



The Royal Australasian
College of Physicians

Basic Training Curriculum

Adult Internal Medicine



training
curriculum



The Royal Australasian
College of Physicians

BASIC TRAINING PROGRAM CURRICULUM

ADULT INTERNAL MEDICINE

TO BE USED IN CONJUNCTION WITH:
Professional Qualities Curriculum

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Please note: No Domains, Themes or Learning Objectives have been updated for this edition; design changes ONLY.

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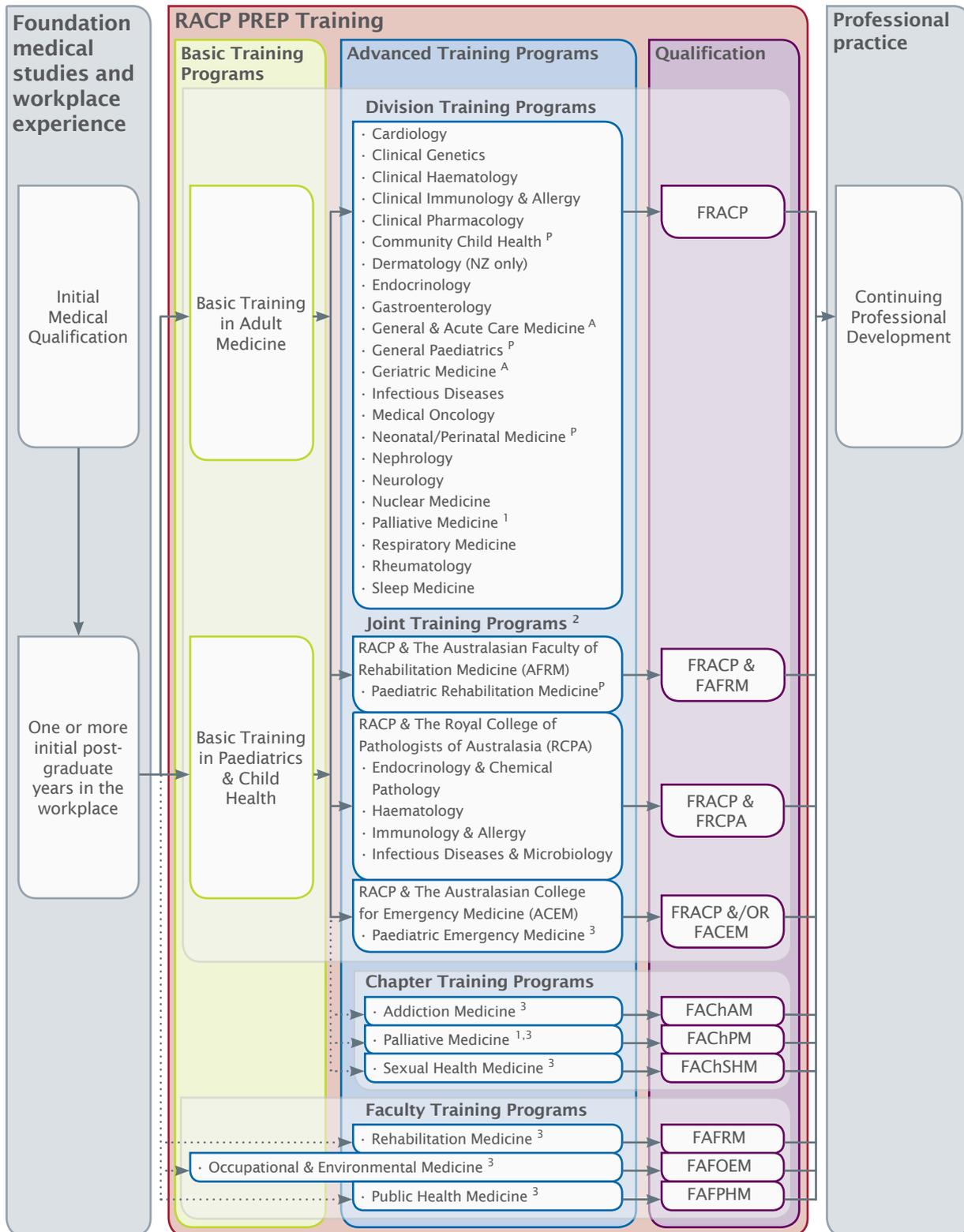
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RACP FELLOWSHIP TRAINING PATHWAYS AND THE CONTINUUM OF LEARNING



P Trainees must complete Basic Training in Paediatrics & Child Health to enter this program.

A Trainees must complete Basic Training in Adult Medicine to enter this program.

1 Trainees who have entered Advanced Training in Palliative Medicine via a RACP Basic Training Program will be awarded FRACP upon completion and may subsequently be awarded FACHPM. Trainees who have NOT entered Advanced Training in Palliative Medicine via a RACP Basic Training Program will only be awarded FACHPM upon completion.

2 The Child & Adolescent Psychiatry Joint Training Program with the Royal Australian and New Zealand College of Psychiatrists (RANZCP) is currently under review by the RACP and RANZCP and closed to new entrants at present.

3 Alternative entry requirements exist for these training programs; please see the corresponding PREP Program Requirements Handbook for further information.

NB1: This diagram only depicts training programs that lead to Fellowship. Please see the RACP website for additional RACP training programs.

NB2: For further information on any of the above listed training programs, please see the corresponding PREP Program Requirements Handbook.

THE CONTEXT OF BASIC TRAINING

The medical profession is currently operating within a context of rapidly increasing change in terms of the various professional, societal, economic, political and technological aspects which impact upon its practice and the society within which it operates. trainees will need to be cognisant of these various situations and incorporate the relevant aspects into the context of their overall training program.

Some of these key impacts include:

- changing views of the profession towards training and assessment
- increased community expectations of health care providers
- exponential growth in the scope and depth of medical knowledge
- rapid introduction of new medical technology and procedures
- certification and continuing education
- increased litigation
- increased concern regarding the cost of health care
- worldwide shortage of doctors
- shorter working hours, and changing industrial landscape
- mismatches between health care needs and health care delivery here and internationally.

FOCUS OF BASIC TRAINING IN ADULT INTERNAL MEDICINE

This training program will focus on developing core skills and knowledge, introducing each of the disciplines and providing a foundation for consolidation and further study within Advanced Training.

- The aim of the Basic Training program is to produce trainees capable of entering any of the specialty training programs.
- Such trainees are differentiated from others by:
 - » high level of medical basic science knowledge
 - » generic skills development.
- They will have:
 - » the ability to diagnose and manage all common acute medical presentations and refer as appropriate
 - » skills, including communication and working as a team, in the management of complex and chronic medical conditions
 - » a good 'breadth of competence' and some 'depth of competence' across the medical specialties.

LINK TO PROFESSIONAL QUALITIES CURRICULUM

The Professional Qualities Curriculum outlines the range of concepts and specific learning objectives required and utilised by all physicians, regardless of their specialty or area of expertise.

Each of these concepts and objectives will be taught, learnt and assessed within the context of everyday clinical practice. It is important, therefore, that they be aligned with, and fully integrated into, the learning objectives within this curriculum.

EXPECTED OUTCOMES AT THE COMPLETION OF TRAINING

At the completion of Basic Training, it is expected that trainees will have:

- built on the knowledge and skills acquired during medical school and the pre-vocational post-graduate years
- gained experience in, and had the opportunity to develop and demonstrate competency in, a comprehensive range of 'core' generic and discipline-specific knowledge, clinical skills and attitudes
- had a broad-based exposure to, and clinical experience within, each of the discipline areas that will be further developed and focussed during the subsequent Advanced Training program
- acquired a 'breadth of competence' that will be further developed into a 'depth of competence' within their Advanced Training program
- rotated through a series of training opportunities
- gained a background knowledge and understanding of the full range of discipline areas which will facilitate cross referral/multi-specialty teamwork etc
- demonstrated the ability to communicate effectively and sensitively with patients and their families, colleagues and other allied health professionals
- gained an initial understanding of, and be able to acknowledge the importance of, the various socio-economic factors that contribute to illness and vulnerability
- acquired an awareness of, and sensitivity to, the special needs of patients from culturally and linguistically diverse backgrounds
- acquired the skills to be able to work within, and fully utilise, multidisciplinary team-based approaches to the assessment, management and care of their patients
- implemented their future career-planning and decision making processes based on a more informed level of knowledge and understanding.

COMMON ATTITUDES AND BEHAVIOURS

The range of desirable personal and professional behavioural attitudes required of, and commonly utilised by, all consultant physicians and paediatricians in the course of their daily clinical practice and in their relationship with others are listed below. These will facilitate appropriate patient care and management associated with professional practice when working with patients, their families, professional colleagues, and allied medical and administrative personnel. Depending upon the clinical context, each of these may be utilised individually or, more commonly, in combination with others.

PERSONAL ATTITUDES

- fostering of a patient-centred approach to health care
- maintenance of a balanced and broad perspective on health care delivery
- preparedness to learn and adopt new and validated approaches to diagnosis and management, despite logistical difficulties, and to change work practices when appropriate
- willingness to reflect on, and learn from, mistakes
- preparedness to change management plans
- tolerance of uncertainty
- ability to cope with unexpected disappointments
- equanimity, resilience and calmness in the face of challenging clinical demands
- desire to contribute to improvements in the health system
- desire to foster clinical practice, research and teaching in general internal medicine
- preparedness to acknowledge doubt and uncertainty in clinical practice.

ATTITUDES AND BEHAVIOURS WITH PATIENTS AND FAMILIES

- use of a positive, compassionate, caring and empathic attitude towards patients and their family/carers
- involvement of patients as equals in identification of treatment priorities and in the development of the care plan
- ensuring patient confidentiality, particularly where others are involved in the development of a care plan
- imparting of 'bad news' in a compassionate and positive manner
- use of a clinical approach that models and reinforces preventive and prophylactic approaches to health care
- encouragement of patient mastery, including participation in self-awareness and rehabilitation programs
- use of a non-judgemental approach to the assessment of all determinants of illness
- willingness to accede to requests for a second opinion
- provision of constructive and evidence-based advice on complementary and alternative management approaches, when patients wish this.

ATTITUDES AND BEHAVIOURS WITH COLLEAGUES

- preparedness to collaborate with primary carers, other referrers and sub-specialists in the care of patients by providing consultative advice, sharing of care, or accepting ongoing care in the best interests of the patient
- willingness to work in a multidisciplinary team
- use of an independent, assertive, inquiring but nonetheless professionally courteous manner in interactions with subspecialty colleagues
- willingness to share knowledge and skills with colleagues
- fostering of a peer network and collaborative relationships in the health care system
- provision of reassurance and support to colleagues
- zero tolerance in the workplace of sexual harassment and discrimination
- respect for, and acknowledgement of, professional contributions of all others in the workplace, including office staff and employees.

