

DEPARTMENT OF PAEDIATRICS

The Chinese University of Hong Kong

Prince of Wales Hospital

**UNDERGRADUATE TEACHING
PROGRAMME**

2021 - 2022

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SECTION 1

1 - PAEDIATRIC LEARNING OUTCOMES

Learning outcomes are descriptions of what a student

- remember (knowledge)
- understand (understanding)
- do (skills)
- value (attitudes)

at the end of a defined unit of learning

By the end of the paediatric rotation, students are expected to have acquired core knowledge and skills

- to assess and manage common paediatric presentation seen in the community according to current best evidence with a holistic approach,
- to identify and apply management plans for common paediatric problems,
- to identify important red flags and their management,
- to provide life support interventions and basic medical care to neonates, infants, children and adolescents in case of paediatric emergencies, and
- to communicate diagnosis and management of patients and their needs to their parents/carers and other healthcare professionals

Summary of outcomes and assessment

Discipline or course level outcomes	Key defining characteristics	Interventions and activities that help fulfil the outcomes	How outcomes are assessed
A. Core Skills in Clinical Methods			
Emphasis of the importance of good discriminatory history taking and appropriate physical examination, carefully recorded.	Whatever technology available for further diagnosis or treatment, clinical assessment will always remain the cornerstone of good clinical practice	Mentorship programme, clerking records, bedside teaching	Evening presentations, clinical skills assessments, OSCE
Students must be familiar with the process termed the “clinical method” (i.e., the method whereby a diagnosis and a programme of management is developed for addressing a presenting clinical problem) Using a carefully taken history from a child and his/her parents followed by being able to do a clinical examination (including a thorough assessment of growth status and, in young	Evaluating a clinical problem after the history and examination: including, where required, a (differential) diagnosis, and the ability to describe the principles of further management — including (i) the discriminatory use of further aids to diagnosis and introduction of some most commonly used investigations, (ii) various therapeutic options, (iii) the importance of communication/education between health professional and the patient and family;	Introductory lecture, bedside teaching Mentorship programme. Specific section on the clinical method is detailed in the Undergraduate teaching handbook	Evening presentations, 2 case reports marked as part of in-course assessment, clinical skills assessment, OSCE, MCQ

Section 1 – Paediatric Learning Outcomes

children, a simple psychomotor developmental assessment) to test initial diagnostic hypotheses.	(iv) undertaking follow-up assessments in order to learn how to evaluate the outcome of the clinical problem; (v) presenting a clinical problem, its management and outcome to an audience.		
B, Core Knowledge			
Know the range of normal and abnormal growth and development (physical and psychosocial) in infancy, childhood and adolescence and understand how genetic and environmental factors can impact on child health.	Understanding of normal and abnormal child development and growth is a fundamental part of paediatric practice. Know how even extremes of normal biological variation in growth and development can cause considerable distress to children and their families (e.g. short stature; overweight; bed wetting), hence emphasising the importance of being familiar with normality.	Key programme for students to understand this continuum is the Family Follow Up project from Y2 to Y5. Lectures, clinics and bedside teaching on growth & development. Outside visits to Maternal and Child Health Centres & Child Assessment Centre	Family Follow up Project assessments, Clinical skills assessments on development, OSCE, MCQ
Knowledge on common and important diseases, disorders and problems of children (physical, behavioural, mental and social) including the aetiology, pathophysiology, clinical presentation, natural history, management and outcome, as well as know the principles that underlie their management thereby restoring when possible normal body structure and function.	Core knowledge of common presenting problems and clinical conditions in paediatrics, with the focus in community paediatrics, primary care and paediatric emergencies	Lectures, bedside teaching, outside visits	Continuous assessment, mentorship programme, MCQ, OSCE
Understand the importance of adolescent health, especially the epidemiology of illness in this age group (such as disorders of puberty, sexuality, impact of chronic disease, drug taking and other social problems).	This is part of the wide continuum of paediatric practice with very different challenges and perspective to the earlier neonatal and childhood periods	Students attend a session about the Student Health Service. Visits to private practitioners. Mentorship programme on communication and ethical issues.	Continuous assessment, MCQ, OSCE
Know how the perinatal period influences health in both the short and long-term.	Prematurity and neonatal problems can have life-long consequences	Lectures, bedside teaching	Clinical skills assessment, MCQ, OSCE
Understand the causes and consequences of chronic disability — (physical, mental and psychological)	Managing disability is an increasing important part of paediatric practice. If cure is not possible and when resources need to be made available in order to help the child (and later as an adult), to fulfil his/her potential, and for cases involving death, know how needs of the dying child and the family can be met.	Students attend Pinehill school and the Child Assessment Centre, Lectures, Bedside teaching, Mentorship programme.	MCQ, OSCE
Understand the importance of social and psychological consequences to the child and the family from illness, even if seemingly trivial.	Common paediatric problems may be relatively minor (URIs, diarrhoea etc) but can have important impact on families	Clinic attendance, ward work	Mentorship programme on communication skills
Know the local services and facilities available for children and the various methods that	Insights into the range of health care options in Hong Kong that have relevance to the Paediatric patient	Outside visits to various regional hospitals, maternal and child	MCQ, OSCE

are available for the delivery of child health care.		health centre, child assessment centre and private practitioners.	
C. Extended Insights and Global Vision			
Know the common disorders, morbidity and mortality of children in low-income countries	Understand what opportunities and programmes exist for improving child health globally.	Lecture, mentorship programme	MCQ
Understand that a child is a member of a family and of society and the importance of the family unit in all matters relating to health and illness:	(i) home circumstances can influence health; (ii) school can reflect or reveal health problems; (iii) illness can have a profound effect on psycho-social dynamics; (iv) in-patient care can upset children and therefore the need wherever possible to keep children out of hospital (i.e., consider ambulatory paediatrics as a preferred modality).	Family follow up project, ward work, mentorship programme	Family Follow up project assessments
Know the principles of health promotion and prevention of childhood disease and encourage sensible life styles	Importance of sowing seeds of good habit to minimise chances of disease in adult life.	Lectures and outside visits	MCQ

Paediatric Skills to practice

Technical Skills

The undergraduate is not expected to master the technical skills of management such as venipuncture, lumbar puncture, injections, suprapubic puncture, etc. during the paediatric module.

Clinical Skills:

Students must be familiar with the process termed the “clinical method” (i.e., the method whereby a diagnosis and a programme of management is developed for addressing a presenting clinical problem (See recommended reading). This clinical method entails:

- using a carefully taken history from a child and his parents followed by being able to do a clinical examination (including a thorough assessment of growth status and, in young infants, a simple psychomotor developmental assessment) to test initial diagnostic hypotheses;
- evaluating a clinical problem after the history and examination: including, where required, a (differential) diagnosis, and the ability to describe the principles of further management – including (i) the discriminatory use of further aids to diagnosis and introduction of some most commonly used investigations, (ii) various therapeutic options, (iii) the importance of communication/education between health professional and the patient and family;
- undertaking follow-up assessments in order to learn how to evaluate the outcome of the clinical problem; and
- presenting a clinical problem, its management and outcome to an audience.

Good discriminatory history taking and appropriate physical examination, carefully recorded, can never be underestimated. Whatever technology available for further diagnosis or treatment, clinical assessment will always remain the cornerstone of good clinical practice

Details of Clinical Skills that students should be able to perform

Respiratory system

Overall assessment: does the patient look ill or well? Then STOP, LOOK, LISTEN

Signs of respiratory distress
<ul style="list-style-type: none"> • Cyanosis • Flaring • Grunting • Tachypnoea: Respiratory rate (breaths per minute) >60 (0-2mo), >50 (2-12 mo), > 40 (1-2y), >30 (3-5y), >25 (6-11y), >20 (12-15y) • Tachycardia *: Pulse rate (beats per minute) >160 (<12 mo), >140 (1-2y), >120 (3-5y), >110 (6-11y), >100 (12-15y) • Dyspnoea: use of accessory muscles, intercostal or subcostal indrawing

What to look for on inspection: peripheral signs such as clubbing, pale palms, **signs of respiratory distress** (look for cyanosis and flaring of the alae nasae, count respiratory rate over 1 MINUTE, listen for grunting, look for signs of indrawing and use of accessory muscles), chest wall shape (AP and lateral diameters), symmetry of chest wall movement, other visible abnormalities, inspiratory and expiratory respiratory pattern, any abnormal noises (audible wheeze, inspiratory stridor or barking cough)

What to do for palpation: Pulse rate and character, cervical and axillary lymph nodes, trachea, parasternal heave, chest wall movement and expansion

What percussion to perform: Lung fields anteriorly (upper & middle lobes), laterally (upper, middle and lower or upper and lingular lobes) and posteriorly (upper and lower lobes), normal liver (displaced downwards if hyperinflation) and cardiac dullness (lost if hyperinflation)

Where to auscultate and how to describe findings: 1) air entry (equal on both sides and if not where it is reduced); 2) types of breath sounds (normal should be vesicular vs bronchial breathing (can demonstrate by listening over trachea); 3) any prolonged expiratory phase as small airway diseases are common in children; 4) added sounds e.g. fine inspiratory crepitations, expiratory wheeze, inspiratory stridor, coarse transmitted sounds due to secretions or from upper airway.

- How to approach the respiratory examination of an infant or young child who is less cooperative
- How to interpret findings

Cardio-vascular system

Overall assessment: does the patient look ill or well?

Signs of heart failure
<ul style="list-style-type: none"> • Cyanosis and poor perfusion * • Tachypnoea *: Respiratory rate > 60 (0-2mo), >50 (2-12 mo), > 40 (1-2 y), >30 (3-5y), >25 (6-11y), >20 (12-15y) • Tachycardia *: Pulse rate (beats per minute) >160 (<12 mo), >140 (1-2y), >120 (3-5y), >110 (6-11y), >100 (12-15y) • Elevated JVP (older child over 2 years) • Cardiomegaly • Gallop rhythm • Hepatomegaly * • Puffy face, oedema, ascites • Poor weight gain
<p>* Features of particular importance for infants</p>

(Right Heart failure for older child = puffy face, hepatomegaly, oedema, ascites)

(Left Heart failure for older child = decrease output and low BP, pulmonary congestion & basal crepitations, tachycardia)

What to look for on inspection: peripheral cyanosis (may only indicate poor perfusion)/central cyanosis, clubbing of digits, any dysmorphic features (Downs, Turners, Marfans) and abnormality in growth (failure to thrive, stunting), chest deformity, scars, respiratory pattern and signs of breathlessness

What to do for palpation: radial and femoral pulses (rate, rhythm, volume, character, RF delay for child older than 6 years), dorsalis pedis in neonate with PDA. Precordium: localise apex position, LV impulse, RV impulse, heaves (signs of RV or LV enlargement) and thrills; liver size and position.

What percussion to perform: apex if it cannot be determined by palpation

Where to auscultate and how to describe findings: (mitral, pulmonary, aortic and tricuspid areas, left sternal edge, neck, axilla, back) 1st (best at apex) and 2nd (best at pulmonary area) heart sounds, murmurs (position and radiation, timing and duration, quality, grading, changes with posture), characteristic of innocent murmur (left sternal edge, systole only, mid-systolic, vibratory, soft <= grade 2, localised), measurement of BP (not necessary in infant < 2years) using both sphygmomanometer and oscillometric methods (BP charts)

Abdominal system

Overall assessment: **does the patient look ill or well?** Is it an acute or non-acute presentation?

What to look for on inspection: Any signs of obesity, malnutrition or wasting (growth charts)? Look at hands and fingers for clubbing, pallor, erythema. Eyes for signs of pallor or jaundice. Mouth for cyanosis, buccal mucosa for ulcers or other lesions. Then inspect abdomen for medical artefacts (scars, catheters, stoma), evidence of distension (gaseous, fluid, organ or mass), skin (distended veins, abnormal pigmentation), movement, legs for oedema and rashes (erythema nodosum, HSP)

What to do for palpation: Neck (anterior and posterior triangles) for lymph nodes. Then light palpation of abdomen (watch face for pain), deeper palpation for organs (lower border of liver moving up from Right Iliac Fossa and spleen move across from Right Iliac Fossa), texture of palpable liver (smooth, irregular, firm, soft) and characteristics of spleen to differentiate from kidney (notch, "can't get above, dull), bladder or other mass? Are testes in scrotum?

What percussion to perform: Confirm over liver, spleen and bladder. Document liver span. Is any distension due to gas or fluid? Demonstrate shifting dullness.

Where to auscultate and how to describe findings: Listen for full 1 MINUTE for bowel sounds? Is there any bruit?

Other: check urine (colour, dipstick), stool (colour in biliary atresia). Findings in pyloric stenosis (peristaltic waves, succussion splash, pyloric mass during test feed to right of midline with left hand), intussusception (colicky abdominal pain, vomiting often bile stained, inconsolable crying, episodic screaming, lethargy and "dullness", "sausage shaped mass", blood in stool, "red currant jelly stool")

Neurological system

Overall assessment: **does the patient look ill or well?** Is it an acute or non-acute presentation?

Check the mental state (alert or lethargic, attention, orientation, behaviour, hyperactive, speech)

Obvious dysmorphic features, big or small head, skin (cafe au lait spots, hypopigmented lesions), asymmetry of face or limbs, muscle wasting, abnormal movements

Gait: Is gait abnormal (hemiplegic, spastic diplegic, ataxic, waddling). Ask patient to walk, run, walk on tip toe, walk on heel, walk in straight line, stand on one foot and hop, squat down and get up to look for Gower sign.

Cranial nerves: Facial weakness-ask patient to wrinkle forehead, close eyes tight, puff out cheeks, smile (Forehead still wrinkles = upper motor neurone lesion, entire half of face is weak = lower motor neurone lesion)

Eyes: Inspect for ptosis, eye deviation, squint. Test visual acuity (test the eye one by one, use toys to attract the patient if young age), pupil response, squint (paralytic or non-paralytic), eye movements, visual field, fundoscopy.

Motor: What is the muscle bulk? Tone (high, low or normal). Look at the posture in a young infant (frog-like).

For power describe activity such as arising from floor (Gower sign-proximal muscle weakness), antigravity movements of limbs, hand preference in holding objects, describe distribution of muscle weakness (proximal

muscle weakness = likely muscle disease, distal muscle weakness = likely neuropathy, generalised weakness = spinal muscular atrophy or systemic disease, one-sided limb weakness = hemiplegia)

Medical Research Council (MRC) strength rating scale

- Grade 0/5-no movement
- Grade 1/5-palpable tightening only
- Grade 2/5-movement in a gravity neutral plane
- Grade 3/5-full range of movement against gravity
- Grade 4/5-subnormal strength
- Grade 5/5-normal strength

Deep tendon reflexes: Asymmetry, increased, decreased or normal? (Increased = likely upper motor neurone lesion, decreased = likely lower motor neurone lesion, Normal). Extensor plantar response (upper motor neurone lesion)

Coordination: Observe activities like throwing balls, dressing, playing video games, walking, running. Finger-nose test (be sure the patient’s arm stretch towards full extension), heel-to-shin test, rapid alternating movements (dysdiadochokinesia)

Sensory: How to test proprioception, pin-prick

Developmental assessment

- (1) This guideline summarises a collection of normal developmental milestones with which medical students should be familiar after completing the paediatric module.
- (2) In general, the developmental assessment of children can be divided into the following categories: *gross motor, fine motor and vision (eye-hand coordination), hearing and speech, personal-social and cognitive.*
- (3) The normal developmental milestones listed below only apply to children up to five years of age. Developmental assessment of older children should focus on evaluation of intellectual functions.
- (4) The list of developmental milestones provided below (based on the Denver II) is intended to help students acquire basic ideas and concepts of developmental assessment. The guideline is by no means exhaustive and through one’s own reading, visits to Maternal and Child Health Centres and Child Assessment Centres, students gain further exposure to the range of milestones used for more detailed developmental assessments.
- (5) Students should be aware that the developmental assessment should be individualised according to the child assessed and is encouraged to develop a sensible general approach rather than a full detailed developmental assessment.

