



**FACULTY OF  
PAEDIATRICS**

ROYAL COLLEGE OF  
PHYSICIANS OF IRELAND

INTERNATIONAL CLINICAL FELLOWSHIP TRAINING IN

# PAEDIATRICS RESPIRATORY MEDICINE



**This curriculum of training in Paediatric Respiratory Medicine was developed in 2016 and undergoes an annual review by Dr Des Cox, National Specialty Director, and Leah O’Toole, Head of Postgraduate Training and Education, and by the Paediatric Respiratory Medicine Training Committee. The curriculum is approved by the Faculty of Paediatrics**

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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, after which the overseas doctors will be required to return to their country of origin. 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 of 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 HST trainees within the Faculty of Paediatrics but with varying degrees of relevance and appropriateness, depending on the specialty.

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

## Good Professional Practice

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

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

### KNOWLEDGE

#### Effective Communication

- How to listen to patients and colleagues
- The principles of open disclosure
- Knowledge and understanding of valid consent
- Teamwork
- Continuity of care

#### Ethics

- Respect for autonomy and shared decision making
- How to enable children and their family 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, parents, guardians 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, parents and guardians
- How to structure an interview to obtain/convey information; identify concerns, expectations and priorities; promote understanding, reach conclusions and use age appropriate language.
- How to empower the patient, and/or parent, 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 children and their guardians receive information best, the relative value of the spoken, written, visual means of communication, use of reinforcement to assist retention
- Knowledge of the risks of information overload
- Tailoring the communication of information to the level of understanding of the recipient
- Strategies to achieve the level of understanding necessary to gain co-operation and partnership; compliance, informed choice, acceptance of opinion, advice, recommendation

**Responding to complaints**

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

**SKILLS**

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

**ASSESSMENT & LEARNING METHODS**

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

## Leadership

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

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

### KNOWLEDGE

#### Personal qualities of leaders

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

#### Working with others

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

#### Managing services

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

#### Setting direction

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

**SKILLS**

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

**Demonstrating personal qualities**

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

**ASSESSMENT & LEARNING METHODS**

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

## Quality Improvement

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

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

### KNOWLEDGE

#### Personal qualities of leaders

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

#### Managing services

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

#### Improving services

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

#### Setting direction

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

### SKILLS

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

#### Demonstrating personal qualities

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

### ASSESSMENT & LEARNING METHODS

- RCPI HST Leadership in Clinical Practice
- Consultant feedback at annual assessment
- Involvement in hospital committees where possible e.g. Division of Medicine, Drugs and Therapeutics, Infection Control etc.

## Scholarship

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

**Medical Council Domains of Good Professional Practice:** Scholarship

### KNOWLEDGE

#### Teaching, educational supervision and assessment

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

#### Research, methodology and critical evaluation

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

#### Audit

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

### SKILLS

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

### ASSESSMENT & LEARNING METHODS

- 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

#### 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
- APLS 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/APLS
- 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**

- APLS 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
- 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 children receiving palliative care

### SKILLS

- Writing a prescription in line with guidelines
- Appropriately prescribing for children and pregnant adolescent
- 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
- 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**

## Respiratory Anatomy, Physiology & Microbiology

**Objective:** Know respiratory anatomy and to be able to apply pathology and microbiology expertise to the patient with respiratory disease.

### KNOWLEDGE

- Medical knowledge in the basic biomedical, behavioural and clinical sciences, medical ethics and medical jurisprudence and application of such knowledge in patient care
- Anatomy as applied to the patient with respiratory disease
- Pathology as applied to the patient with respiratory disease
- Microbiology as applied to the patient with respiratory disease
- Value of meetings with Pathologists and Microbiologists

### SKILLS

- Bronchoscopy
- Interpretation of Microbiology, Pathology reports

### ASSESSMENT & LEARNING METHODS

- Exposure in clinical practice
- Self directed - Journals/Books
- Study Day
- DOPS:
  - Bronchoscopy

## Pulmonary Function tests

**Objective:** To be fully competent to perform the procedures necessary during the practice of respiratory medicine. To be able to request appropriate tests for the patient with respiratory disease.

