



**FACULTY OF
PAEDIATRICS**

ROYAL COLLEGE OF
PHYSICIANS OF IRELAND

HIGHER SPECIALIST TRAINING IN

NEONATOLOGY



This curriculum of training in Neonatology was developed in 2014 and undergoes an annual review by Dr Lisa McCarthy and Dr Martin White, National Specialty Directors, Ann O'Shaughnessy, Head of Education, and by the Neonatology Training Committee. The curriculum is approved by the Faculty of Paediatrics.

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Introduction

A Trainee in Neonatology must have experience in the transport of the sick newborn and have a full understanding of the principles and practice of regionalisation of perinatal care including transfer of high risk pregnancies to appropriate centres. The practice of neonatal/perinatal medicine involves the treatment of newborn infants at all levels of care from healthy newborns to those who require special and intensive care. An element of counselling is also incorporated within the practice, especially with regards to parents whose foetus is at significant risk.

Neonatology encompasses the management of prematurity and all the attendant physiological and pathological challenges as well as the diagnosis and management of congenital anomalies (identified both ante- and postnatally). It includes care of the well and sick infant in the newborn period, as well as long term follow-up of certain infants at risk of complications including neuro-disability. As such it has a very broad remit. There are significant acute and neonatal intensive care (NIC) components, but it also addresses the chronic management and developmental issues of graduates of the NIC unit. Many neonatologists are involved in clinical and basic science research to further our understanding of this special population of patients. Trainees must participate in care and management of the foetus and new-born in collaboration with maternal foetal medicine specialists and paediatric subspecialists. Trainees must be competent in the management of the critically ill newborn infant, including techniques of resuscitation, airway support, electric vital signs monitoring, temperature control and nutritional support.

This specialty training builds on and further develops the knowledge and skills acquired during the first two years of the HST General Paediatrics programme.

Besides these specialty specific elements, trainees in Neonatology must also acquire certain core competencies which are essential for good medical practice. These comprise the generic components of the curriculum. Trainees need to participate in multidisciplinary teams which include nursing and allied health staff in the care of newborns and their families.

Aims

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

Competencies, at a level consistent with practice in the specialty of General Paediatrics, will include the following:

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

The duration of HST in Neonatology is 3 years (years 3 – 5 of HST). It is currently a mono specialty training programme, with the option of dual training being explored over the next few years. Sub-specialty training in Neonatology will build on a broad basic and early specialist training in General Paediatrics. Eligibility criteria for Neonatal Sub-specialist Training will include Basic Specialist Training (BST) in Paediatrics and successful completion of year 1 and 2 of the Higher Specialist Training Programme in General Paediatrics.

Training in pre- and postoperative care of the surgical and cardiac infant will be provided by a six month rotating post within the Dublin PICU network. Up to 6 months of training in a relevant, pre-approved paediatric subspecialty may be counted towards NST (e.g. neonatology in a paediatric hospital, genetics etc), but strict criteria will apply for post recognition. In addition, up to a maximum of 12 months of pre-approved Out of Clinical Programme Experience (OCPE) may be accredited towards completion of training. This may encompass either overseas experience in a formal training fellowship or research leading to a postgraduate degree, subject to approval by the NST programme.

Experience at an intermediate grade in acute General Paediatrics in-patient care must involve assessment and treatment of acutely ill infants and children and the support and supervision of junior medical staff.

The organisation of the training is as follows:

Year 1 HST General Paediatrics

- Neonatology in recognised Neonatal Centre (in year 1 or 2)

Year 2 HST General Paediatrics

- General Paediatrics +/- Community Paediatrics (in year 1 or 2)
- Application for Neonatal Sub-specialty Training Programme

Year 3 - 5 HST Neonatology

- **Site and duration** - A minimum of 24 months clinical training in Ireland. This must include a minimum of 18 months training in Neonatal Intensive Care in 2 out of the 4 tertiary NICU centres in Ireland (Holles Street, The Coombe, The Rotunda and Cork University Maternity Hospital). *It is also anticipated that once the National Children's Hospital is built and operational, trainees will rotate through this site as part of their clinical training subject to NSD review and requirements.*
- **Clinical experience in Neonatal Intensive Care** – The 18 months (minimum) training in tertiary Neonatal Intensive Care should be a dedicated period of neonatal training where trainees gain experience in all aspects of neonatal care as specified in the curriculum. This requirement cannot be met through on-call alone, e.g. during OCPE posts.
- **Sub-specialty posts** may be applied for, and approved, **in advance** for recognition as part of one's subspecialty training in Neonatology. These may include allied specialties (e.g. Cardiology or Paediatric Intensive Care) and Neonatology in the tertiary paediatric centres, subject to NSD approval.
- **Out of Clinical Program Experience (OCPE)** - Up to a maximum of one year of pre-approved out of clinical programme experience (OCPE) may be accredited towards the completion of training, for overseas fellowship programmes (of structured and supervised training in Neonatology) or research leading to a postgraduate degree.

Generic Components

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

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

Good Professional Practice

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

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

KNOWLEDGE

Effective Communication

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

Ethics

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

Honesty, openness and transparency (mistakes and near misses)

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

Raising concerns about patient safety

- Safe working practice, role of procedures and protocols in optimal practice
- The importance of standardising practice through the use of checklists, and being vigilant
- Safe healthcare systems and provision of a safe working environment
- Awareness of the multiple factors involved in failures
- Knowledge and understanding of Reason's Swiss cheese model
- Understanding how and why systems break down and why errors are made
- Health care errors and system failures
- Human and economic costs in system failures
- The important of informing a person of authority of systems or service structures that may lead to unsafe practices which may put patients, yourself or other colleagues at risk
- Awareness of the Irish Medical Councils policy on raising concerns about safety in the environment in which you work

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Infection Control

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

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

KNOWLEDGE

Within a consultation

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

During an outbreak

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Self-Care and Maintaining Well-Being

Objectives:

