerve compression syndromes
- d. piriformis syndrome
- e. meralgia paresthetica
- f. tarsal tunnel syndrome
- g. Morton's metatarsalgia

4. Complex Regional Pain Syndromes (reflex sympathetic dystrophy)

SKILLS

- Detailed and focussed history and examination pertinent to all joint areas
- Ability to perform rapid screening assessment and detailed regional assessments
- Clear knowledge of functional anatomy and normal range of motion of all joint areas
- Holistic approach to diagnosis and treatment
- Knowledge of potential side-effects of treatment
- Competence at reading plain x-rays of all joint areas
- Understanding of role of neurophysiology in specific regional pain syndromes
- Knowledge of multi-disciplinary team skills in relation to joint / spine pathology and rehabilitation

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination and radiological assessment
- DOPS
 - 1st CMC joint
 - Wrist joint
 - Shoulder (gleno-humeral) joint – anterior approach
 - Shoulder joint – medial approach
 - Knee joint - medial approach
 - Knee joint – lateral approach
 - Ankle joint
 - 1st MTP joint
- CBD
- Interactive lectures

Inflammatory Arthritis (IA)

Objectives: To understand epidemiology, pathogenesis, genetic susceptibility, clinical presentations, underlying aetiologies and treatment pathways of inflammatory arthritis; to know when to refer to other relevant disciplines such as Orthopaedics, plastics surgery, pain management and members of the MDT; to understand relevance of co-morbid conditions for morbidity and mortality; to understand safety aspects and risk-benefit ratio of treatments; to understand the role of patient education in inflammatory arthritis.

Objectives: To understand epidemiology, pathogenesis, clinical presentations, underlying aetiologies and treatment pathways of the sero-negative spondyloarthropathies; to appreciate the common and distinguishing features of these conditions; to understand modifiable risk factors; to understand safety aspects and risk-benefit ratio of treatments; to be up to date with current and experimental therapies; to understand the role of the MDT in amelioration of symptoms and avoidance of joint damage.

KNOWLEDGE

For all inflammatory arthritis:

- Definition of IA
- ACR/EULAR criteria for diagnosis
- Epidemiology:
- Pathogenesis
- Genetics of IA
- Pathology:
- Clinical features of IA
- Differential diagnosis
- Clinical assessments in IA:
- Investigations
- Treatment

1. Rheumatoid arthritis (RA)
2. Sero-Negative Spondyloarthropathies
 - a. Ankylosing spondylitis (AS)
 - b. Psoriatic arthritis
 - c. Inflammatory bowel disease-related arthritis
 - d. Reactive arthritis

SKILLS

- Detailed and focussed history and examination
- Ability to clearly differentiate mechanical from inflammatory symptoms and signs
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Ability to diagnosis early inflammatory arthritis
- Ability to recognise resistant inflammatory arthritis
- Competence at reading plain x-rays of all joint areas and identifying diagnostic features of different sub-types of inflammatory arthritis
- Ability to correctly interpret scintigraphy and MRI in inflammatory arthritis
- Understanding of role of focussed lab and radiological investigations
- Large and small joint aspiration and injection (glenohumeral, sternoclavicular, elbow, wrist, metacarpophalangeal, interphalangeal, knee, ankle, 1st metatarsophalangeal)
- Injection of enthesal areas e.g. trochanteric, lateral and medial epicondyles etc

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination and radiological assessment
- DOPS: Supervised joint aspiration and injection
- CBD
- Interactive lectures

Connective Tissue Disorders and Related Conditions

Objectives: To understand epidemiology, pathogenesis, clinical presentations, underlying aetiologies and treatment pathways of the connective tissue disorders; to appreciate the common and distinguishing features of these conditions; to understand modifiable risk factors; to be familiar with immunological complexities, including microscopic diagnoses; to understand safety aspects and risk-benefit ratio of treatments; to be up to date with current and experimental therapies; to understand the role of the MDT in amelioration of symptoms and avoidance of tissue damage; to appreciate role of other disciplines, such as haematology, nephrology, neurology, oral medicine / surgery, dermatology etc in the management of these systemic conditions.