Developmental milestones

Milestone	Interquartile range (90 th centile +/- warning signal)
Gross motor	
Supine position:	
Symmetrical 4 limbs movement	0-2 weeks (2 weeks)
Loss of grasp reflex	1-4 months
Pull to sit:	
No head lag	3-4 months (6 months)
Head control	2-3 months (4 months, 6 months)
Sitting position:	
Sits with tripod	4-5 months (6 months)
Sits without support	5-6 months (7 months, 10 months)
Weight bearing on legs	
Pull to stand:	2-4 months (5 months, 7 months)
Stands alone	8-9 months (10 months)
Walks	10-12 months (14 months)
• without support	11-14 months (15 months, 18 months)

• up steps	14-19 months (22 months)
Runs	14-18 months (20 months)
Jumps on both feet	21-26 months (29 months)
Stands on each foot	33-45 months (48 months)
Hops (on one foot)	38-47 months (50 months)
Heel to toe walk	48-60 months (68 months)

By report:

Rolls	
• Supine to prone	4-6 months (7 months)
• Prone to supine	5-7 months (7½ months)
• Crawl	9-12 months

WARNING SIGNS FOR GROSS MOTOR:

- Minimal movement at 1 month
- No head control at 6 months
- Cannot sit with no support at 10 months
- Cannot walk independently at 18 months

Fine motor and vision (Eye-Hand coordination)

Supine/siting position

Follows dangling toy 180 degrees 2-4 months (5 months)

Grasp

- Reaches out for objects/palmar grasp 4-5 months (6 months, **7 months**)

Cubes

- Transfers between hands 5-7 months (8 months)
- Bangs two together 7-10 months (11 months)

Sitting position

Grasp

- Pincer grasp 7-9 months (11 months, **12 months**)

Cubes

- Puts cube in cup 10-12 months (14 months)
- Tower of two 14-17 months (21 months)
- Tower of six 20-24 months (31 months)
- Tower of eight 22-25 months (38 months)

Draws

- Scribbles 12-15 months (16 months)
- Imitates vertical line 24-30 months (36 months)
- Copies Circle 36-45 months (48 months)
- Copies Crosses 48-51 months (57 months)
- Copies Square 56-68 months (73 months)
- Draws person 3 parts 36-48 months (54 months)
- Draws person 6 parts 48-60 months (66 months)

WARNING SIGN FOR FINE MOTOR:

- Fisting and not able to grasp even object put in his hands at 3 months
- No fix and follow at 6 months
- No reach out at 7 months
- No pincer grasp at 12 months

Hearing and speech

Reaction to sound

- Turns to rattling sound 3-5 months (6 months)
- Turns eyes/head towards voice 4-6 months (7 months,)

Communication

Expressive language:

- Speech-like sounds without meaning 3-6 months (9 months, **10 months**)
- Dad/Mama specific 7-11 months (14 months)
- Speaks single words with meaning 10-13 months (15 months, **24 months**)
- Speaks more than 5 single words 14-19 months (21 months)
- Speaks combine words 17-22 months (25 months, **36months**)
- Speaks 2- to 3- words phrases 21-24 months (30 months)
- Gives own name 24-30 months
- Names one colour 29-40 months (44 months)
- Names four colours 36-50 months (58 months)

Comprehensive language

- Looks at the person talking to him 3-6 months
- Understands situational command 6-12 months
- Follows 1-step commands with no gestural cues 12-18 months
- Points 2 pictures 17-20 months (24 months)
- Points 4 pictures 21-24 months (30 months)

WARNING SIGN FOR HEARING AND SPEECH

- Parental concerns at any age
- No response to loud sound at 1 to 3 months
- No simple follow command with gestural cues at 12 months
- No single meaningful words at 24 months
- Unclear speech that people not understand at 48 months

Personal and social

- Hand regard 1-3 months
- Response to name calling 6-10 months
- Feeding
 - Feeds self (e.g. biscuit) 5-6 months (7 months)
 - Drinks from cup without help 9-15 months (17 months)
 - Feeds with spoon or fork 13-18 months (20 months)
- Indicates wants 7-11 months (13 months)
 - By shaking head 8-12 months
 - By pointing 11-13 months (14 months, **15 months**)
- Waves good bye 7-9 months (14 months)

- Play
- Peek a poo 8-10 months
- Imitate clap hands 10-13 months (16 months)
- Show interests in the activities of others 11-14 months
- Feed doll 15-20 months (24 months)
- Names friend 25-30 months (39 months)

- Affection
- Smiling 2-5 weeks (6 weeks, **8 weeks**)
- Stranger anxiety 8-11 months

- Daily livings
- Washes & dries hands 19-25 months (36 months)

- Dressing and undressing
 - Takes off pants or T-shirt 13-20 months (24 months)
 - Puts on socks or shoes 20-24 months (30 months)
 - Puts on T-shirt 28-36 months (41 months)
 - Performs alone 36-48 months (54 months)

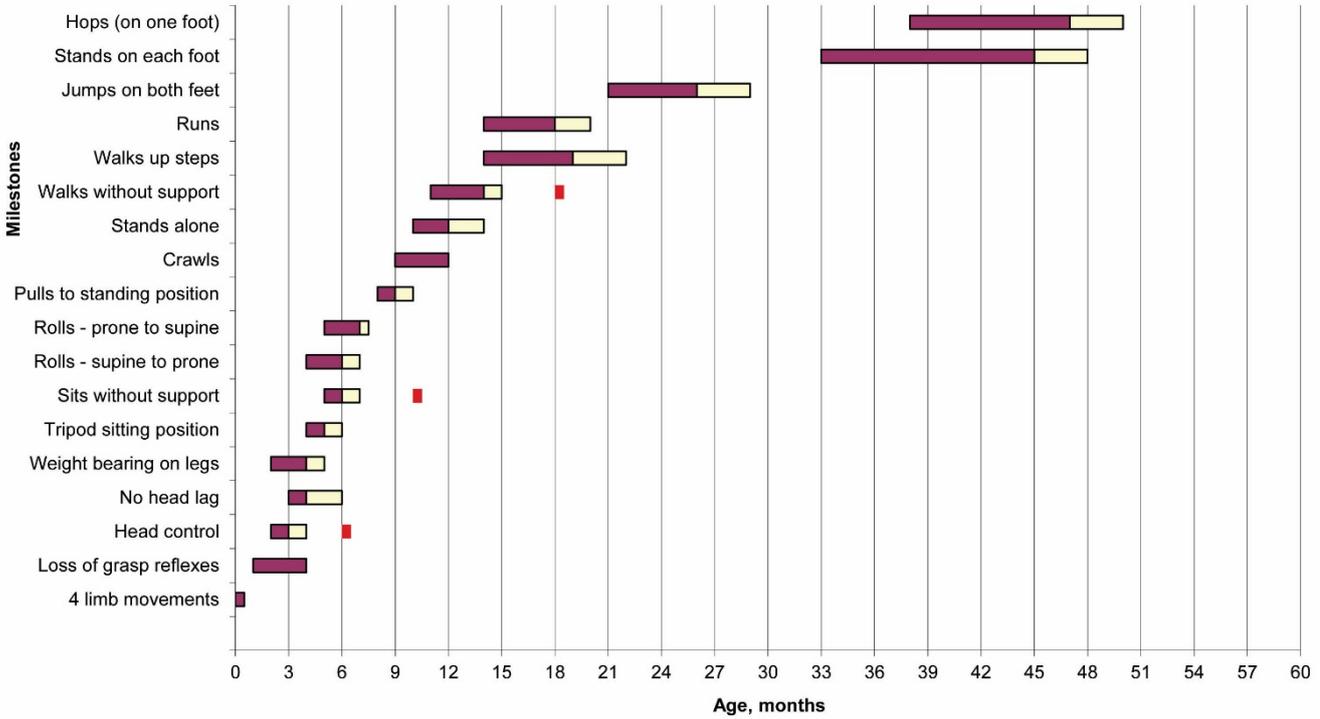
WARNING SIGN FOR PERSONAL AND SOCIAL

- No social smile at 3 months
- Not response to name calling at 12 months
- No indication of “no” or needs at 12 months
- No pointing at 15 months
- Repetitive non meaningful play at 18 months

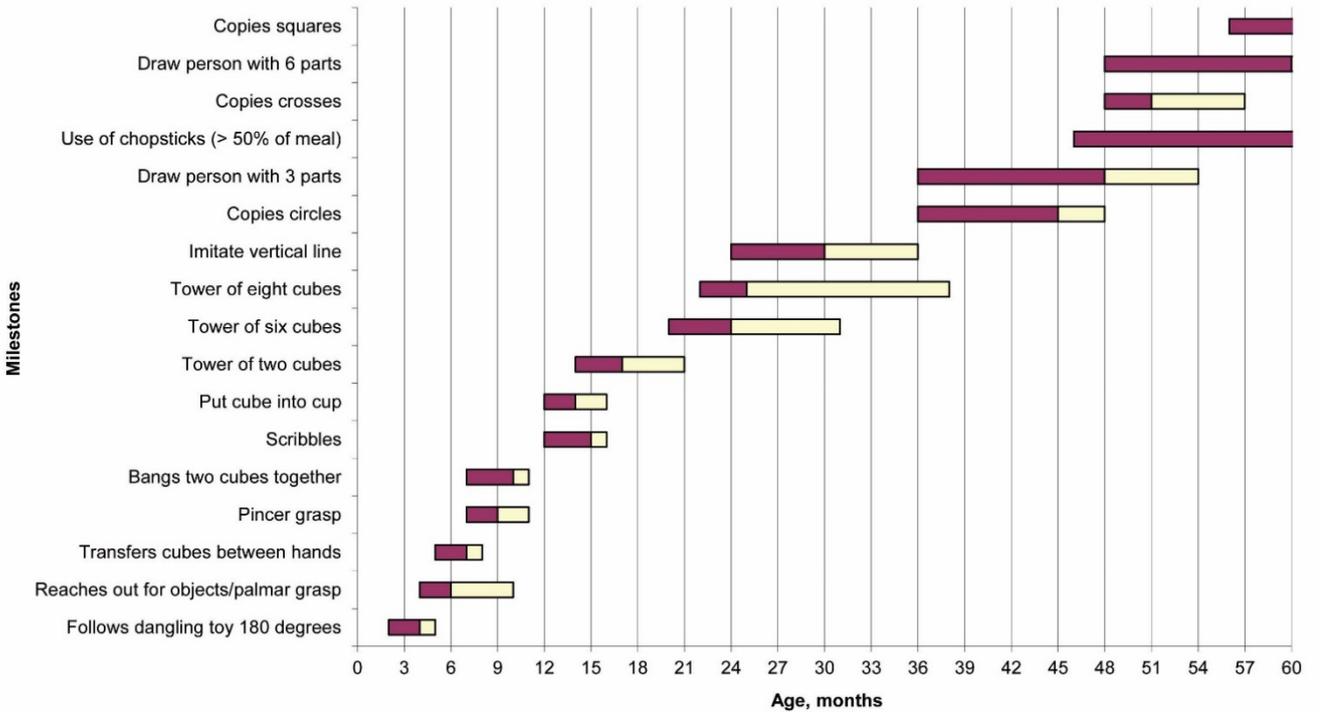
Cognitive and behaviour

4 to 7 months	Tries to repeat interesting events that are caused by their own actions
8 to 12 months	Intentional or goal directed behaviour Finds dropping objects Finds missing objects (object permanence)
12 to 18 months	Exploration of the properties of objects by acting on them in novel ways Imitation of novel behaviours Able to search hidden objects in several locations
18 to 24 months	Deferred imitation of daily activities Make believe play Problem solving
24 to 36 months	Matches real objects to pictures Identifies few different colours Start with concept of number or counting of 1-2 objects Able to complete 3-4 pieces of puzzle More complicated make believe play
36 to 48 months	Always ask period of “who: “why” “where” “how” Understands concept of “big and small”, “tall and short”, “long and short” Can name few colours Route count of 1 to 10 Counting 1 to 3 objects Simple concept of time
48 to 72 months	More attentive Simple within 10 calculations Names 10 colours Understands concept of AM, PM or today, tomorrow and holidays. Starts to consider more reasons for making decisions