### KNOWLEDGE

#### Pulmonary function testing

- Relationship between structure and function
- Ventilation and mechanics of breathing
- Principles of plethysmography
- Bronchial hyper-responsiveness
- Diffusion
- Blood flow
- Alveolar air equation
- Ventilation-perfusion relationships
- Control of ventilation
- Cardio-pulmonary relationships
- Respiratory physiology during exercise and at altitude
- Interpretation of single breath diffusing capacity

### SKILLS

- Performance, supervision and interpretation of spirometry and plethysmography
- Performance, supervision and interpretation of respiratory muscle function tests
- Performance, supervision and interpretation of bronchial provocation testing
- Exposure to cardio-pulmonary exercise testing
- Arterial puncture and interpretation of blood gas analysis
- Interpretation of flight/altitude assessment results
- Evaluation of impairment/disability
- Appreciate importance of quality control
- Learn to check results of individual tests for consistency

### ASSESSMENT & LEARNING METHODS

- Exposure in clinical practice
- Study Day
- OSCE Topics:
  - Interpretation of pulmonary function tests
- APLS certified
- DOPS:
  - Lung Function tests

## Pulmonary Radiology

**Objective:** To be fully competent to perform the procedures necessary during the practice of respiratory medicine. To be able to request appropriate imaging tests for the patient with respiratory disease.

### KNOWLEDGE

Imaging techniques

- Chest x-rays and CT scans relevant to the respiratory patient use and interpretation
- Magnetic Resonance scans indications
- CT PET interpretation
- CT Scan, basic skill interpreting dynamic, high resolution
- Ventilation perfusion scans indications and interpretations
- Value of regular meetings with radiologists
- Detailed observation of images produced by varying techniques
- Basic principles of plain chest radiography, CT, MRI, HRCT, ultrasound and nuclear techniques
- Radiological thoracic anatomy
- Radiological features of common pulmonary and pleural diseases
- Indications for particular imaging techniques - for instance thin-slice CT for parenchymal lung disease, mediastinal window settings for central lesions and ultrasound for pleural effusions
- Value of imaging other organs/organ systems, for example, bone scans
- Principles of radiation hazards
- Contra-indications for CT with contrast
- Contra-indications for MRI
- Indications for CT/ultrasound-guided biopsies

### SKILLS

- Patient consent and adequate explanation of risks and benefits
- Appropriate guidelines
- Basic interpretation of chest x-rays, ultrasound and CT scans including description classification, preparation of differential diagnosis, use in management decision
- Interpretation of plain chest radiographs (PA, AP and lateral views)
- Interpretation of CT scans – identification of mass lesions, consolidation, collapse, mediastinal/hilar lymphadenopathy, interstitial lung disease, hyperinflation/air-trapping, bronchiectasis, ground-glass shadowing, pneumothorax and pleural effusions/plaques
- Awareness of radiation risks,
- Multidisciplinary approach with radiologists, surgeons, oncologists and pathologists

### ASSESSMENT AND LEARNING METHODS

- Exposure in clinical practice
- Study Day
- X-Ray Conferences
- OSCE Topics:
  - Chest x-rays and CT scans relevant to the respiratory patient use and interpretation

## Paediatric flexible bronchoscopy

### KNOWLEDGE

- Normal airway anatomy
- Congenital and acquired airway abnormalities
- Bronchoscopy equipment
- Consent for bronchoscopy
- Potential complications of bronchoscopy
- Sedation and anaesthesia for bronchoscopy
- Bronchoalveolar lavage: indications and applications
- Flexible bronchoscopy role in foreign body aspiration
- Interventional bronchoscopy
- Flexible bronchoscopy in the PICU

### SKILLS

- Develop competency in flexible bronchoscopy across different age groups (minimum 50 supervised)
- Develop competency in bronchoalveolar lavage
- Maintain record of all procedures which should be signed off by supervising consultant

### ASSESSMENT AND LEARNING METHODS

- Paediatric bronchoscopy training course
- Consultant supervision of first 50 bronchoscopies
- Video recording of bronchoscopies

