



**FACULTY OF
PAEDIATRICS**

ROYAL COLLEGE OF
PHYSICIANS OF IRELAND

INTERNATIONAL CLINICAL FELLOWSHIP TRAINING IN

PAEDIATRICS

Endocrinology and Diabetics



This curriculum of training in Paediatrics Endocrinology & Diabetics was developed in 2016 and undergoes an annual review by Dr. Declan Cody National Specialty Directors, Dr. Ann O'Shaughnessy, Head of Education and Professional Development and by the Paediatrics Endocrinology & Diabetics 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 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.

Standards of Care

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

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

KNOWLEDGE

Diagnosing Patients

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

Investigation, indications, risks, cost-effectiveness

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

Treatment and management of disease

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

Disease prevention and health education

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

Notes, records, correspondence

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

Prioritising, resourcing and decision taking

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

Handover

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

Relevance of professional bodies

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Dealing with & Managing Acutely Ill Patients in Appropriate Specialties

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

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

KNOWLEDGE

Management of acutely ill patients with medical problems

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

Managing the deteriorating patient

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

Discharge planning

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

- ACLS course
- Record of on call experience
- Mini-CEX (acute setting)
- Case based discussions
- Consultant feedback

Good Professional Practice

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

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

KNOWLEDGE

Effective Communication

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

Ethics

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

Honesty, openness and transparency (mistakes and near misses)

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

Raising concerns about patient safety

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Infection Control

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

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

KNOWLEDGE

Within a consultation

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

During an outbreak

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Therapeutics and Safe Prescribing

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

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

KNOWLEDGE

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Self-Care and Maintaining Well-Being

Objective:

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

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

KNOWLEDGE

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

- Occupational Stress course
- On-going supervision
- Ethics courses
- Leadership in Clinical Practice III

Communication in Clinical and Professional Setting

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

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

KNOWLEDGE

Within a consultation

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

Difficult circumstances

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

Dealing with professional colleagues and others

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

Maintaining continuity of care

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

Giving explanations

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

Responding to complaints

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

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
- Leadership in Clinical Practice III
- 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

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

Scholarship

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

Medical Council Domains of Good Professional Practice: Scholarship

KNOWLEDGE

Teaching, educational supervision and assessment

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

Research, methodology and critical evaluation

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

Audit

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Management

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

Medical Council Domains of Good Professional Practice: Management.

KNOWLEDGE

Health service structure, management and organisation

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

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

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

Maintaining medical knowledge with a view to delivering effective clinical care

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

Delegation skills, empowerment and conflict management

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

General Paediatrics

KNOWLEDGE

The disadvantaged child

- Community problems: racism, bullying, gender issues, traffic-safe play spaces, pollution. Access to health care for marginalised groups
- Local community: demographic structure, areas of deprivation, service provision and access.
- Ethnic minority health needs
- Ability to elicit accurate information about a family's social circumstances with sensitivity.
- Awareness of potential communication problems with people of different social, ethnic and racial backgrounds – strategies to cope with these
- Appreciate the impact on the child's ability
- Develop sensitivity on assessing the impact of being disadvantaged

Health promotion/education

- Knowledge of local and national health promotion initiatives
- Knowledge of health promotion and education in relation to injury prevention
- Knowledge of the role of the public health service.
- Liaise with health promotion departments and other groups involved in health promotion, i.e. PHN, GPs, teachers, school nurses
- Knowledge of the national policy on health gain

Immunisation

- Local and national immunisation policy: role of the local immunisation committee
- Knowledge of infectious diseases controlled by immunisation
- Knowledge of the role of immunisation co-ordinator
- Awareness of groups who do not agree with immunisations and their reasons

Behavioural Paediatrics

- Self-harm in young people and its consequences
- Immediate and longer term reactions to stress, bereavement, loss and trauma and how to manage them as part of a clinical network
- Recognition of time-limited emotional and behavioural symptoms as response to psychological or social stress
- Origin of enuresis and encopresis in children, including those with special needs
- Indirect effects of substance misuse on mental and physical health, through experimental behaviour and lifestyle, the effects on educational, emotional and behavioural development and the impact on self-care skills
- Possible impact of a sleep disorder on child and family
- The association of sleep disorder in developmental disorders such as ADHD, ASD, Learning Disability
- Principles of treatment of chronic fatigue syndrome/ME and the need to engage the family with a rehabilitative approach
- Impact of behaviour disorders on those with developmental difficulties, including specific phenotypes

Child abuse

- Knowledge of forensic medicine, especially in relation to sexual abuse
- Strategies and agencies available to help children and families cope with child abuse
- Develop sensitivity in elucidating information
- Develop understanding of the multifaceted team that may be involved
- Be aware of the importance of accurate assessments
- Knowledge of induced illness

Child protection and children in special circumstances

- The immediate and long term impact of parental factors on outcomes for children in child protection and for children looked after, for example substance misuse, domestic violence, mental health problems, chronic physical illness, learning difficulties
- Health and lifestyle factors of carers/birth parents which may impair the current and future health and wellbeing of children, for example smoking, mental health problems, learning difficulties
- The long term implications of being looked after, for example, the consequences of separation, loss, multiple moves, risk of subsequent abuse in care, disrupted education and routine health care
- Consent and parental responsibility in relation to child protection examinations and the health needs of looked-after children and the relevance of the child's care status
- Understand the role and responsibilities of the named and designated professional for child protection and looked-after children
- Be aware of the difficulties of asylum seekers, refugees, travelling families, Forces families and young carers