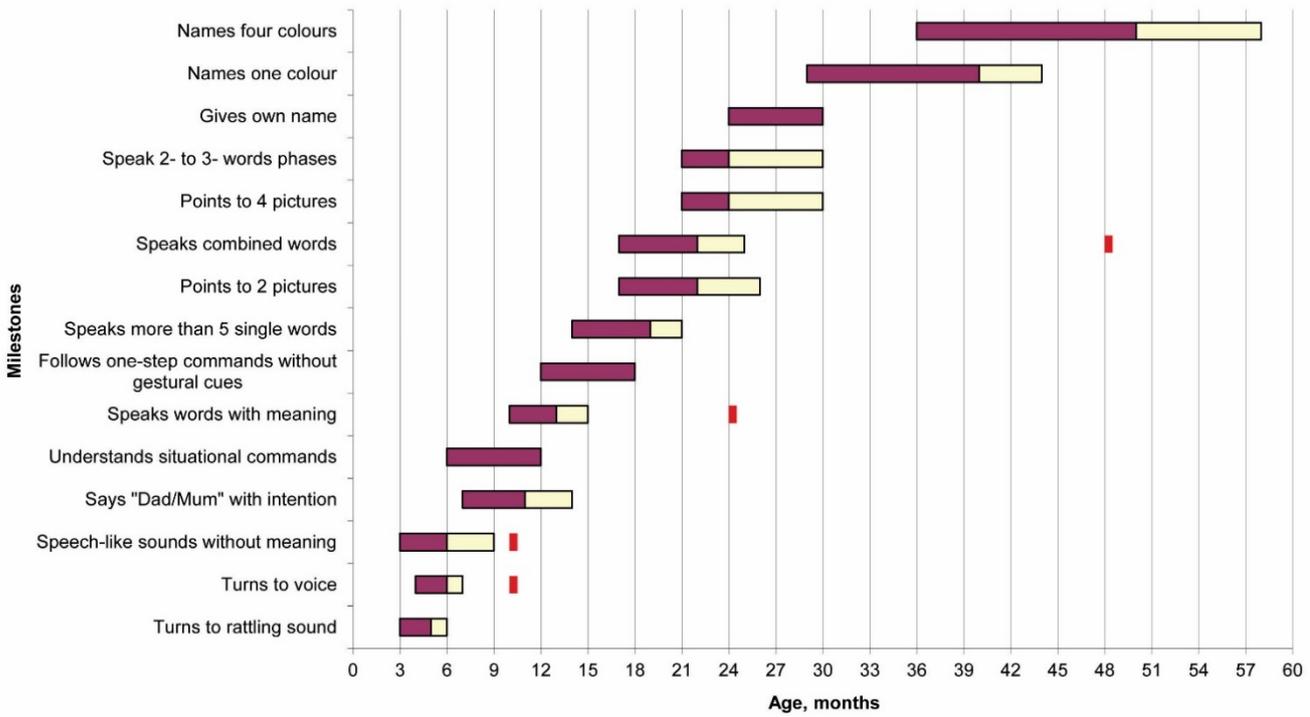
Gross motor



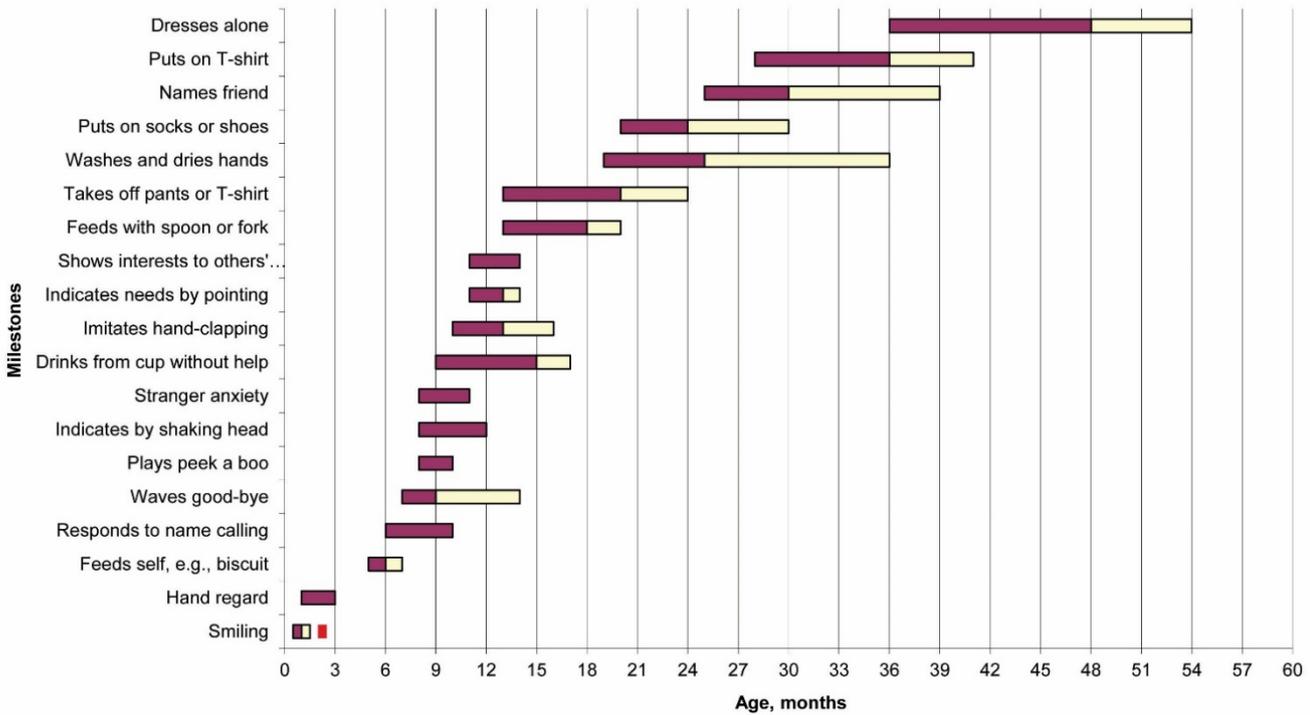
Fine motor and Vision



Speech and Hearing



Personal and Social



Attitudes and values to foster

- humility;
- willingness to always seek help and recognition of one's own limitations in knowledge and skills (i.e., knowledge is but a microcosm of ignorance);
- courtesy and compassion;
- willingness to always put the patients' needs first;
- understanding of parental feelings whenever their children are concerned, their defensiveness and sometimes even feeling of guilt;
- recognising that parents of sick children can never be considered "rational" people;
- recognising the importance of professional co-operation in many disciplines often working together for the benefit of the child;
- recognising that one's teachers are not only doctors but also nurses, physiotherapists, school teachers, other paramedical workers, parents;
- adopting a healthy questioning attitude to learning;
- laying a foundation of self education and a critical approach to learning;
- being sensitive to moral and ethical issues in patient care; and
- developing a conscience for an "intra-professional ethic" - the fair, honest and just dealings with professional colleagues.

Some DOs and DON'Ts

Students must learn the skills of communication with parents and dealing with the general public, viewing themselves as professional members of the medical team.

DO:

- BE PRESENTABLE – tidy dress, name badge;
- BE CONSIDERATE – check that with the parent/guardian that it is convenient to see the child. If necessary arrange an alternative time; and
- BE APPROACHABLE – make the child, the parents/guardian, and yourself comfortable.

DO NOT EXAMINE CHILD WITHOUT A CHAPERONE:

Ideally a child should be seen with the parents or guardian, but if this is not possible a colleague should accompany you when you see the child. If the child is a girl and you are a male, ask a female colleague to be your chaperone. When doing ward work it is good practice for students to work in pairs and take turns to take histories and do examinations and then present findings to each other.

SECTION 2

2 - PAEDIATRIC CURRICULUM

Introduction

The core curriculum of the paediatric clinical module provides students with a clear appreciation of how problems in children present (see **important presentations**), the important causes of these problems and the principles of how these problems may be managed. Students will gain experience both in hospital and primary care settings.

Details pertaining to common paediatric presentations and problems are listed below. A number of lectures covering core paediatric topics will provide students with an understanding of how to assess, interpret and manage common paediatric problems. The highlighted “to do” activities should be undertaken during the module.

Paediatrics carries a wide age range from newborn to adolescents, **same presentation at different age may indicate different differential diagnosis and management approach**. Students need to be aware of the disease spectrum that varies with the age of the patient. Moreover, details of the presentation such as the onset (acute vs chronic), and associated symptoms are important information to gather in history taking to guide examination, investigation, provisional diagnoses and formulation of management approach.

Important presentations

1. A neonate /infant /child /adolescent presents with fever
2. A neonate /infant / child presents with irritability
3. A neonate /infant /child /adolescent presents with rash / skin lesion
4. A neonate /infant /child /adolescent presents with cough
5. A neonate /infant /child /adolescent presents with shortness of breath / respiratory distress
6. A neonate /infant /child /adolescent presents with stridor
7. An infant /child /adolescent presents with wheeze
8. A child /adolescent presents with sore throat / coryza / nasal discharge / ear discharge / earache
9. An infant /child /adolescent presents with snoring
10. A neonate /infant /child /adolescent presents with heart murmur
11. A child /adolescent presents with chest pain
12. A child /adolescent presents with palpitations
13. A child /adolescent presents with hypertension
14. A neonate /infant /child presents with feeding problem
15. A neonate /infant /child /adolescent presents with diarrhoea
16. A neonate /infant /child /adolescent presents with vomiting
17. A neonate /infant /child /adolescent presents with constipation
18. A child /adolescent presents with soiling /encopresis
19. An infant /child /adolescent presents with colic /abdominal pain
20. A neonate /infant /child /adolescent presents with jaundice
21. A neonate /infant /child /adolescent presents with failure to thrive / growth delay / weight loss
22. A child / adolescent presents with obesity
23. A child /adolescent presents with short / tall stature
24. A neonate / infant / child presents with microcephaly / macrocephaly
25. A child /adolescent presents with precocious puberty
26. An adolescent presents with delayed puberty
27. A child /adolescent presents with goitre
28. An adolescent presents with anorexia / excessive weight loss / eating disorders
29. A neonate /infant /child /adolescent presents with bruising / bleeding / petechiae / purpura
30. A neonate /infant /child /adolescent presents with pallor
31. An infant /child /adolescent presents with joint swelling /joint pain / limping
32. A neonate /infant /child /adolescent presents with mass lesion(s)
33. A neonate /infant /child /adolescent presents with oedema

34. A neonate /infant /child /adolescent presents with haematuria (microscopic / macroscopic)
35. A neonate /infant /child presents with foul smelling urine
36. A child / adolescent presents with frothy urine / proteinuria
37. A child / adolescent presents with loin pain / dysuria
38. A child / adolescent presents with polydipsia and polyuria
39. A child / adolescent presents with bed wetting / nocturnal enuresis
40. A child / adolescent presents with headache
41. A neonate /infant /child /adolescent presents with convulsion (including status epilepticus)
42. An infant /child presents with funny turns
43. A neonate /infant /child /adolescent presents with loss of consciousness / depressed conscious state
44. A neonate /infant /child /adolescent presents with shock
45. A neonate /infant /child /adolescent presents with hypoglycaemia / hyperglycaemia
46. An infant /child /adolescent presents with allergic reaction / anaphylaxis
47. An infant /child /adolescent presents with weakness, impaired / abnormal movement
48. An infant /child presents with developmental delay
49. A child / adolescent presents with behavioural / mood problems
50. Childhood safety - paediatric accidents, poisonings and injuries
51. A neonate /infant /child presents with unexplained injury
52. A flaccid / blue baby at birth
53. A neonate with premature birth
54. A neonate being small / large for gestational age
55. A neonate /infant with abnormal newborn screening (hypothyroidism, G6PD deficiency)
56. A neonate /infant /child /adolescent presents with dysmorphism
57. Infant nutrition
58. Childhood immunisation

Respiratory and cardiovascular disorders

Possible presentations: cough; breathlessness; chronic breathing difficulty; stridor/upper airway obstruction; ear pain or discharge; wheeze; noisy breathing; choking; stridor; cyanosis or cyanotic episodes; palpitations, chest discomfort; chest pain; "murmur", "hypertension.

Important causes:

Respiratory: upper respiratory tract infection, tonsillitis, otitis media and externa, allergic rhinitis, asthma, bronchiolitis, pneumonia, croup (or laryngotracheobronchitis), acute epiglottitis, inhaled foreign body, tuberculosis, laryngomalacia, bronchiectasis/chronic suppurative lung disease, sleep disordered breathing

Cardiovascular: congenital heart disease, heart failure, Kawasaki disease, supraventricular tachycardia, myocarditis, hypertension

TO DO

- * Practise clinical skills to examine the respiratory system.
 - * Practise clinical skills in examining the cardiovascular system.
 - * Clerk a patient with an upper respiratory tract infection – determine how some of the more common viral infections or respiratory disorders in children present.
 - * Clerk a child with bronchiolitis or asthma – list how to differentiate these two conditions.
- Understand management of acute asthma exacerbation.
- * See a child with cough and/or breathlessness - consider likely causes and how to assess respiratory distress?
 - * See a patient with croup – list the differential diagnosis of stridor, acute vs. chronic.
 - * Assess a patient with pneumonia – suggest whether cause is more likely bacterial or viral.
 - * Clerk a patient with congenital heart disease – determine if the child has any evidence of cardiac failure.
 - * See a newborn baby with a murmur - revise circulatory changes occurring at birth.
 - * See a child or adolescent with hypertension – list the differentials and determine what investigations need to be done

Lectures

- Case-based teaching: common childhood respiratory disorders

- Case-based teaching: common childhood allergic/immunological conditions
- Primary care paediatrics: asthma inhaler techniques
- Primary care paediatrics: children with snoring
- Hospital paediatrics: paediatric cardiac disorders
- Primary care paediatrics: paediatric hypertension

Gastrointestinal and nutrition

Possible presentations: *feeding problem, diarrhoea, vomiting, dehydration, jaundice, abdominal pain, colic, obesity, failure to thrive*

Important causes: *Breastfeeding problems, feeding problem, infant colic, constipation, acute gastroenteritis, malnutrition / failure to thrive, obesity, gastroesophageal reflux disease, hepatitis, important causes of acute abdomen (intussusception, acute appendicitis, malrotation, volvulus), pyloric stenosis, inflammatory bowel disease, other causes of diarrhoea, other causes of vomiting, other causes of abdominal pain*

To do:

- * Practise clinical skills to examine the abdominal system and general examination.
- * Observe a baby breastfeeding.
- * Take a detailed formula feeding history – ask reasons for brand choice, any changes in brand, any problems, etc. and have any special formulas (e.g. Soy formula) been used and if so why.
- * For an infant aged 6-12 months, ask the mother details about introduction of complementary feeding – what feeds were given first and why.
- * Take a detailed dietary history from a child with overweight or obesity – discuss with patient what constitutes a balanced diet.
- * Examine the intravenous fluid chart of child who has been admitted to the ward with gastroenteritis – was the child dehydrated on admission? How do you assess dehydration?
- * Clerk a patient with acute diarrhoea (\pm vomiting) – what are the important features to look for on history and examination; what are the principles of management? Specify if you think the cause is more likely to be viral or bacterial?
- * Clerk a patient with vomiting only – consider possible causes.

Lectures

- Primary care paediatrics: infant nutrition
- Primary care paediatrics: childhood obesity
- Primary care paediatrics: neonatal conditions presenting in the community
- Primary care paediatrics: Student Health Service
- Case-based teaching: diarrhoea, vomiting & GI disorders/fluid therapy

Haematology, oncology, infection and immunity

Possible presentations: *unexplained fever, febrile neutropenia, rash with fever, rash with no fever, pallor, bruising and bleeding, petechiae and purpura, abdominal lumps, non-abdominal lumps, joint swelling or pain, bone pain, limping*

Important causes/areas:

Haematology and Oncology: *Childhood malignancy, leukaemia, lymphoma; haemophilia; approach to thrombocytopenia, idiopathic thrombocytopenia purpura; approach to anaemia, acute haemolytic anaemia, chronic haemolytic anaemia, neutropenia*

Infection, immunity and other important differentials: *Childhood allergic diseases (allergic rhinitis, eczema, asthma); food allergy; cow's milk protein allergy; anaphylaxis; childhood infectious diseases, Kawasaki disease; Henoch-Schönlein purpura; skin infections; impetigo; cellulitis; orbital cellulitis; periorbital cellulitis; urticaria; molluscum; childhood immunisation programme*

TO DO

- * See a patient with pallor or anaemia who is having a blood transfusion e.g. patient with thalassaemia – list other causes of anaemia and consider how you would investigate for these.
- * List some of the common local and general causes of clotting defects and thrombocytopenia.

- * Revise blood clotting mechanism.
- * See a child with a low white cell or platelet count e.g. in Hong Kong Children's Hospital – consider some of the other causes for blood cell abnormalities or coagulation disorders.
- * Clerk a patient with cancer – what are the more common causes of cancer in children in Hong Kong?
- * How might childhood cancer present? Consider long term complications.
- * Take a detailed vaccination history and compare with recommended Hong Kong schedule – ask family if they understand what diseases are being prevented by the vaccines. Is the Mainland China schedule different; what vaccines are available in the private sector in Hong Kong?
- * See a child with a rash or abnormal skin pigmentation – list the possible causes.
- * See a child with eczema – what are some of the general principles of treatment?
- * Ask the nurse whether any infants have a nappy rash – look at the rash and consider what are the possible causes.

