



# FACULTY OF PATHOLOGY

ROYAL COLLEGE OF  
PHYSICIANS OF IRELAND

INTERNATIONAL CLINICAL FELLOWSHIP TRAINING IN

# HAEMATOLOGY



**This curriculum of training in Haematology was developed in 2015 and undergoes an annual review by Dr Clodagh Keohane and Dr John Quinn, National Specialty Directors, Dr Ann O’Shaughnessy, Head of Education, and by the Haematology Training Committee. The curriculum is approved by the Faculty of Pathology.**

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## Introduction

The International Clinical Fellowship Programme (ICFP) provides a route for overseas doctors wishing to undergo structured and advanced postgraduate medical training in Ireland. The ICFP enables suitably qualified overseas postgraduate medical trainees to undertake a fixed period of active training in clinical services in Ireland. The programme is normally offered over one or two years of clinical training, after which the overseas doctors will be required to return to their country of origin. In limited certain circumstances, the period of training may extend to three years.

The purpose of the ICFP is to enable overseas trainees to gain access to structured training and in active clinical environments that they cannot get in their own country, with a view to enhancing and improving the individual's medical training and learning and, in the medium to long term, the health services in their own countries.

This Programme will allow participants to access a structured period of training and experience as developed by the Royal College of Physicians of Ireland to specifically meet the clinical needs of participants as defined by their home country's health service.

### Aims

Upon satisfactory completion of the ICFP, the doctor will be **competent** to undertake comprehensive medical practice in their chosen specialty in a **professional** manner, in keeping with the needs of the healthcare system.

**Competencies**, at a level consistent with practice in the specialty, 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.
- Capability to be a scholar, contributing to development and research in the field of the chosen specialty.
- Professionalism.
- Ability to understand health care and identify and carry out system-based improvement of care.

### Professionalism

Medical professionalism is a core element of being a good doctor. Good medical practice is based on a relationship of trust between profession and society, in which doctors are expected to meet the highest standards of professional practice and behaviour. It involves partnership between patient and doctor that is based on mutual respect, confidentiality, honesty, responsibility and accountability. In addition to maintaining clinical competence, a doctor should also:

- Show integrity, compassion and concern for others in day-to-day practice
- Develop and maintain a sensitive and understanding attitude with patients
- Exercise good judgement and communicate sound clinical advice to patients
- Search for the best evidence to guide professional practice
- Be committed to continuous improvement and excellence in the provision of health care whether working alone or as part of a team

Prior to commencing their sponsored clinical placements, all participants will also be required to undergo the mandatory screening requirements of the relevant clinical site/service including occupational health assessment and Garda/Police clearance.

### **Training Programme Duration & Organisation of Training**

The period of clinical training that will be provided under the International Clinical Fellowship Programme (ICFP) is normally 12-24 months. In certain circumstances, the period of training may extend to three years.

- Each ICFP is developed by the Royal College of Physicians of Ireland will be specifically designed so as to meet the training needs of participants to support the health service in their home country.
- All appointees to the ICFP will be assessed by the Royal College of Physicians of Ireland to ensure that they possess the necessary requirements from a training and clinical service perspective.
- Each overseas doctor participating in the ICFP will be enrolled with the Royal College of Physicians of Ireland and will be under the supervision of a consultant doctor who is registered on the Specialist Division of the Register of Medical Practitioners maintained by the Medical Council and who is an approved consultant trainer.
- Appointees to the ICFP will normally be registered on the Supervised Division of the Register of Medical Practitioners maintained by the Medical Council in Ireland.
- Appointees will agree a training plan with their trainers at the beginning of each training year.
- For the duration of their International Medical Graduate (IMG) programme and associated clinical placements, all participants will remain directly employed and directly paid by their sponsoring state at a rate appropriate to their training level in Ireland and benchmarked against the salary scales applicable to NCHD's in Ireland;
- Successful completion of an ICFP will result in the participant being issued with a formal Certificate of completion for the Fellowship Programme by the Royal College of Physicians of Ireland. This Certificate will enable the participant's parent training body in their sponsoring home country to formally recognise and accredit their time spent training in Ireland.

The training programme offered will provide opportunities to fulfil all the requirements of the curriculum of training. There will be posts 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 Specialist Director for the relevant medical speciality to be confirmed by the College. Programmes will be as flexible as possible consistent with curricular requirements, for example to allow the trainee to develop their sub-specialty interest.

#### **ePortfolio logbook**

Each trainee is responsible for maintaining an up-to-date record of progress through training and compiling a portfolio of achievements for presentation at each annual assessment review. The trainee also has a duty to maximise opportunities to learn, supplementing the training offered with additional self-directed learning in order to fulfil all the educational goals of the curriculum.

Up-to-date training records and an ePortfolio of achievements will be maintained by the trainee throughout. The training records will be countersigned as appropriate by the trainers to confirm the satisfactory fulfilment of the required training experience and the acquisition of the competencies set out in the training plan. They will remain the property of the trainee and must be produced at their annual assessment review.

Trainees must co-operate with the College in completing their training plan.

It is in a trainee's own interest to maintain contact with the Royal College of Physicians of Ireland, and to respond promptly to all correspondence relating to training. At review, your ePortfolio will be examined.

**Review**

A consultant trainer/educational supervisor will be identified for each participant in the programme. He/she will be responsible for ensuring that the educational potential of the post is translated into effective training which is being fully utilized. Only departments approved for Training by the Royal College of Physicians of Ireland and its constituent training bodies will be used.

