NEW CURRICULA

Basic Training (Paediatrics & Child Health)

Knowledge Guides

RACP Specialists. Together

About this document

The new Basic Training (Paediatrics & Child Health) curriculum consists of curriculum standards and learning, teaching, and assessment (LTA) programs.

This document outlines the Knowledge Guides included as part of the curriculum standards for Basic Training (Paediatrics & Child Health) for trainees and supervisors. The curriculum standards should be used in conjunction with the Basic Training (Paediatrics & Child Health) LTA programs.

How to reference this document

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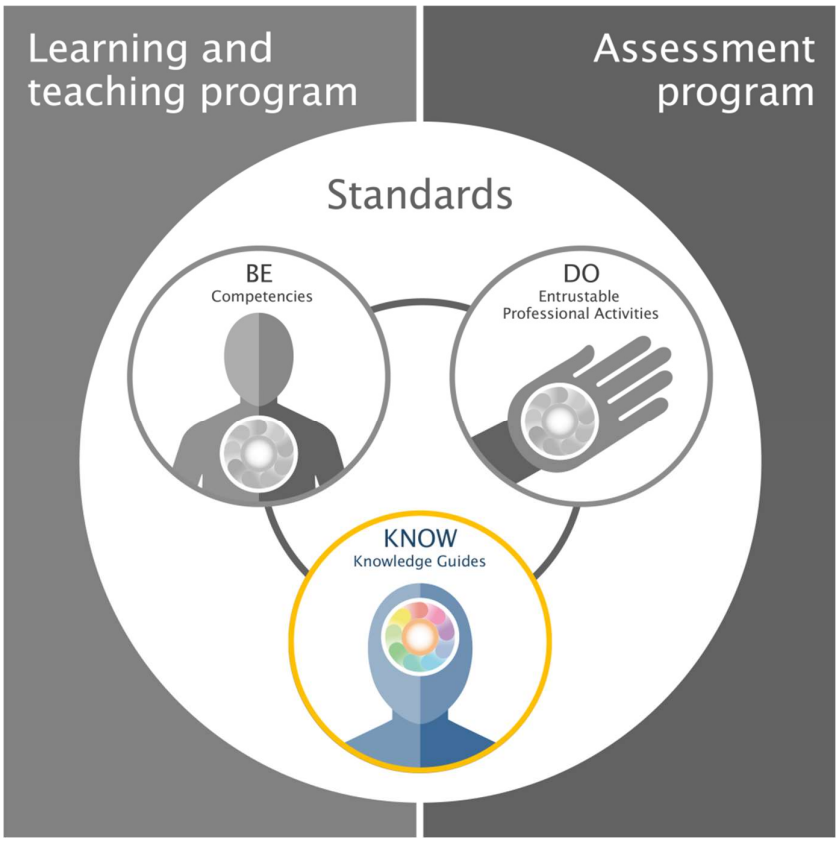
Introduction

The RACP curriculum model depicts the structure of RACP curricula. It contains five components: **curriculum standards**, consisting of Competencies, Entrustable Professional Activities, and Knowledge Guides; **learning and teaching program**; and **assessment program**.



RACP curriculum model

This document contains the **Knowledge Guides** component of the Paediatrics & Child Health curriculum standards.

> Knowledge Guides articulate the baseline level of knowledge that trainees need to acquire by the end of their training.

The Knowledge Guides provide detailed guidance to trainees on the important topics and concepts they need to understand in order to pass their assessments and become competent physicians. The Guides are a basis for knowledge acquisition; they do not outline the range of experience expected of all Basic Trainees.

The Knowledge Guides primarily relate to the medical expertise domain of the RACP Professional Practice Framework though they also highlight important specific issues relating to other domains of the framework.

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

General
Presentations
- Abdominal pain

Conditions
- Acne
- Migraine
- Overweight and obesity

Mental health and behavioural difficulties
Presentations
- Health risk behaviours, such as unintentional injury
- Self-harm or intentional injury
- Somatic symptoms disorder presentations, such as headache or abdominal pain

Conditions
- Anxiety disorders
- Attention deficit hyperactivity disorder (ADHD)
- Autism
- Depression
- Eating disorders:
  - » anorexia nervosa
  - » binge eating
  - » bulimia nervosa
- Learning difficulties
- Somatic symptoms disorder
- Substance use and misuse:
  - » alcohol
  - » amphetamines
  - » cannabis
  - » nicotine
  - » opioids
  - » paracetamol
  - » solvents

Sexuality and reproductive health
Presentations
- Amenorrhoea, primary and secondary
- Dysmenorrhoea
- Menorrhagia
- Suspected sexual abuse and assault

Conditions
- Pregnancy
- Sexually transmissible infections (STIs):

For each presentation and condition, Basic Trainees will **know how to:**

Synthesise
- » recognise the clinical presentation
- » identify relevant epidemiology, pathophysiology, and clinical science
- » take a relevant clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients[1] and their quality of life

Manage
- » provide evidence-based management
  For less common or more complex presentations and conditions the trainee must also seek expert opinions
- » prescribe therapies tailored to patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors
- » identify individual and social factors and the impact of these on

[1] References to patients in the remainder of this document may include their families or carers.

	» anogenital warts and human papillomavirus (HPV) » chlamydia » genital herpes simplex virus » gonorrhoea » pelvic inflammatory disease » syphilis » trichomoniasis	diagnosis and management
LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS Basic Trainees will understand these presentations and conditions. Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.	**General** Conditions • Chronic fatigue syndrome • Pain disorders **Mental health and behavioural difficulties** Presentations • Attempted suicide Conditions • Conduct disorder • Psychosis **Sexuality and reproductive health** Presentations • Female genital mutilation Conditions • Gender dysphoria	
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Actions of neurotransmitters and the limbic system • Modes and sites of transmission, incubation periods, symptoms, and possible complications of common STIs • Neurobiology of normal and abnormal psychological development • Normal growth and development, including puberty • Pharmacology of drugs of misuse; effects, side effects, and interactions, including toxicological aspects • Principles of addiction and tolerance • Vaccines relevant to age group	
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment	Investigations • Drug screening tools and investigations • Genital swabs and serological screening for STIs: » hepatitis B » hepatitis C » HIV » syphilis • Investigations for STIs Clinical assessment tools • Alcohol assessment using validated tools • Anthropometry and puberty staging • Mental Status Examination (MSE) • Psychosocial assessments, such as HEADSS • Suicide risk evaluation	

tool to patients, families, and carers.

IMPORTANT SPECIFIC ISSUES

Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.

General

- Awareness of personal reactions to childhood illness, behaviour, disability, family situations, and the impact these may have on personal professional practice
- Common risk behaviours and how to counsel and educate young people regarding these
- Factors that may affect adherence to treatment regimes, including medications
- Impact of emotional, intellectual, physical, psychological, and social factors in adolescent development and disease
- Need for confidentiality when balancing autonomy with dependence
- Use of techniques for improving adherence

Mental health and behavioural difficulties

- Indications for the use of the Mental Health Act
- Interactions that cause serotonin syndrome and how to avoid these
- Local protocols for liaison with psychiatric services
- Mental health manifestations of systemic disease
- Mode of action, adverse effects, interactions, judicious use indications, and pharmacokinetics of antidepressants, antipsychotics, and benzodiazepines
- Nature and specific manifestations of psychological disorders in the young
- Non-pharmacological approaches that may be used initially where use of psychotropic medication is indicated
- Normal and abnormal child and adolescent psychological development and its relationship to mental health
- Psychotropic medication

Substance use and misuse

- Brief interventions to reduce harm from substance use
- Nature and specific manifestations of addiction in the young
- Prevalence and onset of substance use and misuse in adolescents
- Signs of substance use and misuse and its impact on general history and examination

Sexuality and reproductive health

- Contact tracing and partner notification in STI management
- Contraception and protection against STIs
- High-risk groups for different STIs
- Preparing girls with a disability for menarche
- Principles of sexual and reproductive health
- Referral pathways for adolescents disclosing recent or distant sexual abuse or assault
- Responding to disclosures of same-sex attraction and knowledge of possible psychological and physical risks associated with patients 'coming out' and commencing sexual activity with people of the same sex
- Risk factors and clinical indicators suggestive of sexual abuse or assault
- Sexual health promotion and 'protective behaviours' in adolescents
- Sexuality:
  - » in previously-abused patients
  - » in young people with chronic conditions
  - » issues for patients with a disability

- Specific issues of ethics, law, and adolescent confidentiality relating to sexuality

Ethical and legal issues

- Legal and ethical principles when dealing with adolescents, including consent

Chronic illness and transitioning in the healthcare system

- Impacts of chronic conditions on growth and development
- Transition of care for young people with chronic conditions
- Liaising and communicating with community, drug and alcohol, health, and education, and welfare practitioners
- Risk of driving with specific conditions

Community engagement

- Accessing health, education, and welfare services in the community that support children and adolescents in their ordinary life
- Resources for adolescents and young people with special needs, especially those with psychological disorders

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Breathlessness
- Chest pain
- Cyanosis:
  - » cyanotic neonate and infant with hypercyanotic spells
  - » intermittent or apparent cyanosis
  - » peripheral cyanosis
- Hypotension and shock:
  - » anaphylactic
  - » cardiogenic
  - » hypovolaemic
  - » neurogenic
  - » septic
- Palpitations
- Poor growth in infants
- Syncope

Conditions

- Arrhythmias and rhythm disorders, such as inherited arrhythmia disorders
- Congenital heart disease:
  - » atrial septal defect (ASD)
  - » patent ductus arteriosus (PDA)
  - » ventricular septal defect (VSD)
- Duct dependent lesions in the neonate
- Heart failure
- Infective endocarditis
- Innocent murmurs
- Kawasaki disease
- Rheumatic fever

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Basic Trainees will understand these presentations and conditions.

Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Presentations

- Cardiac complications of cytotoxic treatments

Conditions

- Cardiomyopathies, including familial cardiomyopathies
- Cardiovascular manifestations of systemic, chronic, and metabolic disease, such as:
  - » common chromosomal syndromes, such as Trisomy 21, Turner, Noonan, 22q11 deletion, Williams, VACTERL, and CHARGE
  - » Marfan syndrome
  - » muscular dystrophy and related myopathies
- Congenital heart disease, such as:
  - » aortic valve sclerosis
  - » coarctation
  - » Ebstein anomaly

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Synthesise

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Consider other factors

- » identify individual and social factors and the impact of these on diagnosis and management

	» pulmonary stenosis » tetralogy of Fallot (TOF) » transposition of the great arteries • Hypertension and pulmonary hypertension • Myocarditis and pericarditis • Valvular heart disease, such as aortic stenosis and mitral regurgitation	
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Blood pressure homeostasis and circulatory control, including splanchnic, macro- and microvascular, pulmonary, and cerebral circulation • Cardiovascular structure and function, such as: » cardiac cycle » cardiac output » conduction • Embryology, anatomy, and physiology of the cardiovascular system • Fetal circulation and haemodynamic changes after birth • Pharmacology of major drug classes used, such as: » antiarrhythmics » antihypertensives » inotropes	
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Chest x-ray • Echocardiography • Electrocardiography • Exercise testing • Holter monitoring • Nuclear and cross-sectional imaging Procedures • Cardiac catheterisation	
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Incidence of, and the risk factors for, cardiovascular disease in individuals and patient groups, such as: » Māori and Aboriginal and Torres Strait Islander peoples » patients with comorbidities » patients with risk factors for atherosclerotic vascular disease • Recognition of non-cardiac conditions presenting as possible cardiac conditions, such as chest pain and cyanosis	

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES

Basic Trainees will describe the principles of the foundational sciences.

For the statistical and epidemiological concepts listed, trainees should be able to describe the underlying rationale, the indications for using one test or method over another, and the calculations required to generate simple descriptive statistics.

Evidence-based clinical practice and epidemiology

Clinical decision-making and characteristics of diagnostic and screening tests

- Cognitive biases, such as confirmation bias and anchoring, framing effect, and commission and omission biases
- Inter-rater agreement and kappa statistic
- Negative predictive value
- Positive predictive value
- Pre-test and post-test probabilities, and likelihood ratios (positive and negative)
- Sensitivity
- Specificity

Clinical study design

- Clinical trials, cohort studies, and case-control studies:
  - » longitudinal and cross-sectional studies
  - » selecting the best design for the research question and context
  - » strengths and weaknesses
- Clinical versus statistical significance
- Confounding and other forms of bias
- Ecological studies
- Hypothesis testing
- Power and sample size considerations
- Sampling methods and their importance
- Specific issues for certain study designs, such as RCTs: intention to treat analysis, allocation methods, and blinding

Determinants of health

- Environmental factors
- Individual characteristics and behaviours
- Socioeconomic

Health economics

- Cost effectiveness, such as incremental cost-effectiveness ratio (ICER)
- Quality of life indices, such as quality-adjusted life years (QALYs)

Measures of treatment efficacy and interpretation of study results

- Analysis methods:
  - » interpretation of meta-analyses and forest plots:
    - adjustment for confounding by logistic and linear regression
    - analysis of variance (ANOVA)
    - chi-squared and t-test
    - multiple comparisons
    - p values and confidence intervals
- Measures of effect:
  - » hazard ratios
  - » number needed to treat or harm
  - » odds ratios
  - » relative risk difference
  - » relative risk reduction

  - relative risks
- Type 1 error and multiple testing
- Type 2 error and study power

Population statistics

- Frequency distributions
- Incidence
- Prevalence
- Standard deviation and standard score
- Standard rates, such as infant mortality rate, under-5 mortality rate, maternal mortality rate, and birth rate

Pharmacology

- Appropriate dose adjustments in disease and pregnancy
- Categories of drug safety in pregnancy and their impact on prescribing
- Common and life-threatening drug interactions, adverse drug reactions, and common presentations and conditions of drug-induced disease
- Common interactions between prescription and non-prescription medications and complementary therapies
- Delivery techniques for specific medicines
- Dose conversions to parenteral or transdermal medications for palliative care
- Effect of age, pregnancy, and lactation on pharmacokinetics
- Factors predisposing to polypharmacy (therapeutic cascade) and reasons for overprescribing
- Factors that increase the risk of medication error
- Factors that may affect adherence
- Genetic basis of variations in drug metabolism
- Impact of organ function on pharmacokinetics and dose modification:
  - impact of liver function on drug clearance
  - impact of renal function on drug clearance
- Impact of patient factors, such as allergy, age, and pregnancy, on prescribing
- Indications for monitoring plasma concentrations or pharmacological effects of specific drugs
- Mechanisms of drug actions at the receptor and intracellular level
- Pharmacological basis of drug interactions
- Pharmacology of essential drug groups
- Pharmacology, mechanism of action, and indications for use of botulinum toxin, oral baclofen, and oral anticholinergics
- Prescribing:
  - antibiotics
  - antifungals
  - antivirals (excluding antiretrovirals)
- Principles of dose titration
- Techniques for enhancing medication safety

Pharmacokinetics

- Clearance (Cl)
- Half-life (t ½)
- Routes of and factors affecting drug administration, absorption and bioavailability, distribution, metabolism, and secretion
- Saturable elimination: first and zero order kinetics
- Steady state concentration
- Therapeutic ratio
- Volume of distribution

Pharmacodynamics

- Pharmacogenetic polymorphisms:
  - » acetylator polymorphism
  - » cytochrome P450 system
  - » human leucocyte antigen (HLA)
  - » P-glycoprotein
  - » thiopurine methyltransferase (TPMT)
- Principles:
  - » affinity
  - » agonists and antagonists
  - » efficacy
  - » potency
  - » specificity

INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS

Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools.

Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.

Investigations

- Drug level measurement, in particular for phenobarbitone, aminoglycosides, vancomycin, and other commonly prescribed medications
- Organ function measurement, such as liver function tests (LFTs) and urea electrolytes and creatinine (UEC)

IMPORTANT SPECIFIC ISSUES

Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.

Evidence-based clinical practice and epidemiology

- Approaches to clinical problem solving, including:
  - » effect of cognitive biases on decision making
  - » intuition and looking for patterns
- Critical appraisal of scientific literature
- Ethics and governance processes in Australia and New Zealand, including good clinical practice requirements and national frameworks for ethics applications
- *National Health and Medical Research Council (NHMRC) levels of evidence*
- *Principles of evidence-based medicine*
- Use of risk registers and identification of complications that need to be remediated at a health system level

Health needs of specific patient groups

- Māori and Aboriginal and Torres Strait Islander people
- Patients with disability
- Patients with obesity
- Vulnerable patients

Pharmacology

Prescribing

- Legislation regarding prescribing, and controlled and restricted drugs

- Local and national guidelines and their limitations
- Prescribing medication safely and accurately, and monitoring for efficacy and toxicity
- Regulatory and funding framework in which medicines are made available

Management considerations

- Applying best practice for self-monitoring in established chronic disease such as diabetes, hypertension, and respiratory disease
- Assessing patient use of delivery devices
- Educating and reinforcing patient skills in monitoring and self-management
- Engaging patients in decision making, explaining drug therapy and monitoring, and following up verbal information with written information
- Factors that can impact on compliance
- Identifying presence of, or potential for, adverse drug reaction and drug interactions and treating appropriately
- Medication reconciliation
- Monitoring drug levels and effects when appropriate and responding accordingly to results
- Monitoring for development of common adverse drug reactions, including selection of appropriate laboratory investigations such as monitoring of renal or hepatic function
- Strategies to enhance patient adherence and techniques for encouraging self-management of health and chronic disease
- Therapeutic drug monitoring, when and how to use

Quality use of medicines

- Analgesics:
  - » classes of commonly available analgesics with respect to mode of action, pharmacokinetics, potency, and efficacy in various pain syndromes
  - » common adverse effects and drug interactions for each drug class
  - » common pain-scoring tools
  - » identifying source or potential sources of pain
  - » monitoring efficacy of treatment and adjusting regimen appropriately
  - » non-drug approaches to pain management
- Antimicrobials:
  - » complications of antimicrobial therapy including candida and *Clostridium difficile*
  - » factors contributing to antimicrobial resistance and antimicrobial preservation
  - » intravenous to oral switch
  - » microbiology-guided therapy including cessation or de-escalation of antibiotic therapy
  - » narrow and broad spectrum antimicrobials
  - » principles of antibiotic selection
  - » prophylactic, empiric, and guided antimicrobial therapy

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Cutaneous drug, chemical, and vaccine reactions
- Naevi, dermal and epithelial
- Urticaria
- Viral exanthems

Conditions

- Acne
- Angioedema
- Bacterial infections, such as cellulitis, folliculitis, impetigo, and abscesses in the skin and subcutaneous tissues
- Dermatitis
  - » atopic (eczema)
  - » contact
  - » seborrheic
- Fungal infections of skin and nails
- Parasitic infestations, such as head lice and scabies
- Vascular lesions, such as haemangioma and vascular malformation
- Viral infections:
  - » herpes simplex virus
  - » human papilloma virus
  - » molluscum contagiosum
  - » varicella zoster virus

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Basic Trainees will understand these presentations and conditions.

Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Presentations

- Cutaneous manifestations of systemic disease, such as rheumatological or haematological conditions
- Erythema multiforme
- Severe cutaneous adverse drug reactions, such as Stevens–Johnson syndrome (SJS) and toxic epidermal necrolysis

Conditions

- Alopecia
- Congenital skin disorders, such as epidermolysis bullosa
- Ichthyosis
- Neurocutaneous syndromes, such as neurofibromatosis and tuberous sclerosis
- Pigmentary disorders, such as vitiligo
- Psoriasis

For each presentation and condition, Basic Trainees will **know how to:**

Synthesise

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Manage

- » provide evidence-based management
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- » involve multidisciplinary teams

Consider other factors

- » identify individual and social factors and the impact of these on diagnosis and management

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Pigmentary, inflammatory, and immune responses of the skin • Structure and function of skin, hair, and nails, and how these change with age
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Skin biopsy • Wood lamp skin examination Procedures • Nail clipping • Skin prick testing • Skin scraping • Wound swab: » bacterial » viral
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Education of patients and their families or carers about sun protection • Education of patients and their families or carers in the use of topical treatments and dressings • Effects of normal child and adolescent development on the presentation, treatment, and psychosocial impact of skin disease • Impact of social, economic, and cultural issues on skin disease and adherence to therapy • Non-pharmacological treatments for skin disorders, such as photo therapy

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Acute illness
Presentations
- Brief resolved unexplained events (BRUE)
- Cyanosis
- Eye abnormalities
- Febrile convulsions
- Fever
- Irritable infant
- Poor growth
- Recurrent unexplained presentation
- Testicular pain, acute
- Vomiting

Conditions
- Orbital and periorbital cellulitis

Acute injury
Presentations
- Cervical spine injury
- Foreign bodies, inhaled, ingested, or inserted
- Fracture
- Head injury or concussion
- Laceration
- Injury that may have been inflicted by another person
- Ocular trauma or foreign body
- Pulled elbow

Behavioural and psychiatric
Presentations
- Agitation
- Aggression
- Overdose
- Suicidal and self-harming behaviour

Conditions
- Acute psychosis
- Eating disorders

Cardiovascular
Presentations
- Chest pain

Conditions
- Arrhythmias and rhythm disorders

Endocrinological
Conditions
- Adrenal crisis
- Diabetic ketoacidosis (DKA)
- Hypoglycaemia

For each presentation and condition, Basic Trainees will **know how to:**

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Gastrointestinal
Presentations
- Abdominal pain
- Abdominal trauma
- Constipation
- Diarrhoea
- Vomiting

Conditions
- Appendicitis
- Gastroenteritis
- Hernias
- Intussusception
- Meckel diverticulum
- Peritonitis
- Pyloric stenosis
- Volvulus

Infectious diseases
Presentations
- Fever without a focus

Conditions
- Cellulitis
- Infections, such as Group A streptococci and *Staphylococcus aureus*
- Meningitis and encephalitis
- Viral rashes

Musculoskeletal
Presentations
- Irritable hip
- Limp

Conditions
- Osteomyelitis
- Perthes disease
- Septic arthritis
- Slipped capital femoral epiphysis

Neurologic
Presentations
- Collapse and altered conscious state
- Paraplegia or weakness, acute

Conditions
- Seizure
- Spinal cord lesions
- Status epilepticus

Renal and urologic
Presentations
- Dysuria
- Enuresis
- Urinary retention

	Conditions • Acid–base disturbances • Electrolyte disorders • Urinary tract infection **Respiratory** Presentations • Cough • Shortness of breath • Stridor • Upper airway obstruction • Wheeze Conditions • Asthma • Bronchiolitis • Croup • Pneumonia • Upper respiratory infection **Resuscitation and critical care** Presentations • SIDS or SUDI • Death of a child Conditions • Anaphylaxis • Cardiorespiratory arrest • Coma • Shock **Toxic injury** Conditions • Adverse drug reactions: » serum sickness » severe cutaneous reactions • Poisonings and overdoses due to: » alcohol » opioids » paracetamol
LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS Basic Trainees will understand these presentations and conditions. Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.	Presentations • Envenomation • Hyperthermia • Oncological emergency: » febrile neutropenia » sickle cell crisis Conditions • Oncological emergency: » tumour lysis syndrome (TLS) • Pituitary crisis • Poisonings and overdoses, such as those due to: » amphetamines » antidepressants » antipsychotic drugs

	» benzodiazepines » carbon monoxide » iron » lead • Thyroid crisis • Toxic syndromes: » anticholinergic syndrome » neuroleptic malignant syndrome » serotonergic syndrome
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Pathophysiology of cardiovascular failure • Pathophysiology of coma • Pathophysiology of respiratory failure • Pathophysiology of shock • Physiology of acid–base and electrolyte disturbances
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IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Broader context of the trajectory of patient illness and quality of life, including areas of uncertainty • Contribution of psychological factors, mental illness, or personality disorders to clinical presentations • Drug elimination times for urine toxicology • Importance of planning patient review and follow-up with family or carers

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations
- Adrenal crisis
- Hypoglycaemia

Conditions
- Adrenal insufficiency
- Diabetes:
  - » type 1
  - » type 2
- Diabetic ketoacidosis
- Disorders of growth
- Disorders of puberty
- Hypo- and hyperthyroidism
- Rickets

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Basic Trainees will understand these presentations and conditions.

Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Conditions
- Addison disease
- Congenital adrenal hyperplasia
- Cushing syndrome
- Disorders of sexual differentiation
- Endocrine bone disease
- Endocrine consequences of childhood cancer survivorship, such as late effects
- Gender dysphoria and management of transgender patients
- Hypo- and hypercalcaemia
- Hypo- and hypernatraemia
- Hypogonadism
- Metabolic syndrome
- Monogenic diabetes
- Neuroendocrine tumours
- Obesity
- Panhypopituitarism
- Parathyroid disease
- Pituitary disease
- Thyroid abnormalities

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- » prescribe therapies tailored to patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors
- » identify individual and social factors and the impact of these on diagnosis and management

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Autoimmunity and genetics as they relate to hormone disease • Corticosteroid therapy • Drug interactions • Embryology, anatomy, and physiology of the endocrine system • Inborn errors of metabolism (IEMs) • Process of sexual differentiation, growth, development, puberty, reproduction, and ageing • Pubertal development; normal and abnormal progression • Secretion, transport, and feedback control of hormones • Structure and function of hormones, hormone receptors, second messengers, and hormone action
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Basic endocrine testing: » diabetes diagnostic tests » gonadotrophins » synacthen test, including androgen profile » thyroid function tests (TFT) • Biochemical investigations: » bone and mineral densitometry » dynamic growth hormone tests » screening for causes of hypoglycaemia » screening for causes of short stature » water deprivation test • Bone age • Tests of bone and mineral metabolism Clinical assessment tools • Anthropometric assessment: » body mass index (BMI) » waist to hip ratio (WHR) • Growth charts • Height measurements • Orchidometry • Pubertal staging
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Comorbidities, psychosocial factors, environmental influence, and socio-economic factors in relation to short stature and type 1 diabetes • Complications of long-term steroid use • Role of DXA bone scans in the assessment of osteoporosis

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Abdominal pain:
  - » acute
  - » chronic
  - » recurrent
- Constipation and encopresis
- Diarrhoea, acute and chronic
- Vomiting:
  - » acute
    - ○ pyloric stenosis
    - ○ urinary tract infection
  - » cyclical

Conditions

- Cows' milk protein intolerance
- Eosinophilic oesophagitis
- Gastroenteritis
- Gastro-oesophageal reflux (GOR, reflux)
- Hepatitis, acute and chronic
- Inflammatory bowel disease:
  - » Crohn disease
  - » ulcerative colitis
- Liver disease:
  - » neonatal jaundice, such as neonatal hepatitis, biliary atresia, and inherited cholestasis syndromes
  - » chronic liver disease
- Liver failure, acute
- Malabsorption syndromes, such as:
  - » those secondary to infections and parasitic infestations
  - » coeliac disease
- Meckel diverticulum

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Basic Trainees will understand these presentations and conditions.

Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Presentations

- Abdominal masses
- Bleeding:
  - » lower gastrointestinal (GI)
  - » upper GI
- Dysphagia and food impaction
- GI manifestations of systemic and chronic disease, such as cystic fibrosis
- Intestinal failure and malnutrition

Conditions

- Acute pancreatitis
- Chronic recurrent pancreatitis
- Congenital malformations:
  - » anorectal malformations
  - » duodenal atresia

For each presentation and condition, Basic Trainees will **know how to:**

Synthesise

- » recognise the clinical presentation
- » identify relevant epidemiology, pathophysiology, and clinical science
- » take a relevant clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients[1] and their quality of life

Manage

- » provide evidence-based management
  For less common or more complex presentations and conditions the trainee must also seek expert opinions
- » prescribe therapies tailored to patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors

- » identify individual and social factors and the impact of these on diagnosis and management

	» gastroschisis » Hirschsprung disease » malrotation » oesophageal atresia • Delayed gastric emptying • GI malignancies: » inherited GI cancers and polyposis » liver tumours, such as hepatoblastoma, hepatocellular cancer, and haemangioendothelioma • Hepatitis B and C • Inflammatory bowel disease • Intestinal failure: » dysmotility » inherited enteropathies » short bowel syndrome • Intestinal failure-associated liver disease • Irritable bowel syndrome • Peptic ulcer disease, including *Helicobacter pylori* infection • Peritonitis • Portal hypertension: » non-cirrhotic portal hypertension » secondary to liver disease • Protein-losing enteropathy
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Bilirubin metabolism • Embryology, anatomy, and physiology of the GI and hepatobiliary system • Laboratory markers of hepatic and pancreatic function and malabsorption • Macro- and micronutrient absorption • Nutrition and fluid balance
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Abdominal imaging: » CT scan » MRI, including MR enterography and MRCP » ultrasound » X-ray • Barium contrast studies • Laboratory tests, such as: » coeliac serology » culture and toxin testing » faecal calprotectin » faecal microscopy » *Helicobacter pylori* testing » investigations of acute and chronic liver disease » liver function test (LFT) » malabsorption tests » viral hepatitis serology • Liver biopsy • Manometry: » oesophageal

	» rectal • Oesophageal pH monitoring and impedance Procedures • Endoscopic retrograde cholangiopancreatography (ERCP) • Upper and lower endoscopy Clinical assessment tools • Rectal examination
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Decision making when requesting endoscopy in children with reflux or vomiting • Distinction between GOR, reflux and gastro-oesophageal reflux disease (GORD) • Distinction between irritable bowel syndrome and other causes of abdominal pain, diarrhoea, and constipation • Exclusion diets in: » children » mothers who are breastfeeding • Indications and technique for appropriate rectal examination • Indications for liver transplant and principles of post-transplant care • Indications for the use of parenteral intravenous nutrition • Role of endoscopy in the investigation and management of common GI presentations and conditions • Role of radiolabelled scintigraphy in occult GI protein or blood loss • Selection and appropriate use of enteral formulae • Use of hydrolysed or elemental formulae

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Care of well children
Presentations
- Normal child behaviour
- Normal development
- Normal growth

Child maltreatment
Presentations
- Child vulnerability and suspected maltreatment
- Family dysfunction:
  - » family violence
- Non-accidental injuries

Child protection
Presentations
- Family dysfunction:
  - » poverty and disadvantage

Developmental-behavioural paediatrics
Presentations
- Adolescent risk-taking
- Crying baby
- Dysmorphic appearance
- Eating disturbances
- Fears, anxiety, and phobias
- Grief and bereavement
- Learning and communication difficulties
- Oppositional behaviour and conduct behaviour
- School refusal
- Separation anxiety
- Sibling rivalry and inter-sibling hostility
- Sleep problems
- Social skills concern
- Soiling and wetting
- Temper tantrums

Conditions
- Attention deficit hyperactivity disorder (ADHD)
- Autistic spectrum disorder
- Developmental delay
- Developmental regression
- Hypotonia
- Intellectual disability
- Language delay and impairment
- Learning disorders
- Oppositional defiant disorder
- Poor mobility, acquired and congenital

For each presentation and condition, Basic Trainees will **know how to:**

Synthesise
- » recognise the clinical presentation
- » identify relevant epidemiology, pathophysiology, and clinical science
- » take a relevant clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients[1] and their quality of life

Manage
- » provide evidence-based management
  For less common or more complex presentations and conditions the trainee must also seek expert opinions
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Consider other factors
- » identify individual and social factors and the impact of these on diagnosis and management

Multisystem and undifferentiated
Presentations

- Abdominal or groin mass
- Abdominal pain, acute and chronic
- Abnormal gait
- Bleeding
- Bruising
- Chest pain
- Diarrhoea
- Dysuria
- Encopresis
- Enuresis
- Faints or funny turns
- Fatigue
- Haematuria
- Headache
- Hearing loss
- Jaundice
- Joint pain
- Lethargy
- Murmur or abnormal pulses
- Oedema
- Pallor
- Pubertal delay or abnormal puberty
- Rash
- Short or tall stature
- SIDS or SUDI
- Skin lesions
- Visual disturbance
- Weight loss

Conditions

- Constipation
- Dental caries
- Gastroenteritis
- Hypertension
- Obesity
- Poor growth
- Sleep disorders and upper airway obstruction

Palliative care
Presentations

- Constipation
- Dyspnoea
- Excessive secretions
- Nausea and vomiting
- Pain
- Restlessness

Pharmacology
Presentations

- Acute presentations associated with addiction, such as withdrawal and overdose

Conditions

	• Adverse drug reaction, such as severe cutaneous reactions, interactions, and drug overdose • Poisoning • Polypharmacy **Rehabilitation** Presentations • Dysphagia and aspiration Conditions • Acquired brain injury, such as traumatic brain injury and non-accidental brain injury • Cerebral palsy • Hydrocephalus • Pressure areas **Routine care of neonates** Presentations • Neonatal feeding problems • Neonatal respiratory distress • Neonatal sepsis • Neonatal vomiting • Neonate with jaundice • Premature neonate • Unsettled or irritable neonate • Unwell term neonate • Well neonate **Urgent presentations and conditions** Presentations • Altered level of consciousness • Brief resolving unresponsive episode (BRUE) • Cough • Cyanosis • Eye abnormalities • Fever • Injury • Shortness of breath • Stridor • Vomiting • Wheeze Conditions • Orbital and periorbital cellulitis • Seizure • Shock	
LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS Basic Trainees will understand these	Conditions • Autonomic dysreflexia • Baclofen withdrawal • Coma • Complex neurodisability • Developmental disorders: » conduct disorders » hearing impairment » other sensory impairments	

presentations and conditions. Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.	» visual impairment • Dysautonomia • Osteoporosis • Sequelae following brain injury, such as physical, cognitive, speech, and psychosocial sequelae • Spina bifida and spinal cord injury: » neurogenic bladder » neurogenic bowel • Status dystonicus • Strokes • Urinary retention
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Muscle anatomy, including specific muscle actions in the setting of spasticity • Epidemiology of obesity • Pathophysiology of pain • Physiological, social, and psychological factors influencing child development • Spinal levels, including myotome and dermatome distributions
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Barium studies • Basic neonatal imaging, such as chest x-ray and abdominal imaging • Bone densitometry scan • Bone scan • CT • MRI • Modified barium swallow • Ultrasound • X-rays: » chest » pelvis » spine Procedures • Bowel wash out protocol • Cannulation • Lumbar puncture • Peripheral intravenous catheters • Pleural aspiration and drainage Clinical assessment tools • Behavioural questionnaires, such as Conners Early Childhood Screen • Common Approach to Assessment Referral and Support (CAARS) • Developmental screening tools for focused assessment of development and behaviour • Gait examination • Growth charts • Hip surveillance in cerebral palsy • Investigation of inflicted injury • Post-traumatic amnesia diagnosis and management • Recognition, differentiation, and treatments of spasticity and dystonia
IMPORTANT SPECIFIC ISSUES	• Awareness of behavioural modification techniques in children, adolescents, and young adults

Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Awareness of personal reactions to childhood illness, behaviour, disability, and family situations and the impact these may have on professional practice • Best practice for patients' self-monitoring in established chronic disease, such as diabetes, hypertension, and respiratory disease • Cerebral palsy classifications: » difference between spasticity and dystonia when assessing hypertonia » functional scores, such as: ○ gross motor function classification system (GMFCS) ○ manual ability classification system (MACS) ○ communication function classification system (CFCS) » physical classifications » topographical classifications • Child maltreatment issues: » fabrication, falsification, exaggeration, or induction of illness or symptoms in a child » legislative requirements » special consideration of all injuries in non-ambulatory infants » unexplained or repeated incidents of injury • Child protection issues: » child vulnerability and family adversity and its relationship to child protection » referral pathways and community and hospital services for vulnerable children and their families • Chronic and complex care: » access to care and cost implications » coordination of care » health system resourcing and patients' insurance status » impact of physical, cognitive, and intellectual disabilities in management of chronic disorders » management of complex or multiple comorbidities » primary, emergency, and after hours care • Cultural and psychosocial needs of complex patients and their families being discharged from hospital • Death and dying: » compassion towards those who can no longer be 'cured' » ethical principles involved in care of dying patients » evaluation of length and depth of coma » impact that dealing with death and dying has on one's self » importance of assessing needs of families and carers and respecting their wishes » importance and meaning of resuscitation orders » medicolegal aspects of end-of-life care » recognition of the dying phase » respect for dignity at the end of life » responding to the questions of a dying child • Role of immunisation, nutrition, and sleep in the care of well children • Prevalence and impact of obesity across the life course and associated prevention measures, such as: » awareness of potential obesity prejudice and weight bias amongst health professionals, and methods for reducing bias » childhood antecedents to obesity in adulthood » clinical practice guidelines and management options for childhood obesity » health impacts of obesity in childhood » impacts of maternal obesity on fetuses