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

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

KNOWLEDGE

- Self-awareness including preferences and biases
- Personal psychological strengths and limitations
- Understand how personality characteristics, such as need for approval, judgemental tendencies, needs for perfection and control etc., affect relationships with patients and others
- Knowledge of core beliefs, ideals, and personal philosophies of life, and how these relate to own goals in medicine
- Know how family-of-origin, race, class, religion and gender issues have shaped own attitudes and abilities to discuss these issues with patients
- Understand the difference between feelings of sympathy and feelings of empathy
- Know the factors between a doctor and patient that enhance or interfere with abilities to experience and convey empathy
- Understanding of own attitudes toward uncertainty and risk taking and own need for reassurance
- How own relationships with certain patients can reflect attitudes toward paternalism, autonomy, benevolence, non-maleficence and justice
- Recognise own feelings in straightforward and complex patient-doctor interactions
- Recognising the symptoms of stress and burn out

SKILLS

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

ASSESSMENT & LEARNING METHODS

- On-going supervision
- RCPI Ethics programmes
- Wellness Matters Course (Mandatory)
- RCPI HST Leadership in Clinical Practice course

Communication in Clinical and Professional Setting

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

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

KNOWLEDGE

Within a consultation

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

Difficult circumstances

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

Dealing with professional colleagues and others

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

Maintaining continuity of care

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

Giving explanations

- The importance of possessing the facts, and of recognising uncertainty and conflicting evidence on which decisions have to be based
- How to secure and retain attention avoiding distraction
- Understanding how children and their guardians receive information best, the relative value of the spoken, written, visual means of communication, use of reinforcement to assist retention
- Knowledge of the risks of information overload
- Tailoring the communication of information to the level of understanding of the recipient
- Strategies to achieve the level of understanding necessary to gain co-operation and partnership; compliance, informed choice, acceptance of opinion, advice, recommendation

Responding to complaints

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Leadership

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

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

KNOWLEDGE

Personal qualities of leaders

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

Working with others

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

Managing services

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

Setting direction

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

SKILLS

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

Demonstrating personal qualities

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

ASSESSMENT & LEARNING METHODS

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

Quality Improvement

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

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

KNOWLEDGE

Personal qualities of leaders

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

Managing services

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

Improving services

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

Setting direction

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

SKILLS

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

Demonstrating personal qualities

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

ASSESSMENT & LEARNING METHODS

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

Scholarship

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

Medical Council Domains of Good Professional Practice: Scholarship

KNOWLEDGE

Teaching, educational supervision and assessment

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

Research, methodology and critical evaluation

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

Audit

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Management

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

Medical Council Domains of Good Professional Practice: Management.

KNOWLEDGE

Health service structure, management and organisation

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

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

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

Maintaining medical knowledge with a view to delivering effective clinical care

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

Delegation skills, empowerment and conflict management

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Standards of Care

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

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

KNOWLEDGE

Diagnosing Patients

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

Investigation, indications, risks, cost-effectiveness

- The pathophysiological basis of the investigation
- Understand the clinical significance of reference ranges, positive and negative predictive value and potential risks of inappropriate tests
- The procedures for commonly used investigations, common or/and serious risks
- Understanding of the sensitivity and specificity of results, artefacts, PPV and NPV
- Understanding significance, interpreting and explaining results of investigations
- Logical approach in choosing, sequencing and prioritising investigations

Treatment and management of disease

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

Disease prevention and health education

- Screening for disease: methods, advantages and limitations
- Health promotion and support agencies; means of providing sources of information for patients
- Risk factors, preventive measures, and change strategies applicable to smoking, alcohol, drug abuse, and lifestyle
- Disease notification; methods of collection and sources of data

Notes, records, correspondence

- Functions of medical records, their value as an accurate up-to-date commentary and source of data
- An understanding of the need and appropriate use of problem-orientated discharge notes, letters, more detailed case reports, concise out-patient reports and focused reviews
- Appreciating the importance of up-to-date, easily available, accurate information, and the need for communicating promptly e.g. with primary care

Prioritising, resourcing and decision taking

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

Handover

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

Relevance of professional bodies

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

SKILLS

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

- Maintaining legible records in line with the Guide to Professional Conduct and Ethics for Registered Medical Practitioners in Ireland
- Actively engaging with professional/representative/specialist bodies

ASSESSMENT & LEARNING METHODS

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

Dealing with & Managing Acutely Ill Patients in Appropriate Specialties

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

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

KNOWLEDGE

Management of acutely ill patients with medical problems

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

Managing the deteriorating patient

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

Discharge planning

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Therapeutics and Safe Prescribing

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

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

KNOWLEDGE

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

SKILLS

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

ASSESSMENT & LEARNING METHODS

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

Specialty Section

The Fetus Prior to Birth

Objective: Demonstrate an in-depth understanding of the management of the fetus and family

KNOWLEDGE

- Normal fetal growth and development
- Common maternal conditions which affect fetal growth and development
- Fetal and neonatal effects of intrauterine infections
- Common congenital abnormalities identifiable in the fetus
- Effects on the fetus and neonate of maternal medications and illicit drug use
- Methods of assessing fetal well-being
- Indications and outcome of common feto-placental interventions
- Survival and long-term neurodevelopmental outcome data of extremely preterm newborns by week of gestation

SKILLS

- Interpret antenatal screening tests in diagnosis of fetal abnormality
- Convey to parents the concepts and mechanisms of genetic diseases using non-technical language
- Interpret results of tests of fetal wellbeing
- Interpret results of fetal imaging
- Participate in multidisciplinary management of high risk pregnancies, including pregnancies with known fetal abnormalities
- Counsel parents of a high risk pregnancy, including pregnancies with a known fetal abnormality
- Counsel parents anticipating the birth of an extremely preterm infant, including the discussion of management options at the threshold of viability

ASSESSMENT & LEARNING METHODS

- CBD – fetal medicine
- Fetal medicine clinics
- Fetal medicine counselling DOPS
 - Anomalies
 - Antenatal counselling
- Study day - Antenatal Diagnosis: Genetics, genetic testing, Antenatal Diagnosis, Fetal Medicine and Counseling.