The training objectives to be secured should be agreed between each trainee and trainer at the commencement of each posting in the form of a written training plan. The trainer will be available throughout, as necessary, to supervise the training process. In each year trainees undergo a formal review by an appropriate panel. The panel will review in detail the training record, will explore with the trainee the range of experience and depth of understanding which has been achieved and consider individual trainer's reports. An opportunity is also given to the trainee to comment on the training being provided; identifying in confidence any deficiencies in relation to a particular post.

A quarterly and annual review of progress through training will be undertaken on behalf of the International Clinical Fellowship Programme (ICFP). These will include assessments and reports by educational supervisors, confirmation of achievements and the contents of the ePortfolio will be reviewed. At some or all of these annual reviews a non-specialty assessor will be present capable of addressing core competencies.

The award of a Certificate of completion will be determined by a satisfactory outcome after completion of the entire series of assessments.

## **Generic Components**

**This chapter covers the generic components which are relevant to 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 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 (Mandatory)
- 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
- 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
- RCPI HST Leadership in Clinical Practice
- 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

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

## Management

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

**Medical Council Domains of Good Professional Practice:** Management.

### KNOWLEDGE

#### Health service structure, management and organisation

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

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

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

#### Maintaining medical knowledge with a view to delivering effective clinical care

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

#### Delegation skills, empowerment and conflict management

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

### SKILLS

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

### **ASSESSMENT & LEARNING METHODS**

- Mastering Communication course
- Performing Audit online course
- 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)
- 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)

## Specialty Section

### Introduction to Laboratory Haematology

A formal period of instruction takes place at the beginning of specialist training to provide an introduction to laboratory aspects of haematology. By the end of this period the trainee would be expected to:

- Have gained an understanding of laboratory practice including Health & Safety and Quality Control.
- Have sufficient understanding of haematology to offer basic advice on the interpretation of laboratory results.
- Have a sufficient knowledge of laboratory techniques to underpin clinical laboratory practice.
- Have a basic knowledge of the presentation and management of the common haematological disorders.
- Have knowledge of risk management issues as they apply to laboratory and clinical haematology.

### KNOWLEDGE

#### Haematology

- Introduction to the laboratory, including Health and Safety principles
- The principles and use of automated blood counters
- Set up and use of the light microscope
- Principles of staining blood films and marrow aspirate slides.
- Describe the methods for obtaining bone marrow aspirate and trephine biopsies
- Screening Techniques for Malaria

#### Blood transfusion

- Outline basic Blood Transfusion techniques (manual and automated)
- Understand the types of blood products
- Relate blood transfusion laboratory practice to patient care
- Safe blood transfusion practice

#### Coagulation

- Describe the techniques for coagulation testing including automation of coagulation tests and thrombophilia tests
- Outline current methods for automated coagulation testing
- Basic thrombophilia testing.

#### Clinical

- Presentation and management of common haematological disorders.
- The general use of blood products
- Haematology emergencies - probably to be moved somewhere else?

**SKILLS**

- Interpretation of the full blood count and differential
- Making blood films
- Recognition of malignant haematological disorders, red cell abnormalities & malarial parasites
- Perform Bone Marrow biopsy with supervision
- Prepare aspirate slides and trephine roll preparations
- Perform and interpret:
  - Blood grouping
  - Antibody screening and Cross matching
  - Direct antiglobulin test.
  - Kleihauer test
  - Interprets clinically significant antibodies
- Perform and interpret PT, INR, APPT, thrombin time, fibrinogen assay and FDPs.
- Interpret thrombophilia screening results.
- Apply laboratory results to patient care
- Recognise in the laboratory and advise on the initial management of common anaemias, acute and chronic leukaemia, myeloma and lymphomas.
- Recognise and manage emergencies e.g. acute leukaemia, hyper-coagulation, neutropenia, sepsis, massive haemorrhage, tumour lysis etc.
- Works as part of the clinical team in the management of these disorders.
- Establishment of rapport with laboratory staff.

**ASSESSMENT & LEARNING METHOD**

- Online Transfusion Course
- DOPS:
  - Making and staining a blood film
  - Blood grouping and cross-match
  - Safe prescription of blood components
  - Safe administration of blood components
- Case Based Discussion:
  - Investigation and reporting of a blood transfusion incident
  - Haematological Emergencies – Sepsis; hypercalcaemia, thrombotic thrombocytopenic, purpura (TTP); massive bleeding; DIC

## General Aspects of Haematology

**Objective:** To develop the particular core competencies and procedural skills required for the practice of clinical and laboratory (see also generic section).

### KNOWLEDGE

#### Effective communication

- Understand the importance of good communication, with patients and their relatives, and with colleagues, other health professionals and those involved in the provision of health care.
- Understand impact of disease on the patient and their family.
- Work as part of a multidisciplinary team.

#### Practical skills

- The purpose, place, benefits and risks of procedures employed.
- Recognise impact of procedures on the patient and their family
- Recognises the importance of obtaining informed consent in the practice of Haematology, and respects the patient's right to choice
- Principles of Safe Chemotherapy administration
- Principles of Safe Blood Components Transfusion

### SKILLS

- 
- Elicit an accurate history.
- Be able to communicate the diagnosis clearly to patients and their relatives.
- Be able to explain treatment required and its side effects of patients and their relatives.
- Demonstrate an ability to break bad news including the communication of a terminal prognosis.
- Be able to communicate clearly with colleagues in primary and secondary care via clinic letters
- Choice and care of central venous lines.
- Use of antibiotic regimens for treatment and prophylaxis in the immunosuppressed patient.
- Requests the use of radioisotope methods appropriately
- Prescribes chemotherapy safely and understands the risks / benefits associated
- Prescribes blood components safely and understands the risks / benefits associated

### ASSESSMENT & LEARNING METHODS

- Case Based Discussion: End of life care
- Communications course
- Attendance at SpR teaching (Study Days)

**Laboratory Haematology - change title, possibly**

**Objective:** To be competent in the interpretation of samples presented for examination and in the management of the Haematology laboratory

**KNOWLEDGE****Peripheral blood films**

- Interpretation of peripheral blood films including those flagged abnormal by the Medical Scientist or automated counter.