KNOWLEDGE

For all connective tissue disorders and related conditions:

- Definitions
 - Criteria for classification and diagnosis
 - Epidemiology
 - Pathology / pathogenesis
 - Clinical features
 - Differential diagnosis
 - Clinical assessment
 - Investigations
 - laboratory: routine / biomarkers
 - Eyes / salivary glands
 - Treatment
1. Sjogren syndrome
 2. Systemic lupus erythematosus (SLE)
 3. Anti-phospholipid syndrome (APLS)
 4. Systemic sclerosis
 5. Scleroderma-like syndromes
 - Localised scleroderma (morphea)
 - Scleromyxoedema
 - Nephrogenic systemic fibrosis
 - Eosinophilic cutaneous fibrosis
 - Chronic graft vs host disease
 - Environmental and drug exposure associated with scleroderma variants
 6. Inflammatory muscle disease
 7. Non-inflammatory myopathies
 8. Mixed connective tissue disease (MCTD) and overlap syndromes
 9. Raynaud phenomenon

SKILLS

- Detailed and focussed history and examination
- Understanding of common and distinct features of connective tissue disorders
- Understanding and application of knowledge in relation to prognostic factors
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Awareness of risk / benefit profile of treatments
- Ability to diagnose early connective tissue disease
- Ability to recognise and prevent adverse prognostic features
- Understanding of role of focussed lab, radiology, pathology and neurophysiology investigations
- Interpretation of above investigations
- Ability to independently read plain film abnormalities in connective tissue diseases

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination, radiology and pathology assessment
- CBD
- DOPS
 - Hand-flexor tendon nodule
 - De Quervain's tenosynovitis
 - Carpel tunnel
 - Lateral epicondylitis
 - Sub acromial bursa
 - Trochanteric bursitis
 - Anserine bursitis
 - Plantar fascia
 - Mortons neuroma
- Interactive lectures

The Vasculitides and Associated Syndromes

Objectives: To understand epidemiology, pathogenesis, clinical presentations, underlying aetiologies and treatment pathways of the vasculitides; to appreciate the common and distinguishing features of these conditions; To distinguish primary systemic vasculitides from secondary forms of vasculitis and vasculitis mimics; to understand modifiable risk factors; to accurately assess disease activity and to differentiate between symptoms and signs of active inflammation from features attributable to tissue damage or co-morbid conditions; to be familiar with immunological complexities, including microscopic diagnoses; to proactively manage the risk of accelerated atherosclerosis; to understand safety aspects and risk-benefit ratio of treatments; to be up to date with current and experimental therapies; to understand the role of the MDT in amelioration of symptoms and avoidance of tissue damage; to appreciate role of other disciplines, such as haematology, nephrology, neurology, oral medicine / surgery, dermatology etc in the management of these systemic conditions; to utilize strategies to minimize complications of immunosuppressive therapy.

KNOWLEDGE

For vasculitides and associated syndromes:

- Definitions of GCA from clinical and pathological perspective
 - Criteria for classification and diagnosis
 - Epidemiology
 - Pathology / pathogenesis
 - Clinical features
 - Clinical assessments
 - Investigations
 - Treatment
1. Giant cell arteritis (GCA)
 2. Polymyalgia rheumatic (PMR)
 3. Takayasu arteritis
 4. Kawasaki disease
 5. Polyarteritis nodosa (PAN) and microscopic polyangiitis (MPA)
 6. Granulomatosis with polyangiitis (Wegener's)
 7. Eosinophilic granulomatosis with polyangiitis (EGPA) (formerly known as Churg Strauss syndrome)
 8. Behcet's disease
 9. Henoch-Schonlein purpura (HSP)
 10. Cryoglobulinemic vasculitis
 11. Cutaneous vasculitis and panniculitis
 12. Primary vasculitis of the central nervous system (PACNS)
 13. Cogan's syndrome

SKILLS

- Detailed and focussed history and examination
- Understanding of common and distinct features of vasculitides
- Understanding and application of knowledge in relation to prognostic factors
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Awareness of risk / benefit profile of treatments
- Ability to recognise pertinent clinical features
- Ability to recognise and prevent adverse prognostic features
- Understanding of role of focussed lab, radiology, pathology and neurophysiology investigations
- Interpretation of above investigations
- Ability to independently read pertinent radiological films eg angiography
- Ability to independently perform urine microscopy

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination, radiology and pathology assessment
- CBD
- Interactive lectures

Other Systemic Illnesses

Objectives: To understand epidemiology, pathogenesis, clinical presentations, underlying aetiologies, genetics and treatment pathways of each of these diseases; to recognise and diagnose appropriately; to understand modifiable risk factors; to be familiar with safety aspects and risk-benefit ratio of treatments; to be up to date with current and experimental therapies; to understand the role of the MDT in amelioration of symptoms and avoidance of tissue damage; to appreciate role of other disciplines, such as haematology, nephrology, neurology, oral medicine / surgery, dermatology etc in the management of these systemic conditions.