Developmental Paediatrics

- Diagnosis
- Parental Diagnosis
- Management

Neurological and Developmental disorders

- General
 - The acute management of neurological emergencies in childhood: organising transfer to the specialist unit: safe transport
 - The inter-relationship of neurological diseases with other body systems, including growth and nutrition: feeding difficulties, reflux, aspiration
 - Paediatric assessment of the child with hearing and/or vision impairment
 - The child with regression in abilities – causes and investigation
 - Liaison with the specialist, district clinics: when to seek specialist advice
- Diagnostic methods
 - appropriate use of neuroradiology and other screening modalities
 - significance of common patterns of abnormality on the EEG
 - of the place for special investigations e.g. nerve conduction, electromyogram, muscle biopsy, MRI
 - Neurometabolic investigations (in conjunction with the specialist laboratory)
- Therapy
 - Basic knowledge of aids to treatment and rehabilitation: hearing and vision aids, eating, mobility aids, orthosis, communications aids, computers etc.
 - The principles of management of behaviour disorders, including counselling and psychotherapy
- Multidisciplinary approach
 - Use a team approach to management of neurological and developmental disorders, and understand its advantages and limitations
 - Understand the methods used by occupational, speech and physiotherapists, nurses, specialist health visitors, play therapists, dieticians, clinical and educational psychologists, teachers and social workers in assessment, treatment and rehabilitation
 - Knowledge of the methods used by other medical specialists including paediatric neurologists, ophthalmologists, ENT surgeons, community paediatrician, child and adolescent psychiatrist, neurosurgeon
 - Planning handover to adult services
- Appreciate the importance of early diagnosis and family support
- Appreciate the importance of a co-ordinated multidisciplinary assessment and management plan

Movement problems

- Normal variations in motor development: rollers, shufflers
- Abnormal patterns of development
- Appreciate importance of multidisciplinary approach to assessment
- Enforce need for ongoing assessment of patient

Speech and language

- Knowledge of:
 - developmental phonological problems: deviant patterns
 - developmental language delay: differentiation
 - role of speech therapist in disorders of language, phonology, articulation/feeding
 - taking a history of communication and language development
 - role of speech therapist in assessment
 - importance of treatment speech plan

Developmental paediatrics

- Understand the common causes and the patterns of disability
- Understanding of the tests of cognitive function
- Competence in assessing disability at different ages, in conjunction with other relevant specialists
- Acknowledge the impact on child and family inclusive of schooling

Behavioural and psychological problems

- Members and roles of the child and family counselling team
- Other health service resources available to families
- How to apply a child psychiatry perspective to normal, as well as abnormal illness behaviour, as encountered in all aspects of child health
- Understanding the concept of therapeutic interventions used and perspectives in child psychiatry, psychology and psychiatric social work
- Understand the use of behaviour questionnaires
- Knowledge and understanding of drug and alcohol abuse
- Knowledge of normal and abnormal reactions to stress, bereavement, chronic illness, death
- knowledge of how to take a detailed child psychiatric history, including eliciting painful information sensitively and efficiently
- Make a mental state examination
- Use and understand non-verbal communication
- Define which are appropriate referrals to child psychiatry and psychology
- Learn to be sensitive to opportunities for therapeutic intervention during history taking
- Learn basic skills in supportive psychotherapy, behaviour therapy, family therapy
- Develop sensitivity to the impact of behaviour and psychological problems on relationships and family functioning
- Knowledge of Autism, ADHD, learning disabilities
- Knowledge of tests to determine brain death

Nutrition and Metabolic Disease

- Methodologies of energy expenditure
- Principles of dietary analyses: indications and procedures
- Understanding of measurement of body composition
- Nutrient turnover: obligatory nutrient losses
- Advise on health eating for normal children, including minority groups
- Prescribe parenteral nutrition
- Use and care of central venous catheters
- PEGs
- Be willing to discuss impact of disease (disease burden) on family functioning

Metabolism

- Normal physiology and biochemistry, including changes during childhood of:
 - Fluid and electrolyte balance
 - Acid base regulation
- Intermediary metabolism including glucose and metabolic response to fasting, lactate, ammonia, amino acids, organic acids, fatty acids
- Calcium metabolism

SKILLS

- History taking
- Take a detailed history, including eliciting painful information sensitively and efficiently
- Detailed developmental and neurological assessment
- Drawing up a management plan, taking into account continuing medical problems and attendant social, educational and psychological factors
- Work as part of a clinical network in management of childhood issues
- Reassure and advise parents and professionals on management
- Assess injuries in relation to history, developmental stage and ability of the child
- Recognise when additional expert advice is needed, for example radiology, orthopaedics, neurology, ophthalmology
- Recognise fabricated or induced illness including the significance of repeated or bizarre physical symptoms and be able to take appropriate action and be able to access help at an appropriate time
- Multidisciplinary team working
- Co-ordination of care for the critically ill child, the initial management of neurological emergencies, the principles of safe transport
- Make a mental state examination
- Differential diagnosis

ASSESSMENT & LEARNING METHODS

- Attend outpatient clinics
- Inpatient care

Emergency Medicine

KNOWLEDGE

Accident prevention

- Understanding models and strategies of prevention

Principles of emergency care

- Recognition and management of non-accidental injury
- Resuscitation: recognition of treat to life and limb
- Assessment and initial management of the seriously injured child
- Organisation of safe transport
- Paediatrician's role in major incident planning
- System Emergencies:
 - Cardiovascular:
 - Resuscitation of infants and children
 - Recognition and management of shock (including septicaemia)
 - Supraventricular and ventricular tachycardias: bradycardias
 - CNS:
 - Coma: emergency management of raised intracranial pressure
 - Seizures: management of status epilepticus
 - Meningitis
 - Pain relief
 - Respiratory:
 - Recognition and management of acute respiratory failure
 - The choking child and upper airway obstruction
 - Inhalational injury and carbon monoxide poisoning
 - Management of severe or life-threatening asthma
- Behavioural:
 - Deliberate self-harm
 - Alcohol and other drug misuse
- Social: (see also community paediatrics)
 - Frequent attenders
 - Environmental
 - Burns and scalds: assessment: initial management: when to transfer to the burns unit
 - Electrical injury
 - Treatment of poisoning
 - Anaphylaxis
 - Musculoskeletal trauma including:
 - common childhood fractures
 - minor injuries
 - head injuries
 - the limping child
- APLS (will be expected from trainees in general paediatrics)
- Basic airway management
- Intra-osseous access
- Understanding of the importance of trauma as a cause of morbidity and mortality in childhood
- Awareness of the importance of early recognition and management of potentially life-threatening illnesses to minimise morbidity and mortality

Accidents

- Understanding of injury surveillance systems
- Liaise with A&E Department for:
 - Training of staff
 - Provision of child appropriate service
 - Setting up of information systems
 - Support for parents whose child has died suddenly
- Demonstrate an ability to liaise with General Practitioners
- Appreciate importance of Team Relationships
- Appreciate detection of sentinel events to detect NAI (non-accidental injury) and non-accidental ingestions

SKILLS

- Assessment and initial management of the seriously injured child
- Management of non-accidental injury
- Resuscitation
- Organisation of safe transport

ASSESSMENT & LEARNING METHODS

- Experience in Emergency Department
- ACLS

APLS

Specialty Section

Hormones: The Pathophysiology of the Endocrine System

Objective: To understand and be able to explain the normal and abnormal production of hormones, their regulation and effects and the means of assessing the structures and functions of the endocrine system. To be capable of applying this information correctly and efficiently in the diagnosis and management of endocrine disease.