## Asthma

### KNOWLEDGE

- Asthma aetiology and epidemiology
- Patterns of wheeze / asthma phenotypes
- Asthma diagnosis and monitoring
- Pharmacological management
- Non pharmacological management
- Supported self management
- Inhaler devices
- Acute asthma
- Difficult asthma

### SKILLS

- Pulmonary function testing
- Exercise testing
- Skin prick testing for inhaled allergens
- Demonstration of inhaler technique and spacer device
- Demonstration of intranasal steroid use
- Asthma action plan

### ASSESSMENT AND LEARNING METHODS

- In-patient and out-patient management of children with asthma
- Attend asthma nurse patient education sessions
- Attend respiratory conference / study days
- Pulmonary function study day

## Allergy and immunotherapy

### KNOWLEDGE

- Epidemiology of allergy and immunotherapy related to paediatric respiratory medicine (excluding food allergy)
- Investigation of respiratory allergy
- Treatment and management of respiratory allergy
- Allergen avoidance
- Investigation and treatment of allergic rhinitis
- Indications for immunotherapy
- Patient management during immunotherapy

### SKILLS

- Pulmonary function testing
- Skin prick testing
- Immunology blood testing
- Intranasal inhaler technique

### ASSESSMENT AND LEARNING METHODS

- Exposure in clinical practice; management of children with respiratory allergy
- Attend asthma clinics, asthma nurse clinics and some allergy clinics
- Participate in commencing patients on sublingual immunotherapy for grass pollen allergy
- Attend asthma / allergy meeting / study day

## Cystic Fibrosis/ Bronchiectasis

**Objective:** To be able to carry out specialist assessment and treatment of cystic fibrosis and Non-CF bronchiectasis

### KNOWLEDGE

- Definition, classification and aetiology of bronchiectasis,
- Knowledge of causes of bronchiectasis cystic fibrosis, TB, immunodeficiency, foreign body aspiration, post pneumonic, primary ciliary dyskinesia
- Epidemiology and pathophysiology of these disorders
- Knowledge of indications for surgery
- Relevant investigations, including sweat test, genetics, X-ray, CT, exhaled NO, bronchoscopy
- Patient education
- Pharmacology of drugs used
- Management including relevant therapeutic measures and physiotherapy
- Methods of oxygen supplementation including long-term oxygen therapy, non-invasive and mechanical ventilation
- Relevant vaccinations
- Relevant microbiology
- Indications for hospitalisation and home IV antibiotic programmes
- Knowledge and understanding of cystic fibrosis including its multisystem involvement
- Allergic bronchopulmonary aspergillosis, non tuberculous mycobacteria and multiresistant organisms in CF
- Management of pneumothorax in cystic fibrosis
- Nutritional management, gastrointestinal manifestations of cystic fibrosis
- Screening and treatment of CF related diabetes
- Screening , prevention and treatment of CF related bone disease
- Annual review process and transitional programmes
- Newborn screening programme , CF SPID, Atypical CF
- Referral and assessment for lung transplantation

### SKILLS

- Evaluation of the functional status and disability due to bronchiectasis and other airway diseases
- Assessment of suitability for surgery where appropriate
- Knowledge and use of physiotherapy tools e.g. cough devices, postural techniques
- Knowledge and use of nebulised therapies
- Bronchoscopy
- Non-invasive ventilation
- Peripherally inserted central catheter and long term central venous access devices
- Multidisciplinary team working in context of cystic fibrosis
- Breaking bad news in context of new diagnosis of cystic fibrosis in newborn screening programme
- Liaison with parent support organisations

### ASSESSMENT & LEARNING METHODS

- Exposure in clinical practice
- DOPS:
  - Nasal brushing, long line,
- OSCE Topics:

- Investigation, differential diagnosis, treatment and management of bronchiectasis
- Respiratory function testing

## Respiratory infections and empyema

### KNOWLEDGE

- Epidemiology of pulmonary infections
- Diagnosis and management of respiratory infections
- Infections of the upper respiratory tract
- Viral infections of the lower respiratory tract
- Bacterial pneumonia, lung abscess and empyema
- Respiratory infections in immunocompromised hosts
- RSV, pertussis, mycoplasma, Chlamydia and fungal infections
- Mycobacterial infection
- Liaison with public health, Infectious Diseases, microbiology and other specialists
- Diagnosis and management of empyema including liaison with radiology and cardiothoracic teams when necessary
- Indications for chest drain
- Different types of chest drain and collection devices
- Indications for suction
- Intrapleural fibrinolytics
- Analgesia/Monitoring
- Indications for removal of chest drain