ASSESSMENT

Below is an overview of the assessment tools used during Basic Training. A variety of tools will be used, with the emphasis on provision of constructive feedback to trainees, to aid their learning. The assessment tools will require the trainee to provide good patient care and act as quality assurance towards this goal. Thus, the better a person performs on the job, the better they will perform within the formal assessment program.

The new assessment system links more closely with service provision, reducing the need to spend time away from the job studying books and examination technique. Rather, the centralised examinations are linked with the curriculum and are complemented with on-the-job assessment.

OUTLINE OF STRATEGIES

A similar range of strategies will be employed for Basic Training and Advanced Training. This section deals with those tools that will be used during Basic Training.

Formative mini-Clinical Evaluation Exercise (mini-CEX)

Trainees will be required to complete a number of formative mini-CEX activities throughout Basic Training, covering history taking, clinical examination, and health promotion aspects of the curriculum. These will be carried out in the trainee's usual workplace.

Multi-Source Feedback (MSF)

Also known as 360^o feedback, the MSF is designed to assess areas of the Professional Qualities Curriculum, particularly around communication, management, and, to some degree, cultural competency.

APLS/ALS course

Is compulsory for all trainees, and should ideally be completed during Basic Training.

Centralised Written Examination

A multiple-choice examination, blueprinted to the curriculum.

Centralised Clinical Examination

Consists of two long cases and four short cases.

HOW THEY ARE TO BE USED

Progression to Advanced Training will depend on completion of the requirements for Basic Training as specified in the Basic Training Portal as well as:

- A summative Written Examination
- Four summative short cases and two summative long cases, which make up the Clinical Examination.

NOTE: Trainees should refer to the RACP Basic Training Portal (www.racp.edu.au/btp) for the most up-to-date assessment requirements.

RELEVANT LITERATURE

Hatala R, Ainslie M, Kassen BO, Mackie I and Roberts JM. *Assessing the mini-clinical evaluation exercise in comparison to a national specialty examination*. Medical Education 2006;40:950–956.

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Lockyer J. *Multisource feedback in the assessment of physician competencies*. The Journal of Continuing Education in the Health Professions 2003;23:4–12.

Norcini JJ, Blank LL, Duffy FD and Fortna GS. *The Mini-CEX: a method for assessing clinical skills*. Annals of Internal Medicine 2003;138:476–481.

CURRICULUM DOMAINS, THEMES AND LEARNING OBJECTIVES

Each of the curriculum documents has been developed using a common format, thereby ensuring a degree of consistency and approach across the spectrum of training.

Domains

The Domains are the broad fields which group common or related areas of learning.

Themes

The Themes identify and link more specific aspects of learning into logical or related groups.

Learning Objectives

The Learning Objectives outline the specific requirements of learning. They provide a focus for identifying and detailing the required knowledge, skills and attitudes. They also provide a context for specifying assessment standards and criteria as well as providing a context for identifying a range of teaching and learning strategies.

Domain 1: Clinical Process

THEME 1.1 – CLINICAL SKILLS

Learning objectives

- 1.1.1 Elicit the history and obtain other relevant data
- 1.1.2 Conduct an appropriate physical examination
- 1.1.3 Synthesise findings from history and physical examination to develop a differential diagnosis and management plan
- 1.1.4 Plan and arrange investigations appropriately

THEME 1.2 – PATIENT CARE AND THERAPEUTICS

Learning objectives

- 1.2.1 Manage general care in the unwell patient
- 1.2.2 Prescribe appropriate and safe pharmacotherapy
- 1.2.3 Incorporate health and wellness promotion in clinical practice
- 1.2.4 Manage patients with surgical problems
- 1.2.5 Facilitate ongoing care planning

THEME 1.3 – PROCEDURAL SKILLS

Learning objectives*

- 1.3.1 Prepare patient for procedure
- 1.3.2 Competently perform procedures relevant to Adult Medicine
- 1.3.3 Provide care following procedure

* Note: Refer also to Appendix 1 for a list of assumed Procedural Skills relevant to General Medicine

Domain 2: Medical Expertise

THEME 2.1 – MANAGEMENT OF ACUTE MEDICAL PROBLEMS

Learning objectives

- 2.1.1 Recognise and manage the critically ill patient
- 2.1.2 Manage specific acute medical problems
- 2.1.3 Communicate with patients and their families/carers in an emergency situation

THEME 2.2 – MANAGE PATIENTS WITH UNDIFFERENTIATED PRESENTATIONS

Learning objectives

- 2.2.1 Manage patients with undifferentiated presentations

THEME 2.3 – MANAGE PATIENTS WITH DISORDERS OF ORGAN SYSTEMS

Learning objectives

- 2.3.1 Manage patients with disorders of the cardiovascular system
- 2.3.2 Manage patients with endocrine and metabolic disorders
- 2.3.3 Manage patients with disorders of the gastrointestinal system
- 2.3.4 Manage patients with non-malignant disorders of the haematological system.
- 2.3.5 Manage patients with disorders of the immune system
- 2.3.6 Manage patients with mental health disorders
- 2.3.7 Manage patients with disorders of the musculoskeletal system
- 2.3.8 Manage patients with disorders of the neurological system
- 2.3.9 Manage patients with disorders of the renal and genitourinary systems
- 2.3.10 Manage patients with disorders of the respiratory and sleep system
- 2.3.11 Manage patients with skin disorders

THEME 2.4 – MANAGE PATIENTS WITH DEFINED DISEASE PROCESSES

Learning objectives

- 2.4.1 Manage patients with neoplastic diseases
- 2.4.2 Manage patients with genetic disorders
- 2.4.3 Manage patients with infectious diseases

THEME 2.5 – MEDICINE THROUGHOUT THE LIFESPAN/GROWTH AND DEVELOPMENT

Learning objectives

- 2.5.1 Manage common presentations in adolescents
- 2.5.2 Manage common presentations in pregnancy
- 2.5.3 Manage common problems associated with the menopause
- 2.5.4 Manage problems in the older patient
- 2.5.5 Manage patients at the end of life

LEARNING OBJECTIVE TABLES

The following tables indicate the range of underpinning knowledge and skills associated with each of the specific learning objectives.

Domain 1: Clinical Process

Tan	-	Prepare patient for procedure
Orange	- -	Common and important conditions – essential knowledge/skills must be known in depth
Green	- -	Conditions – important knowledge/skills must have a sound understanding

Domain 1: Clinical Process

THEME 1.1: Clinical skills

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 1.1.1: Elicit the history and obtain other relevant data

LINKS: PQC – communication; resource management

KNOWLEDGE

Structured approach to patient history, including systems review.

Different approaches to history taking as needed in various clinical settings such as acute inpatient, emergency, ambulatory care and telephone/ videoconference consultation settings (Link to 2.1.1).

Other potential sources of data (e.g. personal health records, medical records, general practitioner, family, carers, pharmacy records).

SKILLS

Establishes a rapport and professional relationship with patients of all ages, their carers and relatives.

Obtains a focussed, efficient and accurate history.

Gives appropriate emphasis to functional and social history.

Uses a range of strategies to corroborate information given by patient.

Evaluates critically the history in light of the degree of functional impairment, physical findings, and other data.

Revisits the history when the clinical situation is not clear.

Gathers accurate data in complex situations (e.g. non-English speakers, confused patient etc).

Persists in seeking information to assist in clinical decision making.

Domain 1: Clinical Process

THEME 1.1: Clinical skills

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 1.1.2: Conduct an appropriate physical examination

LINKS: PQC – obtaining consent, communication skills, cultural competency, ethics, clinical decision making

KNOWLEDGE

Structured, systematic approach to examination.
Detailed system examinations.
Brief physical examination techniques (e.g. for neurological intactness, locomotor).
Clinical signs and patterns.
Evidence base for physical signs (reliability, validity, sensitivity, specificity, areas of uncertainty).
Functional/screening tests – mini mental state examination, GCS, depression score, 6-minute walk, timed up and go test.

SKILLS

Performs a thorough, accurate complete physical examination of new patients.
Performs a focussed clinical examination in selected settings.
Tailors physical examination according to the patient's history.
Interprets physical signs accurately.
Integrates data obtained by other health care workers into the physical examination findings.
Uses specific tools when indicated (e.g. functional/screening tests).
Considers patient dignity and the need for a chaperone for some or all of the examination.
Demonstrates sensitivity to patients who are in pain, embarrassed, or who are vulnerable.
Clearly documents examination findings.

Domain 1: Clinical Process

THEME 1.1: Clinical skills

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 1.1.3: Synthesise findings from history and physical examination to develop a differential diagnosis and management plan

LINKS: Clinical decision making (PQC); organ systems; undifferentiated presentations (for differential diagnoses, provisional diagnoses); communication regarding illness severity; presenting a patient on a ward round; discharge planning (PQC); patient care and therapeutics; identifying learning needs (PQC – teaching and learning)

KNOWLEDGE

Refer to knowledge as listed in objectives 1.1.1 and 1.1.2.

SKILLS

Interprets and integrates the history and physical examination.

Formulates a complete and reasoned problem list with differential diagnoses and a management plan.

Prioritises the problem list, particularly in patients with multiple medical problems.

Prioritises urgency of individual investigations and treatments.

Communicates with the patient, their family and carers to develop a management plan.

Adapts approach to management of each disorder to take account of patient factors and comorbidities.

Records history, examination findings, synthesis, and plan for investigations and management accurately and concisely.

Justifies the diagnosis based on clinical information.

Modifies working diagnosis based on new information or response to therapy.

Provides instructions regarding frequency of observations, and clear instructions on parameters for action.

Domain 1: Clinical Process

THEME 1.1: Clinical skills

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 1.1.4: Plan and arrange investigations appropriately

LINKS: PQC – diagnostic reasoning
Medical expertise systems based

KNOWLEDGE

Clinical indications and contra-indications of investigations.

Relative cost of investigations.

Risks of performing investigations.

Impact of false negatives and false positives on patient care.

Sensitivity, specificity, positive and negative predictive value, likelihood ratio of investigations.

SKILLS

Rationally and efficiently plans and arranges investigations based on findings from history and physical examination.

Adapts approach to investigations taking into account patient factors and comorbidities.

Weighs the costs and benefits of investigations in each clinical situation.

Chooses the most cost-effective investigative path.

Applies diagnostic reasoning to minimise the number of investigations used and minimise harm from false positives.

Recognises situations where it is appropriate to not investigate at all.

Avoids unnecessary repetition of investigations.

Checks results of investigations in a timely manner and acts on results appropriately.

Modifies working diagnosis and treatment plan in response to investigation results.

Domain 1: Clinical Process

THEME 1.2: Patient care and therapeutics

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 1.2.1: Manage general care in the unwell patient

LINKS: (PQC) self-management, professional practice (diligence in reviewing patients, checking results before leaving etc); Mental health link for management of depression

KNOWLEDGE

SKILLS

Management of fluid and electrolyte balance

Physiology of body fluids.