KNOWLEDGE

For other systemic illnesses:

- Definitions from clinical and pathological perspective
 - Epidemiology
 - Pathology / pathogenesis /immunology
 - Clinical features
 - Clinical assessments
 - Differential diagnosis
 - Investigations
 - Treatment
1. Kikuchi-Fujimoto disease (KFD)
 2. Systemic autoinflammatory diseases/recurrent fever syndromes
 - a. Familial Mediterranean fever (FMF)
 - b. TNF receptor associated periodic syndrome (TRAPS)
 - c. Hyperimmunoglobulinaemia D with periodic fever syndrome (HIDS)
 - d. Cryopyrinopathies: familial cold autoinflammatory syndrome, Muckle Wells syndrome, Neonatal-onset multisystem inflammatory disease / chronic infantile neurological cutaneous and articular syndrome (NOMID/CINCA)
 3. Sarcoidosis
 4. Relapsing polychondritis
 5. Amyloidoses

SKILLS

- Detailed and focussed history and examination
- Understanding of common and distinct features of recurrent fever syndromes
- Understanding of common and distinct features of amyloidoses
- Knowledge of common and rare features of KFD and relapsing polychondritis
- Understanding and application of knowledge in relation to prognostic factors
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Awareness of risk / benefit profile of treatments
- Ability to recognise pertinent clinical features
- Ability to recognise and prevent adverse prognostic features
- Understanding of role of focussed lab, radiology, pathology and functional investigations
- Interpretation of above investigations
- Independently read pertinent radiological films e.g. chest or musculoskeletal X-rays
- Ability to interpret classic pathology microscopic features

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination, radiology and pathology assessment
- CBD
- Interactive lectures

Miscellaneous Arthropathies

Objectives: To understand epidemiology, pathogenesis, clinical presentations, underlying aetiologies and treatment pathways of these arthropathies; to understand modifiable risk factors; to understand safety aspects and risk-benefit ratio of treatments; to be up to date with current and experimental therapies; to understand the role of the MDT in amelioration of symptoms and avoidance of joint damage; to appreciate the role and timeliness of surgery.

KNOWLEDGE

For miscellaneous arthropathies:

- Definition and classification
 - Epidemiology and risk factors
 - Pathology / pathogenesis
 - Clinical features
 - Differential diagnosis
 - Clinical assessments
 - Investigations
 - Treatment
1. Hypertrophic osteoarthropathy
 2. Multicentric nodular reticulohistiocytosis
 3. Pigmented villonodular synovitis
 4. SAPHO syndrome (synovitis, acne, pustulosis, hyperostosis, osteitis)
 5. Synovial osteochondromatosis

SKILLS

- Detailed and focussed history and examination
- Understanding of clinical and pathological features of each of these conditions
- Understanding and application of knowledge in relation to prognostic factors
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Awareness of risk / benefit profile of treatments
- Ability to recognise pertinent clinical features
- Ability to recognise and prevent adverse prognostic features
- Understanding of role of focussed lab, radiology, pathology and functional investigations
- Interpretation of above investigations
- Ability to independently read pertinent radiological films e.g. musculoskeletal x-rays / MRI
- Ability to independently interpret classic pathology microscopic features

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination, radiology and pathology assessment
- CBD
- Interactive lectures

Infections

Objectives: To understand epidemiology, pathogenesis, clinical presentations, underlying aetiologies and treatment pathways of infection-related arthritis / osteomyelitis; to recognise and diagnose appropriately; to be able to independently interpret investigations, including lab results, radiological investigations and microbiology / pathology samples; to have knowledge of modifiable risk factors; to be aware of implications of infections for prosthetic joints; to know when to refer to relevant disciplines, such as microbiology, orthopaedics, pain management and members of the MDT; to appreciate relevance of co-morbid conditions for morbidity and mortality; to be up to date with current literature on infections associated with rheumatic illnesses; to have knowledge of relevant vaccinations for immunosuppressed patients.