- education, support, health promotion, and advocacy options for working with patients, families, and carers to manage obesity
- sociocultural factors and their impact on obesity, including incidence, outcome, and management

- Patient-centred care:
  - impact of patients' background on their health or health behaviours, such as:
    - Māori and Aboriginal and Torres Strait Islander patients
    - adolescent and young adult patients
    - patients from culturally and linguistically diverse backgrounds
    - patients with disability, including cognitive, intellectual, and physical impairment
    - patients with diverse socioeconomic backgrounds
    - patients with mental health issues
    - vulnerable patients
  - principles of patient-centred care
- Potential impacts of dealing with distressing situations on the health and wellbeing of self and colleagues
- Rehabilitation:
  - assessment of patients following brain injury, including assessment of the severity of injury and the need for ongoing therapy and follow up
  - assessment of degree of impairment, disability, and activity limitation or participation restriction, and potential for rehabilitation
  - basic strategies used by other members of the multidisciplinary team
  - biopsychosocial model and its application to patient care
  - indications for referral to physiotherapy, occupational therapy, speech therapy, psychology, orthotics, and child life therapy
  - pain and irritability assessment in children with severe disability who are non-verbal
  - sequelae following brain injury, and appreciation of executive dysfunction and its impact on learning
- Role of and interaction with the developmental multidisciplinary assessment team
- Transitions in care:
  - transitions between practitioners
  - transitions between settings:
    - acute settings
    - community care
    - inpatient settings
    - metropolitan hospital care
    - outpatient settings
    - rural or remote healthcare settings
    - subacute and rehabilitation settings

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations
- Deafness

Conditions
- Cardiomyopathy and genetic cardiac arrhythmia
- Cystic fibrosis
- Duchenne muscular dystrophy (DMD)
- Fragile X syndrome (FXS)
- Genetic malignancies, such as retinoblastoma and Wilms tumour
- Klinefelter syndrome
- Marfan syndrome
- Microarray abnormalities:
  - 1q21.1 deletion or duplication
  - 15q11.2 deletion
  - 16p11.2 deletion or duplication
  - 22q11.2 deletion or duplication
- Myotonic dystrophy
- Neurofibromatosis type 1 (NF1)
- Noonan syndrome (NS)
- Osteogenesis imperfecta (OI)
- Trisomy 21
- Turner syndrome

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Basic Trainees will understand these presentations and conditions.

Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Conditions
- Alagille syndrome
- Alpha-1 antitrypsin deficiency
- Disorders of chromosomal duplication or deletion, such as cri-du-chat syndrome
- Familial and genetic malignancies
- Genetic aspects of endocrine disorders:
  - congenital adrenal hyperplasia
  - congenital hypothyroidism
- Genetic aspects of haematological disorders:
  - G6PD deficiency
  - haemochromatosis
  - haemophilia
  - sickle cell disease
  - thalassaemia
- Genetic aspects of neurological disorders:
  - ataxia telangiectasia
  - Charcot–Marie–Tooth disease
  - Huntington disease
  - Rett syndrome
  - tuberous sclerosis
- Genetic disorders of growth and musculoskeletal development:
  - achondroplasia

For each presentation and condition, Basic Trainees will **know how to:**

Synthesise
- recognise the clinical presentation
- identify relevant epidemiology, pathophysiology, and clinical science
- take a relevant clinical history
- conduct an appropriate examination
- establish a differential diagnosis
- plan and arrange appropriate investigations
- consider the impact of illness and disease on patients[1] and their quality of life

Manage
- provide evidence-based management
  For less common or more complex presentations and conditions the trainee must also seek expert opinions
- prescribe therapies tailored to patients' needs and conditions
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Consider other factors
- identify individual and social factors and the impact of these on diagnosis and management

	» Treacher Collins syndrome • Genetic imprinting disorders: » Angelman syndrome » Beckwith–Wiedemann syndrome » Prader–Willi syndrome • Storage disorders: » Gaucher disease » Wilson disease • Mitochondrial disorders • Mucopolysaccharidoses • Ring chromosome disorders • Substrate metabolism disorders: » amino acid metabolism defects: ○ aspartic acid (Canavan disease) ○ cysteine ○ glutamic acid ○ glycine ○ lysine ○ methionine ○ phenylalanine ○ proline ○ tryptophan ○ tyrosine ○ valine / leucine / isoleucine » carbohydrate metabolism defects: ○ defects in fructose metabolism ○ defects in galactose metabolism ○ defects in intermediary carbohydrate metabolism with lactic acidosis ○ glycogen storage diseases » lipid metabolism defects, such as: ○ lipidosis (lysosomal storage disease) ○ lipoprotein metabolism disorders ○ mitochondrial fatty acid oxidation disorders ○ very long chain fatty acids disorders • Trisomy 13 and 18 • Williams syndrome
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Basic principles of pharmacogenetics and individualised medicine • Definitions of polymorphism, mutation, genetic segregation analysis, and sex-linked, multifactorial, and polygenic inheritance • Dietary therapy in inborn errors of metabolism (IEMs) • Enzyme replacement therapy and substrate inhibition therapy • Genetic testing techniques, such as: » exome and genome sequencing » fluorescence in-situ hybridisation (FISH) » gene sequencing » polymerase chain reaction (PCR) • Principles of classical Mendelian and population genetics, sex-linked, mitochondrial inheritance, uniparental disomy, and repeating triplet sequences • Principles of major cancer genetics

	• Structure and function of human cells, genes, DNA, RNA, and proteins • Use of co-factors in IEMs
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Conventional karyotype • Cystic fibrosis mutation testing • Exome and genome sequencing • FISH probes • Metabolic screening tests • Molecular karyotype • Neonatal screening • Single gene testing for conditions such as cystic fibrosis, dystrophin, and fragile X syndrome (FXS) • Skeletal survey • Skin biopsy Clinical assessment tools • Clinical photography • Dysmorphic feature description • Specialised growth charts
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Appropriate referral to clinical genetics services, including referral for prenatal testing, carrier testing, and preimplantation genetic diagnosis • Documenting family histories on genograms and determining modes of inheritance • Ethical implications when using clinical photography • Genetic underpinning of neurological disorders: » genetic causes of neurological conditions, such as Dravet syndrome, DMD, and spinal muscular atrophy » role of genetic testing technologies in diagnosis of neurological disease (basic understanding): ○ array-based comparative genomic hybridisation (CGH array) ○ gene panel testing ○ individual gene testing ○ whole exome testing ○ whole genome testing • Goals and potential benefits of the Human Genome Project (HGP) • Legal and ethical principles of genetic testing, such as: » ethical barriers to testing minors for adult onset conditions » ethics consultation » familial implications of a genetic diagnosis, including discussion of autosomal recessive, autosomal dominant, and X-linked inheritance » need for and process of obtaining written consent » predictive testing processes • Patient and family counselling regarding findings of variants of uncertain significance (VOUS) and incidental findings in genetic testing, such as: » absence of prognostic information » need for family studies » possibility of functional studies • Prenatal options for: » first trimester screening, including nuchal translucency and non-invasive prenatal testing » fetal gender determination

	» fetal mutation testing » non testing » parental testing » preimplantation genetic diagnosis • Recognition of clinical features suggestive of an underlying genetic condition or syndromic diagnosis • VOUS, reduced penetrance, and attenuated phenotype

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Fever with neutropenia
- Lymphadenopathy

Conditions

- Anaemias:
  - » haemoglobinopathy (sickle cell disease)
  - » haemolytic (autoimmune)
  - » nutritional (iron, folate, and vitamin B12)
  - » thalassaemia (alpha and beta)
- Bleeding disorders:
  - » disseminated intravascular coagulation haemophilia (factor VIII and IX deficiency)
- Bone marrow failure:
  - » pancytopenia as a presenting feature of:
    - o aplastic anaemia
    - o leukaemias
    - o syndromes
  - » treatment-induced bone marrow suppression
- Brain tumour:
  - » low grade glioma
  - » medulloblastoma
- Disseminated intravascular coagulopathy
- Haemolytic disease of the neonate
- Late effects of cancer treatment:
  - » cardiomyopathy
  - » hearing impairment
  - » hormone deficiencies
  - » infertility
  - » neurocognitive impairment
  - » pulmonary fibrosis
  - » renal impairment
- Leukaemias:
  - » acute lymphoblastic leukaemia, precursor B- and T-cell
  - » acute myeloid leukaemia
- Lymphomas:
  - » B-cell non-Hodgkin lymphoma
  - » Hodgkin lymphoma
- Mucositis secondary to cancer treatment
- Oncological emergencies:
  - » spinal cord compression
  - » mediastinal mass:
    - o airway obstruction

For each presentation and condition, Basic Trainees will **know how to:**

Synthesise

- » recognise the clinical presentation
- » identify relevant epidemiology, pathophysiology, and clinical science
- » take a relevant clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients[1] and their quality of life

Manage

- » provide evidence-based management
  For less common or more complex presentations and conditions the trainee must also seek expert opinions
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Consider other factors

- » identify individual and social factors and the impact of these on diagnosis and management