Fluid and electrolyte requirements in well and unwell patients.

Principles of fluid/electrolyte replacement and maintenance.

Content of commonly available replacement fluids.

Performs accurate assessment of fluid status.

Requests appropriate investigations to aid in establishing fluid and electrolyte status.

Identifies and prescribes appropriate replacement or maintenance fluids with respect to patient's current fluid/electrolyte status, age and comorbidities.

Appropriately monitors ongoing fluid and electrolyte status and responds to changes in status.

Management of glycaemic control in acute illness

Risk factors for poor glycaemic control.

Evidence base for tight glycaemic control.

Reviews glycaemic control and manages fluctuations related to acute illness.

Commences intensive control regimens when indicated and monitors use.

Use of oxygen therapy

Indications for use of oxygen therapy and positive pressure ventilation in both acute and chronic setting (link to respiratory and emergency).

Methods of delivery of oxygen and ventilation.

Adverse effects of oxygen therapy.

Uses pulse oximetry and blood gases appropriately to determine need for and monitoring of therapy.

Selects appropriate method of delivery and parameters, and monitors for effectiveness/ complications of therapy.

Use of blood products

Components of commonly available blood products.

Indications, contra-indications and adverse effects of the use of blood products.

Consent issues for the use of blood products.

Local guidelines for ensuring safe use of blood products.

Uses products within local guidelines.

Recognises adverse effects of transfusion and manages appropriately.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>Nutrition</p> <p>Normal nutritional requirements.</p> <p>Effect of disease on nutrition status.</p> <p>Effect of nutritional status on clinical outcomes.</p> <p>Available forms of nutritional supplementation, together with potential complications and cost of each.</p>	<p>Performs appropriate assessment of nutritional status, including contribution of comorbidities, cultural and religious factors.</p> <p>Uses ethical framework in discussing decisions regarding artificial feeding with supervisor.</p> <p>Selects appropriate form of supplementation for patient's needs and circumstances.</p> <p>Appropriately monitors response to nutritional supplementation including potential complications of therapy.</p>
<p>Pressure sore prevention and management</p> <p>Factors contributing to increased risk of pressure sores.</p> <p>Strategies for prevention.</p> <p>Principles of management of established pressure sores – wound management, antimicrobial therapy.</p>	<p>Identifies patients at increased risk, ensures adequate preventive measures are in place and monitors for development of pressure areas in immobile patients.</p> <p>Manages established pressure sores including identification of need for surgical referral.</p>
<p>Prevention of thromboembolism</p> <p>Risk factors for thromboembolism.</p> <p>Indications for thromboprophylaxis (link to anticoagulation).</p>	<p>Risk-stratifies patients and prescribes appropriate pharmacological and non-pharmacological measures to reduce risk.</p> <p>Monitors for development of thromboembolism and complications of therapy.</p>
<p>Prevention of infection</p> <p>Universal precautions.</p> <p>Hospital practices to reduce risk.</p> <p>Isolation procedures.</p> <p>Hand washing.</p>	<p>Complies with isolation procedures.</p> <p>Complies with universal precautions.</p> <p>Complies with hand washing guidelines and other guidelines to limit nosocomial infection (Link 2.4.3).</p>

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>Pain Management</p> <p>Pathophysiology of pain (links to palliative care).</p> <p>Measurement of pain.</p> <p>Non-pharmacological approaches to management of pain.</p> <p>Classes of commonly available analgesics with respect to mode of action, pharmacokinetics, potency and efficacy in various pain syndromes.</p> <p>Common adverse effects and drug interactions for drug class.</p> <p>Principles of acute and chronic pain management.</p> <p>Principles of adjuvant therapy in pain management.</p>	<p>Takes a relevant pain history.</p> <p>Identifies source (or potential sources) of pain.</p> <p>Uses common pain-scoring tools.</p> <p>Utilises non-drug approaches to pain management.</p> <p>Prescribes appropriate analgesia with reference to cause, severity, comorbidities and comedications.</p> <p>Monitors efficacy of treatment and adjusts regimen appropriately.</p> <p>Prescribes adjuvant therapy where appropriate.</p> <p>Refers to pain team when appropriate.</p>
<p>Psychosocial care</p> <p>Psychosocial and cultural factors impacting on illness behaviour.</p> <p>Risk factors for depression in medical inpatients (Link – Mental health disorders 2.3.6).</p>	<p>Identifies psychosocial factors impacting on presentation and outcomes in individual patients.</p> <p>Ensures appropriate strategies in place to assist in managing social and cultural issues.</p> <p>Advises regarding appropriate environment and staffing levels if required.</p>

Domain 1: Clinical Process

THEME 1.2: Patient care and therapeutics

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 1.2.2: Prescribe appropriate and safe pharmacotherapy

LINKS: PQC – quality and safety, 2.1.2 poisoning

KNOWLEDGE

SKILLS

Basic Science

Mechanism of drugs at the receptor and intracellular level.

Principles of absorption, distribution, metabolism and excretion of drugs.

Effect of ageing, pregnancy and lactation on pharmacokinetics.

Importance of genetic alterations in drug metabolism.

Pharmacological basis of drug interactions.

Impact of organ dysfunction on pharmacokinetics and dose modification.

Applies basic science principles in prescribing.

Prescribes appropriately with reference to specific patient factors including organ dysfunction, allergies and adverse effects.

Calculates loading doses and maintenance doses.

Calculates GFR, body surface area.

Principles of prescribing

Patient factors impacting on prescribing – allergy, age, pregnancy.

Appropriate dose adjustments in disease, ageing, pregnancy.

Categories of drug safety in pregnancy and impact on prescribing.

Principles of dose titration.

Legislation regarding prescribing and controlled and restricted drugs.

Takes a complete drug history including history of use of complementary therapies and over-the-counter medicines.

Consults pharmacist/MIMS/similar databases to obtain prescribing information.

Uses locally appropriate guidelines for prescribing.

Writes a clear and unambiguous prescription.

Provides accurate medication list on discharge and clinic letters, along with a plan for evaluating drug effect/dose adjustment/monitoring for adverse effects.

Adverse drug reactions and interactions

Common and life-threatening drug interactions and common presentations of drug-induced disease, adverse drug reactions.

Common interactions between prescription and non-prescription and complementary therapies.

Identifies presence of, or potential for, adverse drug reaction and drug interactions and treats appropriately.

Monitors for development of common adverse drug reactions, including selection of appropriate laboratory investigations (e.g. monitoring of renal or hepatic function).

Therapeutic drug monitoring

Indications for monitoring plasma concentrations or pharmacological effects of specific drugs.

Monitors drug levels and effects when appropriate and responds accordingly to results.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>Quality use of medicines (Link to PQC quality and safety)</p> <p>Factors affecting adherence.</p> <p>Factors increasing risk of medication error.</p> <p>Techniques for enhancing medication safety.</p> <p>Factors predisposing to polypharmacy (therapeutic cascade) and reasons for over prescribing.</p> <p>Delivery techniques for specific medicines.</p>	<p>Practices regular medication review with appropriate adjustment of regimen and avoidance of polypharmacy.</p> <p>Ceases medications where proven ineffective or no longer indicated.</p> <p>Engages patient in decision making, explaining drug therapy and monitoring and following up verbal with written information where appropriate.</p> <p>Assesses patient uses of delivery devices.</p> <p>Uses a range of strategies to enhance patient adherence.</p>
<p>Analgesics (see 1.2.1)</p>	
<p>Anticoagulant therapy</p> <p>Actions and indications of anticoagulants, both prophylactic and therapeutic.</p> <p>Drug interactions, adverse effects, pharmacokinetics, monitoring of anticoagulation.</p>	<p>Initiates anticoagulation with appropriate agent at appropriate dose taking patient factors into consideration (age, comorbid conditions).</p> <p>Adjusts therapy to achieve target ranges and monitors therapy appropriately.</p> <p>Manages over-anticoagulation</p>
<p>Corticosteroid therapy</p> <p>Actions and indications of corticosteroids; relative potencies; monitoring, prevention of adverse effects.</p>	<p>Except where definitely indicated, uses steroids judiciously.</p> <p>Recognises when steroids are not appropriate.</p> <p>Escalates dose on sick days.</p> <p>Manages dose reduction.</p> <p>Minimises and manages adverse effects if steroid use unavoidable.</p>
<p>Antimicrobial therapy</p> <p>Mode of action, antimicrobial spectrum, adverse effects, interactions, pharmacokinetics of common classes of antimicrobials.</p> <p>Antimicrobial resistance, and strategies for prevention.</p>	<p>Initiates empiric antimicrobial therapy with appropriate agent at appropriate dose taking patient factors into consideration (age, comorbid conditions).</p>
<p>Psychotropic medication</p> <p>Mode of action, adverse effects, interactions, pharmacokinetics of antipsychotics, benzodiazepines, antidepressants.</p> <p>Links to addiction (Mental health 2.3.6).</p>	<p>Uses these medications judiciously, carefully monitoring for side effects.</p> <p>Uses non-pharmacological approaches initially, where possible.</p> <p>Checks interactions to avoid the serotonergic syndrome (Link to toxicology, 2.1.2).</p>

Domain 1: Clinical Process

THEME 1.2: Patient care and therapeutics

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 1.2.3: Incorporate health and wellness promotion in clinical practice

LINKS: PQC – quality and safety, population health, organ systems

KNOWLEDGE

SKILLS

Healthy lifestyle

Principles of healthy diet across all age ranges including adolescence, pregnancy, lactation and old age.

Causes of obesity in adolescence and adults and impact on health.

Strategies to attain a healthy weight.

Principles of physical activity in disease prevention, maintenance of healthy weight in all age groups, and prevention of frailty in old age.

Techniques of proven value in smoking cessation and health benefits of smoking cessation.

Accepted healthy alcohol intake in both sexes and all age groups including pregnant women.

Importance of preventive strategies for psychosocial wellbeing.

Safe sexual practices.

Cycle of readiness for change.

Assesses risk factors during clinical encounters – drug, alcohol, sexual, smoking history.

Provides specific advice regarding modification of risk factors.

Communicates importance of lifestyle measures to patients and refers appropriately for assistance.

Identifies reasons for obesity in an individual and develops strategies to manage weight.

Uses available written literature, diet and exercise prescriptions to assist in patient education and compliance.

Reinforces principles and monitors compliance at subsequent visits.

Uses brief interventions for hazardous drinkers and smokers at every opportunity.

Screening

Current screening guidelines for common diseases.

Promotes patient participation in screening programmes.

Advises patients on relevant benefits and potential harms of screening.

Immunisation

Current schedule and indications for immunisation in adults.

Prescribes appropriate preventive therapy including immunisation according to established guidelines.