KNOWLEDGE

For all infections:

- Role of underlying disease as risk factor for infection
- Epidemiology
- Genetics
- Pathology / pathogenesis
- Common / atypical clinical features
- Infections in prosthetic joints
- Outcome / prognosis
- Co-morbid factors
- Clinical assessment
- Investigations
- Treatment pathways
- Prevention / identification of populations at risk
- Vaccinations

1. Infections in patients with rheumatic illnesses (General principles)
2. Bacterial infections
 - a. Septic arthritis and osteomyelitis
 - b. Disseminated gonococcal infection (DGI)
 - c. Syphilis
 - d. Lyme disease
 - e. Brucellosis
 - f. Whipple disease
 - g. Mycobacterial infections; Includes tuberculosis and leprosy
 - h. Rheumatic fever
3. Fungal and parasitic infections –
 - a. Histoplasmosis
 - b. Cryptococcus
 - c. Mycoses (eg blastomycosis, coccidioidomycosis etc)
 - d. Candidiasis
 - e. Sporotrichosis
 - f. Protozoan infections etc.
4. Viral infections:
 - a. Parvovirus B19
 - b. Rubella

- c. Hepatitis B
 - d. Hepatitis C
 - e. HIV
 - f. Viruses encountered in the Western world
 - g. Emerging viruses
5. Vaccinations in patients with rheumatic diseases

SKILLS

- Detailed and focussed history and examination
- Ability to identify rare and common infections in at-risk patient populations
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Understanding and application of knowledge in relation to vaccinations in immunosuppressed patients
- Understanding of role of focussed lab and radiological investigations
- Ability to correctly and independently interpret relevant lab and radiological investigations
- Large and small joint aspiration and injection (glenohumeral, sternoclavicular, elbow, wrist, metacarpophalangeal, interphalangeal, knee, ankle, 1st metatarsophalangeal)

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination and radiological assessment
- DOPS: Supervised joint aspiration and injection
- CBD
- Interactive lectures

OA and Related Conditions

Objectives: To understand epidemiology, pathogenesis, clinical presentations, underlying aetiologies and treatment pathways of osteoarthritis; to understand why certain joints are pre-disposed to osteoarthritis; to know when to refer to other relevant disciplines such as Orthopaedics, pain management and members of the MDT; to understand modifiable risk factors; to understand safety aspects and risk-benefit ratio of treatments; to be up to date with current literature on OA and related conditions.

KNOWLEDGE

OA and related conditions:

- Definitions of OA from clinical, radiological and pathological perspectives
 - ACR criteria for classification and diagnosis
 - Epidemiology:
 - Joints typically involved in OA
 - Joints not typically involved in OA
 - Exercise and OA
 - Pathology / pathogenesis of OA
 - Genetics of OA
 - Clinical features
 - Clinical assessment in OA
 - Investigations
 - Treatment
1. Osteoarthritis (OA)
 2. DISH
 3. Neuropathic arthropathy
 4. Osteonecrosis
 5. Miscellaneous:
 - a. Ochronosis
 - b. Kashin-Beck disease
 - c. Mseleni disease

SKILLS

- Detailed and focussed history and examination
- Ability to clearly differentiate mechanical from inflammatory symptoms and signs
- Understanding and application of knowledge in relation to co-morbid diseases
- Ability to recognise atypical osteoarthritis
- Holistic approach to diagnosis and treatment
- Competence at reading plain radiologic films of all joint areas
- Ability to correctly interpret scintigraphy, ultrasonography and MRI in OA
- Understanding of role of focussed lab and radiological investigations
- Large joint aspiration and injection

ASSESSMENT AND LEARNING METHODS

- Min-CEX: Supervised history and clinical examination
- DOPS: Supervised joint aspiration and injection
- CBD
- Interactive lectures

Crystal Arthropathies

Gout, pseudogout, basic calcium phosphate crystal disease, other crystals

Objectives: To understand epidemiology, pathogenesis, clinical presentations, underlying etiology and treatment pathways of crystal arthropathies; to understand modifiable risk factors and to recognise associated co-morbid conditions; to competently diagnose common and unusual crystals using polarizing microscopy; to understand safety aspects and risk-benefit ratio of treatments.