Lectures

- Hospital paediatrics: childhood malignancy
- Hospital paediatrics: haematological disorders
- Primary care paediatrics: childhood vaccination
- Primary care paediatrics: rashes
- Primary care paediatrics: allergy and anaphylaxis
- Case-based teaching: approach to the febrile child
- Case-based teaching: common childhood allergic/immunological conditions

Rheumatology and Musculoskeletal

Possible presentations: *Painful joints and bones; hip pain; limp; swollen joint; rash; fever; joint/bone deformity; impaired movement or limb or joint; clicky hip in newborn/infant*

Important causes: *Juvenile idiopathic arthritis, systemic lupus erythematosus, enthesitis-related arthritis, osteomyelitis, septic arthritis, slipped upper femoral epiphysis, rickets, developmental dysplasia of hip, skeletal dysplasia*

(Childhood malignancy and haematological disorders may share similar presentations)

TO DO

- * Discuss assessment of child presenting with one or more swollen joints.
- * See a patient with Systemic Lupus Erythematosus or Juvenile Idiopathic Arthritis – how might these conditions present; what are some of the problems with management?

Lectures

- Hospital paediatrics: rheumatological disorders

Health and society

Possible presentations: *disabled child, chronically ill child, terminally ill child, abnormal behaviour, constipation & soiling; bed wetting; sleep problems; temper tantrums, hyperactivity; unexplained injury or suspected child abuse; head injury; drowning; & near drowning; lower abdominal pain in adolescent, menorrhagia in adolescent; anorexia nervosa; eating disorders*

Important causes: *cerebral palsy; behavioural problems; attention deficit and hyperactivity disorder; autism; non-accidental injury (NAI); accidents and poisonings; primary nocturnal enuresis; constipation and soiling; eating disorders; adolescent problems*

TO DO

- * Observe nursing care of a disabled child.
- * Discuss principles of multidisciplinary approach with tutor.
- * Observe child in special school (Pinehill).
- * Discuss merits of developmental surveillance during MCH visit.

* Clerk a patient who has been admitted with NAI, an accidental injury or accidental poisoning – how would you suspect NAI and what steps should you take?

* Look for any children with behaviour problems, e.g., hyperactivity, temper tantrum, soiling, sleep disturbance.

* Clerk an adolescent who has been admitted with social or emotional problems.

Lectures

- Primary care paediatrics: Child Assessment Service
- Primary care paediatrics: Student Health Service
- Primary care paediatrics: Adolescent health challenges
- Primary care paediatrics: Childhood safety - paediatric accidents, poisonings and injuries

Renal and urogenital, endocrine and metabolism

Possible presentations: *Oedema; swelling; haematuria; dysuria; foul smelling urine; oliguria; polyuria; polydipsia; hyperglycaemia, hypoglycaemia; tall stature; short stature; abnormal sexual differentiation; vaginal bleeding; vaginal discharge*

Important causes/areas:

Renal and urogenital: *Urinary tract infection; pyelonephritis; enuresis; nephrotic syndrome; post-streptococcal glomerulonephritis; renal failure; management of common electrolyte imbalance*

Endocrine and metabolism: *Approach to short stature/tall stature; approach to precocious/delayed puberty; diabetes mellitus and diabetic ketoacidosis; hypothyroidism, hyperthyroidism; congenital adrenal hyperplasia; adrenocortical insufficiency; basic management of hypoglycaemia; Cushing syndrome; growth hormone deficiency; diabetes insipidus; hypopituitarism; disorder of sex development*

TO DO

* See a patient with oedema – what are the possible causes? Compare how a child with nephrotic syndrome and glomerulonephritis could present.

* See a child being treated for urinary tract infection – what investigations have been ordered?

* See a patient in outpatient clinic with enuresis.

* Clerk a patient with diabetes mellitus – how does diabetic ketoacidosis present?

* Review the likely presentations of conditions such as hypothyroidism, hyperthyroidism, adrenocortical insufficiency, Cushing syndrome, Inborn Errors of Metabolism.

* See a child being assessed for short or tall stature.

* See a child being assessed precocious or delayed puberty.

Lectures

- Case-based teaching: assessment of growth and puberty
- Case-based teaching: diabetes, precocious puberty, CAH and thyroid disorder
- Hospital paediatrics: hypoglycaemia and hyperglycaemia
- Hospital paediatrics: nephrotic, nephritic & renal failure
- Case-based teaching: urinary tract infection & enuresis

Neonatology and Human Development

Possible presentations: *Respiratory distress in newborn; cyanosis; birth asphyxia; blue baby at birth; premature birth; small/large for gestational age; dysmorphism; ambiguous genitalia; hypoglycaemia; birth injury; intrauterine and perinatal infections*

Important causes / areas: *Prematurity and related complications; intrauterine growth retardation; respiratory distress syndrome; transient tachypnoea of newborn; neonatal sepsis and pneumonia; congenital heart disease; neonatal jaundice; birth asphyxia / hypoxic ischaemic encephalopathy; hypoglycaemia; common neonatal problems in hospital and community; common genetic and syndromal diseases; abnormal newborn screening (hypothyroidism, G6PD deficiency)*

TO DO

- * Perform a newborn examination on a healthy newborn – what routine neonatal care has the baby had?
- * Clerk a patient with history of prematurity / birth asphyxia – understand the acute and long-term complications from the conditions
- * Clerk a neonate with neonatal jaundice – understand the common causes and approach of neonatal jaundice
- * Clerk a patient with prolonged jaundice – understand the common causes and approach of prolonged jaundice
- * Understand the common causes of neonatal distress
- * See a patient with a chromosomal abnormality e.g. Downs syndrome – how would you reach a diagnosis in a child with unusual facial features and suspected genetic syndrome?
- * See a newborn infant with hypoglycaemia – what are the causes at this age and what are the possible causes in older children?

Lectures

- Hospital paediatrics: Neonatal conditions presenting in the hospital
- Primary care paediatrics: Neonatal conditions presenting in the community
- Hospital paediatrics: Neonatal resuscitation
- Hospital paediatrics: Common paediatric genetic disorders
- Neonatal practical skills
- Clinical basis and significance of newborn metabolic screening

Paediatric Emergency and Intensive Care

Possible presentations: *Loss of consciousness / depressed conscious state; convulsion, critically ill child; child and neonatal resuscitation; birth asphyxia; blue baby at birth; Fever (presenting in infants and older children); analysis, accidents and poisoning*

Important causes /areas: *Child and neonatal resuscitation, approach to unconscious child, approach to septic or critically ill child, basic management of a child in shock, approach to a convulsing child, anaphylaxis, septic shock, adrenal crisis, accidents and poisoning*

TO DO

- * Observe with tutor a critically ill child, e.g., with shock, septicaemia or disseminated intravascular coagulation (PICU).
- * Understand how to approach a child with loss of consciousness or depressed conscious state.
- * Understand how to resuscitate a newborn who does not breathe or cry after birth.
- * Clerk a child with convulsion – what are the approaches to manage a convulsing child?
- * Clerk a child with severe allergic reaction / anaphylaxis – what are the approaches to manage a child with anaphylaxis?
- * What life threatening conditions can present with rashes or skin lesions?
- * Observe hospital admission process.

Lectures

- The “Paediatric Clinical Method”
- Case-based teaching: Approach to the febrile child
- Hospital paediatrics: Neonatal resuscitation
- Hospital paediatrics: Paediatric basic and advanced life support
- Primary care paediatrics: Childhood safety - paediatric accidents, poisonings and injuries

Neuroscience

Possible presentations: *“slow” child with developmental delay; squint or vision problem; hearing problem; learning difficulties; coma; loss of consciousness; depressed conscious state; syncope; convulsions; fits and funny turns (with and without fever); status epilepticus; headache; weakness and impaired movement*

Important causes: *Convulsion and epilepsy; febrile convulsions; meningitis; encephalitis; cerebral palsy; headache; acute and chronic weakness; Duchenne muscular dystrophy; spinal muscular atrophy; developmental delay and disorders of known and unknown causes; autistic spectrum disorder; neurocutaneous syndromes; migraine, tension headache; intracranial lesions*

TO DO

- * Practise clinical skills to examine the neurological system.
- * Perform a developmental assessment.
- * List key developmental milestones.
- * Clerk a patient with cerebral palsy, hemiplegia or paraplegia – ask how did the child originally present e.g., floppy child or developmental delay; list some causes for delay in talking and walking?
- * Test a child for squint.
- * Clerk a child with convulsions - consider common causes and management.
- * Clerk a patient with epilepsy – take a detailed drug history (past and present) and determine the possible side effects of these drugs.
- * See a patient who has had a lumbar puncture done – how would a child with meningitis or encephalitis present and how would you investigate and manage?
- * Clerk a patient with headache - list your diagnostic approach.

Lectures

- Primary care paediatrics: normal childhood development
- Primary care paediatrics: developmental disorders
- Hospital paediatrics: neurological problems in the hospital
- Case-based teaching: neurological problems in the community

SECTION 3

3 - PAEDIATRIC TEACHING PROGRAMMES

The 9-Week Paediatric Module

- Paediatric clinical instruction takes place during Medical Year 5 and rotates with the 3 other disciplines; Obstetrics and Gynaecology, Psychiatry and School of Public Health & Primary Care. Each module lasts for 9 weeks.
- During the 9-week clinical module in paediatrics students participate in a range of activities in Hospital Settings (ward work and outpatient clinics at the Prince of Wales Hospital, Hong Kong Children's Hospital and regional hospitals) and Primary care settings (private paediatrician clinics, Maternal and Child Health Centres, Child Assessment Centres and Hong Chi Pinehill School).
- Topics from lectures complement bedside, tutorial teaching and primary care visits.
- Students are responsible for clerking children admitted to hospital, with the objective that students will exhibit a responsible attitude towards clinical care is created from the outset and experience gained in the evaluation of clinical problems.

On the first day of the module students are given an introduction to the Paediatric Clinical Method (*see Recommended Reading*) to emphasize differences in approach that might exist between adults and children and between older children and younger children.

At the beginning of the first week, students are allocated to one of eight groups that rotates through the Prince of Wales Hospital and two outside hospitals (Alice Ho Miu Ling Nethersole Hospital + United Christian Hospital OR Kwong Wah Hospital + Tseung Kwan O Hospital).

Lectures will be given on Mondays. Outpatient clinics, tutorials and bedside teaching will be in groups of ~ 8 students. Details of the timetable are shown on the following pages.

Prince of Wales Hospital

There are eight main paediatric wards in the Department of Paediatrics at the Prince of Wales Hospital. Three wards (11K, 11M, 11L) are allocated for general paediatrics; one ward for day patients (11 H); three wards (6L, 6H, 6K) for newborn infants (inborn and outborn); one ward for paediatric intensive care unit and a High Dependency Unit (6M). Children with haematology and oncology disorders will be seen in Hong Kong Children's Hospital.

There are a total of 171 paediatric inpatient beds and cots and approximately 14000 children are currently admitted to these wards annually. There are approximately 45 doctors and 220 nurses. The neonatal unit admits infants up to 28 days of age. The other wards and Paediatric Intensive Care unit take in children below 18 years of age.

Subspecialty paediatric interests represented in the Department include Cardiology; Clinical Genetics; Dermatology; Endocrinology; Gastroenterology & Hepatology; General Paediatrics including Community & Adolescent Medicine; Haematology & Oncology; Immunology & Allergy; Infectious Disease; Metabolism; Neonatology; Nephrology; Neurology, Developmental Paediatrics & Rehabilitation; Paediatric Intensive Care; Respiratory Medicine and Rheumatology.

Ambulatory paediatric activities take place in the Li Ka Shing Specialist Clinic and the day ward. These outpatient clinics, general and speciality, are held on weekdays. Approximately 23,000 outpatients are seen annually.

Most of the undergraduate teaching takes place within the in-patient wards and out-patient clinics in the Prince of Wales Hospital, and the outside attachments to the Alice Ho Miu Ling Nethersole Hospital /United Christian Hospital or Kwong Wah Hospital /Tseung Kwan O Hospital. Students also visit a number of other hospitals and facilities during their paediatric teaching including the Hong Kong Children's Hospital.

Weekly Timetable Overview: Weeks 1-9

	a	b	c	d	e	f	g	h
W1	PWH1	PWH2	UCH1	TKOH1	AHNNH1	KWH1	PWH3	PWH4
W2	PWH2	PWH1	UCH2	TKOH2	AHNNH2	KWH2	PWH4	PWH3
W3	PWH3	PWH4	PWH1	PWH2	UCH1	TKOH1	AHNNH1	KWH1
W4	PWH4	PWH3	PWH2	PWH1	UCH2	TKOH2	AHNNH2	KWH2
W5	AHNNH1	KWH1	PWH3	PWH4	PWH1	PWH2	UCH1	TKOH1
W6	AHNNH2	KWH2	PWH4	PWH3	PWH2	PWH1	UCH2	TKOH2
W7	UCH1	TKOH1	AHNNH1	KWH1	PWH3	PWH4	PWH1	PWH2
W8	UCH2	TKOH2	AHNNH2	KWH2	PWH4	PWH3	PWH2	PWH1
W9	EXAMS							

PAEDIATRIC ROTATIONS (groups a - h)**MONDAY Lectures at PWH**

Chairman's tutorial (To all students - by mutual arrangement)

>* TUESDAY VISITS

NOTE: Visits & clinics falling on public holidays, will be cancelled if rescheduling not possible

PWH1

>* Private Paediatrician attachment

Dermatology clinic (Wed PM)

Neonatal Clinic (Thu PM)

Prof TF Leung tutorial (Thu/Fri AM once every two weeks during PWH1, PWH2, PWH3, PWH4)

Bedside NNU1 (Mutual arrangement)

Bedside GEN2 (Mutual arrangement)

PWH2

>* PMH visit

Team A General OPD (Wed AM)

Neurology Clinic (Thu AM)

Prof TF Leung tutorial (Thu/Fri AM once every two weeks during PWH1, PWH2, PWH3, PWH4)

Bedside Development (Mutual arrangement)

Bedside GEN3 (Mutual arrangement)

Evening presentation (All students have to do presentation in one of the two sessions)

PWH3

>* Hong Kong Children’s Hospital visit
 Cardiology Clinic (Wed AM)
 Team C General OPD (Thu AM)
 Chest Clinic (Fri AM)
 Prof TF Leung tutorial (Thu/Fri AM once every two weeks during PWH1, PWH2, PWH3, PWH4)
 Bedside GEN1 (Mutual arrangement)

PWH4

>* MCH clinic (PM) visit
 Growth Clinic (Wed PM)
 Haematology Clinic (Thu PM)
 Prof TF Leung tutorial (Thu/Fri AM once every two weeks during PWH1, PWH2, PWH3, PWH4)
 Bedside GEN4 (Mutual arrangement)
Evening presentation (All students have to do presentation in one of the two sessions)

OUTSIDE HOSPITAL ROTATIONS: The schedules at each hospital are determined by the individual hospital and consist of a combination of ward work, clinic attachments and bedside teaching

AHNH1 - groups a,c,e,g	KWH1 groups b,d,f,h (weeks 1,3,5,7)
>* Hong Chi Pinehill (pm)	>* Tuen Mun Hospital visit (pm)
AHNH2 - groups a,c,e,g (weeks 2,4,6,8)	KWH2 - groups b,d,f,h
>* Hong Kong Children’s Hospital visit	>* Hong Chi Pinehill (pm)
UCH1 - groups a,c,e,g	TKOH1 - groups b,d,f,h
>* Queen Elizabeth Hospital visit (am)	>* Caritas Medical Centre visit
UCH2 - groups a,c,e,g	TKOH2 - groups b,d,f,h
>* Caritas Medical Centre visit	>* Queen Elizabeth Hospital visit (am)