Advises patients on relevant benefits and harms of immunisation.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>Self-management</p> <p>Techniques for encouraging self-management of health and chronic disease.</p> <p>Best practice self-monitoring in established chronic disease (e.g. diabetes, hypertension, respiratory disease).</p>	<p>Educates and reinforces patient skills in monitoring and self-management.</p> <p>Develops management/action plan in concert with patient and health care team.</p>

Domain 1: Clinical Process	
THEME 1.2: Patient care and therapeutics	BASIC TRAINING CURRICULUM: ADULT INTERNAL MEDICINE
LEARNING OBJECTIVE 1.2.4: Manage patients with surgical problems	
LINKS: General care in the unwell patient	
KNOWLEDGE	SKILLS
<p>Preoperative assessment of cardiovascular and respiratory risk.</p> <p>Proven strategies for minimising peri-operative risk (e.g. DVT prophylaxis, beta blockers, smoking cessation).</p> <p>Causes of delirium in the peri-operative period.</p> <p>Indications for endocarditis prophylaxis.</p>	<p>Recognises a surgical condition, provides initial resuscitation and baseline investigations and refers appropriately.</p> <p>Identifies high-risk peri-operative patients, and develops a management plan that minimises risk.</p> <p>Investigates and manages patients with common peri-operative problems – sepsis, delirium, thromboembolism, glycemic management, fluid balance, atrial fibrillation, unresolved pain (Link to 1.2.1).</p>

Domain 1: Clinical Process

THEME 1.2: Patient care and therapeutics

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 1.2.5: Facilitate ongoing care planning

LINKS: History, functional history

KNOWLEDGE

SKILLS

Facilitate functional rehabilitation

General principles of rehabilitation for neurological disease including stroke, musculoskeletal disease, cardiopulmonary disease and functional restoration in the elderly.

Factors affecting rehabilitative potential.

Strategies for managing pain, spasticity, incontinence.

Roles of individual members of rehabilitative team.

Works in a multidisciplinary team to facilitate goal setting and formulate care plans.

Promotes early return of usual functioning, e.g.

- removal of cannulae, IDC, NG tubes
- early mobilisation
- early involvement of MDT
- stopping infusions, nebulisers and unnecessary therapy
- estimation of date of discharge.

Refers appropriately to rehabilitation service.

Facilitate ongoing care

Local community resources, educational support groups, systems within the hospital.

Writes concise, accurate, relevant discharge summaries.

Writes concise, accurate, relevant outpatient and referral letters.

Organises and plans post-discharge care and follow up.

Facilitates acquisition of medical aids and devices (e.g. home oxygen, wheelchairs, mobility devices etc).

Management of the patient with a complex, multisystem disorder

Evidence based coordination of care and disease monitoring.

Psychological impact of chronic condition.

Provides specific instructions regarding disease monitoring.

Simplifies ongoing care where possible.

Refers appropriately to other subspecialty, allied health and community based services.

Provides holistic overview of patient progress.

Domain 1: Clinical Process

THEME 1.3: Procedural skills (refer also to Appendix 1 for a list of assumed Procedural Skills relevant to General Medicine)

**BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE**

LEARNING OBJECTIVE 1.3.1: Prepares patient for procedure

LINKS: PQC – informed consent

KNOWLEDGE

Indications, contra-indications and potential complications related to procedure.

Principles of informed consent and documentation of consent.

Indications, contra-indications, side effects of anaesthesia and sedation.

Appropriate instruments and environment including infection control measures and staffing requirements required for procedure.

SKILLS

Explains procedure to patient and obtains informed consent.

Documents discussion and informed consent.

Prepares the patient, carers, staff and environment for procedure.

Administers appropriate local anaesthetic, analgesia and sedation where required.

Domain 1: Clinical Process

THEME 1.3: Procedural skills (refer also to Appendix 1 for a list of assumed Procedural Skills relevant to General Medicine)

**BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE**

LEARNING OBJECTIVE 1.3.2: Competently perform procedures relevant to Adult Medicine

PROCEDURE	KNOWLEDGE	SKILLS	ASSESSMENT CRITERIA
Emergency and Elective DC cardioversion.	Defibrillator function. Necessity of synchronised shock. Starting voltage. Number of shocks.	Uses Smart (automatic) defibrillator. Uses manual defibrillator. Performs as team member and as team leader.	Cardioversion is performed appropriately and effectively in an emergency setting and in an elective setting. For emergency DC cardioversion, this should be both in a simulated and a real setting, and both as a team member and team leader.
Pressure measurement and care of central venous lines.	Desired position of CVP line. Physiology of CVP monitoring and strategies to ensure measurements are accurate. How to secure line and maintain patency. Potential complications.	Measures CVP accurately.	CV line monitored regularly and maintained in good condition for as long as needed. CV pressure measured accurately. Complications are dealt with expediently.
Pleural and ascitic fluid aspiration.	Anatomical landmarks. Safe approach.	Punctures pleural/ascitic space. Withdraws fluid.	Safe and successful aspiration of pleural/ascitic fluid.

PROCEDURE (Cont.)	KNOWLEDGE (Cont.)	SKILLS (Cont.)	ASSESSMENT CRITERIA (Cont.)
Intercostal drain insertion and management. Needle thoracentesis.	Anatomical landmarks. How an underwater seal (UWS) functions.	Performs safe blunt dissection to pleural space and inserts intercostal tube. Connects UWS and secures in place. Assesses and manages a drain. Safely removes the tube.	Safe and successful insertion of drain. Drain maintained in good working condition until removal.
Knee joint aspiration.	Anatomical landmarks.	Safely punctures the joint. Removes samples.	Safe and successful aspiration of knee joint. Patient discomfort minimised.
Lumbar puncture.	Anatomical landmarks. Appropriate timing of procedure.	Safely puncture. Measures CSF pressure. Removes samples.	Successful puncture and taking of appropriate samples. CSF pressure measured accurately. Patient discomfort minimised.
Non-invasive ventilation.	Principles of CPAP and BiPAP. Principles of monitoring and adjustment.	Fits masks. Prescribes pressure.	NIV established and effectively maintained for as long as required.
Tracheotomy care and immediate complication management.	Anatomy. Components and functioning.	Recognises infection, obstruction, dislocation. Responds immediately to open the airway.	

Domain 1: Clinical Process

THEME 1.3: Procedural skills (refer also to Appendix 1 for a list of assumed Procedural Skills relevant to General Medicine)

**BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE**

LEARNING OBJECTIVE 1.3.3: Provides care following procedure

KNOWLEDGE

Potential complications of procedure.

SKILLS

Documents procedure and provides clear instructions related to observations and management required.

Provides appropriate analgesia.

Responds appropriately to changes in observations.

Domain 2: Medical Expertise

THEME 2.1: Management of acute medical problems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.1.1: Recognise and manage the critically ill patient

LINKS: Procedural skills intubation, venous access , NIV; Patient care – oxygen therapy, NIV; Respiratory, CVS, Infectious Disease

KNOWLEDGE

Signs and symptoms of impending cardiorespiratory arrest.

Clinical features of serious illness.

Causes of acute airway obstruction, respiratory failure, shock and coma.

Principles of oxygen delivery and assisted ventilation.

Principles of fluid resuscitation.

Principles of inotropic support.

Principles and practice of defibrillation.

Hospital emergency codes.

Location and contents of hospital resuscitation trolleys and their contents.

Principles of teamwork and leadership in an acute emergency (Link PQC).

Local indications and contra-indications for ICU.

Basic Life Support.

Advanced Life Support.

SKILLS

Recognises emergency situations and the critically ill adult.

Determines rapidly the clinical context and sequence of events leading to the emergency.

Conducts a rapid, focussed clinical examination.

Establishes a provisional diagnosis and orders appropriate initial investigations.

Initiates appropriate emergency management, including summoning help, teamwork, team leadership and urgent referral to other services.

Adapts resuscitation to take account of the environment (e.g. FABC . . . bedside furniture removals to get to A for airway).

Uses a range of strategies to advocate for the patient in situations where other services may appear slow to respond to the urgency of the situation.

Discusses the situation with a more senior staff member at earliest appropriate opportunity and recognises if transportation or retrieval to another facility is required.

Monitors patient's condition appropriately and recognises and acts on complications.

Anticipates patients in whom there may well be a rapid deterioration, and reflects on indicators and actions to be taken in the management plan.

Develops appropriate care plans for patients in whom resuscitation or emergency escalation of care is not indicated.

Conveys these plans in the notes, and verbally, to relevant health care staff.

Performs CPR and BLS according to ILCOR guidelines.

Performs ALS according to ILCOR guidelines.

Domain 2: Medical Expertise

THEME 2.1: Management of acute medical problems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.1.2: Manage specific acute medical problems

KNOWLEDGE

For the following emergencies or potential emergencies, the trainee describes the clinical presentation, differential diagnosis, underlying pathophysiology, initial investigations, initial management, and likely complications:

- stridor/airway obstruction
- acute difficulty swallowing
- hypoxia, respiratory failure
- hypotension, shock – hypovolemic, septic, cardiogenic, neurogenic, anaphylactic
- arrhythmia
- collapse
- decreased LOC
- seizures
- acute paraplegia/weakness/rigidity
- ascending motor-sensory level
- acute visual loss
- acute hearing loss
- painful red eye
- acute agitation
- suicidal behaviour
- aggression
- severe acid base and electrolyte disturbances
- hypoglycaemia
- diabetic ketoacidosis
- alcoholic ketoacidosis
- thyroid, adrenal and pituitary crisis
- meningitis
- hyperthermia and hypothermia
- extensive skin blistering.

SKILLS

Recognises emergency.

Determines rapidly the clinical context and sequence of events leading to the emergency.

Conducts focussed clinical examination.

Establishes a provisional diagnosis, plans and arranges appropriate initial investigations, determines severity of organ dysfunction(s).

Initiates appropriate emergency management, including summoning help, and urgent referral to other services.

Monitors patient's condition appropriately and recognises and acts on complications.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>The trainee describes the related pharmacology, clinical presentation and initial acute management of the following common and serious poisonings/ overdoses:</p> <ul style="list-style-type: none"> • paracetamol • antidepressants • antipsychotic drugs • alcohol • amphetamines • opioid drugs • benzodiazepines • anticholinesterases • carbon monoxide • iron • venom (Australia – snakes, spiders, jellyfish etc). 	<p>For each of these poisonings the trainee identifies symptoms and signs of common poisonings and toxic syndromes, assesses and monitors for other serious consequences of poisoning, initiates emergency management including specific antidotes.</p> <p>Seeks specialist and ICU advice in a timely manner.</p> <p>Uses information databases and the poisons centre.</p> <p>Assesses suicidality.</p>
<p>The trainee describes the pharmacology and clinical presentation of the following common and serious toxic syndromes:</p> <ul style="list-style-type: none"> • digoxin toxicity • anticholinergic syndromes • serotonergic syndrome • neuroleptic malignant syndrome. 	