The Endocrine Glands, their Hormones, Effects and Mechanism of Actions, Pathology in Disease

Objective: To understand and be able to explain the production and actions of hormones and the pathogenesis of diseases of the endocrine system.

KNOWLEDGE

Anatomy, physiology and pathology

- The development, anatomy, histology, functions and inter-relationships of the endocrine glands and tissues
- Synthesis, secretion, transport, regulation of hormones and the mechanisms by which they produce their effects in health and disease
- Pathogenesis of endocrine diseases: infection, inflammation, auto-immunity, benign and malignant, functioning and non-functioning tumours, hyperplasia, atrophy

SKILLS

- To be able to apply knowledge to the diagnosis and effective management of endocrine disease
- Fully utilises opportunities and resources for self-directed learning, eager to learn, inquisitive, industrious

ASSESSMENT & LEARNING METHODS

- Teaching medical students
- Provide talks at laboratory to scientists
- Prepare and deliver presentations to non-medical staff
- Study Day

Clinical and Laboratory Assessment of Endocrine Function

Objective: To have the knowledge and skills to make a clinical assessment of endocrine function. To select, arrange, explain and interpret investigations and tests appropriate to the child's and adolescent's needs.

KNOWLEDGE

Assessment of endocrine function

- To know and to be able to recognise the symptoms, signs, biochemical and other manifestations of abnormal endocrine function
- To understand and directly observe the principles of and techniques employed in hormonal assays and the laboratory assessment of endocrine function
- To have knowledge of the tests available, the "normal" ranges, variability and possible artefacts relevant to interpretation
- To be capable of explaining and advising on the selection of tests appropriate to the patient's needs; the collection, timing and storage of specimens, on stimulation and suppression techniques. To be able to interpret the results correctly
- To properly obtain fully informed consent
- To recognise the potential for misinterpretation of results due to collection, methodological errors, extraneous substances
- To be able to elicit from children and adolescents relevant symptoms and physical signs and interpret correctly positive and negative clinical findings in order to reach a working diagnosis and/or arrange appropriate investigations
- To appreciate the child/adolescent and their parents/carers fears and uncertainties and be prepared to discuss and deal with these sensitively, encouraging their contributions to the decision-making process and respecting the right of the individual to consider, accept or to refuse medical advice

SKILLS

- Interpretation of investigations

ASSESSMENT & LEARNING METHODS

- CBD
- MDT Meetings
- Case presentations

Imaging Techniques in Endocrinology

Objective: To have the knowledge and skills necessary to select, explain, arrange and interpret the imaging technique(s) most appropriate to each child's/adolescent's needs.

KNOWLEDGE

Imaging in endocrine disease

- Know the potential contribution and the limitations of radiological techniques to the diagnosis and assessment of endocrine diseases from radiography, CT, MRI, nuclear medicine scanning and ultrasonography
- To know and understand the principles of the imaging techniques available for demonstrating endocrine tissues and their function
- To make appropriate referrals, complete documentation accurately to assist in the interpretation of CT and MRI scans of the pituitary region, adrenals, orbits etc; ultrasonography of the thyroid, ovaries; and radio-isotope scanning of the thyroid, adrenal glands
- To participate in joint endocrine/radiology meetings and be able to interpret MRI scans of the pituitary region and thyroid and adrenal imaging
- Recognises the importance of explaining the purpose and the results of investigations using appropriate language

SKILLS

- Appropriate diagnostic testing

ASSESSMENT & LEARNING METHODS

- CBD
- MDT meetings
- DOPs: interpret CT/MRI scans

Diabetes Mellitus

Objective: To acquire the knowledge and skills necessary to correctly diagnose and manage children and adolescents with diabetes mellitus and its complications.

Diagnosis and General Management of Diabetes and Genetic Forms of Diabetes

Objective: To be competent to diagnose and manage Type 1 (insulin dependent) and Type 2 diabetes. Although the vast majority of children and adolescents may have Type 1 diabetes, it is important to be aware of and manage Type 2 diabetes in children and adolescents.

KNOWLEDGE

Classification and diagnosis

- The classification, different types and sub-types of diabetes, their aetiology, genetics; the natural history and pathology of those diseases and their complications
- Glucose homeostasis, the principles, design and interpretation of glucose tolerance testing
- To understand the differences in presentation of diabetes in different ethnic groupings
- To be able to perform a full clinical examination on a person suspected as having diabetes, discover and accurately report on any evidence of the disease and its complications: interpret and explain the findings
- To be able to perform and interpret correctly the results of tests for glucose tolerance
- To be aware and sensitive to the impact a diagnosis of diabetes will have on the child/adolescent and their family

General management, treatment

- Principles, objectives of management of both Type 1 and Type 2 diabetes
- Medical nutrition therapy. Exercise. Actions, use of anti-diabetic agents, other drugs
- Insulins, their delivery, dose adjustment; monitoring glycaemic control
- Involvement in structured education programmes for the delivery of diabetes care to children and adolescents with Type 1 and Type 2 diabetes
- Appreciates contributions from other specialists and health professionals (including specialist nurses) to general management of diabetes
- Aware of potential contributions from patient support groups, family members

Diabetes and the young

- Understand how diabetes affects children, adolescents and of the physiological, psychological and social problems experienced
- Special care needs of young people with diabetes and for transition to a service for adults
- Recognise and identify as risk – taking the behaviour of young people with diabetes, recognise their special need for understanding and support
- Enlist the child's/adolescent's and parents/carers involvement in management
- Non-judgemental response to the difficulties/needs of young
- Understanding of the impact of psychosocial factors on adolescents with diabetes and the control of their disease