Contact Details for Outside Hospital Attachments

ALICE HO MIU LING NETHERSOLE HOSPITAL <i>Meet at 10:45h on WEDNESDAY or THURSDAY Morning; meet at 9:00h on FRIDAY Morning</i> <i>Venue: J7-54 Department of Paediatrics & Adolescence Medicine, 11 Chuen On Road, Tai Po, New Territories</i> <u>Contact:</u> Ivy Chiu at 2689 3627	KWONG WAH HOSPITAL <i>Meet at 9:30h on WEDNESDAY Morning</i> <i>Venue: PS Office, Room CS802B, 8/F, Main Building</i> <i>25 Waterloo Road, Kowloon</i> <u>Contact:</u> Ms Annie Young 3517 5055 or Dr Kwok Ka Li 3517 5930
UNITED CHRISTIAN HOSPITAL <i>Meet at 9:00h on WEDNESDAY Morning</i> <i>Venue: Block P, Ward 4C</i> <i>130 Hip Wo Street, Kwun Tong</i> <u>Contact:</u> Dr David Luk (Consultant) 3949 6135	TSEUNG KWAN O HOSPITAL <i>Meet at 9:30h on WEDNESDAY Morning</i> <i>Venue: Conference Room, Paediatric Office, 4/F</i> <i>2 Po Ning Lane, Hang Hau, Tseung Kwan O</i> <u>Contact:</u> Ms Cherry Au at 2208 1057

Contact Details for Primary Care Visits

CARITAS MEDICAL CENTRE

111 Wing Hong Street, Shamshuipo
Meet at 10:30h TUESDAY, 9A Wai Shun Block
Contact: Dr Ko Po Wan, 3408 7452

CHILD ASSESSMENT CENTRE

Pamela Youde Child Assessment Centre (Shatin)
2/F, 31-33 Chap Wai Kon Street, Shatin, N.T.
Contact: Ms YH Lau, nursing officer in-charge, 2210 1600

HONG CHI ASSOCIATION

Pinehill Village, Chung Nga Road, Nam Hang, Tai Po, N.T.
Please gather outside the guardhouse of the Village at 14:00h TUESDAY
Contact: Mr. Roy Chan 2689 1119

MATERNAL & CHILD HEALTH CENTRE

Meet at 2:00 TUESDAY

2/F Lek Yuen Health Centre, 9 Lek Yuen Street, Shatin weeks 1,2,5,6)

Contact: nursing officer in-charge, 2692 8745
Contact: SMO, Dr Fherina Lam, Tel: 2692 8106

3/F Fanling Health Centre, 2 Pik Fung Road, Fanling (weeks 3,4,7,8)

Contact: nursing officer in-charge, 2639 4690
Contact: SMO, Carline Koh, 2639 4686

Contact Details for Other Hospital Visits

PRINCESS MARGARET HOSPITAL

2-10 Princess Margaret Road, Lai Chi Kok
Meet at 11:00h TUESDAY on Ward B1
Contact: Ms Seneta Chan, 2990 3757

HONG KONG CHILDREN HOSPITAL

1 Shing Cheong Road, Kowloon Bay, Kowloon
Meet at 9:20h TUESDAY outside 9/F Doctor's Office, Tower B
Contact: Miki Woo, 5741 3061

QUEEN ELIZABETH HOSPITAL

30 Gascoigne Road, Kowloon
Meet at 9:00h TUESDAY on H9 Child and Adolescent Ward
Contact: Dr Betty But, 3506 6741

TUEN MUN HOSPITAL

Room AB1064 or AB1075, 1/F, Main Block (opposite D1 ward), 23 Tsing Chung Koon Road,
Tuen Mun
Contact: Ms. Bonnie Chan / Ms. Winsome Cheng, 2468 5392 / 2468 6440

Lectures

To encourage student participation in the online teaching, 1-2 groups of students will be assigned to interact with the teachers (especially in case-based teaching) on each Monday/Saturday. The students will need to switch on the camera in the online platform and respond to teachers' questions during the teaching activities. Students are expected to prepare before attending the case-based teaching.

List of Monday/Saturday Lectures and Case-based Teaching (Schedule please refer to MCU or Blackboard)

- Introduction to Paediatric Module
- Infection control measures in paediatric wards
- The "Paediatric Clinical Method"
- Hospital paediatrics: paediatric cardiac disorders
- Hospital paediatrics: neurological problems in the hospital
- Hospital paediatrics: rheumatological disorders
- Hospital paediatrics: nephrotic, nephritic & renal failure
- Primary care paediatrics: normal childhood development
- Primary care paediatrics: rashes
- Primary care paediatrics: Child Assessment Service
- Primary care paediatrics: developmental disorders
- Case-based teaching: childhood malignancy
- Case-based teaching: common childhood respiratory disorders
- Case-based teaching: haematological disorders
- Case-based teaching: approach to the febrile child
- Case-based teaching: neurological problems in the community
- Case-based teaching: neonatal resuscitation
- Case-based teaching: assessment of growth and puberty
- Case-based teaching: precocious puberty, CAH and thyroid disorders
- Case-based teaching: common childhood allergic/immunological conditions
- Case-based teaching: diarrhoea, vomiting & GI disorders/fluid therapy
- Case-based teaching: urinary tract infection & enuresis
- Case-based teaching: paediatric resuscitation and emergency
- Case-based teaching: general paediatrics
- Case-based teaching: end-of-life care
- OSCE briefing
- Paediatric module review
- OSCE debriefing/Module examination feedback

List of Pre-recorded Lectures (Available in Blackboard/Panopto)

- Introduction to Ward
- Neonatal Practical Skills
- Clinical Basis and Significance of Newborn Metabolic Screening
- Food allergy / anaphylaxis and Approach to a child with recurrent infections
- Hypoglycaemia and Hyperglycaemia
- Hospital paediatrics: common paediatric genetic disorders
- Hospital paediatrics: childhood malignancy
- Hospital paediatrics: haematological disorders
- Hospital paediatrics: neonatal conditions presenting in the hospital
- Hospital paediatrics: neonatal resuscitation
- Hospital paediatrics: paediatric basic and advanced life support

- Primary care paediatrics: neonatal conditions presenting in the community
- Primary care paediatrics: snoring and OSA in children
- Primary care paediatrics: asthma inhaler techniques
- Primary care paediatrics: paediatric hypertension
- Primary care paediatrics: paediatric accidents and poisonings
- Primary care paediatrics: adolescent health challenges
- Primary care paediatrics: childhood obesity
- Primary care paediatrics: infant nutrition
- Primary care paediatrics: childhood vaccination
- Primary care paediatrics: Student Health Service

Hospital Paediatrics

1. Personal Ward Work & Ward Duties

One of the most important parts of the Paediatric attachment is the time students spend actually seeing children. This is when the skills of the clinical method are learned. Children stay in hospital for a very short period of time, and their physical signs change rapidly. Wherever possible therefore students must see them on arrival and daily whilst in the ward. Students must take the opportunity to clerk as many children as possible who are admitted. Exceptions to this ruling include children who are severely ill or are designated as not to be examined by medical students for other specific reasons. Students should not feel inhibited about seeing children on the ward. Most parents and caretakers like nothing better than talking about their children and will often relax with medical students and tell them vital but hitherto unmentioned factual information! However, during Emergency Response Level, ward access is limited and efforts will be made to give students opportunities to clerk specific patients under supervision.

Note

- Seeing patients provides students with their major clinical experiences.
- When students go on to a ward for the first time, they must introduce themselves to the nursing staff. It is important to discuss the children with the nurses. Students (and doctors) learn a great deal from nursing colleagues. During the current Emergency Response Level for COVID-19 specific requirements will be in place for all clinical learning activities and shared with students.
- It is also important for students to share their ward experiences with their colleagues. Simply because a patient has been clerked by one student is no reason why other students should not also talk to and examine the patient *providing it is not to the child's discomfort*. Unfortunately, this will not be possible to the same extent under restrictions imposed during the Emergency Response Level, but students are still encouraged to share their clinical experiences.
- In normal circumstances students must try to see patients whom they have clerked every day. They should write their own follow-up notes. Students need to understand *in principle* only about problem management and *not become lost in details*. However, it is important to have some insight into how patient problems are dealt with. Students are not expected to take blood from the children.

Section 6 provides guidelines for history taking, examination & case presentation

2. Evening Presentation Rounds

During the Prince of Wales Hospital attachments students are assigned to present ONE case during evening presentation rounds. These presentations are held mainly on Wednesdays, Thursdays and Fridays. In normal circumstances, **students should clerk NEW admissions that day**. During Emergency Response Level, students may present a patient that they have recently clerked under supervision. These presentations may be conducted by teleconference. The presentation should demonstrate to the tutor the students' skills in applying the Clinical Method, i.e., appropriate history taking, examination, assessment of the problem and formulating a management plan. Students should arrange a mutually suitable time for the presentations with the tutor. In normal circumstances, the presentation can take place either on the Wards or in the Seminar Room. During Emergency Response Level, the presentation can take place either in the Seminar Room or virtually. Students who are NOT assigned to present are also expected to clerk

new/recent admissions and they may be asked about which cases they have seen during the evening presentation round.

Tutor evaluation of evening presentations contribute to in-course assessment

3. Neonatal Unit

During the Paediatric module, medical students will have the opportunity to visit the NNU for bedside teaching. The following guidelines must be observed when entering the NNU (6HK and 6L):

1. Medical students must remove their white coats and wear a gown before entering the NNU.
2. Students must be accompanied by a tutor.
3. All hand jewellery (including rings, watches, etc.) must be removed and hands thoroughly cleaned with disinfectant. Gloves should then be worn and alcoholic hand rubs applied over the gloves to disinfect the gloves before handling the baby. **Hands must be washed or rubbed with alcohol-based disinfectant every time before and after handling a new baby.**
4. After the examination, ensure that the baby is left in a decent state and properly clothed.

Student must **not** go to the neonatal unit or intensive care area **without supervision** by medical staff as most babies are vulnerable or critically ill

Neonatal follow-up Clinic

The importance of long term follow-up is highlighted with regards to preterm birth, growth retardation and the effects of the birth process on the newborn. **Discussion of any neonatal problem is incomplete without addressing the question – “What about the future?”** Clinical demonstration of developmental milestones and chronic neonatal problems is given at these sessions.

Students should understand the principles of examining the normal newborn. There are designated neonatal bedside tutorials to introduce students to the concepts of newborn examination.

4. General Outpatient Clinics

In these clinics students see “general paediatric” problems. They especially learn about the continuing care of problems whose treatment was commenced on the wards. Many children seen in out-patient clinics, new and old, help students understand the perspectives of paediatric problems.

5. Subspecialty Clinics

These clinics are concerned with a paediatric subspecialty. The clinics provide an opportunity to gain further insight into problems of children. If students wish to attend these clinics at times when there are no official student allocations they may do so with the agreement of the doctor in charge of the clinic.

6. Bedside and Tutorial Teaching

Students have one to two bedside teaching session each week while at the Prince of Wales Hospital. During Emergency Response Level, specific times will be allocated for these sessions. Otherwise tutors should be contacted **at least one week before** to arrange a mutually suitable time for the teaching. Prof Ting Fan Leung provides an online tutorial on Thursday/Friday mornings and Prof Albert Martin Li provides tutorials with time upon mutual arrangement with the students.

7. Attachments to other Hospitals

There are TWO 2-week attachments to either the Alice Ho Miu Ling Nethersole Hospital + United Christian Hospital **OR** the Kwong Wah Hospital + Tseung Kwan O Hospital.

8. Tuesday visits to Regional Hospitals

Students visit the Hong Kong Children’s Hospital, Caritas Medical Centre, Princess Margaret Hospital, Queen Elizabeth Hospital, Tuen Mun Hospitals on Tuesdays. Students join ward rounds and see interesting patients on the wards and in outpatient clinics. Schedules vary from hospital to hospital.

Primary Care Paediatrics

The Medical Council of Hong Kong has noted that primary care is an important part of medicine in terms of health promotion, disease prevention and more equitable distribution of healthcare resources. A large and important part of paediatric practice takes place in the community. In Hong Kong, well-established networks of dedicated paediatric specialists provide community-based primary care services. Paediatricians working in the community may see a wide spectrum of patients with some clinics providing services to adults. Other primary care paediatricians may offer ambulatory, developmental or health promotion services. Students are attached to experienced paediatric specialists to experience paediatrics in the community. This provides students with a better understanding of the variety of services and patients that present to primary care paediatricians in the community.

1. Primary care paediatricians clinic programme

Students are assigned to paediatricians in singles or pairs and attend one half-day session once within the paediatric module. Students are introduced to patients as CUHK medical students. If parents or patients do not allow students to be present during the consultation, students may be asked to leave the room temporarily. Students must confirm the session in advance with the paediatrician. If a Tuesday session is not possible, then, with mutual agreement, an alternative session that does not conflict with other scheduled teaching activities may be arranged. Students are required to submit a log-sheet signed by the paediatrician for documentation.

2. Maternal and Child Health (MCH) Centres

The principal purpose of visiting the MCH centre is to introduce students to the principles underlying ways in which health is promoted in infancy and early childhood:

- implementing antenatal care as a means to maintain low perinatal and neonatal morbidity rates and later neuro-developmental and physical handicap,
- encouraging immunisation against communicable diseases,
- offering advice on how babies should be fed correctly,
- diagnosing, by regular weighing and examination, early failure to thrive and excessive weight gain,
- “screening” for anomalies of development – motor disturbances (cerebral palsy), hearing and visual problems; health education, self-limiting illness, etc.
- seeing how MCH centre is also used as primary care referral service for mothers whose babies have jaundice, feeding problems, etc.

The importance of preventive paediatrics cannot be over-emphasised. Through its appropriate application it has made an enormous contribution to lowering mortality from communicable disease and to improving the general nutritional well-being in all countries of the world. The contribution made by developmental screening in diagnosing anomalous development in apparently normal children is still being evaluated, but the general consensus is that provided such screening is followed by comprehensive assessment and appropriate management this is also a valuable measure to lessen the severity of later neuro-developmental disability. At the other end of the scale it is important to reassure mothers of **NORMAL** findings of any screening examination whether physical or developmental. ***Normality should not be taken for granted. It should always be tackled positively.*** The underlying reason for these visits is that the experience provides students the opportunities to see how services for the infant and young child are organised and also reinforce the importance of prevention and pre-emption of illness.

Groups of students will attend the MCH centre on a Tuesday. Students should report to the nurse in-charge. Activities will alternate between the routine of the clinic, such as counselling parents on feeding, growth and immunisation by the nurse and the assessment of common problems (jaundice; feeding difficulties; growth problems; developmental problems, etc.) by the medical staff.

3. Hong Chi Pinehill School

- Intellectual disability is one of the commonest single causes of chronic disability. With increasing survival of children especially out of a neonatal period complicated by premature birth or intrapartum asphyxia, the contribution to paediatric problems is becoming relatively greater. More and more resources have to be deployed into later special education and rehabilitation. Many of these children are rarely admitted to hospital. These visits help students become more aware of these children and

their social, educational and medical needs and to appreciate the nature of some conditions responsible for intellectual disability in childhood.