Domain 2: Medical Expertise	
THEME 2.1: Management of acute medical problems	BASIC TRAINING CURRICULUM: ADULT INTERNAL MEDICINE
LEARNING OBJECTIVE 2.1.3: Communicate with patients and their families/carers in an emergency situation	
LINKS: PQC – communication skills, communication with patient’s family, ethical dimensions of the workplace, informed consent and competence	
KNOWLEDGE	SKILLS
<p>(Refer to following aspects of the Professional Qualities Curriculum:</p> <ul style="list-style-type: none"> • communication skills • communication with patient’s family • ethical dimensions of the workplace • informed consent and competence • cultural competence). 	<p>Conveys to families/carers the progress to date, likely cause for situation, immediate therapeutic goals, expected outcome, and any limits on escalation of care.</p> <p>Discusses the current situation within the broader context of the trajectory of patient illness and quality of life, including areas of uncertainty.</p> <p>Indicates when medical staff will review the situation and/or meet with family again.</p>

Domain 2: Medical Expertise

THEME 2.2: Manage patients with undifferentiated presentations

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.2.1: Manage patients with undifferentiated presentations

LINKS: PQC – communication skills, communication with patient’s family, ethical dimensions of the workplace, informed consent and competence

KNOWLEDGE

Differential diagnosis, appropriate investigations and initial management for common, undifferentiated clinical presentations including:

- pain
- fever/PUO/night sweats
- chronic fatigue/lethargy
- syncope/collapse/loss of consciousness
- acute and chronic confusional states
- dyspnoea
- hemoptysis
- weight loss
- vomiting
- functional decline
- weakness
- deformity/swelling
- oedema
- hematuria
- recurrent unexplained presentation.

SKILLS

Establishes a differential diagnosis and a provisional diagnosis, based on clinical history and physical examination.

Initiates basic investigations.

Interprets investigations to plan a further diagnostic process.

Initiates management on the basis of clinical findings.

Identifies acutely unwell patients and initiates appropriate resuscitation and/or therapy.

Initiates symptomatic management of problems such as pain, nausea, dyspnoea etc.

Engages in discussion with supervisors and patient regarding when to stop investigations.

For any presentation the trainee recognises the possible contribution of psychological factors, mental illness or personality disorder to the clinical presentation.

Domain 2: Medical Expertise

THEME 2.3: Manage patients with disorders of organ systems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.3.1: Manage patients with disorders of the cardiovascular system

LINKS: PQC – clinical decision making
Procedures; therapeutics; investigations; haematology; neurology; issues of immunosuppression (for cardiac transplant recipients) – infectious diseases and immunology

KNOWLEDGE

SKILLS

Basic Sciences

Cardiovascular structure and function:

- conduction
- cardiac cycle
- cardiac output.

Blood pressure homeostasis:

- circulatory control (e.g. splanchnic, macro and microvascular, pulmonary, cerebral).

Shock.

Pathology of atherosclerosis.

Laboratory markers of cardiac disease.

Pharmacology of major drug classes used.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Applies basic science knowledge to interpret complex ECGs and chest radiograph.

Applies basic science knowledge to appreciate the significance of and appropriately act on reports of echocardiograms, stress tests, myocardial perfusion scans, angiograms, duplex ultrasound scans, ABI, arterial dopplers.

For the following common and important conditions, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, preventive strategies:

- acute coronary syndromes
- chronic coronary artery disease
- heart failure
- arrhythmias
- endocarditis
- hypertension
- DVT/PE
- stroke
- peripheral vascular disease.

For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and can independently initiate appropriate medical (non-procedural) management for uncomplicated disease.

If there are complications, or procedural intervention is required, the trainee recognises this, provides initial emergency management and refers appropriately.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following conditions, the trainee describes the clinical presentation, initial investigations, initial management, potential complications, therapeutic options and indications for referral:</p> <ul style="list-style-type: none"> • valvular heart disease • pericardial disease. 	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates symptomatic therapy, discusses broad therapeutic options, and refers appropriately.</p>
<p>Cardiovascular manifestations of systemic disease (e.g. diabetes, thyroid, renal, SLE).</p>	

TEACHING AND LEARNING METHODS	ASSESSMENT METHODS
<p>Clinical experience and reflective analysis.</p> <p>Bedside teaching.</p> <p>Reading journals and textbooks.</p> <p>Structured observation and feedback of practice.</p> <p>Supervisor discussions.</p> <p>Lectures.</p> <p>Workshops.</p> <p>Presentations.</p> <p>E-learning.</p> <p>Group discussion.</p> <p>Structured learning package.</p>	<p>MCQ.</p> <p>Online assessment of ECG and CXRs.</p> <p>Assessment at the end of self-learning packages (e.g. online MCQs, assignments, projects, self-audit, supervisor discussions).</p> <p>Mini case.</p> <p>Long case.</p> <p>Case-based discussion.</p> <p>Other Ideas:</p> <p>Assessment at the end of self-learning packages (e.g. online MCQs, assignments, projects, self-audit, supervisor discussions).</p>

Domain 2: Medical Expertise

THEME 2.3: Manage patients with disorders of organ systems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.3.2: Manage patients with endocrine and metabolic disorders

LINKS: Rheumatology – osteoporosis; hypertension – Link to renal and cardiovascular Patient care and therapeutics for lifestyle interventions for diabetes, and PQC for lifestyle modification counselling; acute medicine (endocrine emergencies)

KNOWLEDGE

SKILLS

Basic Science

Structure and function of hormones, hormone receptors, second messengers and hormone action.

Growth, development, reproduction and ageing.

Structure and function of hypothalamus, pituitary, thyroid, adrenals, gonads, parathyroids, adipose tissue.

Secretion, transport and feedback control of hormones.

Carbohydrate and lipid metabolism.

Metabolism – nutrition, obesity, starvation (Link to 2.3.3).

Autoimmunity, and genetics as it relates to hormone disease.

Pharmacology of major drug classes used.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Conducts anthropometric assessment (BMI, WHR, triceps skinfold).

Applies basic science knowledge to interpret basic endocrine testing (diagnosis of diabetes, thyroid function testing, cortisol, synacthen tests) and tests of bone and mineral metabolism (Ca/PO₄/PTH/VitD).

Applies basic science knowledge to appreciate the significance of, and appropriately act on, reports of thyroid scans and bone densitometry, endocrine tissue biopsy, and specialised imaging.

For the following common and important conditions, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, primary and secondary preventive strategies:

- diabetes mellitus – Type I and II
- osteoporosis
- obesity.

For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, orders appropriate investigations, and independently initiates appropriate management for uncomplicated disease.

If there are complications, the trainee recognises these, and refers appropriately.

Monitor for complications.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following conditions, the clinical presentation, initial investigations, initial management, potential complications and disease associations, therapeutic options, adverse effects of disease management and indications for referral:</p> <ul style="list-style-type: none"> • hypothyroidism • hyperthyroidism • Addison's disease • Cushing's syndrome • benign prostatic disease • hypogonadism • polycystic ovarian syndrome • endocrine causes of hypertension • vitamin D deficiency (Link 2.3.7). 	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates symptomatic therapy, discusses broad therapeutic options, and refers appropriately.</p>
<p>Endocrine and metabolic manifestations of systemic disease.</p>	

Domain 2: Medical Expertise

THEME 2.3: Manage patients with disorders of organ systems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.3.3: Manage patients with disorders of the gastrointestinal system

LINKS: Acute medicine; nutrition – therapeutics
Management of acute medical emergencies, volume resuscitation
Immunology – issues of immunosuppression, in relation to liver transplantation

KNOWLEDGE

SKILLS

Basic Science

Structure and function of the gastrointestinal system.

Hormonal/enzymatic control of the alimentary tract including control of acid and pancreatic secretion.

Laboratory markers of hepatic and pancreatic function and malabsorption.

Bilirubin metabolism.

Alcohol metabolism (see also addiction medicine/toxicology).

Macro and micronutrient absorption.

Nutrition and fluid balance (link to patient care and therapeutics).

Pharmacology of major drug classes used.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Applies basic science knowledge to interpret clinical signs, abdominal X-ray, abdominal CT scan, and laboratory tests (including LFTs, liver screen, viral serology, coeliac serology, helicobacter testing, malabsorption tests, faecal microscopy and culture and toxin testing).

Applies basic science knowledge to appreciate the significance of, and appropriately act on reports of, abdominal ultrasound, upper and lower endoscopy, ERCP, MRCP, MRA.

For the following common and important conditions, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, preventive strategies:

- gastrointestinal bleeding
- gastro-esophageal reflux disease
- peptic ulcer disease
- acute and chronic liver disease
- obesity.

For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, orders appropriate investigations, and can independently initiate appropriate medical (non-procedural) management for uncomplicated disease.

If there are complications or procedural intervention is required, the trainee recognises this, provides initial emergency management and refers appropriately.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following conditions, the clinical presentation, initial investigations, initial management, potential complications, therapeutic options and indications for referral:</p> <ul style="list-style-type: none"> • biliary obstruction • allstones • acute pancreatitis • inflammatory bowel disease • irritable bowel syndrome • coeliac disease • malabsorption • gastrointestinal malignancy (see also management of solid organ malignancy 1.1.6, screening in 2.4.3) • oesophageal motility disorders. <p>Gastrointestinal manifestations of systemic disease (e.g. NASH, diabetes, CF).</p> <p>(Link – diarrhoea (undifferentiated), acute diarrhoeal illness (ID).</p> <p>Link anaemia – haematology.</p>	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates symptomatic therapy, discusses broad therapeutic options, and refers appropriately.</p>

Domain 2: Medical Expertise

THEME 2.3: Manage patients with disorders of organ systems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.3.4: Manage patients with non-malignant disorders of the haematological system

LINKS: Cancer; anticoagulation – therapeutics; blood transfusion, end of life; procedures – central lines; lumbar puncture

KNOWLEDGE

SKILLS

Basic Science

Structure and function of blood-forming tissues, reticuloendothelial system, and blood components.

Haemoglobin structure and function.

Coagulation.

Haemopoiesis.

Iron, B12 and folate metabolism.

Principles of transfusion and bone marrow transplantation.

Pharmacology of major haematinics and erythropoietin.

Genetics of thalassemia.

Haemolysis.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Applies basic science knowledge to interpret clinical signs, full blood count and film, coagulation profile, thrombophilia screens.

Applies basic science knowledge to appreciate the significance of, and appropriately acts on reports of, bone marrow aspirate and trephine, cytogenesis.

For the following common and important condition, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, preventive strategies:

- anaemia.

For this condition, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and independently initiates appropriate management for uncomplicated disease.

If there are complications, the trainee recognises these, and refers appropriately.