**Special Investigations**

- Understand the basis of specialised investigations in the diagnosis and prognosis of haematological disease including:
  - Hb and protein electrophoresis
  - High Performance Liquid Chromatography
  - Immunophenotyping
  - Immunocytochemistry
  - Cytogenetics
  - PCR and molecular haematology
  - Specific investigation of haemolytic anaemia e.g. PK assay, G6PD, EMA
- Maintain up to date awareness on novel uses of familiar techniques or the introduction of new methods to analyse haematological disease

**Bone marrow aspiration and trephine biopsy**

- Indications for and technique of performing bone marrow aspirate and trephine biopsies.
- Use of stains, immunophenotyping and other investigations to aid diagnosis

**Lymph node histopathology**

- Describe Lymph node histology
- The classification of Hodgkin and non-Hodgkin lymphomas particularly the WHO classification.
- The use of immunophenotyping and molecular testing to characterise certain lymphomas
- Understanding of the Multidisciplinary approach to cancer diagnosis and management
- Knowledge of the WHO classification of hematologic malignancies

**Cerebro-spinal fluid**

- Knowledge of requirement for CSF examination for various malignancies
- Interpretation of CSF cytology

**Laboratory Management**

- Principles of laboratory management; risk management and laboratory audit
- Laboratory Accreditation including ISO 15189 as applied to Blood Transfusion
- Awareness of:
  - Internal and External Quality control systems including NEQAS schemes
  - Commercially available laboratory computer systems
  - Tendering processes
  - Staff performance management and appraisals
  - Near patient testing guidelines



**SKILLS**

- Applies knowledge of histological classification to patient management.
- Appropriate ordering of investigations
- Consent and treat patient with respect
- Perform technique competently including analysis
- Recognise acute and chronic leukaemia and malarial parasites on blood films
- Interpret results
- Relate laboratory results to patient care
- Accurately report results of the aspirate and understand the report (initially with supervision)
- Accurately report red cell and platelet abnormalities
- Demonstrates pathology and interacts with histopathologists at MDM's
- Perform lumbar puncture competently and obtain CSF for cytospin and other special tests
- Recognise presence of malignant cell in CSF.
- Lymph node pathology with supervision

**ASSESSMENT & LEARNING METHODS – Laboratory Haematology**

- DOPS:
  - Making and staining a blood film
  - Setting up a microscope
  - Formal reporting of blood films and bone marrow aspirates
  - Bone marrow aspiration and trephine biopsy – adult and paediatric
  - Lumbar puncture, intrathecal administration of chemotherapy – adult and paediatric
- Course – Core Laboratory Skills
- Perform a laboratory audit
- Participate in internal and external QA reporting and review
- Evidence of participating in relevant management committees e.g. Transfusion Committee and other Lab Management Committees
- FRCPATH (consider sitting part 1)

## Red Cell Disorders

**1. Objective:** Competence in the diagnosis and management of patients with anaemia

### KNOWLEDGE

- Demonstrate a comprehensive working knowledge of the aetiology and pathophysiology of anaemia including the following;
  - Production Disorders
    - Nutritional deficiencies
    - Anaemia of chronic disease
    - Red cell aplasia and hypoplasia
    - Sideroblastic anaemias
  - Haemolytic Anaemias
    - Autoimmune haemolytic anaemias
    - Metabolic enzyme deficiency haemolytic anaemias
    - RBC membrane disorders (spherocytosis, elliptocytosis etc.)
    - Microangiopathic haemolytic anaemias (MAHA)
    - Non-immune acquired haemolytic anaemias
- Demonstrate a comprehensive working knowledge of the physiology of iron, vitamin B12 and folate utilization, storage and transport.
- Demonstrate an understanding of the direct toxicity to the bone marrow by infectious disease, toxins and metabolic insults
- Demonstrate an understanding of gender and age related effects on red cell production
- Explain the appropriate haematological, biochemical, molecular and radiological techniques required for the investigation of anaemia.
- Demonstration of the appropriate use of a bone marrow examination including an iron stain in the diagnosis should be discussed
- Identification of underlying causes of anaemia

### SKILLS

- Select and interprets the investigations correctly to identify the causes of the anaemia
- Order subsequent invasive or radiological procedures appropriately
- On the basis of history, examination and laboratory results, formulates an appropriate management and treatment plan including an appropriate replacement therapy for nutritional deficiency anaemia
- Explain the appropriate use of transfusion in patients with anaemia, specifically in immune mediated anaemia
- Demonstrate an understanding of the role and use of immunologic modifier therapy and stem cell transplant in red cell aplasia and hypoplasia.
- Communicate the investigations and diagnosis to the patient and their carers and where necessary construct a long-term treatment plan, in consultation with others as necessary

### ASSESSMENT & LEARNING METHOD

- Case Based Discussion: Investigation of anaemia in OPD and as a inpatient consult
- Mini-CEX: Assessment of a patient with a haemolytic disorder
- FRCPATH (consider sitting part 1)