The Fetus During Birth and Transition

Objective: Demonstrate an ability to competently manage complications during birth

KNOWLEDGE

- Physiological changes involved in the transition to extrauterine life
- Common neonatal complications associated with birth
- Neonatal resuscitation, including national and international resuscitation guidelines
- Feto-maternal conditions which may influence mode of delivery and/or resuscitation
- Thermoregulatory principles in the newborn, including an understanding of the thermoneutral environment

SKILLS

- Perform basic resuscitation of the newborn
- Perform advanced airway support including endotracheal intubation during resuscitation of the newborn
- Lead a resuscitation team
- Counsel parents of an infant who has failed to respond to resuscitation
- Show a diagnostic approach and initial management of the sick newly born infant
- Perform and interpret an assessment of gestational age, using appropriate score
- Perform competent thermal management of the newborn
- Communicate with the parents of a newly born sick infant

ASSESSMENT & LEARNING METHODS

- NRP
- Breaking Bad News course
- Study day - Resuscitation: optimal term and preterm neonatal resuscitation and simulation of complex resuscitation scenarios

Care of the Sick Newborn - Respiratory

Objective: Manage neonates with **respiratory** problems

KNOWLEDGE

- Normal mechanisms of breathing in the term and preterm infant
- Lung maturation in-utero and during infancy, including the maturation of the preterm lung gas exchange and diffusion within the lung
- Lung mechanics in health and disease
- Respiratory diseases affecting neonates
- Radiological appearances of the conditions which cause neonatal respiratory disease
- Apnoea of prematurity
- Conditions which may cause airway obstruction
- Indications and limitations of oxygen therapy
- Role of sleep studies
- Respiratory support, including continuous positive airway pressure (CPAP), conventional ventilation and high frequency ventilation
- Acute complications of respiratory support e.g. pneumothorax, displaced or obstructed endotracheal tube
- Mechanisms and management of prevention of chronic lung disease of the newborn
- Home oxygen therapy
- Pulmonary hypertension

SKILLS

- Examine and assess a neonate with respiratory distress
- Provide respiratory support to a range of neonatal respiratory condition
- Administer surfactant
- Manage neonates requiring nitric oxide therapy and iNO
- Use range of modalities that provide respiratory support
- Use blood gases and non-invasive monitoring to manage ventilation and oxygenation
- Interpret lung mechanics
- Investigate and manage the neonate with apnoea
- Manage the neonatal airway
- Insert chest drains
- Assess and manage neonatal chronic lung disease
- Manage an infant on home oxygen
- Counsel parents and family of a baby with chronic respiratory problems
- Co-ordinate home based care with community services

ASSESSMENT & LEARNING METHODS

- Neonate experience
- Mini-CEX
- CBD
- DOPS:
 - Emergency thoracentesis
 - Nasopharyngeal airway
 - Airway suction
 - Positive pressure ventilation (mask)
 - Endotracheal intubation
 - Surfactant administration
 - Endotracheal intubation PREM
 - Mechanical ventilation
 - HFOV
 - iNO
 - Umbilical arterial line
 - Venous line
 - Peripheral arterial and venous catheter
 - Blood sampling (peripheral, capillary and central line)
- Study day - Respiratory: respiratory physiology of the term and preterm infant and management of the causes of respiratory failure in the neonate, including respiratory support.

Care of the Sick Newborn - Circulatory

Objective: Manage neonates with **circulatory** problems

KNOWLEDGE

- Normal physiology and development of the circulation in the neonate
- Tissue oxygenation and gas transport
- Pathophysiology
- Causes, presentation and management of cardiac failure in the newborn
- Patent ductus arteriosus in the preterm neonate
- Abnormal blood pressure and cardiac output in the neonate
- Arrhythmias of the neonate
- Acquired cardiac conditions
- Cardiac imaging in the neonate
- Electrocardiography in the neonate
- Familiarity with the standard echocardiographic views of the neonate
- Embryology, physiology and anatomy of congenital cardiovascular disease
- Surgical options for the treatment of congenital heart disease
- Role of extracorporeal membrane oxygenation (ECMO)
- Indication for referral for cardiology

SKILLS

- Assess clinically (focused history and examination of) the neonatal cardiovascular system
- Assess the adequacy of the neonatal circulation
- Assess and manage a patent ductus arteriosus in the preterm neonate
- Manage hypotension and hypertension
- Assess and manage the common arrhythmias of the newborn
- Assess and manage of infants with possible heart disease
- Perform and interpret the results of cardiac imaging in the neonate, including bedside echocardiography for functional purposes (desirable but not mandatory)
- Perform and interpret a neonatal electrocardiograph
- Manage the following in neonates:
 - abnormal blood pressure and cardiac output in the neonate
 - acquired cardiac conditions
 - arrhythmias of the neonate
 - cardiac failure
 - cyanotic heart disease
 - patent ductus arteriosus in the preterm neonate
- Counsel parents of babies with congenital or acquired cardiovascular disease

ASSESSMENT & LEARNING METHODS

1. Study day - Cardiovascular: cardiovascular physiology and pathology of the term and preterm infant including diagnosis and management of cardiovascular conditions
 - ECG interpretation
 - DOPS – (are all desirable?):
 - Pericardiocentesis
 - Functional echocardiography
 - Umbilical arterial line
 - Venous line
 - Peripheral arterial and venous catheter

Care of the Sick Newborn – Neurological and Neuromuscular

Objective: Manage neonates with **neurological and neuromuscular** problems

KNOWLEDGE

- Normal physiology and development of the nervous system in the neonate
- Impact of preterm delivery on the developing brain and common management strategies e.g. mechanical ventilation
- Pathophysiology and prognosis of neonatal neurological conditions
- Malformations of the brain and spinal cord
- Malformations/deformation of the skeletal system
- Pathophysiology and prognosis of:
 - hypotonia and neuromuscular disorders
 - neonatal encephalopathy
 - neonatal stroke
 - periventricular haemorrhage
 - seizure disorders
 - white matter injury
- Modalities of:
 - electrophysiological studies
 - neuro imaging
 - neuromuscular studies
- Use of neuro-protective treatments, e.g. cooling
- Indications for neurosurgical interventions
- Techniques for neurological and developmental assessment of infants