	○ pericardial effusion and tamponade ○ superior vena cava obstruction » tumour lysis syndrome (TLS) • Solid tumours: » neuroblastoma (NB) » osteosarcoma » rhabdomyosarcoma » Wilms tumour • Thrombocytopenia: » immune thrombocytopenia (ITP)
LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS Basic Trainees will understand these presentations and conditions. Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.	Presentations • Cancer related pain • Common cancer presentations Conditions • Anaemias: » aplastic » chronic disease » G6PD deficiency » lead toxicity » transient erythroblastopenia of childhood • Bleeding disorders: » platelet function disorders » von Willebrand disease (vWD) • Bone marrow failure syndromes: » Fanconi anaemia • Brain tumours: » brainstem glioma » craniopharyngioma » ependymoma » high grade glioma • Cancer predisposition syndromes: » Beckwith–Wiedemann syndrome (BWS) » hereditary retinoblastoma » Li–Fraumeni syndrome (LFS) » neurofibromatosis » trisomy 21 • Haematological manifestations of systemic and chronic disease: » genetic disorders presenting with haematologic or cancer manifestations » haemolytic anaemia of the neonate • Iron overload: » haemochromatosis » transfusion induced • Leucocyte disorders • Leukaemias: » mature B-cell, acute » Philadelphia positive acute lymphoblastic leukaemia (Ph+ALL) • Lymphomas:

	» T-cell lymphoblastic lymphoma • Neutropenia: » congenital » cyclic » transient • Red cell structural disorders, such as hereditary spherocytosis • Solid tumours: » Ewing sarcoma (ES) » germ cell tumour (non-central nervous system) » hepatoblastoma » retinoblastoma • Splenic disorders: » asplenia » hypo- and hypersplenism • Thrombosis: » cerebral venous sinus » deep venous » inherited clotting predisposition » intravascular device related	
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Anticoagulant therapy: » actions and indications of anticoagulants, both prophylactic and therapeutic » adjusting therapy to achieve target ranges and monitoring therapy appropriately » drug interactions, adverse effects, pharmacokinetics, and monitoring of anticoagulation » initiation of anticoagulation with appropriate agent at appropriate dose taking patient factors into consideration, such as age and comorbid conditions » managing over-anticoagulation • Coagulation physiology • Cytotoxic drug mechanism of action and toxicity • Genetic diseases of abnormal haemoglobin: » sickle cell disease » thalassaemia • Growth factors: » erythropoietin » filgrastim » thrombopoietin receptor antagonists • Haematopoiesis physiology • Haemoglobin physiology, including antenatal • Indications and complications of bone marrow transplant • Iron, folate, and vitamin B12 intake and metabolism • Processes of: » cell growth and ageing, cell injury, and apoptosis » immune evasion and immune surveillance » metastatic spread » molecular and cellular oncogenesis • Purpose and principles of cancer staging • Radiation therapy mechanism of action and toxicity • Targeted anticancer therapy mechanism of action	
INVESTIGATIONS, PROCEDURES, AND	Investigations • Blood count	

CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	• Coagulation profile • Haemoglobin electrophoresis • Imaging for cancer diagnosis and staging: » chest X-ray (recognise mediastinal mass and airway compromise) » CT and MRI scans (recognise significant abnormalities such as large tumours on images) » PET, MIBG scintigraphy, and bone scan • Iron studies • Minimal residual disease (MRD) measurement for acute lymphoblastic leukaemia risk stratification (positive or negative reports only) • Tumour markers: » alpha-fetoprotein (AFP) » catecholamine » human chorionic gonadotrophin (hCG) Procedures • Blood product transfusion: » immunoglobulin » platelets » red blood cells • Bone marrow aspirate and trephine
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Educational and social impacts of cancer diagnosis and therapy • Immunosuppression • Late effects of cancer therapy and monitoring • Mental health aspects of congenital bleeding disorders and chronic transfusion dependence • Palliative care and end-of-life decision making • Principles and role of transplantation • Role of MIBG scintigraphy in the staging and response assessment of paediatric neuroblastoma

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Allergic presentations, such as urticaria

Conditions

- Adverse drug reactions:
  - » allergic reactions, such as anaphylaxis
  - » serum sickness
  - » Stevens–Johnson syndrome
- Allergic disorders:
  - » atopic dermatitis and eczema
  - » conjunctivitis
  - » food allergy
  - » rhinitis
  - » sinusitis
- Henoch–Schönlein purpura
- Immunodeficiency syndromes:
  - » acquired, such as HIV
  - » agammaglobulinaemias and hypogammaglobulinaemias
  - » combined B- and T-cell immunodeficiencies
  - » primary defects of cellular immunity

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Basic Trainees will understand these presentations and conditions.

Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Conditions

- Autoimmune diseases:
  - » inflammatory myopathies, such as juvenile dermatomyositis
  - » juvenile systemic sclerosis
  - » localised scleroderma
  - » periodic fever syndromes
  - » polymyositis
  - » primary Sjögren syndrome
  - » systemic lupus erythematosus
- Complement deficiencies
- Neutrophil abnormalities:
  - » chronic granulomatous disease
  - » leucocyte adhesion deficiency
- Systemic vasculitis

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Synthesise

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- » take a relevant clinical history
- » conduct an appropriate examination
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- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients[1] and their quality of life

Manage

- » provide evidence-based management
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- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors

- » identify individual and social factors and the impact of these on diagnosis and management

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Allergic reaction subtypes and mechanisms • Autoimmunity principles • Drug interactions, both common and life-threatening, and drug-induced disease • Immune responses, adaptive and innate • Immunisation • Immunosuppressive agent mechanisms • Inflammation pathophysiology • Process of healing and repair • Reticuloendothelial system structure and function: » lymph nodes » other lymphoid tissues » spleen • Transplant biology principles, including human leucocyte antigen (HLA)
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Allergy investigations: » allergen-specific IgE » skin prick testing • Immune function assessments: » full blood count (FBC) » HIV viral load and serology » immunoglobulins » neutrophil function tests » serological response to immunisation » T-cell function assays • Inflammatory disease assessment: » auto-antibody testing » complement profiles » inflammatory markers » skin and lesion biopsy (report interpretation only, not images)
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Anaphylaxis management, including use of adrenaline and action plans • Appropriate and safe prescription of: » adrenaline » corticosteroids • Immunodeficiency syndromes acquired post-transplantation • Principles of immunisation in the immunocompromised host and at-risk groups

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations
- Fever without a focus
- Lymphadenopathy

Conditions
- Gastrointestinal infections, such as infectious diarrhoea
- Meningitis and encephalitis
- Ophthalmological infections, such as blepharitis, conjunctivitis, trachoma, and orbital or periorbital cellulitis
- Osteomyelitis and septic arthritis
- Perinatal and congenital infections
- Respiratory tract infections, upper and lower, including otitis media, tonsillitis, and pneumonia
- Septicaemia and toxic shock syndromes
- Skin and soft tissue infections
- Urinary tract and genitourinary infections
- Vaccine preventable diseases
- Viral infections, including those with dermatological manifestations

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Basic Trainees will understand these presentations and conditions.

Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Presentations
- Fever in the returning traveller

Conditions
- Dengue fever
- Emerging or less common viral infections, such as parechovirus and enterovirus 71
- Fungal infections
- Hepatitis viruses
- HIV
- Infections with antibiotic-resistant organisms
- Infective endocarditis
- Malaria
- Mycobacterial infections
- Parasitic infections, such as head lice and scabies
- Sexually transmissible infections, such as chlamydia
- Tuberculosis
- Typhoid fever

For each presentation and condition, Basic Trainees will **know how to:**

Synthesise
- » recognise the clinical presentation
- » identify relevant epidemiology, pathophysiology, and clinical science
- » take a relevant clinical history
- » conduct an appropriate examination
- » establish a differential diagnosis
- » plan and arrange appropriate investigations
- » consider the impact of illness and disease on patients[1] and their quality of life

Manage
- » provide evidence-based management
  For less common or more complex presentations and conditions the trainee must also seek expert opinions
- » prescribe therapies tailored to patients' needs and conditions
- » recognise potential complications of disease and its management, and initiate preventative strategies
- » involve multidisciplinary teams

Consider other factors
- » identify individual and social factors and the impact of these on diagnosis and management

EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Antimicrobial resistance and strategies for management and prevention, including antimicrobial stewardship • Biology of common and important pathogens • Epidemiology of common and important infectious diseases • Host response to infection • Pharmacology of major antimicrobial medication classes used • Principles of infection control, including hand hygiene • Principles of passive and active immunisation • Principles underlying laboratory testing for infectious diseases • Role of immunisation in preventing infectious diseases
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Blood tests: » bacterial and viral polymerase chain reaction (PCR) » bacterial and viral serology » bacterial microscopy, culture, and antimicrobial susceptibility » blood culture, including anaerobic and mycobacterial culture » C-reactive protein (CRP) » erythrocyte sedimentation rate (ESR) » full blood count (FBC) » liver function tests (LFT) • Imaging » bone scan » chest x-ray » CT » MRI » ultrasound • Microbiological tests: » bronchoalveolar lavage (BAL) » cerebrospinal fluid (CSF) » nasopharyngeal aspirate » pus samples » stool samples » swabs from sterile and non-sterile sites » urine
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Application of preventative strategies, such as immunisation and public health management of contacts • Broader considerations at patient and community levels for management of antibiotic-resistant organisms and vaccine-preventable diseases • Infections associated with medical devices • Infections in the immunocompromised patient • Risks of needle-stick injuries and non-occupational exposure, and the need for post-exposure prophylaxis and follow up • Immunisation: » administration of common vaccines, including consent and delivery, and the importance of cold chain management » counselling for families regarding benefits and risks of immunisation • Notifiable diseases, planning for and implementing patient isolation • Potential complications of infectious disease and its management, particularly as relates to the use of antimicrobial therapy • Potential routes of infection, infection compared with disease, routes of transmission, and secondary sites of infection • Role of bone scintigraphy in assessing musculoskeletal infection, metabolic bone diseases, and arthritis • Role of nuclear medicine in assessment of infection and inflammatory conditions

