



CHILD HEALTH ATTACHMENT LEARNING OUTCOMES

Aims of the attachment:

By the end of this attachment you will have attained knowledge including the scientific principles underlying modern child health medicine, skills to apply this knowledge to clinical situations and attitudes necessary to identify and respond appropriately to children from birth to 16 years, their families and carers.

Intended Learning Outcomes for the Attachment:

Professional Skills

By the end of your attachment, you should be able to:

History and communication:

- Demonstrate appropriate communication skills with parents, carers, children, and adolescents
- Perform a comprehensive paediatric history which is age and development appropriate; includes a birth, development, social, and family history, immunisation status, and HEADSSS assessment where appropriate
- Explain common and important medical conditions and investigations in a way that the child or young person can understand
- Communicate clearly and efficiently with colleagues; present clinical findings verbally, give a verbal handover, write a summary of the consultation in the medical notes, write a discharge summary, advocate for patients, and speak up if any concerns about the care of a child or young person
- Explain the rationale for the escalation of concerns about a sick child

Examination skills:

- Perform a thorough and systematic A-E assessment of an unwell child
- Perform a developmental assessment of a pre-school child (0-5 years)
- Perform a comprehensive newborn baby check, identifying both normal features and abnormal findings
- Perform from birth to teenage an age-appropriate comprehensive examination of all systems

Clinical Skills

- Handle and dress/undress an infant appropriately
- Perform a full set of observations (respiratory rate, oxygen saturations, heart rate, temperature, and blood pressure, including the use of the correct cuff size) and record this on a PEWS (Paediatric Early Warning Score) chart
- Perform and interpret the following measurements: weight, OFC (occipitofrontal circumference) +/- length/height on a growth chart
- Demonstrate to patients the use of inhalers and peak flow respiratory function in an age-appropriate way
- Perform a comprehensive newborn baby check (NIPE), identifying both normal features and abnormal findings
- Demonstrate to parents/carers how to collect a urine sample from an infant, and undertake urinalysis
- Explain abnormalities in common laboratory investigations
- Interpret imaging commonly used in the primary assessment of an acutely unwell patient or for key paediatric diagnoses
- Formulate and interpret a family tree
- Perform Basic Life Support and relief of choking in children and infants

Healthy Childhood

Overarching ILO: Describe age-appropriate stages towards adulthood for physiology, growth, neurodevelopment, social behaviours, feeding, and mental development. Describe negative and positive impacts on normal in areas of social determinants, promoting safe and healthy childhoods. Specifically:

- Describe the changes in physiology from birth to adulthood

- Describe normal growth through childhood and pubertal development
- Describe the physiological and environmental influences on growth and behaviour in childhood and adolescence, including the social determinants of health, e.g. poverty, housing, employment
- Describe major developmental milestones, including gross motor, fine motor, speech and language, social, and visual domains
- Describe screening, surveillance and preventative public health interventions.
 - Describe the range of expected behaviour, including sleep, toileting, and school refusal
 - Describe healthy feeding behaviours in infants and childhood, including the benefits of breastfeeding, weaning and expected feeding volumes in infants
 - Describe common health promotion topics, including safe infant sleep, feeding and healthy eating, accident prevention, smoking/alcohol/drug use, sexual health, and mental health and wellbeing
- Describe routine health screening methods
 - Describe the principles and practicalities of childhood health surveillance programmes, including the newborn blood spot test, hearing screening, and the UK routine immunisation schedule
 - Explain the concepts of passive and active, live and inactive immunisation, and describe the rationale behind and contra-indications to immunisation
- Explain the importance of mental health and wellbeing from birth to adulthood
- Describe the impact of Adverse Childhood Experiences (ACEs) and the education and home environment on family vulnerability

Paediatric Ethics, Responsibilities and Child Safety

Overarching ILO: Explain the legal and ethical framework around consent, capacity and parental responsibility, child protection and the duty of care, safety including medical complexity, vulnerable children at risk and during transitional care; and children at risk as asylum seekers, undocumented children or children at risk of exploitation, and describe appropriate escalation. Describe global concerns around children in areas of conflict or unstable states, and the impact of climate change on children's health. Specifically:

- Explain the legal and ethical frameworks relevant to child and adolescent health including consent, capacity, and parental responsibility
- Describe the process of gaining consent for common procedures and examinations, including during adolescence
- Describe opportunities to improve patient safety and experience, learning from the experience of children, young people and their families, critical incidents & near misses

- Describe the impact of living with medical complexity and technology dependence and the importance of symptomatic and palliative care, including the multidisciplinary approach
- Describe the importance of raising concerns if patient safety is or may be compromised
- Describe the duty of care for safeguarding children in any environment, and knows how to raise concerns and the correct referral pathways
- Describe the main types, risk factors, and signs and red flags of child maltreatment
- Describe the process of transitional care for adolescents and preparation for a safe transfer of care to adult services

Professional Values and Behaviours:

By the end of your attachment, you should be able to:

- Demonstrate the clinical responsibilities and role of the doctor including the duty of candour, compassion including respect for child dignity and privacy and the impact of personal biases on children and families.
- Describe the risks of children as superspreaders, and for children at increased risk of infection meticulously applying the principles of infection prevention and control
- Describe the physical and emotional risk for the clinician when working with children, using coping strategies to deal with distress, uncertainty and change

Professional Knowledge

By the end of your attachment, you should be able to:

Paediatric Pharmacology & Prescribing

- Describe the principles of prescribing in children, taking into account the weight, age and body surface area, the differences in drug metabolism and routes of administration
- Describe the specific challenges of safe prescribing in paediatrics, including underlying disease and age, and rationalisation

- Describe alternative approaches to drug compliance in babies and children and practise realistic medicine for children whilst considering the impact to environment, cost.
- Perform a drug calculation and prescribe commonly used medications safely for children
- Perform fluid calculations prescribing correct fluid regimes for children of all ages: resuscitation fluids, correction of dehydration fluids, maintenance fluids
- Perform a structured paediatric history to obtain and document an accurate medication and allergy history promoting safe prescribing
- Demonstrate appropriate communication skills when counselling children and their families about medication, its rationale, side-effects and safety
- Explain the common and serious causes of accidental poisoning in mobile children and the relevant management principles, including digital resources.
- Describe safety procedures in place requesting, prescribing and administering blood products to children including recognition and management of acute transfusion reactions.

Clinical Features and Management

By the end of your attachment, you should be able to:

Describe the age-appropriate clinical features and management of:

- Bronchiolitis
- Candidiasis including napkin dermatitis
- Paediatric Constipation
- Cow's milk protein allergy & food allergy
- Faltering growth & malnutrition
- Febrile convulsion
- Functional abdominal pain
- Gastro-oesophageal reflux disease in neonates and babies
- Distinguish Gastroenteritis and Toddler Diarrhoea
- Henoch-Schönlein purpura
- Iron deficient anaemia
- Kawasaki disease
- Neonatal and paediatric specific lower respiratory tract infections / pneumonia
- Meningitis & meningococcal disease
- Mesenteric adenitis
- Paediatric differences in urinary tract infection and pyelonephritis, complex UTI

- Paediatric differences in Upper respiratory tract infection
- Paediatric differences in Viral induced wheeze
- Incidental / normal findings in children and babies
- Childhood presentations and risks for vitamin D deficiency and rickets

Describe the childhood clinical features and include in a differential diagnosis of:

- Breath holding & reflex anoxic seizures
- Obesity
- Plagiocephaly

Neonatology & Congenital Abnormalities

Describe the age-appropriate clinical features and management of:

- Biliary atresia
- Early & late onset neonatal sepsis
- Late prematurity (≥ 34 weeks)
- Physiological jaundice
- Prematurity (< 34 weeks)
- Trisomy 21
- Bronchopulmonary Dysplasia
- Neonatal surgical Emergencies (including pyloric stenosis and intussusception)
- Neonatal complications of chorioamnionitis
- Neonatal complications of labour (including malpresentation, shoulder dystocia, PTL and cord prolapse)
- Neonatal complications of multiple pregnancy
- Neonatal complications of Placental abruption
- Neonatal complications of Poly/ oligohydramnios

Describe the clinical features, initial investigations and include in a differential diagnosis:

- Common chromosomal abnormalities
- Haemolytic disease of the newborn
- Breast milk jaundice
- Cephalohaematoma & caput
- Cleft palate
- Hypoxic ischaemic encephalopathy
- Intra-uterine growth restriction
- Subconjunctival haemorrhage
- Maternal drugs & conditions affecting the foetus

- Meconium aspiration
- Necrotising enterocolitis
- Transient tachypnoea of the newborn
- Respiratory distress syndrome
- Spina bifida
- Talipes

Community Paediatrics, Child Development & Child Protection

Describe the age-appropriate clinical features and management of:

- Autism spectrum disorders and other neurodevelopmental disorders
- Cerebral palsy
- Complex needs
- Developmental impairment
- Non-Accidental injury from birth to teenage years.

Child and Adolescent Mental Health (CAMHS)

Describe the clinical features and principles of management in children and adolescents

- ADHD
- Anxiety
- Conduct disorders
- Depression
- Eating disorders
- Gender dysphoria
- Learning disability
- Medically unexplained symptoms
- Self-harm
- Substance misuse

Paediatric Emergency Medicine & Paediatric Radiology

Describe the clinical features and management in children from birth to teenagers of:

- Anaphylaxis
- Acute Asthma

- Cardiac arrest
- Croup / epiglottitis / bacterial tracheitis
- Dehydration
- Diabetic ketoacidosis
- Hypoglycaemia
- Respiratory arrest
- Sepsis
- Status epilepticus

Describe the clinical features and initial investigations and include in a differential diagnosis of:

- Metabolic conditions & electrolyte abnormalities
- Poisoning
- Raised intracranial pressure
- Sudden Unexpected Death in Infancy (SUDI)

Endocrine, Diabetes, & Growth

Describe the clinical features and management in children from birth to teenagers of:

- Type 1 diabetes

Describe the clinical features and differential diagnosis of:

- Delayed puberty / hypogonadism
- Childhood and congenital hypothyroidism
- Precocious puberty
- Vitamin D deficiency and rickets
- Children with short stature
- Childhood presentation of Turner syndrome
- Childhood onset type 2 diabetes
- Childhood onset Thyrotoxicosis
- Childhood onset Diabetes insipidus
- Childhood onset Addison's disease / adrenal insufficiency
- Congenital adrenal hyperplasia
- Childhood onset Cushing's syndrome

Infections & Immunisation

Describe the clinical features and management in children from birth to teenagers of:

- Chicken pox
- Group A Streptococcal infections (including invasive GAS infection, toxic shock syndrome, and scarlet fever)
- Hand, foot & mouth
- Herpes simplex virus
- Human herpes virus 6 (sixth disease/Roseola)
- Measles
- Mumps
- Parvovirus B19 (slapped cheek)
- Pertussis
- Rubella
- Pyrexia of Unknown Origin
- Children at risk of Necrotising Fasciitis

Describe the clinical features and differential diagnosis of:

- Congenital infections affecting the foetus and newborn infant
- Childhood Epstein-Barr virus

Respiratory

Describe the clinical features and management in children from birth to teenagers of:

- Childhood Chronic Asthma
- Cystic fibrosis
- Inhaled foreign body
- Neonatal and childhood pneumothorax

Describe the clinical features and differential diagnosis of:

- Bronchiectasis

Cardiology

Describe the clinical features and management in children from birth to teenager for:

- Neonatal and childhood cardiac failure
- Innocent murmur of childhood
- Childhood supraventricular tachycardia

Describe the clinical features, risk factors and know the presentation and screening features, and be able to include in a differential diagnosis:

- Neonates and children with **A**cyanotic (VSD, ASD, CoA, PDA) and **C**yanotic congenital heart disease (TGA, ToF)
- Childhood Infective endocarditis
- Childhood Rheumatic fever

Gastroenterology

Describes the clinical features and management in children from birth to teenagers for:

- Coeliac disease presenting at weaning and through childhood
- Childhood onset Inflammatory bowel disease
- Childhood Malabsorption
- Childhood Malnutrition
- Children at risk of refeeding syndrome

Describe the clinical features, and be able to include in a differential diagnosis:

- Childhood onset hepatitis

Renal

Describes the clinical features and management in children from birth to teenagers, including differences from adults, for:

- Acute kidney injury
- Nephrotic syndrome
- Acid base balance

Describes the clinical features, risk factors and be able to include in a differential diagnosis:

- Childhood onset glomerulonephritis/ nephritic syndrome
- Haemolytic uraemic syndrome
- Hypertension including measurement and interpretation of BP in children
- Chronic kidney disease

Neurology

Describe the clinical features, risk factors, and be able to include in a differential diagnosis of:

- Paediatric Epilepsy
- Infantile spasms
- Muscular dystrophies
- Paediatric Tension headache
- Paediatric Migraine
- Neonatal peripheral nerve injuries/ palsies

Musculoskeletal (Rheumatology)

Describes the clinical features, risk factors, and be able to include in a differential diagnosis:

- Childhood arthritis (Juvenile Idiopathic Arthritis]
- Childhood presentation of Ehlers Danlos Syndrome
- Childhood dermatomyositis and inflammatory connective tissue disease
- Common benign MSK conditions of childhood (Osgood-Schlatter disease and related apophysitis, benign leg pains of childhood)
- Primary Raynaud's phenomenon in children

Paediatric Oncology

Describe the clinical features including key age group, risk factors and be able to include in a differential diagnosis:

- Childhood presentations of brain tumours
- Childhood leukaemia and lymphoma
- Teenage onset primary bone tumours
- Embryonic tumours of childhood: Wilm's tumour (nephroblastoma), neuroblastoma and retinoblastoma
- Children with pancytopenias
- Neutropenia (including neutropenic sepsis) in children
- Children with an abnormal blood film

Paediatric Haematology

Describe the clinical features including key age group, risk factors and be able to include in a differential diagnosis:

- Neonatal consequences of blood group incompatibility in pregnancy
- Sickle cell disease
- Haemophilia
- Idiopathic thrombocytopenia

Explain the prescription of the following:

- Blood transfusion for neonates, infants, children and adolescents
- Blood products for all paediatric ages
- Transfusion reaction in children

Paediatric Dermatology

Describes the clinical features and *management in children from birth to teenagers for:*

- Eczema
- Viral exanthem
- Impetigo

Describe the clinical features including key age group, risk factors and be able to include in a differential diagnosis of:

- Birth marks & neonatal rashes
- Irritant contact napkin dermatitis
- Molluscum contagiosum
- Scabies
- Tinea capitis
- Urticaria
- Vulvitis/vulvovaginitis
- Congenital haemangioma
- Napkin dermatitis and genital warts and its relation to neglect/CP
- Skin manifestations of childhood onset systemic disease (including acanthosis nigricans, livedo reticularis, and petechiae/purpura).