SKILLS

- Manage:
 - hypotonia
 - neonatal encephalopathy
 - neonatal stroke
 - periventricular haemorrhage
 - seizure disorders
 - white matter injury
- Perform a structured neonatal neurological history and examination which is appropriate for age and gestation
- Adopt structured approach to the investigation and interpretation of neonatal neurological conditions, for example encephalopathy, seizures, hypotonia
- Assess and manage infants with neural tube defect and/or hydrocephalus
- Assess and diagnose infants with talipes and congenital dysplastic hip
- Assess an infant for mild, moderate and severe problems of neurodevelopment
- Interpret bedside aEEG recordings (cerebral function monitoring /amplitude integrated EEG)
- Perform and interpret a bedside cerebral ultrasound examination (desirable but not mandatory)
- Perform lumbar punctures and be familiar with techniques of ventricular drainage
- Counsel parents regarding long term implications of neurologic injury or abnormality
- Integrate follow-up and multidisciplinary involvement in babies with neurologic injury or abnormality

ASSESSMENT & LEARNING METHODS

- ICU neonatal experience
- CBD
- DOPS:
 - Lumbar puncture
 - Drainage CSF reservoir
 - Cranial USS (desirable)
- Study day - Neurology: Physiology of the term and preterm nervous system including diagnosis and management of congenital and acquired neurological problems.

Care of the Sick Newborn - Haematological

Objective: Manage neonates with **haematological** problems

KNOWLEDGE

- Prevention, diagnosis and management of neonatal anaemia
- Pathophysiology of neonatal bleeding and thrombotic disorders including:
 - disseminated intravascular coagulation (DIC)
 - haemorrhagic disease of the newborn
 - neonatal stroke
 - thrombocytopaenia
 - vascular malformations
- Pathophysiology and management of neonatal haemolytic diseases, immune and non-immune
- Indications for and risks of exchange transfusion
- Presentation of:
 - disorders of immune function
 - genetic conditions associated with malignancy
- Neonatal tumours and malignancies

SKILLS

- Practice safe and effective use of blood products, and haematinic agents
- Recognise and address parental concerns about the use of blood products
- Recognise and address ethical, safety and resource issues in the use of blood products
- Investigate and manage coagulopathies, thrombocytopaenia, anaemias, and isoimmune Haemolytic disease
- Perform an exchange transfusion
- Investigate and treat (in consultation with appropriate subspecialist):
 - disorders of immune function
 - genetic conditions associated with malignancy
 - neonatal tumours and malignancies
- Counsel parents about above conditions
- Counsel parents about Vitamin K prophylaxis

ASSESSMENT & LEARNING METHODS

- Ethics safe prescribing
- Blood transfusion
- DOPS – safe prescribing and transfusing
- Study day - Haematology: haematology of the term and preterm infant, including transfusion, haemostasis and haematological responses to pathology and infection. Inflammation in the neonate.

Care of the Sick Newborn – Metabolic and Endocrine

Objective: Manage neonates with **metabolic and endocrine** problems

KNOWLEDGE

- Normal antenatal development of the endocrine axes and postnatal adaptation, including the impact of preterm birth
- Pathophysiology and prevention of hypoglycaemia/hyperglycaemia
- Pathophysiology of important endocrine and metabolic disorders of the newborn, including:
 - adrenal insufficiency
 - ambiguous genitalia
 - thyroid disorders
- Pathophysiology of inborn errors of metabolism
- Pathophysiology of metabolic disturbances, including electrolyte abnormalities

SKILLS

- Interpret endocrine investigations
- Screen for, investigate and manage hypoglycaemia/hyperglycaemia
- Plan investigation and management of endocrine and metabolic disorders
- Diagnose inborn errors of metabolism, including subspecialty consultation
- Recognise and institute emergency treatment for inborn errors of metabolism
- Prevent, investigate and manage electrolyte and acid base disturbances
- Counsel family on long-term adverse outcomes

ASSESSMENT & LEARNING METHODS

- CBD
- Study day - Endocrine & Metabolic Study day including clinical biochemistry, endocrinology in the term and preterm infant and investigation and management of hypoglycaemia and inborn errors of metabolism in the neonate.

Care of the Sick Newborn - Renal

Objective: Manage neonates with **renal** problems

KNOWLEDGE

- Renal development and physiological changes after birth in preterm and term neonates
- Pathophysiology of congenital renal disorders
 - Modalities of:
 - renal function assessment (biochemical, imaging – e.g. nuclide scans)
 - renal tract imaging (ultrasound, CT and MRI, including flow studies)
- Pathophysiology of renal failure, both acute and chronic
- Effects of renal impairment on drug metabolism
- Indications for urological intervention

SKILLS

- Manage complex fluid and electrolyte problems, including those in very preterm babies and those with surgical problems
- Manage and investigate antenatally and postnatally diagnosed renal disorders
- Recognise and institute treatment for acute and chronic renal failure, including indications for dialysis
- Perform urethral catheterisation and suprapubic aspiration
- Perform and interpret a bedside renal ultrasound (desirable but not mandatory)
- Contribute to development of strategies and staff education to optimize fluid and electrolyte management in at risk babies
- Counsel parents regarding implications of congenital and acquired renal abnormalities

ASSESSMENT & LEARNING METHODS

- DOPS:
 - Urinary catheterisation
 - Suprapubic aspirate
- Study day - Renal: renal physiology of the term and preterm infant, renal pathologies and fluid management in health and disease
- Clinical experience