Monitors for complications.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following conditions, the clinical presentation, initial investigations, initial management, potential complications, therapeutic options and indications for referral:</p> <ul style="list-style-type: none"> • lymphadenopathy • bleeding disorders • thrombophilia • haemophilia • disseminated intravascular coagulopathy • neutropenia • pancytopenia • thrombocytopenia (including immune) • aplastic anaemia/bone marrow failure • plasma cell dyscrasias/myeloma • myelodysplasia • myeloproliferative disease • haemolytic disorders. 	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates symptomatic therapy, discusses broad therapeutic options, and refers appropriately.</p>
<p>Haematological manifestations of systemic disease (anaemia chronic disease, haemolysis, cytopenia).</p>	

Domain 2: Medical Expertise

THEME 2.3: Manage patients with disorders of organ systems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.3.5: Manage patients with disorders of the immune system

LINKS: Therapeutic drug monitoring, corticosteroids; immunosuppressed patient
Rheumatology – connective tissue disease; skin

KNOWLEDGE

SKILLS

Basic Science

Inflammation – acute, chronic.

Healing and repair.

Structure and function of spleen, lymph nodes and other lymphoid tissue.

Immune responses – innate and adaptive.

Action of immunosuppressive agents.

Allergic responses.

Autoimmunity.

Principles of immunisation.

Transplant biology including HLA.

Pharmacology of major drug classes used.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Applies basic science knowledge to interpret clinical signs, laboratory investigations (FBC, assays of HIV serology/viral load, immunoglobulins, protein electrophoresis, inflammatory markers, RF, CCP, ANA, dsDNA, ENA, ANCA, complement profiles).

Applies basic science knowledge to appreciate the significance of, and appropriately act on reports of, tissue biopsies, specialised imaging.

Applies basic science knowledge to the use of:

- steroids (Link 1.2.2)
- blood products
- anaphylaxis management plans
- immunisation and at-risk groups.

For the following conditions, the clinical presentation, initial investigations, initial management, potential complications and disease associations, therapeutic options, adverse effects of disease management and indications for referral:

- allergic disorders – anaphylaxis (Link Acute care), food allergy, adverse drug reactions (Link 1.2.2), allergic rhinitis/sinusitis/conjunctivitis, atopic dermatitis (Link 2.2.11), urticaria (Link 2.2.11).
- autoimmune diseases – SLE, PSS, dermatomyositis, polymyositis (Link to musculoskeletal).
- acquired immunodeficiency syndromes – HIV (Link 2.4.3), immunosuppressive drugs (Link 1.2.2), post transplantation.
- vasculitis.

For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates symptomatic therapy, discusses broad therapeutic options, and refers appropriately.

Immunological manifestations of systemic disease.

Domain 2: Medical Expertise

THEME 2.3: Manage patients with disorders of organ systems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.3.6: Manage patients with mental health disorders

LINKS: Nervous system; acute withdrawal in acute medicine

KNOWLEDGE

SKILLS

Basic Science

Structure and function of limbic system and hippocampus.

Neurotransmitters.

Principles of addiction and tolerance.

Pharmacology of major drug classes used.

Local protocols for liaison with psychiatric services.

Indications for sectioning, and therapeutic options under Mental Health Act.

Local drug and alcohol services.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Applies basic science knowledge to interpret mental status examination, and tests of cognitive function.

For the following conditions, the clinical presentation, initial investigations, initial management, potential complications and disease associations, therapeutic options, adverse effects of disease management and indications for referral:

- mood disorders
- psychosis
- anxiety disorders
- grief reaction
- eating disorders
- substance abuse
- unsuccessful suicide attempt
- parasuicide
- somatoform disorder.

For each condition the trainee recognises the clinical presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations to rule out organic causes, discusses broad therapeutic options (including non-pharmacological), initiates appropriate emergency management and involves other members of the team wherever appropriate and refers appropriately.

If there are complications, the trainee recognises these, and refers appropriately.

For any presentation the trainee recognises the possible contribution of mental illness or personality disorder to the clinical presentation.

Evaluates suicide risk.

Monitors for complications.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following commonly abused drugs, the pattern of use, relevant pharmacology, clinical presentation, differential diagnosis, detailed management of acute intoxication, complications and secondary preventive strategies:</p> <ul style="list-style-type: none"> • alcohol • opioids • benzodiazepines • amphetamines • cocaine • cannabis • ecstasy • solvents • GHB • nicotine. 	<p>For each of these the trainee acquires adequate history of drug use, recognises signs of drug use and abuse on general history and examination, recognises impact of drug use on presentation, institutes appropriate emergency management of overdose/toxic effects of illicit drug use.</p> <p>For the following conditions, the trainee recognises the withdrawal state and safely manages acute withdrawal on the ward:</p> <ul style="list-style-type: none"> • alcohol • opioids • benzodiazepines • nicotine. <p>The trainee uses a validated tool for assessing level of alcohol use.</p>
<p>Mental health manifestations of systemic disease. Link to 1.2.1 and 1.2.3 Healthy lifestyle.</p>	<p>The trainee conducts brief interventions to reduce harm from drug use.</p>

Domain 2: Medical Expertise	
THEME 2.3: Manage patients with disorders of organ systems	BASIC TRAINING CURRICULUM: ADULT INTERNAL MEDICINE
LEARNING OBJECTIVE 2.3.7: Manage patients with disorders of the musculoskeletal system	
LINKS: Immunology; immunosuppression; functional rehabilitation; procedural skills – joint aspirate	
KNOWLEDGE	SKILLS
<p>Basic Science</p> <p>Structure and function of bone, muscle and synovium.</p> <p>Bone and mineral metabolism.</p> <p>Purine metabolism.</p> <p>Pharmacology of major drug classes used.</p>	<p>Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.</p> <p>Applies basic science knowledge to interpret clinical signs, imaging (plain radiographs, bone densitometry), laboratory tests of bone and mineral metabolism (Ca/PO4/PTH/VitD/ALP), investigations to monitor inflammation and disease activity and to diagnose immunologically-mediated disease (ESR, CRP, RF, ANA, ENA), synovial fluid analysis.</p> <p>Applies basic science knowledge to appreciate the significance of, and appropriately act on, reports of specialised imaging of bones and joints.</p>

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following common and important conditions, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, preventive strategies:</p> <ul style="list-style-type: none"> • osteoarthritis • osteoporosis. 	<p>For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and independently initiates appropriate management for uncomplicated disease.</p> <p>If there are complications, the trainee recognises these, and refers appropriately.</p> <p>Monitors for complications.</p>
<p>For the following conditions the clinical presentation, initial investigations, initial management, potential complications and disease associations, therapeutic options, adverse effects of disease management and indications for referral:</p> <ul style="list-style-type: none"> • gout and pseudogout • rheumatoid arthritis • seronegative arthritidis • fibromyalgia • polymyalgia rheumatica/temporal arteritis • dermatomyositis/polymyositis • osteomalacia • common fractures. 	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates symptomatic therapy, discusses broad therapeutic options, and refers appropriately.</p>
<p>Musculoskeletal manifestations of systemic and chronic disease.</p> <p>Osteoporosis.</p> <p>Link septic arthritis to infection.</p> <p>Musculoskeletal manifestations of systemic disease (vitamin D deficiency, renal disease, osteoarthritis).</p>	

Domain 2: Medical Expertise

THEME 2.3: Manage patients with disorders of organ systems

**BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE**

LEARNING OBJECTIVE 2.3.8: Manage patients with disorders of the neurological system

LINKS: Acute management of neurological emergencies; delirium; somatisation/functional Undifferentiated presentations; older people; procedural skills; investigations CVS, functional rehab; infectious diseases; oncology; rheumatology PQC – health law/driving

KNOWLEDGE

SKILLS

Basic Science

Neuroanatomy including cerebral blood supply.

Electrical activity of the brain and nerve conduction.

Metabolism of the brain.

Neurotransmitters and neurotransmission (including ANS).

Sleep-wake regulation.

Concept of brain death.

Pharmacology of major drug classes used.

Vision and hearing.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Applies basic science knowledge to interpret clinical signs, and major abnormalities on CT head.

Applies basic science knowledge to appreciate the significance of, and appropriately act on reports of, EEGs, NCSs and EMGs, autonomic function testing.

Applies basic science principles to interpret clinical findings, reports of perimetry, audiometry.

For the following common and important conditions, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, preventive strategies:

- stroke
- meningitis/encephalitis.

For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and independently initiates appropriate management for uncomplicated disease.

If there are complications, or special intervention is indicated (e.g. thrombolysis for stroke), the trainee recognises these, and refers appropriately.

Monitors for complications.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following conditions, the clinical presentation, initial investigations, initial management, potential complications, therapeutic options and indications for referral:</p> <ul style="list-style-type: none"> • epilepsy • migraine • peripheral neuropathy – acquired and hereditary • Bell’s palsy • temporal arteritis • cerebral neoplasia • Parkinson’s disease • Guillain Barre syndrome • spinal cord compression • multiple sclerosis • motor neurone disease • cerebellar disorders. 	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates symptomatic therapy, discusses broad therapeutic options, and refers appropriately.</p>
<p>Link – confusion undifferentiated presentations. Syncope – undifferentiated presentations. Genetic disorders (Huntington’s). Care of the elderly (cognitive decline). Neurological manifestations of systemic disease (peripheral neuropathy, paraneoplastic, seizure). Link to confusion, weakness in undifferentiated 2.2.1. Link to seizure in acute 2.1.2.</p>	

Domain 2: Medical Expertise

THEME 2.3: Manage patients with disorders of organ systems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.3.9: Manage patients with disorders of the renal and genitourinary systems

LINKS: Therapeutics – fluid management; therapeutics – drug monitoring and adjusting for renal failure
Immunology – immunosuppression in relation to renal transplantation

KNOWLEDGE

SKILLS

Basic Science

Structure and function of the renal system and male and female genital tract (Link to care of the pregnant woman, endocrine).

Regulation of fluid and electrolyte status.

Acid base regulation (Link to respiratory).

Urine composition.

Hormonal regulation – ADH, renin-angiotensin system (Link to endocrine).

Measurement of renal function/calculation of creatinine clearance and GFR.

Principles of renal replacement therapy – transplant and dialysis.

Pharmacology of major drug classes used.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Applies basic science knowledge to interpret clinical signs, laboratory tests (renal function, electrolytes, MSU, ABGs).

Applies basic science knowledge to appreciate the significance of, and appropriately act, on reports of imaging (renal tract ultrasound, functional renal scans, renal angiograms, urograms), renal biopsies.

Anticipates future need for dialysis or transplant, refers for vascular access where appropriate, and avoids cannulation of target vessels.

For the following common and important condition, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, preventive strategies:

- urosepsis.

For this condition, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and can independently initiate appropriate medical (non-procedural) management for uncomplicated disease.