### SKILLS

- In-patient and out-patient / day case management of respiratory infections / empyema
- Appropriate investigation and treatment of the above conditions
- Chest drains are typically inserted by interventional radiology under ultrasound guidance or by cardiothoracic surgery. Trainee must attend an insertion to familiarise themselves with the procedure.
- Interpretation of clinical signs and x-ray / ultrasound to decide when chest drain is indicated
- PICC /long line insertion for antibiotics desirable
- In-patient management of patients with chest drains
- MDT liaison with radiology, microbiology and cardiothoracic teams

### ASSESSMENT AND LEARNING METHODS

- Radiology meetings
- Observe chest drain insertion
- Guidelines – NICE, BTS
- Study days
- Prescribing guidelines

## Tuberculosis (TB)

**Objective:** To be able to carry out specialist assessment and treatment of tuberculosis

### KNOWLEDGE

#### Tuberculosis

- Definition, classification and aetiology
- Epidemiology and pathophysiology
- Transmission of mycobacteria
- Risk factors for developing TB
- Pathogenesis of TB (events in nonimmunised host, immunologic response to *M. tuberculosis*, exogenous versus endogenous infection, latent TB infection)
- Immunological features of latent TB (tuberculin sensitivity, interferon gamma release)
- TB in immunocompromised host
- General manifestations of TB
- Clinical and radiological features of pulmonary TB
- Bacteriological evaluation including molecular techniques
- Treatment of TB (general principles, drugs, combination regimens)
- Special problems in treatment (multidrug resistant TB, extensively resistant TB, pregnancy and breast feeding, TB and HIV infection, conditions interfering with or increasing the risk of potential adverse events of anti-TB drugs, latent TB infection and chemotherapy of LTBI)
- Microbiological, clinical, laboratory and radiological control in the course of therapy.
- Supervision of chemotherapy, directly observed therapy (DOT)
- Adjunctive therapy (resection (if appropriate), corticosteroids, drugs to prevent and treat adverse events)
- Prevention of TB (isolation of smear positive patients including use of negative pressure facilities, BCG vaccination, preventive treatment of persons exposed to MTB and MDR MTB)
- Prognosis of pulmonary TB
- National and WHO regulations in relation to TB as infectious disease
- Knowledge of sampling for microbiological examination (sputum induction, gastric washings, thoracocentesis, bronchial-, transbronchial-, percutaneous-, pleural- and lymph node biopsy)

#### Extra-pulmonary tuberculosis:

- Organs involved (lymphatic system, pleura, pericardium, genitourinary system, bones and joints, abdominal, central nervous system, skin and eyes)
- Relevant imaging methods
- Sampling methods for bacterial diagnosis
- Therapeutic possibilities in EPTB other than anti TB chemotherapy including surgical treatment
- Prognosis of specific organ manifestations of TB
- Disability due to TB
- Rehabilitation

#### Non-tuberculous (opportunistic) mycobacterial disease

- Bacteria causing NTMD (*M. avium* complex, *M. Kansasii*, other rapidly growing mycobacteria)
- Epidemiology of NTMD and its relation to HIV infection
- Organ manifestations and clinical characteristics of NTMD
- Criteria for diagnosis
- Therapeutic regimens used in NTMD
- Prognosis
- Prevention of NTMD
- Indications for surgical treatment

**SKILLS**

- Inform and educate patient about infective nature of the disease so that they comply with guidelines in the course of long term treatment
- Be aware of the psychological and sociological aspects of long term disease management
- Multidisciplinary approach, especially in the case of EPTB
- Liaison with microbiology and public health

**ASSESSMENT & LEARNING METHODS**

- Exposure in clinical practice
- DOPS:
  - Bronchoscopy
  - Pleural biopsy
- Study Day
- OSCE Topics:
  - Causes, investigation, differential diagnosis, treatment and management of patients with TB
  - Respiratory function testing

## **Congenital Lung malformations**

**Objective:** To be able to carry out specialist assessment and treatment of children who present with congenital lung malformations.