**2. Objective:** Competence in the diagnosis and management of patients with haemoglobinopathies**KNOWLEDGE**

- Comprehensive knowledge of the genetics and prenatal diagnosis of sickle cell disease and thalassaemia syndromes
- Describe the epidemiology, presentation and natural history of sickle cell disease, thalassaemia syndromes and other haemoglobin abnormalities. A trainee should be able to distinguish between the different types of thalassaemia (i.e.  $\alpha$ ,  $\beta$ , major and minor etc.) and have a working knowledge of the variant sickle cell syndromes (e.g. S/Thalassaemia, SC disease etc.)
- Understand the pathophysiology, diagnosis and management of the broad range of other structural and biochemical haemoglobinopathies (e.g. haemoglobin E, high and low oxygen affinity haemoglobin, unstable haemoglobin and methemoglobins)
- Describe the techniques for the diagnosis of haemoglobin disorders
- Describe the diagnosis and management of clinical sequelae of sickle cell disease including the acute chest syndrome, painful crisis, stroke and demonstrate an awareness of specific management issues during pregnancy
- Explain appropriate use of transfusion in sickle cell and thalassaemia syndromes
- Describes the complications, assessment and treatment of transfusional iron overload
- Describe the long term complications of haemoglobin disorders( including orthopaedic, ophthalmic, renal, pulmonary, endocrine and fertility issues) and their management in particular the need for comprehensive multidisciplinary care
- Understand the use of disease modifying agents and stem cell transplant in haemoglobin disorders

**SKILLS**

- Understands the interacting abnormalities and demonstrates competence in genetic counselling
- Counsels patients appropriately on the benefits and risks of screening
- Competent in out-of-hours management of the acutely unwell patient with sickle cell disease. Particular emphasis should be placed on the life threatening aspects such as acute chest syndrome, haemolytic and aplastic crises, risk of infections and strokes.
- Demonstrates competence in taking a history and examination of the patient
- Uses appropriate laboratory and radiological investigation to establish a diagnosis
- Correctly interprets electrophoresis and HPLA traces and appropriately refers for molecular testing
- Applies the laboratory results to establish a diagnosis and formulates a management plan of acute complications.
- Demonstrates a practical competency for acute and chronic pain management in patients with sickle cell disease.
- Appropriately uses transfusion and manages iron overload
- Uses and interprets appropriate screening methods for chronic organ damage
- Advises patients appropriately about the use and side effects of disease modifying drugs and stem cell transplant where necessary
- Exhibits an understanding of the impact of haemoglobin disorders on the patient and their family.
- Works as part of a multidisciplinary team and recognises the need to refer to other colleagues
- Exhibits an understanding of the impact of physical and psychosocial factors on the patient and demonstrate an awareness and consideration of the impact of cultural issues.

**ASSESSMENT & LEARNING METHOD**

- Case Based Discussion: Investigation of a new patient with a haemoglobin disorder and discussion regarding acute management of a sickle cell crisis.
- Mini-CEX: Assessment of a patient with a haemoglobin disorder
- FRCPATH (consider sitting part 1)
-

## Haematological Malignancies

**Objective:** To be competent to diagnose and manage patients who present with acute or chronic leukaemias and patients who present with paraproteins, plasmacytomas or other manifestations of plasma cell dyscrasias. To be competent in the diagnosis and management of patients with Hodgkin's and Non-Hodgkin's Lymphoma.

### KNOWLEDGE

#### Acute Leukaemias

- Presentation, diagnosis and classification of acute leukaemia in adults and children
- Knowledge of the roles of morphology, immunophenotyping, molecular abnormalities and cytogenetic analysis in the diagnosis and classification of acute leukaemia
- Principles of chemotherapy regimens: knowledge of mode of action, side effects and interactions of agents used in the management of acute leukaemia
- Use of supportive care in the management of acute leukaemia, specifically the treatment of neutropenic fever, the choice of agents to treat fungal infection and the thresholds for transfusion of blood products
- Indications for autologous, allogeneic haemopoietic stem cell transplantation and cellular therapy in the management of acute leukaemia

#### Chronic Leukaemias

- Presentation, diagnosis and classification of chronic leukaemia in adults and children
- Diagnosis and treatment of chronic myeloid leukaemia including knowledge of the role of tyrosine kinase inhibitors
- Diagnosis and treatment of chronic lymphocytic leukaemia and other chronic lymphoproliferative disorders
- Knowledge of therapeutic agents in the treatment of chronic leukaemia including their mode of action and side effects.
- Indications for autologous, allogeneic haemopoietic stem cell transplantation and cellular therapy in the management of acute leukaemia

#### Plasma Cell Disorders

- Presentation, diagnosis and classification of plasma cell diseases
- Role of tests including serum and urine protein electrophoresis and the serum free light chain assay in the diagnosis and monitoring of plasma cell disease
- Knowledge of the roles of immunomodulatory drugs and proteasome inhibitors in the treatment of plasma cell malignancies
- Indications for autologous, allogeneic haemopoietic stem cell transplantation and cellular therapy in the management of acute leukaemia

#### Lymphoma

- Presentation, diagnosis and classification of lymphoma
- Role of staging systems and prognostic indices in the classification and treatment of lymphoma
- Basic knowledge of the histological classification of lymphomas in the WHO classification
- Knowledge of chemotherapy treatment regimens, place of radiotherapy and trial protocols in the management of lymphoma
- Indications for autologous, allogeneic haemopoietic stem cell transplantation and cellular therapy in the management of acute leukaemia