Social and Practical Aspects

- Home blood sugar testing (through attendance at Diabetes Day Centre): insulin administration devices
- Support services available
- Implications for employment, driving

- Patient education regarding above, advising about hypo/hyperglycaemia, diet, exercise and weight control; smoking; alcohol
- Prepared to listen; recognises patient's concerns; encourages patient to participate in and share responsibility for management

SKILLS

- Diagnose and manage Type 1 and Type 2 diabetes
- Devising individualised treatment plans, advising on choice of treatments, drugs and insulin adjustments based on monitoring glucose etc.
- Screening for and detecting early signs of complications; avoiding, recognising, correcting hypoglycaemia
- Specific management issues of the preschool child with Type 1 diabetes
- Education for the child/adolescent and parent/carer
- Management of insulin pump
- Ability to decide who's the best patient for the pump
- Carbohydrate counting
- Home blood sugar testing
- Liaise with endocrine colleagues in relation to transition of adolescence

ASSESSMENT & LEARNING METHODS

- Study Day
- Attend diabetes clinics
- Involvement in adolescent diabetes camps is desirable
- Liaise with psychology team

Diabetic Emergencies

Objective: To be able to diagnose correctly, manage effectively and efficiently and prevent future recurrences of severe hypoglycaemia, hyperglycaemic emergencies and related metabolic decompensations.

KNOWLEDGE

Hypoglycaemia, hyperglycaemia

- Precipitating factors, evolution, clinical features, metabolic consequences of keto-acidosis, hyperglycaemia and other metabolic decompensations
- Causes of hypoglycaemia, presentation, hypoglycaemic unawareness, sequelae
- Identifying hypoglycaemic unawareness, “risk-taking” behaviour, patients with “brittle” diabetes
- Attentive to patient’s needs, listens, is prepared to adjust, re-adjust, individualise treatment plan

Diabetic ketoacidosis

- Understand the pathophysiology of diabetic ketoacidosis
- Be aware of potential complications including cerebral oedema
- Know about the evidence base supporting the ketoacidosis management guidelines

SKILLS

- To distinguish, effectively manage severe hypoglycaemia, hyperglycaemia and associated metabolic disturbances presenting as emergencies and to advise on the means of preventing recurrences
- Continuous Subcutaneous Insulin Infusion (CSII) troubleshooting
- Keytone testing
- Know how to treat and monitor progress
- Recognise the clinical features of this condition
- Lead the team when initiating resuscitation and early treatment
- Manage ongoing treatment safely with guidance
- Recognise potential complications including cerebral oedema
- Manage diabetic ketoacidosis according to guidelines that have been agreed nationally and internationally
- Manage potential complications in cases of diabetic ketoacidosis, including cerebral
- Assess whether any change to insulin treatment is needed to prevent recurrence in diabetic patients
- Recognise the need to inform the diabetes team of serious hypoglycaemia in their patients
- Treat hypoglycaemia safely and effectively with intravenous glucose or glucagon where appropriate
- Assist with local protocol drafting
- Manage diabetic emergencies

ASSESSMENT & LEARNING METHODS

- CBD

Intercurrent Events Complicating Management (Sick Day Rules)

Objective: To be competent to advise on the appropriate management and continuing care of the child/adolescent with diabetes in the presence of intercurrent infection, other disease; in the young and during pregnancy.

KNOWLEDGE**The management of diabetes in the presence of various intercurrent events**

- Awareness of the appropriate adjustments to the management of the diabetic child and adolescent in the presence of infection, other diseases and in relation to an operative procedure
- Able to maintain control of the diabetic state pre- and post- operatively and during intercurrent illness
- Appreciation of the importance of good glycaemic control during intercurrent illness and ability to communicate this to the child/adolescent, their parents/carers and health care professionals. Ability to alleviate the child's and adolescent's concerns re deterioration of glycaemic control at times of stress/intercurrent illness

SKILLS

- Ability to maintain control of diabetes in children and adolescents who are unable to eat, are on enteral or parenteral feeding and in the intensive care setting

ASSESSMENT & LEARNING METHODS

- Case based discussion
- Study Day
- Attend diabetes clinics

Microvascular Complications of Diabetes

Objective: To have the knowledge and skills necessary to understand the pathogenesis of the microvascular complications of diabetes mellitus, the principles and practice of screening for and management of ophthalmic, renal, neuropathic and other effects.

KNOWLEDGE

Eye disease in diabetes

- How diabetes may affect the eyes, cataracts, retinopathy (mild moderate and severe non-proliferative retinopathy), ophthalmoplegia
- Understand and be able to explain strategies for prevention, treatment of diabetic eye disease
- Range of services provided for visually impaired (partially sighted); implications for driving and employment
- Inform and advise on treatment options, make appropriate referrals for ophthalmic opinion
- Understand the difficulties for children and adolescents and their families in adjusting to visual impairment. Offer appropriate support particularly re insulin administration and blood glucose monitoring

Renal disease in diabetes

- Pathology/pathogenesis of renal disease in diabetes, effects, natural history and prognosis
- Significance of micro-albuminuria, hypertension, overt nephropathy, increased risk of infection, renal papillary necrosis
- Principles of management to preserve renal function
- Diagnosing micro-albuminuria, diabetic nephropathy, optimal management of BP, glycaemia, renin-angiotensin system to preserve kidney function
- Informing and advising children and adolescents and their parents/carers on the implications of renal involvement, on treatment options available, the use, benefits and effects of therapeutic interventions
- Refer appropriately for nephrology opinion, dialysis, transplant
- Understand potential impact of immunosuppressants on diabetes control

SKILLS

- Interpret retinal photographs
- Able to recognise, correctly diagnose, assess and manage appropriately the varied clinical neurological manifestations, including sensory impairments, dyesthesiae, loss of muscle power, postural hypotension, diarrhoea in the rare instances in late adolescence
- Appropriate referral to national diabetic retinal screening

ASSESSMENT & LEARNING METHODS

- Study day

Macrovascular Complications of Diabetes Mellitus

Objective: To have the knowledge and skills necessary to understand the pathogenesis of macrovascular disease as it occurs in diabetes and to be able to provide appropriate advice on its prevention and management.