### **KNOWLEDGE**

- Developmental anatomy and embryology relevant to the respiratory system
- Diagnosis and management of congenital malformations affecting the respiratory system
- Knowledge of whom to refer for surgical treatment of congenital lung malformations
- Follow-up and outcomes of congenital lung malformations

### **SKILLS**

- Multidisciplinary team involvement (e.g. ENT, Cardiothoracic surgery, Radiology) for complex cases

### **ASSESSMENT**

- Exposure in clinical practice
- Radiology meetings
- Clinico-pathology meetings

## Interstitial Lung Disease

**Objective:** To be able to carry out specialist assessment and treatment of paediatric interstitial lung disease (ILD).

### KNOWLEDGE

- Definition, classification and aetiology of paediatric ILD
- Epidemiology, pathophysiology and immunology of paediatric ILD
- Understand the differences between the presentation of ILD in adults and children
- Diagnostic evaluation of children with suspected ILD including non-invasive (chest X-ray (CXR), high resolution CT-scan (HRCT) thorax, pulmonary function tests (PFTs)) and invasive (broncho-alveolar lavage (BAL), lung biopsy) investigations
- Treatment options used in the management of paediatric ILD
- Complications and assessment of eligibility for lung transplantation
- Contribute to International databases such as CHILD network for Paediatric ILD

### SKILLS

- Multidisciplinary assessment

### ASSESSMENT & LEARNING METHODS

- Exposure in clinical practice
- Radiology and Pathology Meetings
- Attend study days

## **Pulmonary manifestations of systemic disease**

**Objective:** To be able to carry out specialist assessment and treatment of pulmonary manifestations of systemic diseases in childhood

### **KNOWLEDGE**

- Definition, classification and aetiology of pulmonary manifestations of systemic disease in childhood
- Epidemiology and pathophysiology of pulmonary manifestations of systemic disorders in childhood
- Diagnostic evaluation of investigations: non-invasive (laboratory values, chest x-ray, ultrasound, CT, MR, nuclear techniques, lung function tests) and invasive (bronchoalveolar lavage and lung biopsy)
- Treatment and management of the pulmonary manifestations of systemic diseases

### **SKILLS**

- Care for children with systemic manifestations of pulmonary disease.

### **ASSESSMENT & LEARNING METHODS**

- Exposure in clinical practice

## **Pulmonary manifestations in the immunocompromised host**

**Objective:** To be able to carry out specialist assessment and treatment of pulmonary disease in the immunosuppressed child e.g. haematology/oncology patients, post-transplant patients, children with primary immunodeficiencies.

### **KNOWLEDGE**

- Clinical features of respiratory manifestations in patients with either congenital or acquired immunodeficiency
- Basic understanding of immunology and able to understand indications for investigation of the immune system
- Knowledge of the clinical patterns of important pathogens such as *Pneumocystis carinii*
- Clinical features of non-infectious respiratory manifestations (such as radiation and drug-induced pneumonitis and pulmonary fibrosis)
- Diagnostic evaluation with both noninvasive (chest X-ray, CT, ultrasound, pulmonary function testing, microbiology of spontaneous and induced sputum) and invasive (broncho-alveolar lavage, pleural fluid analysis, lung biopsy)
- Treatment modalities and prognostic factors dependant on the underlying cause

### **SKILLS**

- To be able to care for inpatients and outpatients with pulmonary disease secondary to immunosuppression.

### **ASSESSMENT & LEARNING**

- Attend immunology clinics

## **Pulmonary disease in paediatric and neonatal intensive care units**

**Objective:** To be able to recognise patients who will benefit from and understand the care provided in both paediatric intensive care (PICU) and high dependency units (HDU).