**SKILLS**

- Recognise presenting features and conduct history and examination competently.
- Use appropriate laboratory and radiological investigations to establish diagnosis and stage of disease.
- Formulate a management plan, including fertility and offer full explanation to patient.
- Act with empathy in discussing diagnosis and treatment with patient and family.
- Competent to prescribe and administer complex chemotherapy regimens.
- Competent to safely perform lumbar punctures and administer intrathecal chemotherapy.
- Appropriate use of:
  - Blood Products.
  - Antibiotic Regimens
  - Central Lines
  - Anti-emetics
- Assess suitability for stem cell transplantation.
- Successfully manage patients undergoing stem cell transplantation.
- Recognise complications of stem cell transplantation including post transplant host transplant infections
- Explains use of transplantation and its limitations to patient and family.
- Competently diagnose lymphoma on trephine biopsy.
- Working knowledge of lymphoma node histology.
- Assess suitability for stem cell transplantation.
- Successfully manage patients undergoing stem cell transplantation.
- Recognise complications of stem cell transplantation including post transplant viral syndromes and graft versus host disease.
- Explains use of transplantation and its limitations to patient and family.

**ASSESSMENT & LEARNING METHODS**

- Case Based Discussion
- Mini-CEX
- Prescribing Chemotherapy course
- FRCPATH (consider sitting part 1)
-

## Bone Marrow Failure Syndromes

**Objective:** Competence in the diagnosis and management of bone marrow failure

### KNOWLEDGE

- Aetiology, natural history and classification of pancytopenia
- Use of blood product support and knowledge of the complications of long-term transfusion.
- Indications for use of chemotherapy, immunosuppression and haemopoietic progenitor cell transplant in the management of marrow failure syndromes.

### SKILLS

- Use of clinical and laboratory methods including specified tests to reach a diagnosis and formulate a management plan.
- Appropriate use of blood transfusion and iron chelation regimens.
- Initiate appropriate therapy.
- Assess suitability for stem cell transplant
- Be able to give a clear explanation of disorder and its long-term management to patient and family.

### ASSESSMENT & LEARNING METHODS

- FRCPATH (consider sitting part 1)
-

## Myeloproliferative Neoplasms

**Objective:** To be competent in diagnosing and managing patients with Myeloproliferative Neoplasms.

### KNOWLEDGE

- Diagnosis and Pathophysiology of Chronic Myeloid Leukemia (CML)
  - Be aware of methods of clinical assessment, e.g. Hasford, Eutos scoring systems
  - Outline current treatment options with consideration of efficacy, toxicity, cost effectiveness.
  - Describe methods of monitoring of disease including cytogenetics, PCR testing and BCR-ABL mutation testing.
  - Knowledge of criteria for optimal response to therapy and ELN guidelines for management of CML
  - Stopping criteria for therapy
  
- Pathophysiology and classification of myeloproliferative neoplasms such as:
  - Polycythaemia vera (PV)
  - Essential thrombocythaemia (ET)
  - Myelofibrosis (MF)
    - Describe diagnostic criteria and major differential diagnoses for PV, ET and MF.
    - Outline molecular genetic abnormalities underlying these disorders including JAK 2, CALR and MPL mutations
    - Be familiar with risk stratification and natural history of the disorders including common and serious complications
    - Be aware of prognostic scoring systems in MF
  - Knowledge of therapeutic options including:
    - Venesection
    - Role of antithrombotic therapy e.g. aspirin
    - Chemotherapy including molecular targeted therapy
    - Other treatment modalities including role of stem cell transplantation

Classification and investigation of other MPN including Mastocytosis, *BCR-ABL* negative chronic myeloid leukemia

Investigation of eosinophilia and classification of clonal eosinophilic disorders.

### SKILLS

- Recognise presenting features and conduct history and examination competently
- Use of clinical and laboratory methods to achieve a diagnosis and formulate a management plan.
- Communicate information about diagnosis and treatment to patients and families in a caring manner
- Be able to competently perform therapeutic venesection.
- Assess suitability for stem cell transplant
- Relate theoretical knowledge to patient management

### ASSESSMENT & LEARNING METHODS

- DOPS:
  - Venesection
- **FRCPath** (consider sitting part 1)

## Haemostasis

**Objective:** To be competent to diagnose and manage patients with congenital coagulation disorders and thrombophilia. To safely manage patients requiring anticoagulation and manage patients with acquired bleeding disorders. To be competent in the diagnosis and management of patients with congenital and acquired platelet disorders

### KNOWLEDGE

#### Congenital Disorders of Coagulation

- Coagulation factors and current views on the coagulation pathway.
- Natural history, presentation and complications of congenital coagulation disorders including Haemophilia and Von Willebrand's Disease.
- Knowledge of diagnostic methods used in assessment of coagulation disorders including specific factor assays and diagnosis of inhibitors
- Use of molecular biological techniques to identify genetic disorders.
- Types of coagulation factor concentrates including their safety profile.

#### Thrombophilia

- Coagulation inhibitors and the fibrinolytic pathway including epidemiology and molecular basis of thrombophilia.
- Knowledge of natural history, presentation and complications of thrombophilia.
- Techniques for the measurement of Protein C, Protein S, ATIII, APCR and Lupus Anticoagulant. Methods for the detection of Factor V Leiden.
- Effect of pregnancy and oral contraceptive pill and hormone replacement therapy in thrombophilia.

#### Anticoagulation

- Mechanism of action and indications for the use of anticoagulants.
- Be familiar with different models of anticoagulant control including computerised dosing methods and the use of the multi-professional team in delivering anticoagulant services.
- Knowledge of side effects of anticoagulants including heparin induced thrombocytopenia

#### Acquired Bleeding Disorders

- Knowledge of the mechanism of bleeding disorders in relation to:
  - DIC
  - Renal and hepatic disease
  - Acquired coagulation factor inhibitors
  - Massive transfusion
  - Obstetric complications
- Knowledge of available pharmaceutical and blood products available for the management of excessive bleeding, including their indications and side effects.