Care of the Sick Newborn – Nutrition and Metabolism

Objective: Manage neonatal nutrition and metabolism

KNOWLEDGE

- Knowledge of normal lactation process, problems that can arise and management strategies to support problematic lactation
- Normal nutritional requirements, growth and organ maturation of the fetus and newborn
- Feeding of sick and preterm infants, including:
 - breast feeding
 - expressed breast milk
 - special formulas
 - supplements, fortifiers, vitamins and haematinics
- Principles of parenteral nutrition including:
 - indications for use
 - mineral and vitamin requirements
 - nutritional components
 - trace elements
- Methods of delivering parenteral nutrition
- Importance of thermo-regulation and close fluid and electrolyte monitoring in the sick and preterm neonate

SKILLS

- Manage consequences of abnormal thermo-regulation, energy and water balance in the sick and preterm neonate
- Assess and investigate poor growth and nutrition
- Anticipate and prevent nutritional deficiencies, including osteopenia of prematurity and failure to thrive
- Prescribe and manage parenteral nutrition in sick and preterm infants
- Insert and position percutaneous long lines safely and correctly
- Contribute to promotion of breast feeding throughout the hospital, including the neonatal unit
- Support mothers wishing to breastfeed sick and preterm babies, and acknowledge the psychological issues around those who are unable to breast feed or who choose not to
- Counsel parents on benefits and potential complications of long line insertion and benefits and side effects of parenteral nutrition

ASSESSMENT & LEARNING METHODS

- Study day - Nutrition: enteral and parenteral nutrition – nutritional requirements in health and disease, breast feeding, and evidence-based indications for specialist formulae and supplements.
- DOPS:
 - Exchange transfusion
 - Nasogastric tube
 - Percutaneous central lines
 - Prescribe TPN (Total Parenteral Nutrition)

Care of the Sick Newborn – Gastrointestinal and Hepatobiliary

Objective: Manage neonates with **gastrointestinal** problems

KNOWLEDGE

- Normal development and functional maturation of gastrointestinal system, including gut hormones and motility
- Pathophysiology of necrotising enterocolitis
- Pathophysiology of congenital gastrointestinal anomalies and antenatal and postnatal diagnosis
- Pathophysiology of failure to thrive
- Applications of gut imaging modalities, including:
 - contrast studies
 - CT, MRI
 - nucleotide scans
 - ultrasound
- Normal development of hepatobiliary system, including bilirubin and bile acid metabolism
- Pathophysiology of physiological and non-physiological jaundice
- Pathophysiology of hepatobiliary and pancreatic disease, including:
 - biliary atresia
 - cholestatic jaundice
 - cystic fibrosis
 - neonatal hepatitis

SKILLS

- Diagnose and manage necrotising enterocolitis, including pre and post-operative care
- Manage congenital gastrointestinal disease, including pre and post-operative care
- Manage short gut syndrome
- Diagnose, investigate and manage malabsorption syndromes and nutritional deficiencies
- Request and interpret investigations for gastrointestinal tract (GIT) anomalies or suspected GIT disease
- Counsel parents regarding diagnosis, management and prognosis for congenital and acquired gut problems in the newborn
- Investigate and manage jaundice, including use of phototherapy
- Investigate and manage hepatobiliary disease
- Adopt a multidisciplinary approach to patient management (surgery or hepatobiliary/gastroenterology)
- Counsel parents regarding management of neonatal jaundice and other neonatal hepatobiliary disorders

ASSESSMENT & LEARNING METHODS

- DOPS:
 - Exchange transfusion
 - Nasogastric tube
 - Percutaneous central lines
 - Prescribe TPN (Total Parenteral Nutrition)
 - Paracentesis
- Study day - Gastrointestinal and Hepatobiliary including GI surgery. GI and hepatic physiology & pathologies of the term and preterm infant. Common GI malformations and management (medical and surgical).

Care of the Sick Newborn - Infections

Objective: Manage neonates with infections

KNOWLEDGE

- Bacterial, viral, fungal and protozoal infections, including:
 - choice and use of anti-microbial therapy
 - diagnostic tests
 - prevention
 - risk factors
- Pathophysiology of post-natal eye infection
- Pathophysiology of overwhelming sepsis in the neonate
- Principles of prevention and treatment of nosocomial infection

SKILLS

- Investigate and manage neonatal infections e.g. septicaemia, meningitis, urinary tract infection
- Perform a septic work up, including blood culture, suprapubic aspiration, and lumbar puncture
- Manage the neonate with overwhelming sepsis
- Investigate and manage neonatal viral infections e.g. Herpes simplex, neonatal varicella, CMV, HIV, hepatitis B and C
- Demonstrate a collaborative approach to developing protocols for prevention and management of Perinatal sepsis, hand washing and infection control measures in clinical practice
- Advocate and support infection control policies and practice in the neonatal unit

ASSESSMENT & LEARNING METHODS

- DOPS:
 - Blood culture
 - Suprapubic aspirate
 - Lumbar puncture
 - Hand washing
- Guideline development
- Study day - Infectious Disease: Congenital, perinatal and late infection in the neonate. Bacterial, viral and fungal infection- prevention, diagnosis, management and outcomes. Antimicrobial treatment and prophylaxis.
- Infection control at hospital induction

Care of the Sick Newborn - Pharmacology

Objective: Apply knowledge of **pharmacology** as it applies to the newborn

KNOWLEDGE

- Principles of pharmacology as applied to the preterm and term newborn
- Commonly used neonatal medications, including:
 - dose monitoring
 - drug interactions
 - indications for use
 - side effects
- Drug excretion in breast milk

SKILLS

- Write clear, legible and safe prescriptions for medications
- Educate parents about effects and side effects of prescribed medications
- Contribute to development of unit guidelines and staff education for appropriate and safe medication use
- Support parents in home administration of medications

ASSESSMENT & LEARNING METHODS

- Study day - Joint study day: Pharmacology & End of Life Care.
 - a. Pharmacological considerations in the term and Preterm infant. Strategies to optimise prescribing in the NICU.
 - b. End of life care: best practice in hospital. Post mortem in neonates.