- Children with intellectual disability may have many associated medical problems. The most severe and demanding medical problems are convulsive states and behavioural disturbances. As many of these children spend much of their time in residential schools there will also be problems or communicable diseases such as diarrhoea, skin infestations, respiratory infections, etc. The children will fulfil their mental and social potential only if their general health is optimum. Thus, this is a major responsibility of doctors who care for the mentally handicapped.
- Students in groups will spend one session in Hong Chi Pinehill School in Tai Po, one of several residential schools in Hong Kong for mild, moderate or severely intellectually disabled children. Students are encouraged to mix with the children, play with them, “sit in” during their classes and meal times.
- These visits are NOT designed for students to learn all the physical signs and symptoms of intellectual disability, together with various rare syndromes. Instead the goal is to provide students an overall experience with the problems of neuro-developmental disability, and the immense human demands made on the children, their families and on those who have to care for them in special schools. The experience of spending time with these children and obtaining some insight into their problems should help students appreciate the importance, wherever possible, to PREVENT the occurrence of disability.

Communication with the intellectually disabled

Children with intellectual disability, as with children of normal intelligence, have the usual ailments of childhood. They also have to communicate their symptoms to and be examined by doctors. Parents and nurses need to communicate the symptoms of those children with severe grade intellectual disability, whereas mild grade children will often be able to communicate with doctors, albeit in a rudimentary fashion. However, they become anxious, flustered when seeing a doctor and are usually overwhelmed. On the whole doctors exhibit poor communication skills when speaking to intellectually disabled persons, often displaying awkward and/or embarrassment, i.e., indicating an attitude that parents can interpret as indifference.

4. Child Assessment Centre (CAC)

Developmental assessment and training can take place in an ambulatory setting. The CACs provide multidisciplinary services to the community. Each centre consists of several health care professionals including developmental and behavioural paediatricians, social workers, nurses, occupational therapists, speech therapists and physiotherapists. Students are given the opportunity to learn from these paediatricians and gain experience in settings from which the team delivers its multidisciplinary care.

5. Student Health Service

The student health service screens well children in the community for potential health problems and serves as an important health promotion and disease prevention platform for school aged children. Students are given the opportunity to learn from student health doctors thereby strengthening their appreciation of how to improve child health in the community.

Primary Care Grand Rounds

	Date and Time	Venue	Topic	Teaching depts.
MOD I	20 August 2021 (Fri) 9am – 11am	PEC Shaw Auditorium	Primary Care Grand Round	FM + OG
MOD II	22 October 2021 (Fri) 9am – 11am	PEC Shaw Auditorium	Primary Care Grand Round	FM +PSY
MOD III	17 December 2021 (Fri) 9am – 11am	PEC Shaw Auditorium	Primary Care Grand Round	FM + PAED
MOD IV	25 February 2022 (Fri) 2:30pm – 6pm	PEC Shaw Auditorium	Interdepartmental Seminar of the Family Follow Up Project (FFU's presentation)	FM, OG, PAED, PSY

Paediatric mentorship programme, communication skills, bioethics

Students in their allocated 8 groups (a-g) will be randomly assigned to a mentor. In addition to providing continuity in learning support to a small group of students, the mentorship programme focuses on teaching bioethics, communication skills, and medical record taking. The bioethics is component of this teaching is a General Education requirement of the Faculty with 3 hours contact time per Year 5 module.

Paediatric mentors will meet their students 4-5 times during paediatric module providing approximately 6 hours of contact time (3 hours bioethics teaching and 2-3 hours communications skills teaching and general mentorship). The mentor should record each student's marks on the mentorship mark sheet (see Section 5 : MENTOR Mark Sheet). The following meeting schedule is recommended:

- Introductory meeting during week 1 to assign 3 sub-groups (2-3 students) for bioethics presentations (30 min)
- 1st meeting during week 2-3 : sub-group I bioethics presentation & discussion (1 hour), 2-3 communication scenarios and discussion about clerking records (1-2 hours)
- 2nd meeting during week 3-4 : sub-group II bioethics presentation & discussion (1 hour), 2-3 communication scenarios and discussion about clerking records (1-2 hours)
- 3rd meeting during week 4-5 : sub-group III bioethics presentation & discussion (1 hour), 2-3 communication scenarios and discussion about clerking records (1-2 hours)
- Optional additional meetings can be arranged

Bioethics (3% of total mark continuous assessment mark and 25% of Year 5 Bioethics mark)

Students must get a pass in this bioethics session in order to pass in the programme Clinical Ethics I (MEDU 4300). There are both common and unique bioethical considerations that paediatricians face while treating children for health conditions. For children, unlike for adult patients, healthcare decisions are often made by someone other than the person to be treated i.e. by the parents/ main carers. Issues of patient confidentiality, consent for treatment, end-of-life management and child protection require the treating doctor to be aware of the specific needs and desires of the child, and to be able to respect and adequately address situations when the child's and parents' views and needs diverge. The mentorship programme provides students with opportunities for small group discussions around these issues. Students in groups of 2 to 3 will select and present a bioethics topic. **Students may select any topic related to their interest and could be related to some clinical experience.** Students should seek confirmation from their mentor that the chosen topic is appropriate. The presentation and discussion of the selected topic should follow a structured format as outlined in the following three examples:

Examples of bioethics scenarios for student presentation and discussion

Case 1: 26-month-old boy who has suffered from prolonged seizures since 4 months of age which has resulted in brain damage and poor respiratory effort. He is ventilator-dependent, ventilated through a tracheostomy. Recently he has improved and now only requires non-invasive ventilation (bilevel positive airway support). He has remained in PICU since 4 months of age and shows some neurodevelopmental progress. He requires gastrostomy tube feeding and is unable to swallow his own saliva, requiring frequent suctioning.

Branch point A for discussion: The child has taken a turn for the worse and is septic. The team feels that further care is futile and is equivalent to torture for this child. The parents disagree and would like everything done for him. They argue that he does interact with them when he is not septic.

Branch point B for discussion: The child has continued to make some neurodevelopmental progress and the seizures have abated. It appears as though he may be weaned off the ventilator soon. The team is optimistic about his ability to go home eventually. Yesterday the child is found to have a fever and pneumonia. The family is saying they do not want the child treated with antibiotics, that there isn't any use as he will never fully recover anyway.

Readings could include information on the notion of futility and how to think about it and information about decision-making in the Neonatal Intensive Care Unit. In the discussion students might be asked about a definition of futility and how they might explain such an idea to a family.

Guedert JM, Grosseman S. Ethical problems in pediatrics: what does the setting of care and education show us? BMC Med Ethics. 2012;13:2. Appendix 1.

Case 2: An 8-year-old boy with ADHD is referred by school social worker for suspected non-accidental injury. Bruises were noted on his upper posterior thighs and he reported to the teacher that his mother had punished him for not doing his homework.

Branch point A for discussion: Necessity for a case conference for suspected NAI? Is physical punishment permissible in Hong Kong or is it always NAI? Is it necessary to keep this boy in hospital until the case conference? Should the Police always be involved? Is this a useful "preventive / warning strategy" to prevent future episodes? What is the difference/implications for a label of "excessive punishment" and "established child abuse"

Branch point B for discussion: The boy is 15 years old and NOT diagnosed with ADHD. The parents bring him in because his grades are poor and they have read that Methylphenidate might help him with his focus and improve his grades. When you speak to the boy he says he doesn't really care about school he plays the guitar and would like to be in a band.

Readings could include policy issues about reportable injuries and definition of abuse. For Branch point B, there could be readings and discussions around enhancement vs. disease. Parental needs vs. child's needs etc. <https://www.scmp.com/lifestyle/families/article/1999591/spike-child-abuse-cases-hong-kong-coincides-exam-time-research>

Case 3: A 3-year-old girl whose father is a Hong Kong citizen while mother is mainland citizen. The girl was born in mainland and is still on the waiting list to get a one-way entry visa to Hong Kong, ie to get the Hong Kong citizenship. She presented with bleeding tendency and was then diagnosed severe aplastic anaemia in mainland hospital. The parents brought the child for treatment due to high costs for medical treatment. The child attended Emergency Department at our hospital and then admitted because of severe pancytopenia (Hb only 3 g/dl, platelet count $5 \times 10^9/L$). The patient was not eligible for 'free medical treatment' and had to pay about HKD 4000 per day. The Hospital Authority policy stated that 'non-eligible patients' would only be offered life saving treatment and should be discharged as early as possible once condition stable. The child was given blood and platelet transfusion and would be discharged. The parents requested to stay in HK for definitive treatment (immunosuppressive treatment, or even bone marrow transplant). However the family cannot afford the high treatment cost in HK which could be more than HKD 100,000 per month.

Branch point A for discussion: Should clinicians provide definitive treatment to the child even the parents cannot afford the treatment cost? This will be against the hospital policy but provides the best benefit to the child.

Branch point B for discussion: Giving blood product treatment only relieved the symptoms temporarily and the child is at risk of life-threatening bleeding if discharged to home.

Branch point C: The family expressed difficulty to pay for the high treatment cost and requested to continue treatment in Hong Kong. The father is a Hong Kong citizen and tax payer, and the child is likely to get the single-entrance permit in coming one year. Social Welfare Department stated that non-Hong Kong citizen will not be get financial assistance for medical treatment in Hong Kong. How to cope with the financial burden in this case, is it fair to the family or the community to bear the expenditure?

Finally, the child obtained a charity funding support to receive treatment in Hong Kong till she got the citizenship few months later. <https://www.nytimes.com/2018/11/15/business/china-private-hospitals-putian.html>. <https://www.nytimes.com/2018/09/30/business/china-health-care-doctors.html>

Other examples of ethics topics

- Doctor-patient-parent relationship issues:
 - patient confidentiality, especially in adolescent care;
 - conflicts between teenager and parental decisions for medical treatment;
 - informed consent for Gillick competent minor;
 - parental beliefs that may interfere with life-saving treatment of child, e.g. Jehovah's witnesses, and when to apply for a court order;
- Advanced care planning and end-of-life care:
 - withholding, withdrawing or limiting life-sustaining treatment, including ventilator support, nutrition or resuscitation;
 - treatment futility;

- diagnosis of brain death in children and babies;
- palliative care vs active treatment in very poor prognostic conditions, especially very expensive cost involved.
- Child protection issues:
 - non-accidental injury;
 - neglect;
 - sexual abuse;
- Academic issues:
 - plagiarism in medical research or presentations;
 - examination of children by medical students;
 - patient privacy versus professional education (presentation of instructive cases to other healthcare professionals while protecting patient privacy).

Communication skills (3% of total mark of continuous assessment mark)

Paediatric practice presents various additional challenges to effective communication not only between healthcare professionals and their patients, who may range from young children to adolescents, but also with the patient’s parents and main carers. In order to help students further develop their communication skills, mentors will provide an opportunity for each student to practise communicating information about common paediatric conditions using MRCPCH approach. The SPIKES approach may be used but is more suitable for breaking bad news which will be covered in Year 6.

MRCPCH approach:

1. Introduce self and what you plan to do
2. Ask what they know already
3. Ask what they do wish to know
4. Tell them what you are going to tell them/ what you are going to discuss
5. Tell them/ discuss the issue
6. Check understanding
7. Opportunity to ask questions
8. Closure/ safety netting

SPIKES approach:

S – setup (setup the venue, set the scene, introduce yourself)

P – perception (what does the patient/family know/understand/worry about?)

I – invitation (does the patient/family expect detailed information? Do they want an overview?)

K – knowledge (deliver your messages and content and check understanding)

E – emotion/empathy (observe for emotional response, may ask how the patient feels)

S – summary (overview of counselling session, may give plan for further management/counselling)

Student pairing scheme

Role	1 st pair	2 nd pair	3 rd pair	4 th pair	5 th pair	6 th pair	7 th pair	8 th pair
Doctor	Student a1	Student a2	Student a3	Student a4	Student a5	Student a6	Student a7	Student a8
Patient	Student a2	Student a3	Student a4	Student a5	Student a6	Student a7	Student a8 (a1)	Student a1

Students should aim to complete each scenario within 5-10 minutes. The surrogate doctor should illustrate how to communicate with the surrogate patient/parent according to the above communication framework. The surrogate patient/parent should assess the surrogate doctor according to standardised surrogate communication skills assessment forms (appendix 2). The mentor should debrief each pair of students after each scenario and stimulate group discussion, focusing on the communication skills illustrated by the student pair.

Suggested scenarios for simulation by students:

- Counselling a mother/father after admission of a child with a common paediatric condition:
 1. aged 18 months with first febrile convulsion
 2. aged 6 years with severe pneumonia

3. aged 4 months with acute bronchiolitis
 4. aged 4 years with asthma exacerbation
 5. aged 2 years with acute gastroenteritis
 6. aged 4 weeks with fever, irritability and poor feeding
 7. aged 9 months with fever and no source of infection
- Counselling a mother/father when child improving a ready for home leave:
 1. aged 18 months with first febrile convulsion ~ fever down & no more convulsion
 2. aged 6 years with severe pneumonia ~ improved and changed to oral antibiotics
 3. aged 4 months with acute bronchiolitis ~ still wheezy but feeding well
 4. aged 4 years with asthma exacerbation ~ short course steroid finished
 5. aged 2 years with acute gastroenteritis ~ stools becoming more formed
 6. aged 4 weeks with fever, irritability and poor feeding ~ well & all cultures negative
 7. aged 9 months with fever and no source of infection ~ fever down after 4 days & rash developed

More complex communication scenarios that students may select but would require preparation before the session since they would require more detailed background knowledge of the conditions.

- Explaining the diagnosis of:
 - G6PD deficiency to parents detected by screening programme in a newborn infant;
 - congenital hypothyroidism detected by screening programme in a newborn infant;
 - severe sensori-neural confirmed on brain-stem auditory evoked responses in a young infant; and
 - asthma to parents of a five-year-old girl newly diagnosed with severe asthma (just discharged from PICU back to general ward).
- Breaking bad news to a mother/father whose:
 - baby girl was just diagnosed with Down syndrome;
 - baby boy was just diagnosed with Edward syndrome; and
 - child was just diagnosed with brain death after head injury due to road traffic accident.
- Counselling a mother/father about management issue:
 - child requires admission, but there are currently no beds available yet;
 - hospital does not allow the 6-year-old sibling to visit; and
 - other examples suggested by mentor based on cases that students have clerked.
- Explaining the importance of drug compliance to:
 - parents of a child with asthma requiring prophylactic inhaled corticosteroids;
 - adolescent with pulmonary tuberculosis;
 - child with type 1 diabetes on insulin injections; and
 - adolescent with thalassaemia major requiring chelation therapy.
- Explaining to mother/father about a medical error:
 - half dose of paracetamol given for fever;
 - double dose of warfarin given to a child with prosthetic heart valve (INR increased to 5);
 - double dose of intravenous penicillin given to a child for one day; and
 - tourniquet left on a young child's leg after blood-taking (affected leg has remained blue despite removing tourniquet for the past one hour).