#### Platelet Disorders

- Knowledge of platelet structure and function.
- Platelet and vessel wall interaction.
- Diagnosis and Management of Congenital and Acquired qualitative platelet disorders
- The measurement of platelet numbers by automated counters.
- Knowledge of the use and limitations of specialised platelet function tests.
- Mechanism of action of antiplatelet agents.



**SKILLS**

- Be competent in taking history and conducting examination of patient.
- Use of appropriate clinical and laboratory methods to reach a diagnosis.
- Interpret results of laboratory assays.
- Formulate an appropriate management plan
- Advise on role of genetic techniques in prenatal and family testing.
- Offer appropriate advice on prophylaxis and treatment of congenital coagulation disorders including developing a delivery plan
- Relate theoretical knowledge to patient management.
- Recognise the impact of these conditions on the patient and family.
- Act with empathy in managing coagulation disorders and its complications.
- Competent to advise on treatment and prophylaxis of thrombophilic conditions.
- Successful management of pregnancy in affected individuals.
- Liaise closely with obstetric and other clinical teams.
- Able to initiate and control heparin and oral anticoagulants.
- Advise on the indications for prophylactic and therapeutic anticoagulation.
- Offer advice on the management of over-anticoagulation and reversal of anticoagulation
- Advise on perioperative anticoagulation strategies
- Recognise and advise on heparin induced thrombocytopenia.
- Work as part of multi-professional team
- Liaise closely with other clinical teams.
- Advise on appropriate use of blood products including coagulation factors.
- Advise on the management of massive haemorrhage
- Advise on appropriate use of blood products including platelet transfusion and alternative agents
- Management of patients with bleeding on antiplatelet agents

**ASSESSMENT & LEARNING METHODS**

- Case Based Discussion: Management of anticoagulation
- Mini-CEX: Genetic counseling on congenital bleeding disorder
- **FRCPATH** (consider sitting part 1)

## **Blood Transfusion**

**For specialist training in Transfusion Medicine please contact the Program Director**

**Objective:** Acquire sufficient knowledge of blood transfusion practice to be capable of providing advice to clinical colleagues

### **KNOWLEDGE**

#### **Principles of blood transfusion laboratory practice**

- Blood grouping and cross-matching techniques for patients and donors
- Identification of red cell allo and auto antibodies, and understand their significance
- Identification, significance and management of HLA, HPA and neutrophil antibodies
- Automation in blood transfusion
- Use of computers in blood transfusion, including uses for quality, safety and traceability.

#### **Basic principles of donor selection and the preparation of blood components**

- Donor selection and safety and donation complications
- Red cell serological and microbiological testing of blood donors
- Preparation of blood components, including evaluation of new components
- Principles of GMP and quality assurance procedures in blood donation procurement
- Risk reduction methods for transfusion transmitted infection
- Role of quality systems at a blood service and the hospitals: regulations, accreditation, NEQAS, hemovigilance and the role of consultant hematologist

#### **Principles of clinical blood transfusion practice**

- Prevention and management of hazards of blood transfusion
- Investigating a transfusion clinical incident
- Reporting and analysis of haemovigilance data from SHOT, SABRE & NHO reports
- Principles and practice of therapeutic apheresis
- Transfusion of specialist blood components, and in ABO incompatible transplants
- Prevention, diagnosis and management of haemolytic disease of the fetus and newborn.
- Appropriate use of blood and blood components with reference to national and international blood transfusion guidelines
- Techniques to reduce homologous blood transfusion exposure
- The structure and role of the Hospital Transfusion Committee
- Transfusion Legislation

#### **Theoretical knowledge of specialised laboratory techniques**

- Extended red cell antibody investigations and compatibility testing for complex antibodies and in autoimmune haemolytic anaemia
- HLA typing and antibody screening
- Investigations in alloimmune platelet disorders
- Antibody titration and anti-D quantification techniques

### **SKILLS**

- Interprets blood transfusion results competently
- Advises on the appropriate use of blood products including special requirements
- Understands when to report adverse events and reactions to the NHO
- Manage complications of blood transfusion appropriately.
- Assess patients requiring therapeutic apheresis procedures.
- Advise on patients with auto- or allo-antibodies, including during pregnancy
- Understands massive transfusion and transfusion in trauma

## ASSESSMENT & LEARNING METHODS

- Case based Discussion
- Completion of the IBTS Training Plan
- Completion of a Comprehensive Transfusion Course
- National Haemovigilance conference
- **FRCPath Exam (consider sitting part 1)**

## Paediatric Haematology - Non mandatory

**Objective:** Acquire sufficient knowledge of paediatric haematology practice to be capable of providing advice to clinical colleagues in a general hospital.

