

**Undergraduate curriculum for Child Health  
(Intended learning outcomes)  
For  
Medical Students  
At  
Glasgow University  
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**Undergraduate Revision Guide:**

## Section 1: Paediatric History and Examination

- Have a broad knowledge of medical and surgical aspects of paediatrics including areas specific only to paediatrics including neonates and assessment of developmental and growth.
- To be able to take an age- and developmentally-appropriate paediatric history from any child, young person or their carer.
- To be able to take a history from an adolescent including a HEADS screen.
- To have skill in performing examination of the core body systems including aspects specific to paediatric examination including a newborn, respiratory, cardiovascular, gastrointestinal, central and peripheral nervous system, musculoskeletal, skin, eyes, ears/nose/throat and development(see relevant chapter).
- Measure and interpret vital signs including a CEWS chart.
- Plot and interpret a growth chart (see endocrine chapter)
- Outline the physiological influences on normal growth in childhood (see endocrine chapter)
- Construct and interpret a family tree
- Demonstrate the ability to:
  - Hold and undress a baby
  - Perform a newborn examination (see neonatal chapter)
  - Perform a developmental examination in a child under 5 years (see development chapter)
  - Measure peak expiratory flow rate (see respiratory chapter)
  - Assess inhaler technique in a child or young person (see respiratory chapter)
  - Collect a urine sample from an baby or child and perform bedside urinalysis (see clinical skills booklet)

## Section 2: NEONATOLOGY

- To be able to perform a routine examination of a newborn infant
- To know about common problems of preterm infants
- To know about the causes and management of neonatal jaundice
- To be able to recognise and know important causes of respiratory distress, cyanosis, and gastrointestinal disorders in the neonate
- To know about the assessment and management of neonatal sepsis and the acutely unwell infant.

## Section 3: CONGENITAL ABNORMALITIES

- To know the important causes of congenital abnormalities
- To know the important congenital abnormalities that can be life threatening, or should be identified at the Newborn Baby check.
- To know key conditions that are present with congenital abnormalities.

## Section 4: Developmental Assessment

- Be able to perform a developmental assessment in a pre-school child and know the key milestones across the areas of gross and fine motor, hearing, speech and social development.

- Know the important causes of global developmental delay and causes of gross motor and speech delay
- Have some understanding of approaches to common parental concerns such as eating, sleep advice, behaviour, bruising and links to non-accidental injury (NAI).

## **Section 5: GROWTH AND ENDOCRINOLOGY**

- To have knowledge of normal growth and pubertal development through childhood
- Outline the physiological influences on normal growth in childhood
- To know the common problems associated with altered growth and puberty
- To know the key endocrine disorders of childhood
- To be able to plot and interpret a growth chart, with an understanding of the underlying causes and influences on these growth patterns. Be aware of different growth charts for different purposes, ages and conditions.

## **Section 6: NUTRITION**

- To understand the importance of breastfeeding for both mother and child
- To understand the importance of exclusive breastfeeding
- To be aware of formula milk and weaning
- To be aware of growth patterns in children, weight faltering and obesity and their relationship to nutrition.

## **Section 7: COMMUNITY PAEDIATRICS**

- Be able to perform a developmental assessment in a pre-school child and know the key milestones across the areas of gross and fine motor, hearing, speech and social development.
- Know the important causes of global developmental delay and causes of gross motor and speech delay
- Be aware of the current health surveillance / health promotion programme
- Have some understanding of approaches to common parental concerns such as eating, sleep advice, behaviour, *as it relates to disability*

## **Section 8: MUSCULOSKELETAL (ORTHOPAEDICS and RHEUMATOLOGY)**

### **KNOWLEDGE:**

- Know the key musculoskeletal MSK features and understand the importance of early, accurate diagnosis, and appropriate referral of severe, life or organ threatening MSK conditions in childhood
- Know about the basic science underpinning bone growth and repair and its relevance to the clinical paediatric assessment.
- Know how to perform an emergency assessment of the injured child and the priorities in management
- Be able to describe fracture patterns, and the differences between fractures in adults and children including the features suggestive of NAI

- Know the key mechanical causes of hip pain and limp, scoliosis and back pain
- Be aware of the features and key causes of muscle disease in childhood
- Know the normal variants of growth or gait, common benign or self-limiting conditions of childhood including “growing pains”, and the psychological presentations in the MSK.
- Know the 5 MSK components of the baby check, and be able to recognise the conditions this screening is intended to identify.
- Know the underlying biochemistry and clinical features of rickets

#### SKILLS:

- Be able to be able to perform a comprehensive paediatric MSK history and examination, including gait, screening and regional MSK examination, and MSK components of the baby check.
- Be able to request and interpret relevant investigations.