### **KNOWLEDGE**

- Definition and classification of conditions leading to a requirement for respiratory PICU and HDU care
- Understand how to evaluate and manage the different presentations of a critically ill child
- Describe basic modes of mechanical ventilation including both invasive and non-invasive modalities
- Basic knowledge of the physiologic monitoring and special technology used in PICU and HDU
- Indications for tracheostomy and/or long-term ventilation in children
- Management of both respiratory and general patients in PICU and HDU
- Ethical, legal, and economic considerations in the provision of care in the ICU

### **SKILLS**

- Role of the Multidisciplinary Team in PICU and HDU
- The role of flexible bronchoscopy in PICU

### **ASSESSMENT & LEARNING METHODS**

- Case based discussion
- Ward rounds

## **Sleep medicine including interpretation of oximetry, transcutaneous CO<sub>2</sub> and cardiopulmonary studies**

**Objective:** To be able to carry out specialist assessment and treatment of paediatric sleep disorders

### **KNOWLEDGE**

- Normal physiology and pathophysiology of sleep relevant to paediatric respiratory medicine
- Definition, classification and complications of obstructive sleep apnoea syndrome (OSA), upper airway resistance syndrome and hypoventilation
- The management of common sleep related respiratory problems in childhood, in particular OSA.
- The methods of treatment available for paediatric sleep disorders, in particular OSA (including pharmacological, surgical and non-invasive ventilation treatment options).
- An understanding of the clinical use of non-invasive ventilation in paediatric respiratory medicine.

### **SKILLS**

- To care for inpatients and outpatients with paediatric sleep disorders.
- Interpretation of relevant investigations in paediatric sleep disorders including overnight oximetry, capnography should be a mandatory component of training
- A basic level of polysomnography interpretation is desirable but is dependent on the level of diagnostics available at the training centre. This knowledge should include event identification and the differences in interpretation between adults and children.

### **ASSESSMENT & LEARNING**

- Sleep laboratory results meeting
- Exposure in clinical practice
- Sleep medicine course

## Respiratory failure, invasive and non-invasive ventilation

### KNOWLEDGE

- Physiology of chronic and acute respiratory failure
- Investigation of respiratory failure
- Management of respiratory failure (acute and chronic)
- Knowledge about the different modes, machines, interfaces used to deliver non-invasive ventilation (NIV) to children.
- Indications for NIV
- Physiology of NIV
- Titrating NIV
- Monitoring and complications of NIV
- Indications for invasive ventilation
- Physiology of invasive ventilation
- Monitoring during invasive ventilation
- Complications of invasive ventilation

### SKILLS

- Clinical assessment of respiratory failure
- Blood gas, pulmonary function, radiology and sleep study interpretation
- Commencing NIV, adjusting settings, interface selection
- Titrating NIV, indication for follow up sleep study
- Managing complications of NIV
- Managing invasive ventilation in collaboration with anaesthesia/intensive care staff

### ASSESSMENT & LEARNING

- Exposure in clinical practice: In-patient and out-patient management of patients with respiratory failure
- Ventilation course
- Attending sleep lab
- Attending PICU /ICU

## Respiratory illness in Neuromuscular / neurological disease

### KNOWLEDGE

- Understand the respiratory complications of neuromuscular / neurological disease including pulmonary function, retention of airway secretions, swallow dysfunction, loss of airway protection, impact of scoliosis and nutrition.
- Sleep-disordered breathing and sleep- related hypoventilation
- Daytime respiratory failure
- Acute respiratory failure
- Clinical assessment
- Spirometry, tests of respiratory muscle strength, measurement and interpretation of blood gas, overnight sleep monitoring
- Studies to identify aspiration lung disease
- Airway clearance techniques
- Respiratory muscle training
- Planning for scoliosis surgery
- Transition to adult care
- Quality of life and palliative care

### SKILLS

- Interpretation of pulmonary function, cough strength and blood gas.
- Sleep studies
- Indications for initiation of non-invasive ventilation
- Management of chronic and acute respiratory failure
- Investigation and management of swallow dysfunction / aspiration
- Advance care planning
- MDT management with neurology, physiotherapy, dietician, OT

### ASSESSMENT & LEARNING

- In-patient and out-patient management of children with respiratory complications of neuromuscular / neurological disease (may be joint clinics with neurology)
- Attend pulmonary function lab and sleep lab
- Attend chest physiotherapy sessions
- Follow BTS and ATS guidelines
- Attend study days, conference