If there are complications or procedural intervention is required, the trainee recognises this, provides initial emergency management and refers appropriately.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following conditions, the clinical presentation, initial investigations, initial management, potential complications, therapeutic options and indications for referral:</p> <ul style="list-style-type: none"> • acute and chronic renal failure • complications of renal replacement therapy • acute tubular necrosis • renovascular disease • diabetic nephropathy • obstructive uropathy • drug-related nephrotoxicity • renal hypertension • glomerulonephritis • interstitial kidney disease • renal carcinoma • genitourinary malignancies (prostate, testicular bladder, uterine/cervical/ovarian). 	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates symptomatic therapy, discusses broad therapeutic options, and refers appropriately.</p>
<p>Renal manifestations of systemic disease.</p>	

Domain 2: Medical Expertise

THEME 2.3: Manage patients with disorders of organ systems

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.3.10: Manage patients with disorders of the respiratory and sleep system

LINKS: Patient care and therapeutics – oxygen therapy, indications for ICU, drugs; procedural skills – ventilation, placement of ICC, pleural tap; acute emergencies (put in ICU indications)
Immunology – issues of immunosuppression in lung transplantation

KNOWLEDGE

SKILLS

Basic Science

Anatomy of lungs/airways.
Gas exchange.
Ventilation.
Ventilation perfusion matching.
Acid base balance.
Applied respiratory physiology – to interpret basic pulmonary function tests.
Pharmacology of major drug classes used.
Occupational and environmental toxins (e.g. cigarettes, asbestos).
Inflammation of airways.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Applies basic science knowledge to interpret clinical signs, imaging (CXR, chest CT, CTPA, VQ scans), pulse oximetry, blood gases, basic pulmonary function tests.

Applies basic science knowledge to appreciate the significance of, and appropriately act on, reports of bronchoscopy, tissue biopsy, sleep studies.

For the following common and important conditions, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, preventive strategies:

- pneumonia
- acute and chronic respiratory failure
- asthma
- pulmonary embolus
- chronic obstructive pulmonary disease
- pleural effusion.

For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and independently initiates appropriate management for uncomplicated disease.

If there are complications, the trainee recognises these, and refers appropriately.

Monitors for complications.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following conditions, the clinical presentation, initial investigations, initial management, potential complications, therapeutic options and indications for referral:</p> <ul style="list-style-type: none"> • pneumothorax • pulmonary hypertension • diffuse lung disease • sleep apnoea • lung cancer (Link to cancer) • cystic fibrosis • bronchiectasis • tuberculosis (Link 2.4.3) • pulmonary vasculitides (Link immune). • Link – hemoptysis (undifferentiated disorders). 	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initial symptomatic therapy, discusses broad therapeutic options, and refers appropriately.</p>
<p>Respiratory manifestations of systemic disease.</p>	

Domain 2: Medical Expertise	
THEME 2.3: Manage patients with disorders of organ systems	BASIC TRAINING CURRICULUM: ADULT INTERNAL MEDICINE
LEARNING OBJECTIVE 2.3.11: Manage patients with skin disorders	
LINKS: Musculoskeletal; cancer; immunology; immunosuppression; procedural skills – skin biopsy	
KNOWLEDGE	SKILLS
<p>Basic Science</p> <p>Structure and function of skin, hair and nails</p> <p>Pigmentary, inflammatory, immune responses of the skin.</p> <p>Pharmacology of major drug classes used.</p>	<p>Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.</p> <p>Applies basic science knowledge to interpret clinical signs including description of skin lesions using standard nomenclature.</p> <p>Applies basic science knowledge to appreciate the significance of, and appropriately act on reports of, skin and lesion biopsy.</p>

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following common and important conditions, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, preventive strategies:</p> <ul style="list-style-type: none"> • drug eruptions • cellulitis. 	<p>For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and independently initiates appropriate management for uncomplicated disease.</p> <p>If there are complications, the trainee recognises these, and refers appropriately.</p> <p>Monitors for complications.</p>
<p>For the following conditions, the clinical presentation, initial investigations, initial management, potential complications and disease associations, therapeutic options, adverse effects of disease management and indications for referral:</p> <ul style="list-style-type: none"> • skin cancer • dermatitis • psoriasis • skin manifestations of systemic diseases • arterial and venous ulcers • non-healing ulcers and wounds • nodular skin lesions • vasculitis • naevi • fungal infections • viral exanthema • scabies, head lice. 	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates symptomatic therapy, discusses broad therapeutic options, and refers appropriately.</p>
<p>Skin manifestations of systemic disease.</p>	

Domain 2: Medical Expertise

THEME 2.4: Manage patients with defined disease processes

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.4.1: Manage patients with neoplastic diseases

LINKS: Palliative care and symptom control; blood transfusion; end of life; procedures – central lines; acute emergencies; haematology; clinical decision making; disease trajectory; population in PQC; preventive health in Foundation Curriculum

KNOWLEDGE

SKILLS

Basic Science

Cell growth and ageing, cell injury, apoptosis.
Molecular and cellular oncogenesis.
Metastatic spread.
Principles of staging.
Broad pharmacological principles of chemotherapy, radiotherapy and immunotherapy.
Screening tests.

Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.

Applies basic science knowledge to interpret clinical signs, CXR, CT head, chest, abdomen, bone scan, laboratory tests (e.g. tumour markers, cytology, body fluid analysis).

Applies basic science knowledge to appreciate the significance of, and appropriately act on, reports of more specialised imaging, predictive genetic testing.

For the following malignancies, the risk factors, clinical presentation, natural history, broad therapeutic options and preventive strategies including screening:

- lung
- breast
- gastrointestinal
- prostate
- skin
- brain
- carcinoma of unknown primary
- lymphoma
- multiple myeloma
- leukaemia
- potentially curable cancers.

For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and independently initiates appropriate management of presenting symptoms.

If a diagnosis of cancer is considered, the trainee develops an appropriate management plan in consultation with their supervisor.

If there are complications and/or procedural intervention is required, the trainee recognises this, provides initial emergency management and refers appropriately.

The management of important acute complications of cancer:

- uncontrolled pain
- malignant hypercalcaemia
- spinal cord compression
- SVC obstruction
- pericardial tamponade.

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>The management of important complications of cancer therapy:</p> <ul style="list-style-type: none"> • bone marrow suppression • neutropenic sepsis • tumour lysis syndrome • mucositis • graft vs. host disease. 	<p>Initiates management of complications including pain, neutropenic sepsis, tumour lysis syndrome, mucositis, fluid balance disturbances, common chemotherapy side effects.</p>

Domain 2: Medical Expertise	
THEME 2.4: Manage patients with defined disease processes	BASIC TRAINING CURRICULUM: ADULT INTERNAL MEDICINE
LEARNING OBJECTIVE 2.4.2: Manage patients with genetic disorders	
LINKS: PCQ – communication; end of life	
KNOWLEDGE	SKILLS
<p>Basic Science Structure and function of human cells, genes, DNA, RNA, proteins.</p> <p>Principles of Mendelian, sex-linked, mitochondrial inheritance, parental disomy, repeating triplet sequences, polygenic inheritance.</p> <p>Definitions of polymorphism, mutation, genetic segregation analysis, sex-linked, multifactorial and polygenic inheritance.</p> <p>Major cancer genetics.</p> <p>Basic principles of individualised medicine and pharmacogenetics.</p> <p>Genetic testing techniques: PCR, FISH, gene sequencing.</p> <p>Awareness of genetic databases.</p> <p>Human Genome Project.</p> <p>Implications to family of a genetic diagnosis.</p>	<p>Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.</p> <p>Applies basic science knowledge to collate an accurate family history.</p> <p>Constructs and interprets a family pedigree.</p> <p>Applies basic science knowledge to appreciate the significance of, and appropriately act on reports of, genetic tests.</p>

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following common genetic diseases, the inheritance, phenotype(s), clinical presentation, natural history, complications and comorbidities principles of ongoing management and appropriate referral:</p> <ul style="list-style-type: none"> • trisomy 21 • Turner's • cystic fibrosis • haemochromatosis • Marfan's • Klinefelter's • Huntington's • familial cancers. 	<p>If a genetic disease is present, or considered, the trainee develops an appropriate management plan in consultation with their supervisor (Link to clinical decision making, disease trajectory).</p>

Domain 2: Medical Expertise	
THEME 2.4: Manage patients with defined disease processes	BASIC TRAINING CURRICULUM: ADULT INTERNAL MEDICINE
LEARNING OBJECTIVE 2.4.3: Manage patients with infectious diseases	
LINKS: Therapeutics; PQC – population health; pre and post-test counselling – communication; notifiable diseases (PQC) – to every other organ system; antimicrobial therapy – therapeutics	
KNOWLEDGE	SKILLS
<p>Basic Science</p> <p>Biology of common and important pathogens.</p> <p>Host response to infection.</p> <p>Principles underlying laboratory testing for infectious diseases.</p> <p>Principles of infection control.</p> <p>Immunisation.</p> <p>Pharmacology of major drug classes used.</p>	<p>Conducts a focussed clinical examination and applies basic science knowledge to interpret clinical signs.</p> <p>Applies basic science knowledge to interpret clinical signs, laboratory tests (FBC, inflammatory markers, microbiology, virology, serology), basic imaging (CXR, CT head, CT abdo/pelvis).</p> <p>Applies basic science knowledge to assess potential routes of infection/transmission, secondary sites of infection.</p>
<p>Local guidelines for post-exposure prophylaxis.</p> <p>Local guidelines for public health notification.</p>	<p>Applies basic science knowledge to appreciate the significance of and appropriately act on reports of complex investigations – nuclear medicine scanning, ultrasound scan.</p>

KNOWLEDGE (Cont.)	SKILLS (Cont.)
<p>For the following common and important conditions, the epidemiology, pathophysiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, potential complications of the disease and its management, preventive strategies:</p> <ul style="list-style-type: none"> • pneumonia/lower respiratory tract infections • meningitis/encephalitis • upper respiratory tract infections including otitis media and tonsillitis • conjunctivitis • UTI • infective endocarditis • cellulitis • diarrhoeal illness • septicaemia/bacteremia. 	<p>For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and independently initiates appropriate management for uncomplicated disease.</p> <p>If there are complications, the trainee recognises these, and refers appropriately.</p> <p>Monitors for complications.</p>
<p>For the following conditions, the clinical presentation, initial investigations, initial management, potential complications and disease associations, therapeutic options, adverse effects of disease management and indications for referral:</p> <ul style="list-style-type: none"> • osteomyelitis, septic arthritis • TB • HIV • hepatitis viruses • EBV/CMV/Toxo • meningococcaemia • common STDs • infections in the immunocompromised host • fever in the returning traveller – including malaria, dengue fever, parasitic infections. 	<p>For these conditions, the trainee recognises the presentation, establishes a provisional diagnosis, plans and arranges appropriate initial investigations, initiates empiric therapy, discusses broad therapeutic options, and refers appropriately.</p>

Domain 2: Medical Expertise

THEME 2.5: Medicine throughout the lifespan/growth and development

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.5.1: Manage common presentations in adolescents

KNOWLEDGE

SKILLS

Basic Science

Normal growth patterns including recognition of normal and abnormal pubertal development.