## Section 9: NEUROLOGY

- Be able to perform a comprehensive paediatric neurological history and examination
- Know the aetiology, features, complications and management principles for
  - Cerebral palsy
  - Neural tube defects
  - Muscular dystrophy
  - Epilepsy and paroxysmal disorders

## Section 10: RESPIRATORY

- Be able to perform a comprehensive paediatric respiratory history and examination
- Be able to assess basic lung function
- Be able to test inhaler technique in an age appropriate way.
- Know the common causes of acute and chronic cough, croup and stridor
- Know the important causes and management of lung and lower airways conditions of childhood including pneumonia, bronchiolitis and asthma.
- Know the principles of the genetics, pathophysiology, symptoms, screening, treatment and prognosis of cystic fibrosis.

## Section 11: CARDIOLOGY

- Be able to perform a comprehensive paediatric cardiology history and examination.
- Be able to recognise heart murmurs and be able to identify the features of an innocent murmur.
- Know the causes and presentation features of cyanotic and acyanotic congenital heart disease.

- Know the common chromosomal abnormalities associated with congenital heart disease.
- Know the importance, and recognise the key features of infective endocarditis and rheumatic fever.
- Know the features of cardiac failure in children and babies and how this differs from adult presentations, and know the paediatric causes of cardiac failure.
- Identify the main physiological changes from birth to adulthood
- Deliver age-appropriate cardio-pulmonary resuscitation

## **Section 12: GASTROENTEROLOGY**

- Be able to perform a comprehensive paediatric gastrointestinal and nutritional history and examination
- Know the paediatric causes of hepato / splenomegaly
- Know the importance of gastro-oesophageal reflux, haematemesis and rectal bleeding, celiac disease acute and chronic diarrhoea and gastroenteritis in childhood, their features and management.
- Know the medical and surgical causes of abdominal pain.

## **Section 13: HAEMATOLOGY**

Be able to perform a comprehensive paediatric history and examination relevant to haematological presentations

Recognise normal from abnormal bruising, and know the differential diagnoses including NAI, ITP, HSP

Know the emergency management of acute bleeding and sepsis in a child

Be able to interpret haematological and other investigations, knowing the causes of thrombocytopenia and platelet dysfunction.

Know the underlying causes of iron deficiency anaemia

Know the presentation features of leukaemia, and the key diagnostic investigations. Be aware of the principles of management and prognosis.

Know the common inherited clotting disorders.

Know the importance of lymphadenopathy in childhood and be able to describe the features of benign self-limiting causes from more severe and life threatening causes.

Know the causes of lymphadenopathy including important malignant, infective and autoimmune causes, and the relevant investigations.

## **Section 14: ONCOLOGY**

- Be able to perform a comprehensive paediatric history and examination that considers and aims to exclude or identify malignancy in a child.
- Know the importance of malignancy as a cause of childhood morbidity, mortality and cause of chronic ill health.
- Know the most common paediatric malignancies, their presentation features, key diagnostic investigations and key management principles.

## **Section 15: INFECTION**

- To understand the concepts of passive and active, live and inactive immunisation
- To understand the rationale for immunisation, and contr-indications to immunisation
- To know about the incubation, infectivity, clinical features, complications, treatment and prevention of important and common childhood infections.
- To know how to recognise and manage infective emergencies including meningococcal infection, epiglottitis and other infections compromising the airway, sepsis in a baby and older children.

## **Section 16: NEPHROLOGY**

- Be able to perform a comprehensive paediatric renal history and examination
- Be able to describe the key functions of the kidney, and understand the relevant underlying basic science to be able to explain this
- Know the commonest presenting features of paediatric renal disease
- Know the urinary tract abnormalities important in childhood.
- Know the causes of oedema in childhood including non- renal causes
- Know the causes of proteinuria and haematuria in childhood
- Know the causes of nephrotic and nephritic syndrome in childhood, be able to distinguish between their presentation features, investigation and management.
- Know how to accurately measure and interpret a blood pressure in childhood.
- Know the causes, investigation and emergency management of hypertension
- Know the causes of urinary tract infection in childhood, and the age dependent investigation and management.
- Know how to collect the best quality urine sample in children of different ages.
- Know the causes, clinical features, and laboratory features of acute and chronic renal failure, and the principles of management.
- Know how to image the paediatric renal tract

## **Section 17: PAEDIATRIC DIABETES MELLITUS**

- To be able to recognise diabetes in a child
- To know how to manage diabetic emergencies in a child
- To understand about the management of chronic illness in children and adolescents.
- To know about the impact and management of gestational diabetes on the newborn infant.