Care of the Sick Newborn - Dermatology

Objective: Manage neonates with **dermatological** problems

KNOWLEDGE

- Physiology of the skin in the preterm and term newborn
- Pathophysiology and differences between benign and pathological rashes in the newborn
- Characteristics and diagnosis of congenital and acquired infectious rashes and skin lesions in the newborn
- Pathophysiology and differences between haemangioma and other vascular malformations in the newborn

SKILLS

- Manage skin care in the newborn at all gestations
- Counsel parents in regards to aetiology, pathophysiology and management of skin lesions in the newborn
- Recognise severe and life-threatening congenital skin conditions e.g. epidermolysis bullosa, severe ichthyosis and management in consultation with dermatologists and other disciplines as indicated
- Treat infectious rashes in consultation with a dermatologist where necessary

ASSESSMENT & LEARNING METHODS

- Study day - Joint Study Day: ENT/Ophthalmology / Dermatology / Orthopaedics: Current best practice in diagnosis and management of ENT/Ophthalmology/ Dermatology and Orthopaedic issues in the newborn and new advances in the fields.

Care of the Sick Newborn - Ophthalmology**Objective:** Manage neonates with **ophthalmological** abnormalities**KNOWLEDGE**

- Pathophysiology and presentation of retinopathy of prematurity
- Indications for routine screening for retinopathy of prematurity
- Indications for treatment of retinopathy, methods of treatment and long-term outcome
- Congenital eye disorders and syndromes associated with eye disorders
- Infective eye disorders

SKILLS

- Liaise with ophthalmologist in development and implementation of comprehensive screening program for retinopathy of prematurity
- Counsel parents with regards to the aetiology and management of retinopathy of prematurity
- Screen for eye disorders on newborn examination

ASSESSMENT & LEARNING METHODS

- Study day - Joint Study Day: ENT/Ophthalmology / Dermatology / Orthopaedics: Current best practice in diagnosis and management of ENT/Ophthalmology/ Dermatology and Orthopaedic issues in the newborn and new advances in the fields.

Care of the Sick Newborn- ENT

Objective: Manage neonates with **ear, nose and throat** abnormalities

KNOWLEDGE

- Congenital abnormalities of the head and neck and associated syndromes
- Causes of congenital deafness syndromes and congenital malformations of the ear
- Techniques used for hearing screening in the newborn
- Embryology of cleft lip and palate and associated syndromes
- Congenital laryngeal abnormalities and stridor including laryngeal haemangioma
- Abnormalities of the neck e.g. cystic hygroma, vertebral anomalies, neck masses

SKILLS

- Coordinate involvement of audiologist, ear nose and throat surgeon, and where necessary, a plastic surgeon
- Counsel parents in regards to management and aetiology of congenital and acquired problems of the ear, nose and throat
- Recognise and manage of upper airway obstruction including indications for tracheostomy, use of naso pharyngeal airway or jaw distraction
- Manage feeding problems associated with cleft palate and Pierre-Robin syndrome

ASSESSMENT & LEARNING METHODS

- DOPS:
 - Nasopharyngeal airway
- Study day - Joint Study Day: ENT/Ophthalmology / Dermatology / Orthopaedics: Current best practice in diagnosis and management of ENT/Ophthalmology/ Dermatology and Orthopaedic issues in the newborn and new advances in the fields.

Care of the Sick Newborn – Integrated Care**Objective:** Integrated care of the sick newborn**KNOWLEDGE**

- Multisystem interactions in health and disease
- Impacts on families and appropriate supports
- Long-term implications of complications of care in the severely ill newborn

SKILLS

- Integrate care of the sick newborn considering multisystem interactions
- Arrange and oversee multidisciplinary supports
- Share information openly and honestly regarding diagnoses and outcomes

ASSESSMENT & LEARNING METHODS

- Communication course
- Chairing an MDT meeting

Procedural Skills

Objective: Perform the procedures required for care of the sick neonate

KNOWLEDGE

- Relevant anatomy and physiology indications, risks and complications
- Pharmacological and non-pharmacological

SKILLS

- Describe the relevant anatomy and physiology, indications for and risks of common neonatal procedures
- Insert and remove
 - Emergency thoracocentesis needle and intercostal drain
 - Nasogastric tube
 - Nasopharyngeal airway
 - Percutaneous central lines
 - Umbilical areterial and venous lines
 - Peripheral arterial catheter
 - Peripheral venous catheter
 - Urinary catheter
- Perform
 - Airway suction
 - Positive pressure ventilation (mask)
 - Endotracheal intubation (TERM)
 - Endotracheal intubation (PREM)
 - Mechanical Ventilation
 - HFOV
 - iNO
 - Blood sampling (peripheral, capillary and central line)
 - Blood culture
 - Lumbar puncture
 - Surfactant administration
 - Exchange transfusion
 - Thoracocentesis
 - Fetal medicine counselling
 - Antenatal counseling
 - Cranial USS
 - Prescribing TPN
 - Prescribing transfusion
- Perform and interpret functional echocardiography (desirable but not mandatory)
- Perform and interpret Suprapubic aspirate (desirable but not mandatory)
- Perform CSF drainage (desirable but not mandatory)
- Perform Paracentesis (desirable but not mandatory)
- Perform Pericardiocentesis (desirable but not mandatory)
- Manage complications of the above
- Communicate with parents regarding risks and benefits of the procedure, including appropriate consent
- Be aware of own limitations and appreciate when to ask for help

Manage End-of-Life Care

Objective: Manage end-of-life care

KNOWLEDGE

- Long term outcome of infants of borderline viability and infants with major medical problems
- Ethical issues:
 - Borderline viability (awareness of attitudes)
 - Congenital malformations
 - Discontinuation of life support measures
 - Non initiation of resuscitation
- Family (including sibling) emotional and behavioural issues
- Medico-legal issues
- Palliative care
- Role and importance of autopsy
- Role of cognitive, emotional, cultural and spiritual factors in end-of-life decisions
- Recognise the value of a multi-disciplinary approach to the family of a dying newborn
- Evidence based practice in the palliative management of infants with life limiting conditions

SKILLS

- Counsel parents in an emotionally and culturally appropriate fashion
- Manage infants and families requiring palliative care
- Request an autopsy
- Support and debrief health-care team
- Follow up family

ASSESSMENT & LEARNING METHODS

- Ethics for Paediatrics
- Study day - Joint study day: Pharmacology & End of Life Care.
 - Pharmacological considerations in the term and Preterm infant. Strategies to optimise prescribing in the NICU.
 - End of life care: best practice in hospital. Post mortem in neonates including ethics, managing self and colleagues, breaking bad news, managing stress and follow-up.