### KNOWLEDGE

#### General

- Laboratory investigation of children including sampling requirements and age-related normal values
- Describe the appearance of blood films and bone marrows in neonates, infants and children
- Describe the pathophysiology, diagnosis and management of neonatal anaemia, coagulation disorders, haemorrhagic disease of the newborn and haemolytic disease of the newborn
- Identify the haematological manifestations of paediatric disease
- Describe the haematological investigation of non-accidental injury
- Understand the importance of integrated multidisciplinary care in addressing the medical and psychosocial needs of both children and the family unit
- Understand the shared care model for the delivery of tertiary care in a National Centre

#### Malignancy

- Describe the aetiology, classification and prognosis of childhood leukaemia, myeloproliferative diseases and myelodysplastic syndromes
- Outline the principles of chemotherapy
- Understand the need for clinical trials and the importance of adherence to GCP in the conduct of such trials
- Paediatric aspects of Stem Cell Transplantation
- Understand the need for long-term follow up of children to assess the late effects of chemotherapy and SCT

#### Non-malignant

- Describe the pathophysiology, diagnosis and management of childhood Haemoglobinopathies
- Pre-op and population screening, emergency treatment and principles of long term management strategies
- Congenital and Acquired thrombocytopenias
- Congenital and Acquired haemostatic defects
- Congenital and Acquired thrombotic states
- Leukocyte disorders
- Immune deficiency syndromes
- Inherited and Acquired Bone Marrow Failure syndromes

### SKILLS

- Interpretation of blood counts, coagulation screens and Hb electrophoresis /HPLC
- Analysis of blood films and bone marrow smears
- Evaluation and management of the haematological manifestations of childhood disease in conjunction with paediatric colleagues, including Palliative Care
- Use of laboratory and clinical skills to diagnose haematological disease and formulate an appropriate management plan
- Consultation with and referral to Paediatric Haematologists for complex haematological disorders
- Communication and empathy with children and their parents
- Performs bone marrow aspirates and biopsies, and lumbar puncture safely and appropriately
- Has experience of intrathecal chemotherapy administration and is aware of associated risks and safety procedures.
- Advises appropriately on the use of transfusion in children
- Understands the concepts of family screening for inherited disease and the use of genetic

- testing
- Performs counselling appropriately

#### ASSESSMENT & LEARNING METHODS

- DOPS: Perform a paediatric Bone Marrow Aspirate and Biopsy
- DOPS: Perform a paediatric lumbar puncture and administer intrathecal chemotherapy
- Mini-CEX: Assessment of a paediatric case
- Paediatric Study Day
- **FRCPATH** (consider sitting part 1)

## Consultative Haematology

**Objective:** To be competent to advise on Haematological problems arising in other medical and surgical and obstetric patients.

### KNOWLEDGE

- Gain an understanding of the haematological aspects of other specialties including:
  - Massive transfusion.
  - Care of ICU patients
  - Haematology problems in pregnancy
  - Neonatal Haematology
  - Pre op assessments
  - Thrombosis and cancer
  - Surgery haemostasis and management of perioperative anticoagulation
  - Unexplained cytopenia in medical patients

### SKILLS

- Be able to interpret laboratory results in these clinical situations and provide appropriate and timely advice
- Communicate clearly with colleagues in other specialties.

### ASSESSMENT & LEARNING METHODS

- Case-based Discussion

## Documentation of Minimum Requirements for Training

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

| Curriculum Requirement                             | Required/Desirable | Minimum Requirement | Reporting Period   | Form Name               |
|--|--------------------|---------------------|--------------------|-------------------------|
| <b>Section 1 - Training Plan</b>                   |                    |                     |                    |                         |
| Personal Goals Plan                                | Required           | 1                   | Training Post      | Personal Goals Plan     |
| On Call Rota                                       | Required           | 1                   | Training Post      | Clinical Activities     |
| <b>Section 2 - Training Activities</b>             |                    |                     |                    |                         |
| <b>Outpatient Clinics</b>                          |                    |                     |                    |                         |
| General  | Required           | 40                  | Training Programme | Clinics                 |
| Day Ward   | Required           | 40                  | Training Programme |                         |
| Paediatric   | Desirable          | 1                   | Training Programme |                         |
| Haemostasis and Thrombosis (min 30 per training)   | Required           | 30                  | Training Programme |                         |
| Obstetrics   | Desirable          | 1                   | Training Programme |                         |
| <b>Ward Rounds/Consultations</b>                   |                    |                     |                    |                         |
| Consultant led                                     | Required           | 50                  | Training Programme | Clinical Activities     |
| Trainee led  | Required           | 50                  | Training Programme |                         |
| Consultations                                      | Required           | 10                  | Training Programme |                         |
| <b>Emergencies/Complicated Cases</b>               |                    |                     |                    |                         |
| <b>Procedures/Practical Skills/Surgical Skills</b> |                    |                     |                    |                         |
| Bone marrow aspirate and biopsy                    | Desirable          | 20                  | Training Programme | Procedures, Skills&DOPS |
| Lumbar puncture/Intrathecal chemotherapy           | Required           | 5                   | Training Programme |                         |
| Bone marrow harvest (Observe 1 per training)       | Required           | 1                   | Training Programme |                         |
| Pheresis (Observe 2 per training)                  | Required           | 2                   | Training Programme |                         |
| <b>Additional/Special Experience Gained</b>        |                    |                     |                    |                         |
| <b>Relatively Unusual Cases</b>                    |                    |                     |                    |                         |
| <b>Lab Experience</b>                              |                    |                     |                    |                         |