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Birth trauma, such as clavicular fracture, brachial plexus palsy, subgaleal haemorrhage, and cephalhaematoma
- Collapsed neonate
- Cyanosis
- Floppy infant
- Growth restriction
- Hypoglycaemia
- Hypothermia
- Jaundice
- Maternal health affecting the neonate, such as thyroid disease, diabetes mellitus, and pre-eclamptic toxaemia (PET)
- Poor feeding
- Prematurity
- Preterm neonates
- Respiratory distress
- Seizures

Conditions

- Ambiguous genitalia and intersex disorders
- Antenatal conditions such as cerebral ventricular dilatation, choroid plexus cysts, congenital heart disease, dilated renal system, and neural tube defect
- Chromosomal and genetic conditions:
  - » trisomy 13, 18, and 21
  - » 22q11 deletion
- Congenital anomalies of the kidney and urinary tract
- Congenital brain abnormalities
- Congenital diaphragmatic hernia
- Congenital eye abnormalities
- Congenital heart disease
- Congenital malformations, such as cleft lip or palate, Pierre Robin sequence, sacral dimples, and finger anomalies
- Congenital skin disorders, such as ichthyosis and epidermolysis
- Developmental dysplasia of the hips
- Eye problems:
  - » congenital cataracts
  - » congenital glaucoma
  - » nasolacrimal duct obstruction
  - » retinoblastoma
  - » retinopathy of prematurity
- Haematological conditions:

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- acute bleeding disorders, including vitamin K-deficient bleeding
- anaemia
- neutropenia
- thrombocytopenia

- Intrauterine growth restriction or small for gestational age
- Neonatal abstinence syndrome
- Neonatal infection:
  - bacterial sepsis, including Gram-positive sepsis
  - central line-associated blood stream infections
  - congenital infections such as cytomegalovirus (CMV), HIV, hepatitis B and C, and parvovirus
  - congenital pneumonia
  - conjunctivitis
- Neonatal respiratory disorders:
  - air leak syndromes:
    - pneumomediastinum
    - pneumothorax
    - pulmonary interstitial emphysema
  - congenital lung abnormalities
  - meconium aspiration syndrome
  - respiratory distress syndrome
  - retained fetal lung fluid
- Neurological disorders
  - hypoxic ischaemic encephalopathy
  - intracranial and intraventricular haemorrhage
  - meningitis and encephalitis
  - peripheral nerve injuries, including brachial plexus, phrenic nerve, and facial nerve
  - periventricular leukomalacia
- Persistent pulmonary hypertension
- Plagiocephaly
- Preterm neonate complications:
  - anaemia
  - chronic neonatal lung disease
  - electrolyte disturbances
  - long-term neurodevelopmental disability
  - metabolic bone disease
  - necrotising enterocolitis and spontaneous intestinal perforation
  - nosocomial infection
  - patent ductus arteriosus
  - retinopathy of prematurity
- Skin abnormalities in the neonatal period, such as haemangioma and benign skin lesions
- Skin infections
- Surgical problems in the neonate:
  - abdominal wall defects

	○ gastroschisis ○ omphalocoele » atresia ○ anal ○ duodenal ○ oesophageal, with or without trachea-oesophageal fistula ○ small bowel » Hirschprung disease » hypospadias » inguinal hernia » intestinal malrotation, with or without volvulus » meconium ileus » undescended testes
LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS Basic Trainees will understand these presentations and conditions. Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.	Conditions • Disseminated intravascular coagulation (DIC) • Hereditary spherocytosis • Lymphopenia • Perinatal stroke
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Breastfeeding, principles associated with successful initiation, and maintenance • Drug metabolism in the neonate and breastfeeding mother, and appropriate and safe prescribing • Effects of intrauterine and perinatal events on outcome • Fluid management • Infant–maternal attachment • Infection prevention and control in neonates • Neonatal resuscitation and mechanical ventilation • Physiology of extra-uterine adaptation, including initiation of feeding, and changes to cardiac and respiratory physiology • Therapeutic hypothermia
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools.	Investigations • Basic neonatal imaging, such as X-ray of the chest and abdomen, and cranial ultrasound • Blood gas analysis • Postnatal scanning for antenatal-detected conditions • Serum: » bilirubin » blood glucose measurements Procedures • Catheterisation: » intravenous » umbilical vascular

Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	» urethral • Lumbar puncture • Neonatal resuscitation, including intubation • Pleural aspiration and drainage • Suprapubic aspirate
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Breastfeeding problems and recognition of when to refer to additional services, such as lactation consultant • Feeding problems • Gestational age assessment based on physical examination • Infant nutrition • Infant maternal attachment • Neonatal screening: » Guthrie test / newborn screening program: ○ cystic fibrosis ○ inborn errors of metabolism (IEMs) ○ MCAD deficiency ○ thyroid function » hearing assessment » hip assessment and screening ultrasound • Post-natal depression • Principles behind immunisation and vitamin K at birth • Problems of addiction and their impact on the fetus and the neonate • Transport and retrieval indications and issues

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Daytime and night-time wetting
- Genitourinary trauma
- Haematuria
- Proteinuria:
  - » nephrotic syndrome
  - » orthostatic
  - » transient

Conditions

- Acid–base and electrolyte disturbances
- Acute kidney injury
- Congenital anomalies of the kidney and urinary tract:
  - » antenatal diagnosis
  - » urinary obstruction
  - » vesicoureteral reflux (VUR)
- Developmental abnormalities of the external genitalia:
  - » ambiguous genitalia
  - » hypospadias
  - » labial adhesions (acquired)
  - » undescended testes
- Glomerulonephritis
- Haemolytic uraemic syndrome
- Hypertension
- Urinary tract infection

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

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Conditions

- Bartter and Gitelman syndromes
- Chronic kidney disease (CKD)
- Diabetes insipidus, nephrogenic
- Henoch–Schönlein purpura
- Inherited renal disease:
  - » Alport syndrome
  - » polycystic kidney disease
- Interstitial nephritis
- Neuropathic bladder
- Renal calculi
- Renal tubular disorders, such as renal tubular acidosis
- Vasculitis and kidney disease

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EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Acid–base regulation and its link to the respiratory system • Embryology, anatomy, and physiology of the renal and genitourinary systems, particularly renal physiology pertaining to water and salt balance, acid–base, and regulation of potassium, calcium, phosphorus, urea and creatinine, vitamin D, and erythropoietin • Fluid and electrolyte status regulation • Hormonal regulation, including parathyroid hormone (PTH), antidiuretic hormone (ADH), renin–angiotensin system, and its link to the endocrine system • Natural history of progressive kidney disease • Nephron anatomy and physiology, including transport mechanisms and electrolyte homeostasis • Normal urine and electrolyte composition • Pharmacology of antihypertensive drugs • Principles of renal replacement therapy, such as transplant and dialysis • Scrotal pathology • Structure and function of the renal tract and male and female genital tract
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Glomerular filtration rate (GFR): » GFR estimations (calculate using formulae such as Schwartz formula) » nuclear medicine GFR • Paired plasma and urine electrolyte measurements • Urinalysis (dipstick) testing • Urinary tract structural and functional imaging: » micturating cysto-urethrogram (MCU) » nuclear medicine imaging, such as dimercaptosuccinic acid (DMSA) and mercaptoacetyltriglycine (MAG3) » ultrasound (recognise gross abnormalities in images and interpret report) • Urine microscopy and culture Procedures • Cannulation Clinical assessment tools • Blood pressure measurement
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Dialysis access options • Impact of chronic kidney disease on growth and development • Ongoing management of renal transplant recipients, including immunosuppression • Role of and indications for radioisotope renography (MAG3 and DTPA): » in assessing renal outflow tract obstruction » in the transplant kidney • Role of nuclear medicine in renal cortical imaging techniques (DMSA) to assess renal scarring and function

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Abnormal head size
- Floppy baby
- Gait disturbances
- Headache
- Hearing loss
- Hypotonic infants
- Mimics of epileptic seizures:
  - » breath holding attacks
  - » non-epileptic seizures
  - » syncope
- Neurological or developmental regression
- Numbness or altered sensation
- Seizures:
  - » absence
  - » afebrile
  - » febrile
  - » focal
  - » generalised tonic–clonic
  - » infantile gratification
  - » myoclonic
  - » neonatal
  - » non-convulsive status epilepticus
  - » status epilepticus
- Visual disturbance or abnormal eye movement
- Weakness

Conditions

- Bell's palsy
- Central nervous system infections:
  - » abscess
  - » encephalitis
  - » meningitis
- Cerebral palsy
- Duchenne muscular dystrophy
- Encephalopathy:
  - » immune mediated
  - » infectious
  - » toxic
- Epilepsy
- Hydrocephalus
- Malformations of cerebral development
- Migraine
- Neurofibromatosis type 1 (NF1)
- Papilloedema
- Raised intracranial pressure
- Sensory disorders:
  - » eye movement disorders:
    - ○ nystagmus