KNOWLEDGE

Clinical macro vascular disease

- Contributions from arteriosclerotic disease, hyperlipidaemia, coagulative abnormalities, hypertension to premature, severe arterial disease in diabetes
- Particular risk from smoking
- Able to recognise and assess effects of pathology in coronary, cerebral (neck), aortic, renal, pelvic, leg etc. vessels and advise on investigations appropriate to patient's needs
- Recognise and manage other vascular risk factors including hyperlipidaemia and hypertension
- Refer appropriately
- Advise/assist patient to stop smoking
- Be aware of issues regarding compliance with medication and be able to explain clearly to the children and adolescents and their parents/carers the rationale and importance of compliance

SKILLS

- Recognise and manage vascular risk factors
- Manage vascular complications

ASSESSMENT & LEARNING METHODS

- CBD

Other Metabolic Disorders

Objective: To have the knowledge and skills necessary and be competent to advise on the appropriate management of disorders of nutrition and metabolism including disorders of appetite and weight.

Disorders of Appetite and Weight

Objective: To understand and be able to explain the physiology of appetite regulation, energy requirements and balance; the causes, pathophysiology, psychology of obesity, and of eating disorders and their endocrine effects.

KNOWLEDGE

Obesity

- Obesity as a health problem, causes, risk to health, treatment options, principles of management including role of bariatric surgery
- The metabolic syndrome
- Measuring obesity, estimating energy intake/expenditure, appropriate dietary prescription.
- Appropriate referral to other health professionals, slimming agencies
- Non-judgemental, supportive approach, prepared to share responsibility with patient to achieve agreed, attainable goals

SKILLS

- Recognition, investigation and appropriate management of eating disorders including obesity

ASSESSMENT & LEARNING METHODS

- CBD
- Study Day
- Attend obesity service
- Attend endocrinology clinics
- MDT meetings

Hyper- and Hypo-natraemia

Objective: To understand and be able to explain water and sodium homeostasis and to be competent to recognise and advise in the management of hyponatraemic and hypernatraemic states.

KNOWLEDGE**Hyper- and hypo-natraemia**

Water and sodium homeostasis, renal regulation of sodium homeostasis and their abnormalities

Classification and causes of hypo and hypernatraemia, polyuria and polydipsia. Inappropriate ADH secretion syndrome

Recognise circumstances potentially leading to hypo/hypernatraemia, able to detect clinical features, interpret correctly plasma/urinary chemistry

Diagnose cause, institute appropriate treatment for acute and chronic hypo- and hypernatraemia

Appreciate the complex nature of treating severe degrees of hyper- and hyponatraemia

Close liaison with other health care professionals involved in managing children and adolescents with disorders of sodium balance to help prevent recurrences

SKILLS

- Recognise, diagnose and manage hyponatraemic and hypernatraemic states

ASSESSMENT & LEARNING METHODS

- CBD
- Study day

The Endocrine Glands and Their Diseases

Objective: To be able to identify the clinical presentations of diseases of the endocrine glands and to be able to investigate appropriately, correctly diagnose and manage children and adolescents suspected as suffering from such diseases.

Hypoglycaemia

Objective: To diagnose the cause and correctly manage hypoglycaemia in order to prevent recurrences and to prevent disability.

KNOWLEDGE

Hypoglycaemia

- Physiology of glucose control
- Symptoms, signs and consequences of hypoglycaemia
- Causes e.g. other endocrine, hepatic, factitious, congenital hyperinsulinism, adrenal insufficiency
- Recognise, correctly diagnose pathological hypoglycaemia, investigate appropriately and interpret results to identify cause of fasting and reactive types
- To understand the impact of hypoglycaemia on children and adolescents' quality of life and alleviate children and adolescents' and their parents/carers concerns regarding symptoms and potential complications
- To recognise potential settings in which factitious hypoglycaemia may be a possibility and ability to handle these situations sensitively
- Know the causes, complications and treatment in the neonatal period and beyond
- Know that blood glucose is an urgent investigation in patients with impaired conscious level
- Be aware of the clinical features which would suggest hypopituitarism or adrenal insufficiency
- Know when to consider rare causes of hypoglycaemia and what investigations to perform during the hypoglycaemic episode
- Know about counter-regulatory hormone response to hypoglycaemia

SKILLS

- Diagnose, investigate and manage hypoglycaemia
- Take relevant investigations required for the confirmation of cause
- Liaise with adult endocrinology colleagues and arrange transition

ASSESSMENT & LEARNING METHODS

- CBD
- MDT discussions

Hypothalamic and Pituitary Diseases

Objective: To have the knowledge and skills necessary to be able to diagnose deficiencies or excessive production of pituitary hormones and to recognise the local and systemic effects of the lesions responsible for anterior and posterior pituitary and hypothalamic disorders: to identify and manage the pathology responsible and the endocrine disease caused.

KNOWLEDGE

Hypothalamic syndromes

- The regulatory and integrative functions of the hypothalamus, its hormones and releasing factors
- Congenital and acquired hypothalamic diseases and injuries
- Recognising distortions of appetite, sleep, thirst etc as potential features of hypothalamic syndromes
- Correctly diagnosing and managing the pathology responsible and endocrine/metabolic effects
- Understanding and managing the psychological impact of hypothalamic disease on children and adolescents

Pituitary diseases

- Pituitary structure and functions, hormones and their actions, hormone deficiencies
- Strategies for the assessment of anterior and posterior pituitary function, assessment of visual fields
- Hyperplasia and increased activity, non-functioning and functioning pituitary tumours; prolactinomas, Cushing's Disease, Craniopharyngioma, mass effects
- Treatment options, including irradiation, surgery, medical treatment
- Genetic and acquired hypopituitarism, causes, effects, replacement of adrenal, thyroid, gonadal axes
- Growth hormone deficiency
- Be able to select, arrange and interpret basal and dynamic tests of pituitary function, imaging and other investigations appropriate to children and adolescents' needs
- Competence to diagnose and manage diabetes insipidus, to diagnose and provide the initial and long-term medical management of anterior and other posterior pituitary diseases
- Able to recognise and manage appropriately children and adolescents with SIADH, thirst dysregulation and other disorders of fluid balance
- Make appropriate referrals for pituitary surgery, radiotherapy: supervise perioperative management of children and adolescents
- Advise children and adolescents and their parents/carers on appropriate doses of replacement hormones including stress doses of steroids

SKILLS

- Investigation and management of hypothalamic and pituitary diseases
- Dynamic testing DOPs e.g.,
 - Insulin Tolerance Test
 - ACTH Stimulation Test
 - Supervision of Prolonged Fast
 - LH-RH Testing

ASSESSMENT & LEARNING METHODS

- Study Days
- Dynamic testing
- Hypothalamic
- MDT discussions

The Thyroid Gland

Objective: To have the knowledge and skills necessary to be able to diagnose deficiencies or excessive production of thyroid hormones and to recognise the local and systemic effects of the lesions responsible: to identify and manage the pathology responsible and the endocrine disease caused.