## Psychological factors in respiratory disease

### KNOWLEDGE

- Epidemiology of behavioural and psychological disturbances in paediatric respiratory medicine
- Psychological triggers of respiratory illness
- Psychological impact of respiratory illness on children and their parents / siblings
- Psychological interventions (behavioural therapy, cognitive behaviour therapy, relaxation therapy, family therapy, counselling)
- Role of psychologist / child psychiatry / social work

### SKILLS

- Basic behavioural therapy and relaxation therapy
- MDT interaction with psychology, child psychiatry, social work
- Use of quality of life and psychological questionnaires

### ASSESSMENT & LEARNING

- In-patient and out-patient management of children with psychological issues
- Attend psychology, child psychiatry clinic
- Study days

## Research including randomised controlled trials

### KNOWLEDGE

- Defining a research question
- Research study design
- Different study types (intervention study, cohort, cross-section, case-control)
- Data collection
- Data entry
- Statistical analyses and software
- Record keeping
- Presenting results

### SKILLS

- Writing a research proposal
- Use of statistical software
- Working with a statistician
- Writing up study results (abstract / manuscript)
- Presenting results

### ASSESSMENT & LEARNING

- Completion of a research study during fellowship
- Involvement with RCTs running at study sites
- Research skills course

## Respiratory Epidemiology

**Objective:** To learn how to utilise epidemiological measures to better understand respiratory disease and develop appropriate prevention mechanisms

### KNOWLEDGE

- Definition and classification of epidemiology (e.g. analytical, environmental, etc.) and public health
- Study design
- Disease occurrence measures
- Exposure measures
- Questionnaires
- Functional indices
- Biomarkers
- Determinants/risk factors
- Risk measures
- Basic statistical analyses
- Inference/interpretation
- Introduction to gene - environment interactions

### SKILLS

- Application of the above knowledge
- Ability to apply a study design to a research question
- Ability to implement, administer and analyse a questionnaire
- Ability to think and act in a standardized way
- Ability to interpret epidemiological measures (e.g. prevalence rate, odds ratio, relative risk, attributable risk)
- Ability to make and interpret simple statistical analyses (e.g. Chi squared test, analysis of variance, multiple logistic regression...)
- Ability to perform and interpret simple gene - environment interactions
- Knowledge of the epidemiology (distribution and aetiology) of the major respiratory diseases
- Knowledge of relevant diseases processes
- Commitment to regular personal updating of the evolving pattern of environmental and host-related risk factors
- Applying the principle of precaution
- Reading WHO and related documents
- Develop a preventative mentality

### ASSESSMENT & LEARNING METHODS

- Study Day
- Research Skills course

## Smoking cessation

**Objective:** All physicians should have some training in smoking cessation, in particular trainees in either adult or paediatric respiratory medicine.

### KNOWLEDGE

- Effects of exposure to secondhand smoking on the developing lung and overall health of children.
- Burden of smoking on health from a global perspective (health and economy)
- Beneficial effects of smoking cessation in preventing lung and other medical conditions in adulthood
- Treatment modalities available for smoking cessation

### SKILLS

- Management of smoking cessation therapy (pharmacological as well as nonpharmacological) in groups and in individuals

### ASSESSMENT & LEARNING

- Smoking cessation course

## Skills in Multidisciplinary Working

### KNOWLEDGE

- Importance of team work in achieving good outcomes in healthcare.

### SKILLS

- Be active participant and demonstrate leadership skills in multidisciplinary team in areas such as Cystic fibrosis, sleep medicine or neuromuscular disease.
- Ability to liaise with other subspecialist teams such as ENT, oncology, immunology, cardiology, neurology etc.