Long-term Health Care/Follow-up including Infant at Risk

Objective: Assess and manage the infant at risk

KNOWLEDGE

- Issues relating to:
 - chronic respiratory disease
 - hearing disability
 - long-term neuro-disability
 - severe ROP and visual impairment
 - short gut syndrome, malnutrition/poor growth and chronic feeding issues
- Components of multidisciplinary team, including local medical officer and community services
- Impact of chronic health issues on the patient and family
- Impact of poly-pharmacy in chronic illnesses
- Medico-legal and social issues around child protection
- Issues relevant to post-natal depression
- Effects of maternal drugs and drug withdrawal on the fetus and neonate
- Developmental follow-up including infant at risk

SKILLS

- Identify and manage families at high psychosocial risk, including taking a full drug and alcohol history
- Describe the effects of maternal prescription and non-prescription drugs on the newborn infant
- Liaise with multidisciplinary teams and support services
- Diagnose and manage neonatal abstinence syndrome and address child protection issues
- Counsel parents/family
- Co-ordinate follow-up of high risk infants and their families, including liaison with relevant community services
- Demonstrate a collaborative approach within a multidisciplinary team
- Identify strategies for the safe discharge and community support of families at high psychosocial risk
- Perform a neurodevelopmental assessment
- Assess/investigate poor growth and nutrition
- Assess/investigate for hearing and visual impairment
- Communicate, refer to and work with paramedical staff and multidisciplinary teams and community services
- Counsel parents/family about the impact of long-term illness on the child and family
- Coordinate follow-up of baby and family with multidisciplinary team
- Demonstrate a collaborative approach within a multidisciplinary team

ASSESSMENT & LEARNING METHODS

- Child Protection Course
- Study day - Neurodevelopment & the at risk infant
 - Assessing neuro-developmental outcomes after term and preterm delivery. Methods of assessing and designing a follow-up program in the hospital and community.
 - The “at-risk” infant: child protection in Neonatology.

Regional Organisation of Perinatal Care - Transport

Objective: Undertake safe transport of the sick newborn

KNOWLEDGE

- Maternal conditions requiring in-utero transfer
- Understand regional and national structure of perinatal services
- Neonatal conditions requiring transport
- Risks of fetal and neonatal transport
- Principles of stabilisation prior to transport
- Principles of management of a neonate during transport
- Physiology of transport by air
- Neonatal transport equipment
- Transfer of a sick infant with special conditions, for example surgical conditions

SKILLS

- Identify infrastructural and organisational issues relating to national neonatal transport
- Institute resuscitation and stabilisation of the sick infant in a non-critical care environment
- Discuss the factors affecting the type of transport undertaken in different clinical situations
- Advise referral centres and transport teams on issues relating to transport of sick or preterm infants
- Demonstrate ability to lead a transport team

ASSESSMENT & LEARNING METHODS

- STABLE course
- Time spent with the transport team
- Air Transport course
- Study day - Neonatal Transport & Service Provision: transport of the term and preterm normally formed infant and infant with congenital anomalies. Scenario and simulation based teaching. Structuring nationwide neonatal care.
- CBD on transport

Documentation of Minimum Requirements for Training

- These are the minimum number of cases you are asked to document as part of your training. It is recommended you seek opportunities to attain a higher level of exposure as part of your self-directed learning and development of expertise.
- You should expect the demands of your post to exceed the minimum required number of cases documented for training.
- If you are having difficulty meeting a particular requirement, please contact your specialty coordinator.
 - Required - Must be completed for training to be deemed complete
 - Desirable - considered beneficial for training but training may be considered complete without this experience or skill
- Mandatory course requirements completed during General Paediatrics training can be carried forward

Curriculum Requirement	Required/Desirable	Minimum Requirement	Reporting Period	Form Name
Section 1 - Training Plan				
Personal Goals Plan (Copy of agreed Training Plan for your current training year signed by both Trainee & Trainer)	Required	1	Training Post	Personal Goals Form
On Call Rota	Required	1	Training Post	Clinical Activities
Section 2 - Training Activities				
Outpatient Clinics				Clinics
Neurodevelopmental clinic follow-up	Required	12	Training Programme	
Fetal Medicine Clinics	Required	6	Training Programme	
Ward Rounds/Consultations				Clinical Activities
Consultant led (3 per week)	Required	40	Year of Training	
SpR led including handover (1 per week)	Required	40	Year of Training	
Antenatal counseling	Required	10	Year of Training	
Emergencies/Complicated Cases				Cases
Procedures/Practical Skills/Surgical Skills				Procedures, Skills and DOPS
Emergency thoracocentesis needle and intercostals drain	Required	3	Year of Training	
Nasogastric tube	Required	5	Year of Training	
Nasopharyngeal airway	Required	2	Year of Training	
Percutaneous central lines	Required	10	Year of Training	
Umbilical areterial and venous lines	Required	10	Year of Training	
Peripheral arterial catheter	Required	10	Year of Training	
Peripheral venous catheter	Required	10	Year of Training	
Urinary catheter	Required	2	Year of Training	