KNOWLEDGE

Thyroid disease

- To understand thyroid disease in terms of the physiology and biochemistry of thyroid hormones, iodine metabolism, auto-immunity and the pathogenesis of malignant disease
- Tests of thyroid function, their interpretation, and value, assay interference: imaging and the use of radio-isotopes in the investigation of thyroid disease
- Causes of hyper and hypothyroidism
- Causes and types of goitre
- Competent to diagnose, assess and appropriately manage hyperthyroidism and its systemic effects; use appropriately anti-thyroid and other drugs; refer for radioactive iodine and surgery as necessary
- Able to provide emergency treatment (for thyroid "Storm" and Myxedema Coma)
- Recognition, assessment, medical management and appropriate referral of children and adolescents with significant ocular involvement (Grave's eye disease)
- Able to assess and advise on the management of non-toxic goitre, multi-nodular goitre and solitary thyroid nodules
- Refer for fine-needle biopsy as appropriate
- Diagnose thyroid carcinoma, recognise the place for TSH suppression, radioactive iodine and/or surgery; refer appropriately
- Able to differentiate primary and secondary causes of hypothyroidism including inherited enzyme defects, peripheral resistance to thyroid hormones and to manage appropriately hypothyroidism in the newborn, in childhood and older people, treat severe cases including myxoedema coma
- Supervision of perioperative care of children and adolescents undergoing thyroid surgery (especially hyperthyroid children and adolescents)
- Managing thyroid disorders during and after pregnancy
- Recognise and treat acute, subacute and chronic thyroiditis
- Differentiate non-thyroidal illness simulating thyroid disease
- To understand and recognise potential psychological/psychiatric manifestations of thyroid diseases e.g. anxiety in hyperthyroidism, and their impact on children and adolescents and their perceptions of their conditions

SKILLS

- Diagnosis, investigation and management of thyroid disease

ASSESSMENT & LEARNING METHODS

- Study Day
- CBD

The Adrenal Glands

Objective: To have the knowledge and skills necessary to be able to recognise the manifestations of excessive production or deficiencies of the hormones produced by the adrenal glands: to understand and identify the pathogenesis and to be competent to differentiate and manage appropriately the endocrine syndromes resulting.

KNOWLEDGE

Adrenocortical diseases

- The biochemistry, production, regulation and actions of the hormones produced by the adrenal cortex. Abnormal production and effects e.g. in Cushing's syndrome, congenital adrenal hyperplasia (CAH), hyperaldosteronism and Addison's disease
- Imaging techniques available to assist management
- Aetiology of varieties of Cushing's, tests and investigations of value in diagnosis and differential diagnosis, differentiation from pseudo-Cushing's
- Adrenal androgen excess. Androgen secreting tumours. Genetic, biochemical and enzymic abnormalities of CAH; clinical features in babies, children and adults
- Causes of primary hyperaldosteronism, appropriate treatment. Other causes of hyperaldosteronism
- Pathogenesis, laboratory investigation and diagnosis of primary hypoadrenalism (Addison's disease) other causes of adrenal insufficiency
- Screening, the appropriate selection and performance of basal and dynamic tests of adrenal function and the pituitary-adrenal axis, correct interpretation of results and biochemical findings
- Appropriate use of imaging
- Diagnosis and management of children and adolescents with Cushing's syndrome, CAH, hyperaldosteronism.
- Investigation and management of suspected primary and secondary adrenal failure, perioperative care, treatment of acute adrenal insufficiency
- Understanding the impact of adrenal diseases on patient's quality of life
- Education of children and adolescents and their parents/carers regarding the nature of adrenal disease, the impact on their health and the complex nature of the investigation and treatment of adrenal conditions

Phaeochromocytoma, paraganglioma

- Neuroectodermal origin of tumours
- Familial cases and associated diseases, principles of investigation, suppression tests, localisation
- Competent to investigate fully and carefully, and correctly interpret results in a suspected case
- Refer appropriately for surgery, perioperative care with emphasis on preoperative blood pressure control
- Be able to discuss risks associated with surgery with children and adolescents, their parents/carers, families, surgeons and anaesthetic staff

SKILLS

- Diagnosis, investigation and management of deficiencies of the adrenal glands
- Dynamic testing of adrenal glands

ASSESSMENT & LEARNING METHODS

- CBD
- Study Day

The Endocrinology of Puberty and Reproduction

Objective: To understand the physiology and endocrinology of reproduction: to have the knowledge and skills necessary to investigate, identify and advise on the management of gonadal and other endocrine disorders affecting the reproductive system in females and in males.