| Curriculum Requirement  | Required/<br>Desirable | Minimum<br>Requirement | Reporting Period   | Form Name                             |
|---|------------------------|------------------------|--------------------|---------------------------------------|
| Introduction to laboratory haematology (min 2 weeks)                          | Required               | 1                      | Training Programme |                                       |
| Bone Marrow Reporting (min 50 per training)                                   | Required               | 50                     | Training Programme |                                       |
| Reticulocyte Counting   | Required               | 1                      | Training Programme |                                       |
| Haemoglobinopathy Investigation   | Required               | 1                      | Training Programme |                                       |
| Vitamin B12 and folate assays   | Required               | 1                      | Training Programme |                                       |
| <b>Chronic Cases/Long term care</b>   | Desirable              | 1                      | Training Programme | Cases                                 |
| <b>ICU/CCU</b>  | Desirable              | 1                      | Training Programme | Cases                                 |
| <b>Management experience</b>  | Desirable              | 1                      | Training Programme | Management Experience                 |
| <b>Section 3 - Educational Activities</b>                                     |                        |                        |                    |                                       |
| <b>Courses</b>  |                        |                        |                    | Teaching Attendance                   |
| Core Pathology  | Required               | 1                      | Training Programme |                                       |
| Ethics Foundation   | Required               | 1                      | Training Programme |                                       |
| Mastering Communication   | Desirable              | 1                      | Training Programme |                                       |
| Performing Audit  | Required               | 1                      | Training Programme |                                       |
| Safe Prescribing Systemic Anti-Cancer Therapy                                 | Required               | 1                      | Training Programme |                                       |
| Wellness Matters  | Desirable              | 1                      | Training Programme |                                       |
| <b>In-house activities</b>  |                        |                        |                    | Attendance at hospital-based learning |
| Grand Rounds  | Required               | 8                      | Training Programme |                                       |
| Radiology Conference  | Required               | 8                      | Training Programme |                                       |
| Journal Club  | Required               | 8                      | Training Programme |                                       |
| MDT Meetings  | Required               | 20                     | Training Programme |                                       |
| <b>Examinations</b>   |                        |                        |                    | Examinations                          |
| FRCPATH Part I examination (attempt)  | Required               | 1                      | Training Programme |                                       |
| FRCPATH Part II examination   | Desirable              | 1                      | Training Programme |                                       |
| <b>Formal Teaching Activity</b> (minimum 1 formal teaching session per month) |                        |                        |                    | Delivery of Teaching                  |
| Lecture   | Required               | 1                      | Training Programme |                                       |
| Tutorial  | Required               | 4                      | Training Programme |                                       |
| Bedside Teaching  | Required               | 4                      | Training Programme |                                       |
| <b>Study Days</b> (min 5 recognised study days)                               | Required               | 5                      | Training Programme | Teaching Attendance                   |
| <b>Research</b>   | Desirable              | 1                      | Training Programme | Research Activities                   |



| Curriculum Requirement  | Required/<br>Desirable | Minimum<br>Requirement | Reporting Period   | Form Name                          |
|---|------------------------|------------------------|--------------------|------------------------------------|
| <b>Audit activities and Reporting</b> (1 per year either to start or complete, Quality Improvement (QI) projects can be uploaded against audit) | Required               | 1                      | Year of Training   | Audit and QI                       |
| <b>Publications</b>   | Desirable              | 1                      | Training Programme | Additional Professional Activities |
| <b>Presentations</b>  | Desirable              | 1                      | Training Programme | Additional Professional Activities |
| <b>National/International meetings</b><br>(National Haemovigilance conference)  | Desirable              | 1                      | Training Programme | Additional Professional Activities |
| <b>Additional Qualifications</b>  | Desirable              | 1                      | Training Programme | Additional Professional Activities |
| <b>Committee Attendance</b>   | Desirable              | 1                      | Training Programme | Additional Professional Activities |
| <b>Section 4 - Assessments</b>  |                        |                        | Training Programme |                                    |
| <b>DOPS</b>   |                        |                        |                    | Procedures, Skills&DOPS            |
| Bone marrow aspirate and trephine biopsy - adult and paediatric   | Required               | 1                      | Training Programme |                                    |
| Lumbar puncture, intrathecal administration of chemotherapy - adult and paediatric  | Required               | 1                      | Training Programme |                                    |
| <b>Laboratory Skills DOPS</b>   |                        |                        | Training Programme | Procedures, Skills&DOPS            |
| Making and staining a blood film  | Required               | 1                      | Training Programme |                                    |
| Setting up a microscope   | Required               | 1                      | Training Programme |                                    |
| Blood grouping and cross match  | Required               | 1                      | Training Programme |                                    |
| Making and staining a BM Aspirate   | Required               | 1                      | Training Programme |                                    |
| Formal reporting of blood films and bone marrow aspirates- adult and paediatric   | Required               | 1                      | Training Programme |                                    |
| Blood group   | Required               | 1                      | Training Programme |                                    |
| Antibody screening and cross matching   | Required               | 1                      | Training Programme |                                    |
| Direct antiglobulin test  | Required               | 1                      | Training Programme |                                    |
| Kleihauer test  | Required               | 1                      | Training Programme |                                    |
| Interprets clinically significant antibodies  | Required               | 1                      | Training Programme |                                    |
| Safe prescribing of blood components  | Required               | 1                      | Training Programme |                                    |
| Venesection   | Required               | 1                      | Training Programme |                                    |
| <b>CBD</b>  | Required               | 4                      | Training Programme | Case Based Discussion              |
| <b>Mini-CEX</b>   | Required               | 2                      | Training Programme | Mini-CEX                           |

| <b>Curriculum Requirement</b> | <b>Required/<br/>Desirable</b> | <b>Minimum<br/>Requirement</b> | <b>Reporting Period</b> | <b>Form Name</b>                    |
|-------------------------------|--------------------------------|--------------------------------|-------------------------|-------------------------------------|
| <b>Quarterly Assessment</b>   | Required                       | 4                              | Year of Training        | Quarterly/End of Post<br>Assessment |
| <b>End of Year Evaluation</b> | Required                       | 1                              | Year of Training        | End of Year Evaluation              |