### ASSESSMENT & LEARNING

- Regular attendance at team meetings
- Communication skills course
- Attend parent support group

## 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>				
<b>Personal Goals Plan</b> (Copy of agreed Training Plan for your current training year signed by both Trainee & Trainer)	Required	1	Training Post	Personal Goals
<b>On Call Rota</b>	Desirable	1	Training Post	Clinical Activities
<b>Section 2 - Training Activities during clinical years</b>				
<b>Outpatient Clinics</b>				Clinical Activities
General Respiratory	Required	50	Training Programme	
Cystic fibrosis	Required	50	Training Programme	
Non-invasive ventilation/sleep clinic	Required	12	Training Programme	
Neuromuscular clinic	Required	6	Training Programme	
<b>Ward Rounds/Consultations</b>				Clinical Activities
Consultations	Required	20	Year of Training	
<b>Emergencies/Complicated Cases</b> (Diagnosis of nature of problem and its presentation, emergency case investigation)	Optional	1	Training Programme	Cases
<b>Procedures/Practical Skills/Surgical Skills</b>				Procedures
Nasal ciliary brushings	Required	10	Training Programme	
Flexible bronchoscopy	Required	50	Training Programme	
Interpretation and reporting of pulmonary function tests:				
Basic spirometry	Required	50	Training Programme	
Lung volumes	Required	30	Training Programme	
Diffusion capacity (DLCO)	Required	30	Training Programme	
Exercise challenge testing	Required	15	Training Programme	
Cardiopulmonary exercise testing	Optional	5	Training Programme	
Interpretation and reporting of sleep studies:			Training Programme	
Polysomnography	Required	5	Training Programme	
Overnight oximetry	Required	10	Training Programme	
Overnight capnography	Required	10	Training Programme	

Curriculum Requirement	Required/ Desirable	Minimum Requirement	Reporting Period	Form Name
<b>Additional/Special Experience Gained</b>	Optional	1	Training programme	Clinical Activities
<b>Relatively Unusual Cases</b>	Optional	5	Training Programme	Cases
<b>Chronic Cases/Long term care</b>	Optional	5	Training Programme	Cases
<b>ICU/CCU Cases</b>	Optional	5	Training Programme	Cases
<b>Section 3 - Educational Activities</b>				
<b>Courses</b>				Course Attendance
An Introduction to Health Research	Required	1	Training Programme	
Smoking cessation	Required	1	Training Programme	
HST Leadership in Clinical Practice	Required	1	Training Programme	
Mastering Communications	Desirable	1	Training Programme	
Performing Audit	Required	1	Training Programme	
APLS	Required	1	Training Programme	
Paediatric flexible bronchoscopy course	Required	1	Training Programme	
Child protection course	Desirable	1	Training Programme	
Wellness Matters	Desirable	1	Training Programme	
Paediatric ventilation course	Desirable	1	Training Programme	
Paediatric sleep science course	Desirable	1	Training Programme	
Basics of respiratory physiology course	Desirable	1	Training Programme	
<b>Study Days</b>	Required	6	Year of Training	Study Day Attendance
<b>National/International meetings</b> (attend minimum 1 per year)	Required	1	Year of Training	Additional Professional Experience
<b>In-house activities</b>				Attendance at Hospital Based Learning
Grand Rounds (minimum 1 per month)	Required	10	Year of Training	
Journal Club	Required	10	Year of Training	
MDT meetings	Required	10	Year of Training	
Radiology Conference	Optional	5	Year of Training	
Pathology Conference	Optional	1	Year of Training	
<b>Formal Teaching Activity</b> (1 formal teaching session per month from the categories below)	Required	10	Year of Training	Delivery of Teaching
Lecture				
Tutorial				
Bed side Teaching				
<b>Research project</b>	Required	1	Training Programme	Research Activities

Curriculum Requirement	Required/ Desirable	Minimum 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 & QI
<b>Publications</b>	Optional	1	Year of Training	Additional Professional Experience
<b>Presentations</b>	Required	1	Year of Training	Additional Professional Experience
<b>Section 4 - Assessments</b>				
<b>CBD</b>	Required	1	Year of Training	CBD
<b>DOPS</b>				DOPS
Bronchoscopy	Required	1	Training Programme	
Lung Function tests	Required	1	Training Programme	
Nasal brushing	Required	1	Training Programme	
<b>Mini-CEX</b>	Required	2	Year of Training	Mini-CEX
<b>Quarterly Assessments</b>	Required	4	Year of Training	End of Post/Quarterly Assessment
<b>End-of-Post/End-of-Year Assessments</b>	Required	1	Year of Training	End of Year Evaluation