KNOWLEDGE

Development and differentiation of sexual characteristics

- Understand the process of sexual differentiation and development, the genetic and hormonal influences relevant; abnormalities encountered, intersex states
- Normal, delayed and precocious puberty
- Gonadotrophins, sex hormones from testicular and ovarian, adrenal and other tissues, actions and interactions
- Investigate and manage common chromosomal disorders such as Turner's and Klinefelter's (attend a minimum of 10 Paediatric endocrinology clinics)
- Adopt a non-discriminatory, non-judgemental attitude to all children and adolescents, recognising and respecting their rights as individuals equally so in the case of children and adolescents with physical, mental and learning disabilities

Primary and secondary gonadal dysfunction in females and males

- Causes of menstrual irregularly, amenorrhoea, ovarian dysfunction, primary and secondary ovarian failure, infertility: hirsutism and the causes of virilism in female
- Know of and understand the polycystic ovary syndrome, its metabolic and reproductive aspects, clinical features of ovarian tumours
- Causes of hypogonadism in males, androgen deficiencies both congenital and acquired; characteristic hormonal profiles
- Cryptorchidism, gynaecomastia.
- Types, effects, presentation of testicular tumours
- Assess, investigate appropriately women presenting with hirsutism, virilization, polycystic ovarian syndrome
- Deals appropriately with child's/adolescent's concerns, sensitivities in a professional manner, explains using appropriate language, checks for understanding

SKILLS

- Perform complete physical examination relevant to reproductive system, perform and interpret functional tests of the hypothalamic – pituitary – gonadal axis, obtain samples for and interpret results of cytogenetic analyses, arrange for imaging and/or biopsy as appropriate for patient's need
- Able to assess, investigate and manage appropriately adolescent girls with a menstrual disturbance
- Able to investigate fully, identify the cause and manage appropriately male and female children and adolescents presenting as a result of primary or secondary gonadal failure
- Competent to assess, investigate and advise on the management of gynaecomastia

ASSESSMENT & LEARNING METHODS

- Study Day

Growth and Development

Objective: To have the knowledge and skills necessary to assess growth and development and to be competent to diagnose correctly and manage disorders of growth and maturation.

KNOWLEDGE

Development and growth

- Sexual determination and differentiation, endocrine influences on growth and development through childhood and puberty
- Differential diagnosis of short stature and growth retardation, delayed puberty and premature sexual maturation
- Able to differentiate genetic, endocrine, metabolic causes, diagnose and manage disorders of growth and maturation responsible for abnormally short or tall stature
- Appropriate use of growth hormone, growth-promoting agents in children
- Understanding the psychological impact of disorders of growth and development on children and their families
- Education and reassuring children and adolescents with disorders of growth and development and their families as appropriate

Delayed and early puberty

- Know the causes of early and late puberty
- Know the causes and possible investigation of early and late puberty
- Know the central and peripheral causes and the investigation of premature sexual maturation
- Know the causes and investigation of delayed or absent pubertal development

Short & tall stature

- Know the causes of short stature or slow growth and the characteristics of these conditions
- Know when short stature needs to be investigated
- Understand and know the rationale behind the baseline and subsequent investigations
- Be aware of treatments that are suitable for pathological short stature
- Know about the causes of tall stature
- Be familiar with the common syndromic causes of short stature
- Know the guidelines on the use of growth hormone, including the reinvestigation of those who have reached final height, and the use of growth hormone in the adult

SKILLS

- Measurement of height and weight, use of growth charts, radiology, endocrinology in the assessment of growth, age, maturity
- Recognise when the cause may be pathological rather than physiological
- Recognise the condition, initiate appropriate diagnostic tests and outline management and referral criteria
- Monitor and treat delayed puberty to full maturity
- Explain to parents/carers and children/adolescents the non-serious causes of short stature e.g. genetic short stature, constitutional delay and hypothyroidism
- Recognise the need to rule out Turner's syndrome as a cause of short stature in girls
- Diagnose, screen and manage the care of girls with Turner's syndrome
- Score a bone age

ASSESSMENT & LEARNING METHODS

- Attend endocrinology clinics
- Study Day

Calcium Metabolism and Bone; The Parathyroid Glands

Objective: To understand calcium homeostasis and bone metabolism and have the knowledge and skills to diagnose and manage hyper and hypocalcaemic states, parathyroid disorders and metabolic bone disease.

KNOWLEDGE

Parathyroid hormone (PTH), calcitonin and vitamin D

- The origin, production regulation and actions on the gut, kidney and bones of PTH and calcitonin
- Understand calcium and phosphate homeostatic mechanisms, the biological effects and metabolism of the D vitamins: the biology of bone formation, mineralization and resorption
- Hyperplasia, adenomas and carcinoma of the parathyroids, medullary carcinoma of thyroid and associations with M.E.N
- Understanding of the genetic basis of rare genetic disorders such as MEN and ability to educate children and adolescents and their parents/carers regarding risk of transmission/referral of children and adolescents to appropriate specialists

Disordered parathyroid function

- To be aware of the symptomatic and asymptomatic presentation of hyperparathyroidism
- The causes of primary and secondary hyperparathyroidism and of hypoparathyroidism, also their biochemical profiles and radiological features
- To assist and advise in the localisation of the pathology, select and refer for surgery
- Able to supervise/provide immediate and long-term postoperative care
- Able to differentiate and manage hypoparathyroidism and pseudohypoparathyroidism
- Understanding of the importance of careful patient selection for surgical interventions of hyperparathyroidism and communication of information to children and adolescents and their parents/carers to assist them in decision-making
- To understand and communicate the importance of compliance in management of hypoparathyroidism and pseudo-hypoparathyroidism

Vitamin D and metabolic disease of bone

- Hypervitaminosis D, vitamin D deficiency states and resistance: causes and clinical presentations, rickets and osteomalacia
- Radiology of metabolic diseases of bone, measuring bone density, turnover, mineralisation
- Able to recognise, correctly diagnose cause and manage, vitamin D deficient states, rickets/osteomalacia
- Ability to identify and advise children and adolescents and their parents/carers at risk of vitamin D deficiency
- Know when to liaise with adult colleagues on conditions which are transitional

SKILLS

- Able to appropriately investigate and interpret findings in disorders of calcium and bone metabolism, including those due to disorders of the parathyroids, Vitamin D deficiency and renal disease
- To correctly diagnose the causes of hyper/hypocalcaemia and provide the appropriate management including for acute emergency presentations
- Able to diagnose and differentiate primary and secondary causes of hyperparathyroidism and provide management appropriate to children and adolescents' needs
- Appropriate screening for osteoporosis, diagnosis, causes, risks: advise on prophylaxis, assess and manage established osteoporosis

ASSESSMENT & LEARNING METHODS

- Study Day
- Attendance at specialty bone clinics
- CBD

The Diffuse Endocrine System

Objective: To have the knowledge and skills necessary to recognise the effects and identify the cause and origin of excessive production of the hormones of the diffuse endocrine system (neuro endocrine tumours).