KNOWLEDGE

Crystal Arthropathies knowledge:

- Definitions of gout from clinical, radiological and microscopic perspectives
- Epidemiology:
 - prevalence, risk factors (modifiable / non-modifiable)
 - association with the metabolic syndrome
- Pathogenesis
- Clinical features
- Investigation
- Management

1. Gout
2. Pseudo-gout: calcium pyrophosphate dihydrate deposition disease (CPPD)
3. Basic calcium phosphate crystal deposition disease
4. Other crystal arthropathies

SKILLS

- Detailed and focussed history and examination
- Ability to differentiate crystal arthropathies from other inflammatory joint diseases
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Competence at recognising features of gout / pseudogout / calcific tendonitis on plain radiography
- Understanding of role of focussed lab and radiological investigations
- Ability to obtain appropriate samples from involved joints / tissues
- Competence at independently diagnosing crystal arthropathies using polarizing microscopy

ASSESSMENT AND LEARNING METHODS

- DOPS
 - Supervised joint aspiration and injection
 - Supervised use of polarizing microscopy
- CBD
- Interactive lectures

Endocrine / Metabolic and Storage Diseases

Objectives: to recognise early and established manifestations of endocrine, metabolic and storage diseases as outlined below; to competently diagnose typical and atypical features of these disorders; to recognise musculo-skeletal manifestations of these disorders; to competently perform urine microscopy to diagnose cellular casts; to understand how treatment of these disorders influences the musculo-skeletal manifestations.

KNOWLEDGE

1. Endocrine /Metabolic and storage disease:

- a. Rheumatic manifestations of endocrine disease
 - i. Diabetes mellitus
 - ii. Acromegaly
 - iii. Adrenal dysfunction
 - iv. Thyroid disorders
 - v. Hyperparathyroidism
- b. Rheumatic Manifestations of Renal Disease
- c. Paget Disease of Bone
- d. Osteoporosis
- e. Osteomalacia and rickets

2. Deposition / Storage Disorders

- a. Hyperlipidemia
- b. Haemochromatosis
- c. Gaucher's disease
- d. Mucopolysaccharidoses

SKILLS

- Detailed and focussed history and examination
- Ability to recognise impact of storage disorders on musculoskeletal presentations
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Competence at diagnosing radiological features of storage diseases
- Understanding the role of focussed lab and radiological investigations

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history and clinical examination
- CBD
- Interactive lectures

Heritable Diseases with Consequences for the Musculo-Skeletal System

Objectives: To understand epidemiology, pathogenesis, genetic susceptibility, clinical presentations, underlying aetiologies and treatment pathways of such disorders; to know when to refer to other relevant disciplines such as Orthopaedics, plastics surgery, pain management and members of the MDT; to understand relevance of co-morbid conditions for morbidity and mortality; to understand safety aspects and risk-benefit ratio of treatments; to understand the role of patient education in such disorders.

KNOWLEDGE

1. Haemophilia and other bleeding disorders
2. Haemoglobinopathies
3. Heritable disorders of connective tissue
 - a. Osteogenesis imperfecta
 - b. Ehlers Danlos syndrome
 - c. Marfan's syndrome
 - d. Skeletal dysplasias
4. Hypermobility syndrome

SKILLS

- Detailed and focussed history and examination
- Ability to recognise impact of heritable disorders on musculoskeletal presentations
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Competence at diagnosing radiological features
- Understanding the role of focussed lab and radiological investigations

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination and radiological interpretation
- CBD
- Interactive lectures

Cancer and the Musculoskeletal System

Paraneoplastic presentations, tumours of bone and soft tissue,

Objectives: To understand epidemiology, pathogenesis and clinical features of musculoskeletal presentations of malignant disease; to understand epidemiology, pathogenesis, clinical presentations and treatment pathways of benign and malignant tumours of the musculoskeletal system.