Clerking records and medical record taking (2% of total mark)

Clerking records are completed on blue clerking sheets which are distributed to students at the start of each module. Students must complete at least five clerking records by taking a history and performing a physical examination on five separate patients. Aim of the clerking records:

1. encourage students do regularly visit the wards to see patients
 2. ensure students appreciate importance of good quality medical record keeping
- Mentor will review student clerking records during mentorship meetings to ensure that acceptable standard i.e. legible, dated, signed, evidence of an assessment and plan, etc. Records should be given to

Department Secretaries (2% of Continuous Assessment mark for 5 or more clerking records). No formal grades will be awarded.

- Clerking records to be completed on “Blue Medical Student Progress Note” paper. Students attending outside hospital attachments (UCH/TKOH/KWH/AHNNH) can bring their clerking records for checking by the mentor. **NO PATIENT IDENTIFIERS** (names/ID numbers/dates of birth) should be written on these records.

Medical Record Documentation (Hospital Authority Guidelines)

1. Only an authorized person and responsible for delivery of patient care can enter documentation into a medical record.
2. All written information/data entered must be directly/indirectly related to patient.
3. All entries must be:
 - complete, concise, factual, objective, legible, accurate and timely;
 - relevant to the episode of care;
 - identified with patient’s name and HKID number; and
 - dated and signed with printed name or staff name chop.
4. **Do not use water soluble pens/ink for entries.**
5. **Do not amend the entries made by the others.** Second opinion should be made separately.
6. Incorrect entries must be crossed out with a single line by pen, dated and signed with printed name or staff name chop. **Correction tape / fluid should not be used.**
7. Records are selected randomly for documentation audit periodically

Patient data presentations and patient privacy (Hospital Authority Guidelines)

- Presentation files should not contain any personal data.
- PowerPoint files should be converted to PDF at all times to remove any link or embedded data before uploading or sharing.
- All presentation files should be removed immediately from a shared PC after use.
- Cloud data storage in public and open domain for work-related documents is not allowed; use HA intranet and NTEC secured servers instead.
- Release of HA information to public should be conducted in proper channel.

SECTION 4

4 - ASSESSMENT AND EXAMINATIONS

Aims and Objectives

1. To determine if a core of basic knowledge, commensurate with the amount or exposure students have had in paediatrics, has been acquired, in particular the clinical presentation, aetiology and pathology, principles of management, prevention and psycho-social consequences or common disorders seen in Hong Kong.
2. To assess that students have attained a level of competence in using the clinical method to identify and plan to resolve clinical problems through:
 - **reliable, relevant and sensitive history taking, relating effectively to parents and children;**
 - **thorough, accurate and gentle physical examination;**
 - **concise evaluation of the presenting clinical problem;**
 - **orderly planning of any further diagnostic procedures which might be indicated to establish a diagnosis;**
 - **appreciation of the PRINCIPLES of treatment (including the roles of other health professionals, e.g. speech therapists, physiotherapists, social workers, clinical psychologists etc. in management);**
 - **understanding the principles underlying FOLLOW-UP assessment in order to appreciate the natural or assisted course of a clinical problem;**
 - **awareness of the psycho-social consequences (the impact of illness on behaviour, education, family life etc.) of illness and its simple medico-legal consequences; and**
 - **appreciation of a broad, holistic and sensitive outlook towards the total health of individuals and communities.**
3. To determine if important communication skills (including when relevant education) was acquired: between the “would be” doctor and the child, parents and fellow professional workers. Included in these are skills of counselling, qualities of empathy, patience and kindness.
4. To assess competence at the bedside in the orderly presentation of a clinical problem.
5. To determine if a student has an appreciation of the way in which paediatric problems, their management and prevention interrelate with the practices of other disciplines (especially public health & primary care, psychiatry and obstetrics).

The Paediatric Module Assessment

Continuous Assessment (20%)

Case Reports to Demonstrate Use of Paediatric Clinical Method: 5%

Case report 1 (Mark A-F) 2.5%	Hand in to Secretary by Friday of Week 3
Case report 2 (Mark A-F) 2.5%	Hand in to Secretary by Friday of Week 6

The aim of the two Case Reports is to enable the student to demonstrate to the teacher that s/he has a sound grasp of all aspects of the clinical method, i.e.:

- the ability to take a suitably detailed and appropriate history;
- to perform a relevant physical examination;

- to interpret the findings making an appropriate assessment of the patient, together with valid suggestions for further investigations and management; and to demonstrate that patient has been followed during the hospital stay.

The student should provide **a half to one page discussion** that provides a summary of the patient and the presentation in terms of the main factual information concerning the clinical problem, as well as taking into account any wider social or other issues of relevance. 1-2 reference articles can be cited to support important discussion points where appropriate. **However, these reports should NOT be a detailed literature review.**

The reports should be concise and logically laid out and the reports should be easily readable and preferably typed.

Evening Presentation: 2%

Each student gives 1 presentation per module (Mark A – F)

Paediatric Formative MCQ Assessment: 5%

In the week 2 of each module, students will be sent an email with instructions.

Online formative self-assessment tests from Week 3 to Week 6;

- 12 questions on Cardiovascular & Respiratory disease (1.25%);
- 12 questions on Endocrine, Gastrointestinal & Genitourinary disease (1.25%);
- 12 questions on Haematology & Nervous system disease (1.25%);
- 12 questions on Musculoskeletal, Head/Neck, other disease (1.25%).

Paediatric mentorship programme: 8%

- Communication skills (3%)
- Bioethics (3%)
- Clerking records (2%)

Throughout the paediatric module, students participate in communication skills and bioethics activities in small group tutorials as part of the paediatric mentorship programme. Each Student is required to design and simulate communication skills or bioethics scenarios. The bioethics component of the mark will contribute to the General Education mark in bioethics.

Student Clerking Records: Students will need to submit their 5 or more clerking records to their mentor. The mentor checks these records and give them to the Department secretary for record keeping. The clerking records do not receive a formal mark. The mentor's role is to provide an overall check and informal guidance. Only the total number of clerking records submitted will be recorded.

Guidelines for primary care (Tuesday) visit attendance sheets

Attendance sheets to be submitted to Ms Elly Cheung within 1 week of the visit or non-attendance of whole group will be assumed. If hard copies cannot be submitted on time, scanned copies should be e-mailed within the deadline. The hard copies may be submitted subsequently for record.

Each half-day activity at outside hospitals or centres counted as one session.

Students who fail to attend a session without valid reasons will be penalized.

Students need to submit an official document as proof of valid reason (e.g. medical certificate) within 1 week of the visit.

One mark (or 5% of the total continuous assessment [CA]) will be deducted for each session missed without valid reason.

Students will be allowed to take the end-of-module examination regardless of their non-attendance record.

However, to pass the module exam, students are required to score $\geq 50\%$ of total CA (i.e. at least 10 marks out of max. 20 marks). If students miss many Tuesday visits, it is possible to fail the CA and thus the whole Paediatric module. There is no re-assessment mechanism for CA and students would therefore be required

to undertake a 6-week remedial in Paediatrics during their elective and sit for supplementary examinations in May.

Summative (End of Module) Examination (80%)

Clinical Skills Assessment: (20%) Mark A – D or "Reassess"

- Students should contact BOTH assessors at the beginning of week 5 to arrange a time to meet
- **Please try to complete both assessments by the end of Week 7**
- Assessment time is 15 minutes per student
- After the assessment constructive feedback may be given to students if appropriate; however, students are NOT informed of their mark at the time of assessment
- Marking from A-D or "Reassess"
- Final Mark is average of the marks given by the two assessors

Clinical Skills Reassessment:

- Students who receive a "Reassess" in EITHER assessment
- Students requiring reassessment are informed by the middle of Week 8
- Reassessment by the end of week 8 by two examiners
- Marks are Pass (D) or Fail (F)
- Students who fail this reassessment will be reassessed by the External Examiner and Department Chair at the end of the year

Written MCQ Examination: (20%) Mark 1-100

A written examination assesses the recall of factual information and its clinical application. It will consist of 50 single best answer (A-type) MCQs and the duration is 90 minutes. Students who fail the examination require MCQ reassessment at the end of the year with 30 questions in 60 minutes.

OSCE: (40%) Mark 1-100

This examination assesses the adequacy of a student’s approach to clinical problems and his/her understanding of common childhood diseases. The OSCE is divided into clinical and knowledge-based sections. Under the clinical section, there are stations that assess student’s ability to **take history** on common problems and to provide **counselling** for clinical scenarios. Each station lasts for seven minutes. **Two structured viva** stations evaluate the students’ ability to **formulate differential diagnoses, outline appropriate investigations and establish management plans** on common paediatric problems. Each viva station lasts for seven minutes and assesses one clinical scenario. There is a 7-minute clinical skills station that will evaluate clinical skills (which may involve the use of a manikin, surrogate patient, procedure or video) or **clinical reasoning** (student to demonstrate clinical skills reasoning based on a clinical scenario). There are two 7-minute rest stations. The exam language used in OSCE is English except the history taking and counselling stations use Cantonese. The clinical section of the OSCE lasts for 56 minutes and is conducted in the Paediatric outpatient clinic on Tuesday afternoon (unless a public holiday) during the last week of the module.

The knowledge-based section consists of *four* questions that assess the students’ problem-solving skills for common paediatric conditions (e.g., interpretation of radiographs, electrocardiograms, spirometry, photographs, and clinical and laboratory data). 4 minutes is allowed for each question and an additional 4 minutes is provided for wrapping up and checking before the submission of answer books. This section will be conducted together with written MCQ examination on Monday morning (unless a public holiday) during the last week of the module.

Final Overall Mark = Continuous Assessment (20%) + MCQ (20%) + OSCE (40%) + Clinical Skills Assessment (20%)

MCQ & OSCE PASS: calculated by Modified Cohen Method = 90th percentile X 0.65

Continuous assessment & Clinical Skills Assessment PASS: Total mark ≥ 50%

FAIL: Reassessment (MCQ, Clinical Skills Assessment and/or Structured Viva)

Reassessment

Reassessment required if overall mark is $\geq 50\%$ **but** any failure in subsections according to the following schedule:

	PASS	FAIL	Reassessment required
Continuous assessment	$\geq 50\%$	$<50\%$	Remedial work during the elective period at the end of year + Structured Viva + MCQ + clinical skills assessment
Clinical skills assessment	$\geq 50\% *$	$<50\% *$	Clinical skills assessment (* combined mark of two assessors)
MCQ	\geq passing mark calculated by Modified Cohen Method	$<$ passing mark calculated by Modified Cohen Method	MCQ
OSCE	\geq passing mark calculated by Modified Cohen Method	$<$ passing mark calculated by Modified Cohen Method	Structured Viva

Marking of reassessment

Module reassessments for failure in MCQ, OSCE or Clinical Skills Assessment are undertaken with the External Examiner and Department Chair prior to the Combined Clinical Examination at the end of the academic year. Students who fail their continuous assessment could be required to undertake 4-6 weeks of remedial work followed by an assessment after the remedial programme has been completed.

Distinction Viva

Students who have done very well in the module have opportunity to be awarded a distinction in paediatrics through a viva examination with the External Examiner and Department Chair at the end of the year.

Paediatric Prizes

- The *Hong Kong College of Paediatricians' Prize* is awarded to the student with the best overall results in the Paediatric Module.
- The *Wong Tat-Wai Paediatric Prize* (First and Second Prize) is awarded to two students who obtain Distinction in Paediatrics and achieve the highest marks in the distinction viva.

Awards are recommended by the External Examiner and require that the students have passed all other module examinations and the End of Year Combined Clinical Examination.

SECTION 5

5 - MARK SHEETS

EVENING PRESENTATION Mark Sheet 2021-2022
Paediatric Module Medical Year 5

Tutor: _____

Date: _____

No. Student Names (Groups)**Grade**
(A-F)

Signature: _____

* Do presentation

P.S. Please return this marking sheet to Ms Elly Cheung within 3 days after the round.**MARKING SCHEME**

<u>Grade</u>	<u>Overall</u>	<u>Actual mark awarded</u>	<u>Approx. Cumulative %</u>
A	Outstanding	9.45	~5%
A-	Excellent	8.45	~next 20% of class = 25%
B+	Good	7.75	
B	Good	7.35	~next 50% of class = 75%
B-	Good	6.95	
C+	Fair	6.55	
C	Fair	6.15	~next 20% of class = 95%
C-	Fair	5.75	
D+	Pass	5.5	~next 5% of class = 100%
D	Pass	5.1	
F	Failure		

MENTOR Mark Sheet 2021-2022
Paediatric Module Medical Year 5

STUDENT NAME: _____

MODULE: _____

STUDENT Number: _____

A	Outstanding
A -	Excellent
B +	Good
B	Good
B -	Good
C +	Fair
C	Fair
C -	Fair
D +	Pass
D	Pass
F	Failure

A. Bioethics presentation and participation: 3% (Mark A to F) | |

COMMENTS:

B. Communication skills role play: 3% (Mark A to F) | |

COMMENTS:

MENTOR'S NAME:

Date: _____

Signature: _____

CLINICAL SKILLS ASSESSMENT Mark Sheet 2021-2022

Paediatric Module Medical Year 5

STUDENT NAME: _____

MODULE: _____

STUDENT Number: _____

FINAL GRADE (A-F) : | ____ |

<u>GRADE</u>	<u>OVERALL</u>
A	Outstanding
A-	Excellent
B+	Good
B	Good
B-	Good
C+	Fair
C	Fair
C-	Fair
D+	Pass
D	Pass
F	"REASSESS"

WARD OF ASSESSMENT : | ____ |

*Record details of patient seen and system examined:**Comments:* (Note any deficiencies in student's skills or areas of confusion)

ASSESSOR'S NAME:

Date: _____

Signature: _____

NOTES FOR ASSESSORS:

- Examine each student separately
- Examine each student for 15 minutes and on one of the two assigned body systems
- Constructive feedback may be given
- DO NOT give the student the assessment mark
- F = "REASSESS" requires reassessment in Week 8
- Hand in this Mark Sheet to Ms. Elly Cheung

Primary Care Paediatricians Clinic Programme 2021-2022

Attendance Log-sheet

Paediatric Module Medical Year 5

STUDENT NAME: _____

MODULE: _____

STUDENT Number: _____

Student attendance:

YES | |

COMMENTS:

DOCTOR'S NAME: _____

Date: _____

Signature: _____

**please return to General Paediatric Office (Ms Elly Cheung ellycheung@cuhk.edu.hk) via student or directly by fax: 26360020*

SECTION 6

6 - RECOMMENDED READING

LEARNING RESOURCES

The CU e-learning system contains information on the clinical module lectures. Knowledge acquired from this source should be more specific to a particular course of teaching and more sensitive and relevant to local needs than if textbooks only were used for such instruction. However, to provide a structured guide to the subject during the Paediatric Module (lectures, seminars, ward and outpatient work etc.) a concise, small, basic textbook can help provide a framework of learning. Students are encouraged to purchase the following book which is available in the University Book Shop:

- Illustrated Textbook of Paediatrics. Lissauer & Clayden (Mosby)

Complementing this is further recommended reading principally made up of up-to-date leading articles and review papers and miscellaneous handouts, the latter especially used for conditions which are peculiar or especially relevant to Hong Kong paediatric practice.