## **Section 18: MANAGEMENT OF COMMON PROBLEMS AND EMERGENCIES**

To be able to recognise and know the management for:

respiratory and airway emergencies  
cardiac failure and cardiac arrest  
burns and scalds  
acute infections  
osteomyelitis and septic arthritis  
UTI  
Poisoning  
DKA and hypoglycaemia  
Pyrexia  
Seizures

SIDS  
Suspected NAI

## **Section 19: Paediatric Dermatology**

- Be able to perform the appropriate paediatric history and examination for a dermatological presentation
- Know the common and important paediatric skin lesions and disorders, and the principles of investigation and management for these conditions.
- Know about the recognition, investigation and management of eczema
- Know the key important infective skin conditions of childhood

## **Section 20 – PAEDIATRIC SURGERY**

- Be able to perform the appropriate paediatric history and examination for a surgical presentation, including the appropriate emergency assessment
- Understand the principles of fluid management in childhood
- Recognise and know the differential diagnosis, investigation and management of acute surgical paediatric presentations, including neonatal presentations; specifically bilious vomiting, acute abdomen, trauma, dehydration or groin pain.
- Recognise the causes, features and management of the vomiting baby
- Know the presentation features and their importance, including the emergency management of malrotation, volvulus and intussusception, necrotising enterocolitis, sepsis, atresia presentation, Hirschsprung's disease, meconium ileus, and hernias
- Know the important differential diagnosis, investigation and management of groin presentations in childhood.
- Know the emergency management of a child presenting with trauma including specific management of head, abdominal, chest pelvic and skeletal trauma

## **Section 21: PAEDIATRIC OPHTHALMOLOGY**

- Be comfortable collecting an appropriate paediatric ophthalmological history and basic examination
- Basic knowledge of common pathological and psychosocial reasons for a presentation of blindness or reduced visual acuity in the paediatric population
- Know how vision develops throughout childhood and the various milestones
- Understand the basic principles of amblyopia, squints and their management.
- Know the ophthalmological component of the baby check, and be able to recognise an absent or abnormal red reflex, and understand the importance of prompt referral
- Know some of the ophthalmological associations with paediatric systemic disease
- Be familiar with the common eye presentations and their management, including nasolacrimal duct obstruction, conjunctivitis, and allergic eye disease.

## **Section 22: Paediatric ENT**

- Be able to perform an appropriate paediatric ENT history and examination
- Be aware of the presentation features of deafness in babies and children
- Know the common and important causes of congenital and acquired deafness in childhood
- Know the common paediatric ENT presentations and how they are managed, specifically otitis media, acute tonsillitis, chronic tonsil and adenoid hypertrophy, nasal obstruction, obstructive sleep apnoea and how to take a sleep history, and allergic rhinitis
- Know the causes and assessment of acute and chronic stridor
- Know how to assess and the differential diagnosis of a lump or mass in the head and neck.

## **Section 23 – PSYCHIATRY**

- Be able to perform an appropriate psychiatric history and examination including a mental state examination, developmental history and assess the social context.
- Be aware of the challenges of making a psychiatric diagnosis during the development phases of childhood.
- Have a basic knowledge of:
  - Internalising & Externalising Behaviour Disorders
  - The Biopsychosocial Model - ADHD
  - Attention Deficit Hyperactivity Disorder
  - Conduct Disorder
  - Reactive Attachment Disorder
  - Anxiety Disorders
  - Childhood Depression
  - The Developmental Disorders
  - Tic Disorders
  - Feeding Difficulties
  - Eating Disorders

## **Section 24 - RADIOLOGY**

- Have an understanding of the different radiology modalities.
- Have a systematic approach when assessing an image that covers each of the following important conditions in each anatomical area: chest, abdomen and genitourinary, head, and musculoskeletal.

## **Section 25: Adolescence**

Know the developmental changes of adolescence

Know the principles of adolescent management.

Be able to perform a HEADS assessment

Be able to assess and interpret growth and pubertal delay in a teenager

## **Section 26: Paediatric Pharmacy**

- Explain the issues surrounding medication compliance in paediatrics



- Critique the different routes which may be used for drug administration
- Perform a dose calculation for drugs commonly used in paediatrics
- Explain the differences in drug metabolism in babies and children

## Section 27: Ethics

To understand the ethical issues around the care of children including

- Parental rights
- Duty of Care
- Communication
- Decision making
- Emergency situations
- Access to medical records
- Sexual health and contraception