KNOWLEDGE

Paraneoplastic presentations of malignancy

- Definition
- Epidemiology
- Pathogenesis
- Clinical features
 - Rheumatological
 - Non-rheumatological
 - Risk factors and co-morbid diseases
- Investigations
 - Laboratory
 - Radiological: plain x-rays, scintigraphy, MRI, CT
- Management
 - Treatment options
 - Role of physiotherapy / occupational therapy

Tumours of bone and soft tissue; Bone tumours, cartilaginous tumours, Synovial tumours

- Definition: benign and malignant tumors of bone, cartilage, synovium, vascular and connective tissue
- Epidemiology
- Pathogenesis / genetics
- Clinical features
 - Rheumatological
 - Non-rheumatological
 - Risk factors and co-morbid diseases
 - Differentiating benign and malignant features
- Differential diagnosis
- Investigations
 - Laboratory
 - Radiological: plain x-rays, DXA
 - Genetic
- Management
 - When is 'observation' the correct approach?
 - Role of orthopaedics / plastics and reconstructive surgery
 - Role of physiotherapy / occupational therapy / psychology
 - Role of radiotherapy / chemotherapy

KNOWLEDGE AS PER SPR YEAR

- Knowledge of paraneoplastic presentations of musculoskeletal disease: year 1
- Knowledge of benign and malignant tumors of bone and connective tissue: years 3 onwards

SKILLS

- Detailed and focussed history and examination
- Ability to recognise atypical and typical features of musculoskeletal presentations of malignancy
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Competence at diagnosing radiological features of benign and malignant tumors
- Understanding the role of focussed lab and radiological investigations
- Understanding the role of chemotherapy, radiotherapy, rehabilitation medicine
- Knowledge of when observation is the correct approach

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination and radiological interpretation
- CBD
- Interactive lectures
- Interpretation of pathological features

Paediatric Rheumatology

Objectives: To understand epidemiology, pathogenesis, genetic susceptibility, clinical presentations, underlying aetiologies and treatment pathways of paediatric arthritis; to know when to refer to other relevant disciplines such as Orthopaedics, plastics surgery, pain management and members of the MDT; to understand relevance of co-morbid conditions for morbidity and mortality; to understand safety aspects and risk-benefit ratio of treatments; to understand the role of patient / family education in paediatric arthritis.

KNOWLEDGE

Paediatric rheumatology knowledge:

- Definition of above disorders
 - Diagnostic criteria
 - Epidemiology
 - Pathology /Pathogenesis / Genetics
 - Clinical features
 - Differential diagnosis
 - Investigations
 - Management
1. Juvenile idiopathic arthritis (JIA)
 2. Connective tissue disorders: Juvenile dermatomyositis and inflammatory myopathies, SLE, scleroderma / morphea, Kawasaki disease, Henoch-Schonlein purpura
 3. Congenital joint dysplasias; Developmental dysplasia of the hip, talipes equinovarus, achondroplasia, osteogenesis imperfect, osteopetrosis
 4. Regional syndromes: Transient synovitis of the hip, Perthes disease, Osgood Schlatter disease, chondromalacia patellae, slipped femoral epiphysis
 5. Other disorders; Hypermobility, Ehlers-Danlos syndrome, Marfan syndrome, Fibromyalgia
 6. Special factors pertaining to childhood arthritis

SKILLS

- Detailed and focussed history and examination
- Ability to recognise atypical and typical features of musculoskeletal presentations in childhood
- Understanding and application of knowledge in relation to co-morbid diseases
- Holistic approach to diagnosis and treatment
- Competence at diagnosing radiological features of childhood arthritis
- Understanding the role of focussed lab and radiological investigations
- Understanding the role of other disciplines and rehabilitation medicine

ASSESSMENT AND LEARNING METHODS

- Mini-CEX: Supervised history, clinical examination and radiological interpretation
- CBD
- Interactive lectures

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 speciality 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	Personal Goals Form
On Call Rota				Clinical Activities
Unselected Admissions for General Internal Medicine (Completed in first 3 years)				
GIM Year	Required	480	Training Programme	
Dual Specialty Year	Required	480	Training Programme	
Section 2 - Training Activities				
Outpatient Clinics				Clinical Activities
General Rheumatology (minimum 2 per week)	Required	80	Year of Training	
Connective Tissue Disease	Desirable	40	Year of Training	
Early Arthritis	Desirable	40	Year of Training	
Ward Rounds/Consultations				
Consultant Led (minimum 1 per week)	Required	40	Year of Training	
SpR led (minimum 3 per week)	Required	120	Year of Training	
Consultations	Required	100	Year of Training	
Emergencies/Complicated Cases Diagnosis of nature of problem and its presentation, emergency case for investigation (minimum of 10 Rheumatology case per year)	Required	10	Year of Training	Cases
Procedures/Practical Skills/Surgical Skills				Procedures
Crystal analysis	Required	5	Year of Training	
Procedures/Practical Skills/Surgical Skills - Joints injections				Procedures
1 st CMC joint	Required	1	Year of Training	
Wrist joint	Required	1	Year of Training	