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	○ strabismus » hearing impairment » visual impairment, including amblyopia • Tension headache • Traumatic brain injury: » accidental » inflicted
LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS Basic Trainees will understand these presentations and conditions. Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.	Presentations • Acute flaccid paralysis • Confusion Conditions • Central nervous system (CNS) inflammatory and immune mediated disorders: » acute disseminated encephalomyelitis (ADEM) » chronic inflammatory demyelinating polyneuropathy (CIDP) » Guillain–Barré syndrome » multiple sclerosis » N-methyl-D-aspartate receptor (NMDAR) encephalitis » transverse myelitis • Central nervous system tumours • Cerebellar disorders • Cerebral venous sinus thrombosis • Charcot–Marie–Tooth disease • Congenital eye abnormalities: » cataract » coloboma » corneal opacification » ectopia lentis » septo-optic dysplasia • Congenital myasthenic syndromes • Demyelinating disorders • Idiopathic intracranial hypertension • Infantile spasms • Motor neurone disorders • Movement disorders, such as, ataxia, chorea, dystonia, functional movement disorders, paroxysmal movement disorders, tics, and tremor • Muscular dystrophy • Myasthenia gravis • Myopathy, including metabolic, endocrine, and toxic • Neural tube defects • Neurocutaneous syndromes, such as: » hypomelanosis » neurofibromatosis type 2 » Sturge–Weber syndrome » tuberous sclerosis • Neurodegenerative disorders

	• Neurological manifestations of systemic and chronic diseases, such as paraneoplastic disorders • Paraneoplastic disorders • Peripheral neuropathy: » acquired » hereditary • Psychogenic neurological disorder • Spinal cord compression • Spinal muscular atrophy • Stroke: » arterial ischaemic » haemorrhagic » venous sinus thrombosis	
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Action of neurotransmitters and neurotransmission, including the autonomic nervous system (ANS) • Anatomy and physiology of central and peripheral nervous system, including muscle and cerebral blood supply • Concept of 'brain death' • Electrical activity of the brain and nerve conduction • Metabolism of the brain • Pharmacology of anticonvulsant medications • Physiology of vision and hearing	
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Audiology (interpret audiogram and tympanogram plots) • Electroencephalography (EEG) • MRI brain and spine (identify gross abnormalities in images) Procedures • Lumbar puncture (interpret cell count, glucose, protein, and special stains) Clinical assessment tools • Eye examination finding interpretation in neurological disease: » eye movement assessment » fundoscopy » visual acuity » visual field testing	
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Care needs of children with progressive neurological disorders • Ethical principles involved in the care of dying patients • Importance and meaning of resuscitation orders • Mental health manifestations of systemic disease • Needs of children with cerebral palsy • Needs of family or carers of patients with neurological conditions, and the importance of assessing these needs • Palliative care: » importance of respecting the wishes of family and carers » indications for referral to palliative care » recognising the dying phase » role of end-of-life care in certain clinical scenarios, such as fatal degenerative disorders	

	• Procedural safety in children with varying illness severity, such as during lumbar puncture • Role of perfusion and metabolic imaging of the brain in the assessment of epilepsy • Surgical options for treatment of epilepsy

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations

- Cough
- Dyspnoea
- Inhaled foreign body
- Insomnia
- Snoring
- Stridor
- Wheeze

Conditions

- Asthma
- Bronchiectasis
- Croup
- Cystic fibrosis
- Ear, nose, and throat (ENT) conditions:
  - » infectious conditions, such as otitis media, peritonsillar abscess, sinusitis, and tonsillitis
  - » non-infectious conditions, such as airway stenosis, allergic rhinitis, choanal atresia, cleft palate, hearing impairment, laryngomalacia, and tracheomalacia
- Respiratory failure
- Respiratory tract infections, such as:
  - » bronchiolitis
  - » pneumonia
  - » upper respiratory tract infections
- Sleep disorders:
  - » behavioural sleep disorders
  - » sleep-disordered breathing, such as obstructive sleep apnoea (OSA)
  - » movement disorders:
    - periodic limb movement disorder (PLMD)
    - restless legs syndrome (RLS)
  - » parasomnias, such as night terrors
  - » sleep-wake phase disorders

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Basic Trainees will understand these presentations and conditions.

Basic Trainees will understand the resources

Presentations

- Excessive daytime sleepiness and hypersomnolence
- Conditions
- Chylothorax
- Congenital lung abnormalities
- ENT conditions:
  - » congenital anomalies
  - » mastoiditis
  - » retropharyngeal abscess
  - » tracheitis

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- » identify individual and social factors and the impact of these on diagnosis and management

that should be used to help manage patients with these presentations and conditions.	• Interstitial lung disease • Narcolepsy • Pleural effusion • Pneumothorax • Respiratory tract infections and abscesses • Tuberculosis
EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Cardiovascular, neurological, behavioural, and endocrine consequences of untreated sleep-disordered breathing • Effects of environmental toxins, such as cigarettes on the respiratory system • Effects of inflammation of the airways and associated diseases • Embryology, anatomy, and physiology of the respiratory system and ventilation, including ventilation / perfusion (V / Q) matching • Incidence of and risk factors for respiratory, ENT, and sleep disorders • Mechanisms and process of acid–base balance • Sleep physiology
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IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Good sleep habits • Impact of neuromuscular and skeletal disease on respiratory function

KEY PRESENTATIONS AND CONDITIONS

Basic Trainees will have a comprehensive depth of knowledge of these presentations and conditions.

Presentations
- Gait disturbances
- Pain of musculoskeletal origin

Conditions
- Amplified pain syndromes:
  - » juvenile fibromyalgia
  - » regional pain syndromes
- Arthritis:
  - » juvenile idiopathic
  - » post-infectious or reactive
  - » septic
  - » viral
- Connective tissue diseases:
  - » juvenile dermatomyositis
  - » systemic lupus erythematosus
- Hip conditions, such as:
  - » irritable hip
  - » Perthes disease
  - » slipped upper femoral epiphysis
- Localised scleroderma
- Rheumatic fever
- Vasculitic disorders:
  - » Henoch–Schönlein purpura
  - » Kawasaki disease

LESS COMMON OR MORE COMPLEX PRESENTATIONS AND CONDITIONS

Basic Trainees will understand these presentations and conditions.

Basic Trainees will understand the resources that should be used to help manage patients with these presentations and conditions.

Presentations
- Hypermobility

Conditions
- Autoinflammatory diseases
- Ehlers–Danlos syndrome
- Macrophage activation syndrome
- Secondary osteoporosis
- Small vessel vasculitides, such as granulomatosis with polyangiitis and microscopic polyangiitis

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EPIDEMIOLOGY, PATHOPHYSIOLOGY, AND CLINICAL SCIENCES Basic Trainees will describe the principles of the foundational sciences.	• Anatomy and physiology of the musculoskeletal system • Epidemiology and pathophysiology of arthritis • Joint inflammation pathophysiology • Normal joint structure and physiology • Principle actions of common immunosuppressive agents • Signs of clinical inflammation and the principles of monitoring disease activity in inflammatory rheumatic diseases
INVESTIGATIONS, PROCEDURES, AND CLINICAL ASSESSMENT TOOLS Basic Trainees will know the indications for, and how to interpret the results of these investigations, procedures, and clinical assessments tools. Basic Trainees will know how to explain the investigation, procedure, or clinical assessment tool to patients, families, and carers.	Investigations • Investigations to diagnose immunologically-mediated disease, including autoimmune serology, such as: » anticyclic citrullinated peptide (anti-CCP) antibody » antidouble stranded DNA (anti-dsDNA) » antineutrophil cytoplasmic antibody (ANCA) » antinuclear antibody (ANA) » antiphospholipid antibodies » complement (C3 and C4) » extractable nuclear antigen (ENA) » rheumatoid factor (RF) • Musculoskeletal MRI • Skin and lesion biopsy Procedures • Synovial fluid analysis
IMPORTANT SPECIFIC ISSUES Basic Trainees will identify important specialty-specific issues and the impact of these on diagnosis and management.	• Long-term complications and outcomes of paediatric rheumatic diseases • Multidisciplinary approach to the management of paediatric rheumatic diseases • Role of DXA in the assessment of osteoporosis: » complications of long-term steroid use » interpretation of bone mineral density (BMD) results in relation to fracture risk and patient management

Glossary

CHARGE	Coloboma of the eye, heart defects, atresia of the choanae, restriction of growth and/or development, genital and / or urinary abnormalities, ear abnormalities and deafness
CT	computed tomography
DNA	deoxyribonucleic acid
DTPA	diethylenetriaminepentaacetic acid
DXA	dual energy X-ray absorption
G6PD	glucose-6-phosphate dehydrogenase
HEADSS	Home and environment, education and employment, activities, drugs, sexuality, suicide / depression
HIV	human immunodeficiency virus
MCAD	medium-chain acyl-CoA dehydrogenase
MIBG scintigraphy	metaiodobenzylguanidine scintigraphy
MRCP	magnetic resonance cholangiopancreatography
MR enterography	magnetic resonance enterography
MRI	magnetic resonance imaging
PET	positron emission tomography
RCT	randomised controlled trial
RNA	ribonucleic acid
SIDS	sudden infant death syndrome
SUDI	sudden unexplained death in infancy
VACTERL	Vertebral defects, anal atresia, cardiac defects, tracheo-oesophageal fistula, renal anomalies, and limb abnormalities