Takes history and conducts a physical examination appropriate to this age group.

Physical, intellectual, emotional, psychological and social factors in adolescent development and disease.

Impact of acute and chronic illness on adolescent development.

Law and ethical principles in dealing with adolescents.

Eating disorders in adolescence.

Issues of body perception and self-awareness in adolescents.

Substance use and abuse in adolescents and their onset.

Mental health disorders in adolescence and their various presentations.

Risk behaviours and self-harm in adolescence.

Sexual and reproductive health.

Gender identity of adolescents.

Awareness of common comorbidities.

Issues relating to transition of care.

Negotiates management plan in collaboration with young person.

Recognises important mental health issues in adolescents, particularly where they arise in setting of chronic disease.

Assesses the cognitive ability for understanding choices and ability to make choices and provide informed consent.

Identifies risk behaviours and counsels and educates the young person regarding these.

- Psychosocial assessment – including HEADSS.
- Appropriate use of chaperone for physical examination.
- Assessment of pubertal status.
- Assessment of risk and protective factors.
- Techniques for improving adherence.
- External perineal examination.
- Investigation of sexually transmitted diseases.
- Capacity for liaison and communication with community, health, drug and alcohol, education and welfare practitioners.

Domain 2: Medical Expertise

THEME 2.5: Medicine throughout the lifespan/growth and development

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.5.2: Manage common presentations in pregnancy

KNOWLEDGE

Basic Science

Physiological changes associated with normal pregnancy and lactation.

Changes in pharmacokinetics with normal pregnancy.

Mechanisms of teratogenesis (drugs, infections, radiation, pre-pregnancy lifestyle issues) and prevention.

Post chicken pox exposure management.

Changes in normal ranges of common blood tests in pregnancy (FBC, TFTs, electrolytes, creatinine, LFTs, ABGs, ECG).

Risk factors for common pregnancy associated diseases – hypertension, diabetes, thromboembolism.

Natural history, presentations, differential diagnosis, initial investigations, diagnostic criteria, emergency management of pre-eclampsia/eclampsia.

Risks associated with various investigative procedures, particularly imaging, during pregnancy.

SKILLS

Recognises pregnancy.

Differentiates between normal symptoms of pregnancy and disease.

Manages common medical problems in the pregnant woman (e.g. asthma).

Diagnoses and manages common conditions encountered more frequently in pregnancy – urinary tract infection, thromboembolism.

Uses available pharmacopeia to identify safest drugs for use in pregnancy and lactation.

Recognises the presentation of pre-eclampsia/eclampsia, orders appropriate initial investigations, provides emergency management, and calls for assistance.

Refers appropriately (pregnancy associated disease, high-risk pregnancy).

Considers the possibility of pregnancy, and advises or refers for pre-conception counselling as appropriate.

Counsels women regarding healthy behaviour during pregnancy.

Domain 2: Medical Expertise

THEME 2.5: Medicine throughout the lifespan/growth and development

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.5.3: Manage common problems associated with the menopause

KNOWLEDGE

Basic Science

Physiological changes associated with peri-menopause and post-menopausal period.

Clinical presentation of menopause.

Risk factors for disease in post-menopausal female:

- osteoporosis
- cardiovascular disease
- neoplasia
- incontinence
- depression.

Evidence for interventions to detect and prevent:

- decline, post-menopause-osteoporosis, cardiovascular disease.

SKILLS

Detects symptoms of normal and abnormal menopause.

Appropriately examines and conducts investigations for post-menopausal female, including breast and pelvic examination and screening investigations.

Appropriately examines and conducts investigation for early onset menopause.

Manages disease associated with menopause.

Detects symptoms of depression and recognises psychosocial factors impacting on presentation.

Counsels peri- and post-menopausal women regarding healthy lifestyle.

Promotes screening to detect early disease – breast, cervical, bone density for those with risk factors, cardiovascular risk screening.

Domain 2: Medical Expertise

THEME 2.5: Medicine throughout the lifespan/growth and development

**BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE**

LEARNING OBJECTIVE 2.5.4: Manage problems in the older patient

LINKS: PQC – ethics, law, communication
Acute emergencies; patient care and therapeutics

KNOWLEDGE

SKILLS

Basic Science

Physiology of ageing – pharmacology, changes associated with ageing in major organ systems.

Cellular ageing, tissue growth and repair.

Non-specific presentation of illness in the elderly.

Applies basic science knowledge to interpret clinical signs, laboratory tests, basic imaging, tests of mental status examination, and tests of cognitive function.

Medicolegal aspects of care of the older person: competence, duty of care, guardianship, medical futility.

Recognises when a patient may be incompetent to make a decision, and initiates appropriate referral.

For the following common and important problems in older people the trainee describes the epidemiology, clinical presentation, differential diagnosis, investigations, detailed initial management, principles of ongoing management, preventive strategies:

- polypharmacy and adverse drug reactions
- falls
- delirium
- cognitive decline
- incontinence
- constipation
- functional decline
- psychiatric presentations including depression, anxiety, mania.

For these conditions, the trainee recognises the presentation of illness, establishes a provisional diagnosis, plans and arranges appropriate investigations, and independently initiates appropriate management for uncomplicated disease.

If there are complications, the trainee recognises these, and refers appropriately.

Monitors for complications.

Domain 2: Medical Expertise

THEME 2.5: Medicine throughout the lifespan/growth and development

BASIC TRAINING CURRICULUM:
ADULT INTERNAL MEDICINE

LEARNING OBJECTIVE 2.5.5: Manage patients at the end of life

LINKS: PQC – communication, teamwork

KNOWLEDGE

Basic Science

Pathophysiology of pain.

Pharmacology of analgesics and other agents used to treat major symptom complexes.

Dose conversions to parenteral or transdermal medications.

Medicolegal aspects of end-of-life care: futility, consent.

For the following major symptom complexes, the trainee describes aetiology, and therapeutic modalities:

- pain
- constipation
- dyspnoea
- excessive secretions
- nausea and vomiting
- restlessness.

SKILLS

Establishes a differential diagnosis and a provisional diagnosis, based on clinical history and physical examination.

Recognises the dying phase.

Uses appropriate agents in symptom control to optimise quality of life.

Assesses needs of family and carers.

Respects wishes of family and carers.

APPENDIX 1

Assumed Skills (to be read in conjunction with Theme 1.3 Procedural Skills)

It is assumed that trainees will have the following skills – if not, appropriate remedial action will need to be undertaken.

By the end of PGY2, trainees should be competent and confident to perform the following procedures relevant to general medicine:

- | | |
|---|---|
| <ul style="list-style-type: none">• venepuncture, cannulation• blood cultures from peripheral and central sites• setting up a complete drip set and burette• ECG recording• arterial blood sampling• injection – subcutaneous, intradermal, intramuscular and intravenous• urethral catheterisation – male and female• application of oxygen administration devices• minor suturing and debridement of wounds• dipstick urinalysis• blood glucose determination using capillary blood | <ul style="list-style-type: none">• airway assessment and management including jaw thrust, chin lift and insertion of an oral airway• intubations in straightforward situations• bag and mask ventilation of unintubated patients• spirometry and peak expiratory flow rate determination• throat/pus/wound swabs• cervical smear and swabs• nasogastric tube insertion• ankle – brachial BP index determination• bladder scanning to determine post void residual. |
|---|---|

At the end of Basic Training, in addition to the PGY2 skills, the trainee should be competent and confident to perform:

- | | |
|---|--|
| <ul style="list-style-type: none">• DC cardioversion – emergency and elective• intercostal drain insertion and management• knee joint aspiration• lumbar puncture• pleural and ascitic fluid aspiration | <ul style="list-style-type: none">• nasal support ventilation (CPAP, BiPaP)• tracheostomy care and immediate complication management• pressure measurement and care of central venous lines. |
|---|--|

Other procedures that may be performed during Basic Training but will require further experience under supervision during advanced specialist training:

- | | |
|--|--|
| <ul style="list-style-type: none">• use of a temporary pacing box and external pacing machine• supervision of exercise ECG testing• insert arterial line• aspiration of shoulder joint, and other joints• bone marrow biopsy• echocardiography• insertion of catheters directly into central veins | <ul style="list-style-type: none">• sigmoidoscopy• skin biopsy• rectal biopsy• gastroscopy• colonoscopy• pleural biopsy• catheter aspiration of pneumothorax• liver biopsy. |
|--|--|

APPENDIX 2

LINKS TO RCPA BASIC PATHOLOGICAL SCIENCES CURRICULUM

The following areas within the basic pathological sciences curriculum of the RCPA are integrated within the Basic Training and Professional Qualities Curricula of the RACP and as such may all be assessable by the completion of Basic Training for trainee physicians and paediatricians. The following table will help to identify specific cross-references.

RCPA content area	RACP learning objective
Cellular pathology (cell growth and ageing, cell injury and death)	BTC 2.5.4
Acute and chronic inflammation, healing and repair	BTC 2.3.5
Immunity (building blocks of the immune system, hypersensitivity reactions, autoimmune diseases, AIDS, amyloidosis)	BTC 2.3.5
Haemodynamic disorders (oedema, thrombosis, embolism, infarction, shock)	BTC 1.2.1, 2.1.1
Genetic basis of disease (genetic mechanisms of disease, basic knowledge of the more common genetic diseases as well as an understanding of commonly used genetic tests)	BTC 2.4.2
Microbiology (general principles of microbial pathogenesis, common viral and bacterial infections, common parasitic infections)	BTC 2.4.3
Neoplasia (biology of benign and malignant tumours, epidemiology of cancer, molecular and cellular oncogenesis)	BTC 2.4.1, PQC 9.2.1
Occupational and environmental pathology (common toxins and manifestations in the human body, such as smoking, asbestos, industrial toxins)	BTC 2.2.10, PQC 9.2.1
Nutrition, metabolism (common nutritional deficiencies, obesity)	BTC 2.3.2, 2.3.3
Acid-base balance and fluid/electrolyte disturbances (basic physiological and pathophysiological mechanisms)	BTC 1.2.1
In each of the above, emphasis will be placed on: <ul style="list-style-type: none"> • nomenclature and definitions of disease • classifications of diseases • disease processes/pathogenesis • causation/aetiology • scientific methodology and new diagnostic methods 	All integrated within Basic Training Curriculum
Ethics, social and political aspects of pathology and disease	PQC domains 5, 9
Analysis of data (incidence, prevalence, accuracy, precision, predictive value, correlation)	PQC 3.2, 6.1

(BTC – Basic Training Curriculum; PQC – Professional Qualities Curriculum)