Neuro-Endocrine Tumours and their Effects

Objective: To have the knowledge and skills necessary to recognise the effects and identify the cause and origin of excessive production of the hormones of the diffuse endocrine system (neuro endocrine tumours).

KNOWLEDGE

Neuro-endocrine tumours and their effects

- Concept of a diffuse neuro-endocrine system, pancreatic, gastro-intestinal and neural location of tissue, physiology of hormones
- The clinical and biochemical effects of the tumours and the hormones they produce e.g. gastrinomas, insulinomas, glucagonomas, vipomas, somatostatinomas
- Type I and Type II multiple endocrine neoplasia (M.E.N.)
- Recognition of the distinguishing metabolic and clinical consequences of the products of individual neuro-endocrine tumours
- Collection of appropriate material for estimation of relevant peptides (by radio-immunoassay).
- Use of appropriate supportive and anti-tumour drugs
- Assist in the localisation of tumour sites, co-operative management with surgeon
- Correctly recognises the likelihood of M.E.N., value of genetic testing and programmed long-term management
- Sensitivity regarding the need for screening for MEN and associated inherited conditions

SKILLS

- Identify the cause and origin of excessive production of the hormones of the diffuse endocrine system (neuro-endocrine tumours)

ASSESSMENT & LEARNING METHODS

- CBD
- Study Day

Miscellaneous Endocrine Disorders

Objective: To understand and contribute to the diagnosis and appropriate management of the endocrinological aspects of systemic disease, malignancy and the aging process.

Endocrinology and Malignancy

Objective: To have the knowledge and skills to assess and provide appropriate management in relation to the effects of hormones on tumour growth, the endocrine effects of malignant tumours and their treatment.

KNOWLEDGE

Endocrinology and malignant disease

- Endocrine responsive tumours e.g. of reproductive system, thyroid
- The potential for production of hormones at ectopic sites by certain cancers and their metastases
- The endocrine effects of anti-tumour drugs and irradiation
- Recognise and advise on diagnosis and management of endocrinological problems arising in children and adolescents with and/or undergoing treatment for malignant disease
- To contribute to the multidisciplinary team involved in the management of children and adolescents with endocrine tumours/ endocrine responsive tumours

SKILLS

- Assess and manage effects of hormones on tumour growth
- Investigation and management of syndromes of hormone excess associated with malignancy
- Manage late effects of cancers and their treatments

ASSESSMENT & LEARNING METHODS

- CBD
- Attend Late Effects clinics (optional)
- Attend specialist clinics : attendance at multi-disciplinary paediatric endocrine specialist clinics
 - Late Effects
 - Bone
 - DSD

Minimum Requirements for Training

- These are minimum **tracking** requirements. This generally means that in practice, trainees will perform above the stated requirements; however, for record tracking purpose, the following figures have been allocated.
- Where the minimum requirement state “1”, there is no allocated minimum – eLogbook will automatically default to “1”

Curriculum Requirement	Required/Desirable	Minimum Requirement	Reporting Period	Form Name
Section 1 - Training Plan				
Personal Goals Plan (Copy of agreed Training Plan for your current training year signed by both Trainee & Trainer)	Required	1	Training Post	Form 052
Personal Goals Review Form	Desirable	1	Training Post	Form 137
Weekly Timetable (Sample Weekly Timetable for Post/Clinical Attachment)	Required	1	Training Post	Form 045
On Call Rota	Required	1	Training Post	Form 064
Section 2 - Training Activities				
Outpatient Clinics				
Diabetic clinic	Required	40	Year of Training	Form 001
Endocrine clinic	Required	40	Year of Training	Form 001
DSD clinic	Desirable	1	Training Programme	Form 001
Specialty bone clinic	Desirable	1	Training Programme	Form 001
Late Effects	Desirable	1	Training Programme	Form 001
Ward Rounds	Required	40	Year of Training	Form 002
Consultations	Required	20	Year of Training	Form 002
Emergencies/Complicated Cases	Required	1	Training Programme	Form 003
Procedures/Practical Skills				
Supervising dynamic testing	Required	10	Training Programme	Form 004
Additional/Special Experience Gained	Desirable	1	Training Programme	Form 005
Section 3 - Educational Activities				
Mandatory Courses				
Performing Audit (Year 1)	Required	1	Training Programme	Form 006
Mastering Communications (Year 1)	Required	1	Training Programme	Form 006

Curriculum Requirement	Required/Desirable	Minimum Requirement	Reporting Period	Form Name
Ethics I Professionalism	Required	1	Training Programme	Form 006
Ethics II Ethics & Law	Required	1	Training Programme	Form 006
Ethics III Research	Required	1	Training Programme	Form 006
Ethics IV: Paediatrics (End of Life)	Required	1	Training Programme	Form 006
HST Leadership in Clinical Practice	Required	1	Training Programme	Form 006
Health Research – An Introduction	Required	1	Training Programme	Form 006
Non – Mandatory Courses	Desirable	1	Training Programme	Form 007
Study Days (Minimum 6 attended) as per training programme	Required	6	Training Programme	Form 008
Participation at In-house activities				Form 011
Grand Rounds	Required	10	Training Programme	Form 011
Journal Club	Required	20	Training Programme	Form 011
MDT Meetings	Required	20	Training Programme	Form 011
Delivery of Teaching (1 per month)				
Lecture	Required	10	Year of Training	Form 013
Tutorial	Required	10	Year of Training	Form 013
Bedside Teaching	Required	10	Year of Training	Form 013
Research	Desirable	1	Training Programme	Form 014
Clinical Audit activities and reporting (1 per year to start or complete, Quality Improvement projects can be uploaded against audit)	Required	1	Training Programme	Form 135
Publications	Desirable	1	Training Programme	Form 016
Presentations	Desirable	1	Training Programme	Form 017
National/International meetings	Desirable	1	Training Programme	Form 010
Additional Qualifications	Desirable	1	Training Programme	Form 065
Committee Attendance	Desirable	1	Training Programme	Form 063
Section 4 - Assessments				
CBD	Required	1	Training Programme	Form 020
Mini-CEX (At least two Mini-CEX assessments)	Required	2	Training Programme	Form 023
Quarterly Assessments	Required	4	Year of Training	Form 092
End-of-Post Assessment	Required	1	Training Programme	Form 092