Curriculum Requirement	Required/ Desirable	Minimum Requirement	Reporting Period	Form Name
Shoulder (gleno-humeral) joint – anterior approach	Required	4	Year of Training	
Shoulder joint – medial approach	Required	4	Year of Training	
Knee joint - medial approach	Required	4	Year of Training	
Knee joint – lateral approach	Required	4	Year of Training	
Ankle joint	Desirable	1	Year of Training	
1 st MTP joint	Required	1	Year of Training	
Procedures/Practical Skills/Surgical Skills - soft tissue injections				
Hand-flexor tendon nodule	Required	1	Training Programme	
De Quervain's tenosynovitis	Required	1	Training Programme	
Carpal tunnel	Desirable	1	Training Programme	
Lateral epicondylitis	Required	1	Training Programme	
Subacromial bursa	Required	1	Training Programme	
Trochanteric bursitis	Required	1	Training Programme	
Anserine bursitis	Desirable	1	Training Programme	
Plantar fascia	Required	1	Training Programme	
Mortons neuroma	Desirable	1	Training Programme	
Additional/Special Experience Gained (Desirable Experience)				Cases
Paediatric Rheumatology	Desirable	1	Training Programme	
Ultrasound	Desirable	1	Training Programme	
Orthopaedic	Desirable	1	Training Programme	
Plastic Surgery	Desirable	1	Training Programme	
Neurophysiology	Desirable	1	Training Programme	
Laboratory Experience				Laboratory Activities
Immunology	Desirable	1	Training Programme	
Relatively Unusual Cases				Cases
Minimum of 9 cases to include:				
Systemic Vasculitis	Required	3	Training Programme	
Connective tissue disease	Required	3	Training Programme	
Unspecified multi-system disorders	Required	3	Training Programme	
Ongoing management of Rheumatology patients	Required	5	Training Programme	
Management Experience	Desirable	1	Training Programme	Management Experience

Curriculum Requirement	Required/ Desirable	Minimum Requirement	Reporting Period	Form Name
General Internal Medicine Procedures/Practical Skills/Surgical Skills				Procedures
BIPAP/CPAP	Required	10	Training Programme	
Emergency DC cardioversion	Required	10	Training Programme	
ECG interpretation	Required	50	Training Programme	
Joint aspiration	Required	4	Training Programme	
Lumbar puncture	Required	20	Training Programme	
Abdominal paracentesis – under ultrasound	Desirable	4	Training Programme	
Femoral venous line placement – under ultrasound	Desirable	1	Training Programme	
Pleural aspiration – under ultrasound	Desirable	4	Training Programme	
Intercostal drain Insertion – under ultrasound	Desirable	1	Training Programme	
Section 3 - Educational Activities				
Mandatory Courses				Course Attendance
ACLS	Required	1	Training Programme	
Ethics Foundation	Required	1	Training Programme	
Ethics for General Medicine	Required	1	Training Programme	
An Introduction to Health Research Methods	Required	1	Training Programme	
HST Leadership in Clinical Practice (Year 3+)	Required	1	Training Programme	
Mastering Communication (Year 1)	Required	1	Training Programme	
Performing Audit (Year 1)	Required	1	Training Programme	
Wellness Matters	Required	1	Training Programme	
General Internal Medicine Mandatory Courses				Course Attendance
NIHSS Stroke Scale	Required	1	Training Programme	
Delirium Recognition and Response (Online)	Required	1	Training Programme	
Bedside Ultrasound (POCUS) for GIM	Required	1	Training Programme	
Non – Mandatory Courses				
ACR review course	Desirable	1	Training Programme	
GIM Study Days				Study Day Attendance
GIM Year		6		
Non-GIM Years (Years 1-3)		3		
Specialty Study Days				Study Day Attendance
Non-GIM Years (Years 1-3)		6		