Curriculum Requirement	Required/ Desirable	Minimum Requirement	Reporting Period	Form Name
Airway suction	Required	5	Year of Training	
Positive pressure ventilation (mask)	Required	10	Year of Training	
Endotracheal intubation TERM	Required	20	Year of Training	
Endotracheal intubation PREM	Required	20	Year of Training	
Mechanical Ventilation	Required	20	Year of Training	
HFOV	Required	10	Year of Training	
iNO	Required	10	Year of Training	
Blood sampling (peripheral, capillary, arterial and central line)	Required	10	Year of Training	
Blood culture	Required	10	Year of Training	
Suprapubic aspirate	Desirable	1	Year of Training	
Lumbar puncture	Required	10	Year of Training	
Drainage CSF reservoir	Desirable	1	Year of Training	
Paracentesis	Desirable	1	Year of Training	
Surfactant administration	Required	10	Year of Training	
Exchange transfusion	Desirable	1	Year of Training	
Pericardiocentesis	Desirable	1	Year of Training	
Functional echocardiography	Desirable	1	Year of Training	
Additional/Special Experience Gained (sub-specialty experience)	Desirable	1	Training Programme	Cases
Relatively Unusual Cases	Desirable	1	Training Programme	Cases
ICU/CCU	Desirable	1	Training Programme	Cases
Chronic Cases/Long term care	Desirable	1	Training Programme	Cases
Management Experience	Desirable	1	Training Programme	Management Experience
Section 3 - Educational Activities				
Mandatory Courses				Teaching Attendance
APSL	Required	1	Training Programme	
Cerebral USS	Required	1	Training Programme	
Childhood Development Disorders	Required	1	Training Programme	
Ethics Foundations	Required	1	Training Programme	
Ethics for Paediatrics	Required	1	Training Programme	
HST Leadership in Clinical Practice	Required	1	Training Programme	

Curriculum Requirement	Required/Desirable	Minimum Requirement	Reporting Period	Form Name
Informing families of their child's disability (online)	Required	1	Training Programme	
Mastering Communication (Year 1)	Required	1	Training Programme	
NRP Neonatal Resuscitation Course	Required	1	Training Programme	
Performing Audit	Required	1	Training Programme	
STABLE	Required	1	Training Programme	
Wellness Matters	Required	1	Training Programme	
Non – Mandatory Courses	Desirable	1	Training Programme	Teaching Attendance
Study days (attend minimum of 6 per year)	Required	6	Year of Training	Teaching Attendance
Participation at In-house activities minimum of 1 per month from the categories below:				Attendance at Hospital Based Learning
Grand Rounds	Required	10	Year of Training	
Journal Clubs	Required	10	Year of Training	
Radiology conferences	Required	10	Year of Training	
MDT meetings	Required	10	Year of Training	
Seminar	Required	1	Year of Training	
Lecture	Required	1	Year of Training	
Examinations	Desirable	1	Training Programme	Examinations
Delivery of Teaching				Delivery of Teaching
Lecture	Required	4	Year of Training	
Tutorial	Required	4	Year of Training	
Bedside teaching	Required	4	Year of Training	
Research	Desirable		Training Programme	Research Activities
Audit activities and Reporting (1 audit per year to either start or complete, Quality Improvement (QI) projects can be uploaded against audit)	Required	1	Year of Training	Audit & QI
Publications	Desirable	1	Year of Training	Additional Professional Experience

Curriculum Requirement	Required/ Desirable	Minimum Requirement	Reporting Period	Form Name
Presentations (minimum of 1 oral or poster presentation per year)	Required	1	Year of Training	Additional Professional Experience
National/International meetings (minimum attend 1 per year)	Required	1	Year of Training	Additional Professional Experience
Involvement in neonatal guideline development	Required	2	Training Programme	Policies & Guidelines
Additional Qualifications	Desirable	1	Training Programme	Additional Professional Experience
Committee Attendance	Desirable	1	Training Programme	Additional Professional Experience
Section 4 - Assessments				
DOPS				Procedures, Skills & DOPS
Emergency thoracocentesis needle and intercostal drain	Required	2	Training Programme	
Nasogastric tube	Required	1	Training Programme	
Nasopharyngeal airway	Required	1	Training Programme	
Percutaneous central lines	Required	1	Training Programme	
Umbilical arterial and venous lines	Required	3	Training Programme	
Peripheral arterial catheter	Required	3	Training Programme	
Peripheral venous catheter	Required	3	Training Programme	
Urinary catheter	Required	1	Training Programme	
Airway suction	Required	5	Training Programme	
Positive pressure ventilation (mask)	Required	5	Training Programme	
Endotracheal intubation PREM	Required	5	Training Programme	
Endotracheal intubation TERM	Required	5	Training Programme	
Blood sampling (peripheral, capillary and central line)	Required	5	Training Programme	
Blood culture	Required	1	Training Programme	
Suprapubic aspirate	Desirable	1	Training Programme	
Lumbar puncture	Required	5	Training Programme	

Curriculum Requirement	Required/Desirable	Minimum Requirement	Reporting Period	Form Name
Drainage CSF reservoir	Required	1	Training Programme	
Paracentesis	Desirable	1	Training Programme	
Surfactant administration	Required	5	Training Programme	
Exchange transfusion	Desirable	1	Training Programme	
Pericardiocentesis	Desirable	1	Training Programme	
Functional echocardiography	Desirable	1	Training Programme	
Mechanical Ventilation	Required	5	Training Programme	
HFOV	Required	3	Training Programme	
iNO	Required	3	Training Programme	
Fetal Medicine counselling	Required	1	Training Programme	
Antenatal counselling	Required	1	Training Programme	
Cranial USS	Desirable	1	Training Programme	
Prescribing TPN	Required	5	Training Programme	
Hand washing	Required	2	Training Programme	
Safe prescribing for transfusion	Required	2	Training Programme	
CBD (minimum 4 per year)	Required	4	Year of Training	Case Based Discussion
Mini-CEX (At least two Mini-CEX assessments)	Required	2	Year of Training	Mini CEX
Quarterly Assessments/End-of-Post Assessments	Required	4	Year of Training	Quarterly Assessments/ End-of-Post Assessments
End of Year Evaluation	Required	1	Year of Training	End of Year Evaluation