Curriculum Requirement	Required/ Desirable	Minimum Requirement	Reporting Period	Form Name
Years 4+		6		
Irish Society for Rheumatology Meeting	Required	1	Year of Training	Additional Professional Experience
Participation at In-house activities minimum of 1 per month from the categories below:				Attendance at Hospital Based Learning
Grand Rounds (minimum 2 per month and present at a minimum of one)	Required	20	Year of Training	
Journal Clubs (minimum 1 per month)	Required	10	Year of Training	
MDT meetings (minimum 1 per month)	Required	10	Year of Training	
Radiology Conferences (minimum 1 per month)	Required	10	Year of Training	
Pathology Conferences	Desirable	1	Year of Training	
Lecture	Desirable	1	Year of Training	
Seminar	Desirable	1	Year of Training	
In-house Activities				Attendance at Hospital Based Learning
Weekly Multidisciplinary Conference	Required	10	Year of Training	
Delivery of Teaching	Required	10	Year of Training	Delivery of Teaching
Lecture				
Tutorial				
Bed side Teaching				
Research	Desirable	1	Training Programme	Research Activities
Audit activities and Reporting (1 per year either to start or complete, Quality Improvement (QI) projects can be uploaded against audit)	Required	1	Training Programme	Audit Activities & QI
Publications (minimum of 4 over training)	Required	4	Training Programme	Additional Professional Experience
Presentations (1 oral or poster presentation per year)	Required	1	Year of Training	Additional Professional Experience
Committee Attendance	Desirable	1	Year of Training	Additional Professional Experience
Additional Qualifications	Desirable	1	Training Programme	Additional Professional Experience
Section 4 - Assessments				
CBD	Required	1	Year of Training	CBD
DOPS				DOPS

Curriculum Requirement	Required/ Desirable	Minimum Requirement	Reporting Period	Form Name
Soft tissue injections	Required	1	Training Programme	
Joint aspiration and injection	Required	1	Year of Training	
Microscopy	Required	1	Training Programme	
1 st CMC joint	Required	1	Training Programme	
Wrist joint	Required	1	Training Programme	
Shoulder (gleno-humeral) joint – anterior approach	Required	1	Training Programme	
Shoulder joint – medial approach	Required	1	Training Programme	
Knee joint - medial approach	Required	1	Training Programme	
Knee joint – lateral approach	Required	1	Training Programme	
1 st MTP joint	Required	1	Training Programme	
Hand-flexor tendon nodule	Required	1	Training Programme	
De Quervain's tenosynovitis	Required	1	Training Programme	
Lateral epicondylitis	Required	1	Training Programme	
Subacromial bursa	Required	1	Training Programme	
Trochanteric bursitis	Required	1	Training Programme	
Plantar fascia	Required	1	Training Programme	
Crystal analysis	Required	5	Training Programme	
DOPS non-clinical				DOPS
Supervised use of polarizing microscopy	Required	5	Training Programme	
General Internal Medicine DOPS				DOPS
BIPAP/CPAP	Required	1	Training Programme	
Communication e.g. chairing care planning meeting for complex discharge, procedure consent	Required	1	Training Programme	
DC cardioversion	Required	1	Training Programme	
ECG interpretation	Required	1	Training Programme	
Joint aspiration	Required	1	Training Programme	
Lumbar puncture	Required	1	Training Programme	
Abdominal paracentesis under ultrasound	Desirable	1	Training Programme	
Femoral venous line placement under ultrasound	Desirable	1	Training Programme	
Pleural aspiration under ultrasound	Desirable	1	Training Programme	
Mini-CEX (Mini-CEX assessments should take place after approximately every 10 outpatient clinics/ward rounds you partake in. These should include	Required	2	Year of Training	Mini CEX

Curriculum Requirement	Required/ Desirable	Minimum Requirement	Reporting Period	Form Name
assessments in history taking & examination of musculo-skeletal system, Assessment in multisystem disease and radiological assessment)				
Quarterly Assessments/End-of-Post Assessments	Required	4	Year of Training	Quarterly Assessments/ End-of-Post Assessments
End of Year Evaluation	Required	1	Year of Training	End Of Year Evaluation