Note

It is important to achieve a balance between textbook study and knowledge gained in the course of self-learning from patients on the wards - too much time spent reading "small print" information from reference textbooks will be detrimental to the acquisition of clinical skills

REFLECTIONS ON UNDERGRADUATE MEDICAL EDUCATION

Undergraduate medical teaching is intended to prepare the student for a life-time's commitment to one of the many disciplines of "medicine". At one time the major emphasis in medical education was "training" (instruction followed by practice under supervision until competence is achieved). Diagnosis was by "pattern recognition" of organic illness. *"Increasingly the aim of medical education is to encourage individual critical thought, initiative and self-learning"*. The view now held more commonly is that most clinical experience and specific skills are acquired after graduation. Thus basic medical training is intended not to train specialists but instead to provide doctors by the time of full registration with the knowledge, skills and attitudes necessary to provide a basis for early supervised practice or further vocational training.

A Very Different World

Medical Students after graduation enter a world where medical care and community expectations are continually evolving.

- Patients' expectations are ever increasing and they have much greater access to medical information.
- Multidisciplinary management of problems is now the rule rather than the exception.
- Diagnostic and therapeutic tools are not only more powerful, but in many ways more open to abuse. (especially in regard to diagnostic tools that are increasingly more non-invasive).
- There is a continuing need to achieve a balance between technology and humane care.
- Ethical, moral and legal consequences and associations of clinical problems are intruding into decision making far more than before (paralleling the increasing complexity and expectations of our society).
- With constraints on financial resources available for medical care and a concomitant deepening of the need for resources (monetary and human), there is increasingly a need to better rationalise the deployment of available resources.
- Priorities in medical care, often an unpalatable matter for debate, must be made between provision for acute medical problems on the one hand (transplantation, in vitro fertilisation, etc.) and services for chronic disability on the other (geriatric care, neurological disabilities, etc.).
- A better balance between hospital and community care is required.
- The world, with modern travel, is now "much smaller". Awareness of problems in parts of the world far removed from an individual's personal base is now no longer of academic interest alone. This was well demonstrated during the outbreak of Severe Acute Respiratory Syndrome (SARS) in Hong Kong in 2003, Ebola in West Africa since 2014, Zika in South America in 2015 and COVID-19 from 2019.
- Computers, electronic databases and internet resources are now an integral part of medical care – record keeping, data analysis, diagnostic assistance and the effects of these introductions on personal confidentiality are immense. Evidence-based medicine requires easy access to the latest clinical information. Notwithstanding we need to ensure that this technology does not limit our ability to communicate and interact with our patients. Remote consulting and issues of patient confidentiality have been highlighted during the COVID-19 pandemic.
- More people, especially in western countries, are paying increased attention to complementary medicine, almost as a revolt against some of which is seen as dehumanisation in medicine. In Hong Kong the role of Traditional Chinese Medicine is being reassessed and evidence for its effectiveness sought. Care, and not necessarily cure, is increasingly demanded for an ageing population and in the case of children, those with chronic disability.

THE CLINICAL METHOD ~ A PAEDIATRIC PERSPECTIVE

The spectrum of problems and illnesses in children is very different from that of adults. In children genetic disorders; anomalies of growth and development; problems of perinatal origin; communicable diseases; nutritional disorders and social problems dominate, In contrast the emphasis in adult medicine is more on acquired degenerative, malignant, endocrine and inflammatory disease. *The clinical method is a process whereby a clinical problem is processed, a diagnosis made and a programme of management is implemented to resolve (if possible) the initial problem.* Therefore in terms of application in paediatric and adult care the clinical method inevitably contains differences in both approach and content, although the key principles remain the same.

In common with other branches of clinical medicine, the clinical method as applied to children has 4 principal components:

- History Taking
- Physical Examination
- Clinical Assessment
- Plan of Management

Together, these four elements provide the corpus of the problem orientated approach to clinical medicine, i.e., the SOAP approach: S (Subjective/history); O (Objective/examination); A (Assessment); P (Plan of Management).

Clinical medicine is essentially about identifying and solving problems

A Challenge to Conventional Practice

Educational theory has contributed to how to approach solving clinical problems. *Medical practice has now rejected the notion that if all questions are asked and a thorough examination is made, a diagnosis will emerge.* Instead, physicians from the immediate outset of the doctor/patient encounter now generate a set of **DIAGNOSTIC HYPOTHESES** which, through questioning and specific examination, are tested, revised and challenged. It is the central role of the initial testable hypotheses that constitutes the key to effective problem solving. This approach is not confined to the physician. Students follow similar thought processes from a very early stage, even with a very sketchy knowledge of basic and applied medical sciences. The major difference is in the number of hypotheses put forward.

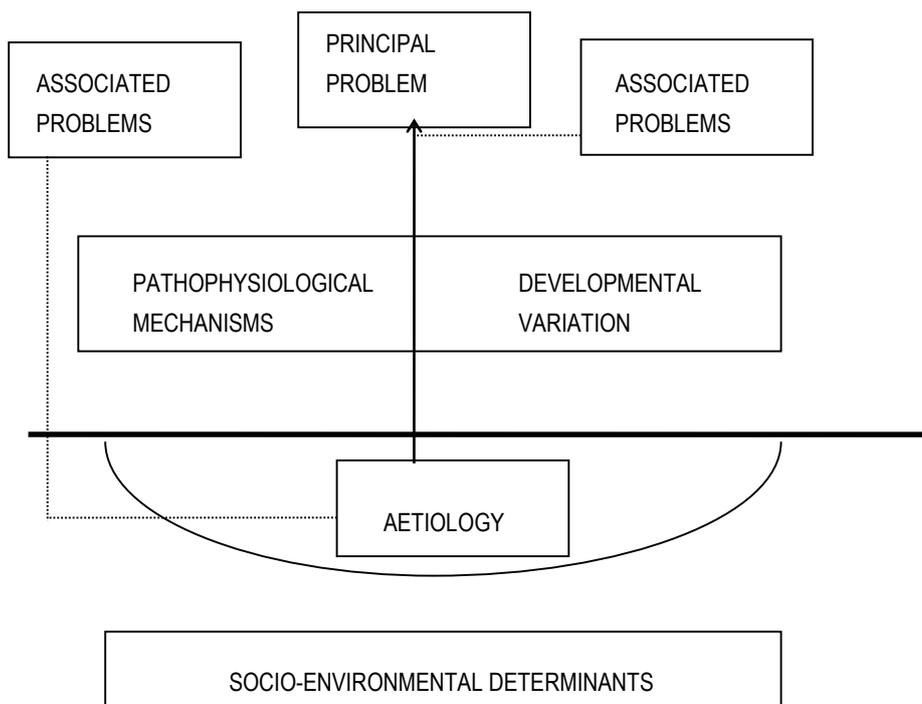
This **HYPOTHETICO-DEDUCTIVE** approach differs from the more conventional **EXHAUSTIVE APPROACH** of data collection in a routine manner – i.e., “a blank mind ritualistically collecting information might miss important cues that would otherwise be generated by an enquiring mind” (Elstein).

This must however be distinguished from collecting background social/personal health details, which serve to paint a background to allow the presenting problem to be seen in perspective (see below)

Diagnosis is therefore primarily **hypothetico-deductive**, i.e. when confronted by a problem a possible solution is first thought of, then tested. To effectively achieve this, possible mechanisms of patho-physiological influences have to be originally considered. The hypothetico-deductive process should explain diagnostic theories for main problems (THE FLOWER) and any associated problems (OFFSHOOTS) in terms of the immediate underlying patho-physiological process(es) (STEM) and its aetiology (ROOT(S)).

Figure 1

A clinico-pathological model for paediatric problem solving



1. History

This procedure is the beginning of the **hypothetico-deductive** process of making a diagnosis out of a presenting problem(s). *Without a diagnosis there can be no firm basis for management.*

History taking has one other important function, often overlooked, namely *to appreciate the social and emotional predicaments of the child and family*. Consideration of these aspects is essential for later management whatever the nature of the presenting problem. On occasions the problem itself might even be *caused* by anomalies in the social background e.g. some types of child abuse.

Other than in the older child much of the information collected during history taking in paediatrics has to be obtained from parents, guardian, relatives or friends. Hearing a story second (or even third) hand will often contain bias and inaccuracies which should always be borne in mind whenever inconsistencies are seen to exist. Wherever possible allow parents to tell the story in their own words. For newborn babies with a problem, the history of the clinical problem is even more atypical – it usually being the history of the mother's pregnancy and labour (an environmental history of the young infant!)

Wherever possible children should always be included in history taking: they should never feel left out. Furthermore, it is important never to underestimate a child's own story. It is after all their problem which is being discussed! Children are, in their naivety, often very reliable historians and better than their parents. *Rarely should a child be absent at the clinical presentation.* Discussion behind a child's back will often breed an atmosphere of distrust.

Obsessional enquiry about all bodily functions ("systematic enquiry") is not necessary since it does tend to detract from the flow of the story and, in many instances, is irrelevant to the problem.

However, details of birth, feeding practices, early development and social aspects play a more important role than in the adult. A carefully taken family history is always needed. Not only will all these elements – assist in reaching a diagnosis but they will also help the paediatrician to understand the impact and significance to the child and family of the problem. This latter aspect of the history is all too often forgotten. The following two examples illustrate this important concept.

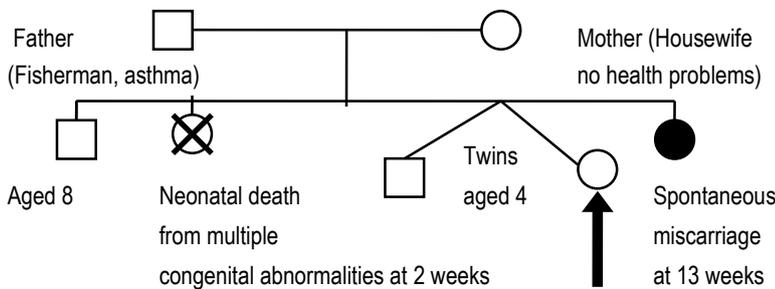
Example 1. A 28-week prematurely born baby boy was ventilated for 6 weeks for hyaline membrane disease. 3 months after hospital discharge he developed a mild cough associated with an upper respiratory tract infection. Had the baby not had such an eventful neonatal course the parents would not have been as worried as they

appeared to be. Because the lungs had earlier been affected any chest problem was inevitably source of major concern – hence the parental anxiety over what would otherwise be considered a rather trivial symptom. *Without a detailed birth history this would not have been evident.*

Example 2. A 9-year-old girl was brought to see a doctor because of abdominal pain. The parents seemed more concerned than the child. Family history revealed that the child’s uncle had died of cancer of the stomach and whose initial symptom was abdominal pain. The parent’s anxiety was therefore eminently justified. *Without a carefully taken family history, the seemingly excessive parental concern would not be understood.*

A convenient short hand for describing family history is shown below. The arrow indicates the patient.

Figure 2



A conceptual approach to the paediatric history is shown in Figure 3

The presenting problem along with its resolution through hypothesis testing can be considered the *foreground* of a picture. For the impact of this problem to be fully appreciated it must be viewed against a *background* of the personal health and social predicament of the child (the systematic enquiry). Emerging from this background will often be clues towards the diagnosis, but these must be *actively* generated.

Note

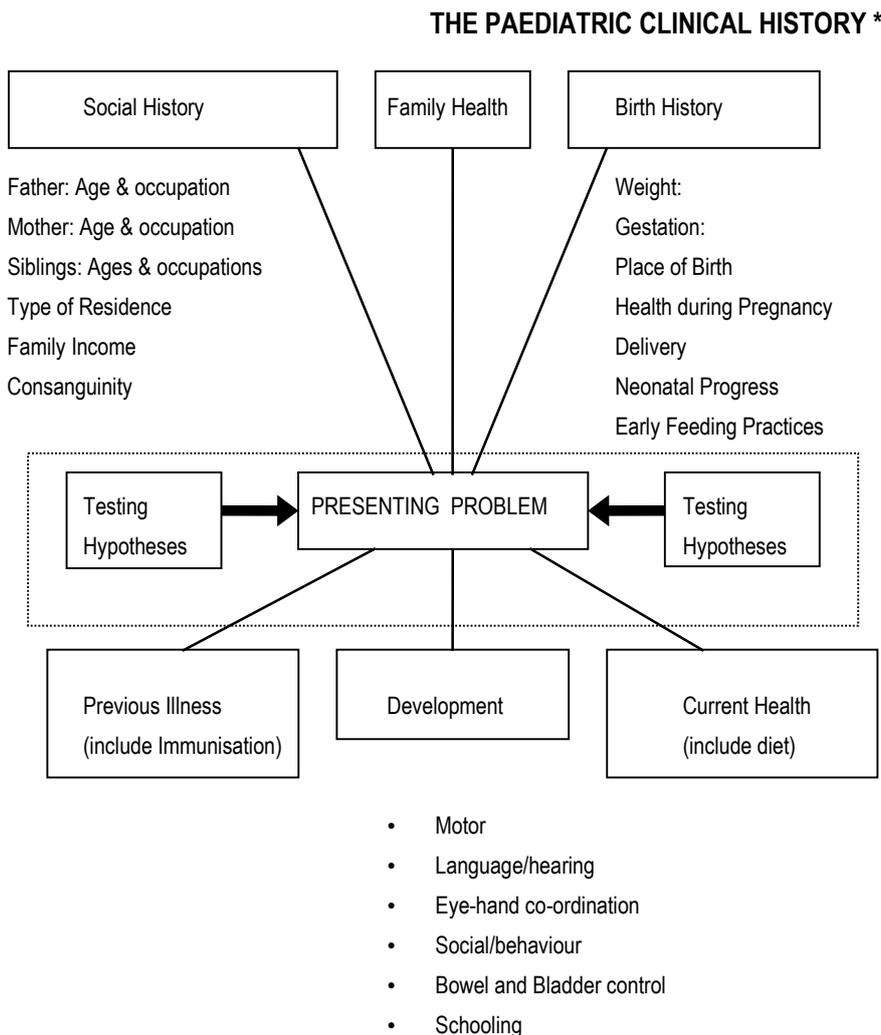
Sequence of history taking :

- A. Note the nature of the presenting problem in outline only
- B. Collect the child’s personal details (systematic enquiry) in the order shown in the clinical record
- C. Return to the presenting problem in greater detail and begin to test diagnostic hypotheses.

Using this sequence the clinical problem will be viewed in its correct perspective i.e. it is a *child* with its *family* that suffers a clinical problem: you are not dealing with a clinical problem in someone *who happens to be* a child.

Having completed the history it is valuable to pause a moment in order to summarise the salient features and to begin to think about the possible explanation(s) for the presenting problem (the [differential] diagnosis). *Don’t forget that questions asked in the history are but “verbal investigations” – testing possible clinical hypotheses.*

Figure 3



* For the newborn infant with a problem the lower part of the diagram (Previous Illness, Development, Current Health) will not usually apply.

2. The Clinical Examination

This is the next stage in the process of reaching a diagnosis. It is a logical extension to the subjective part of the clinical investigation (the history), with the aim of confirming suspicions – raised during history taking. If possible, avoid children being separated from their parents. Do not forcibly undress them. Contrary to past teaching it is often possible (with patience) to examine a partly clothed child provided that all the body is in turn examined. *Be particularly careful in covering the genitalia. Children, even those very young, are very sensitive.*

Examination of infants and children is often difficult. Ensure your hands are warm. The key to success is patience, understanding, sympathy, gentleness and humour. It is a very frightening time for many small children. Talk to them in language they understand. (The best way to frighten a child and make it less cooperative is to place a spatula in the mouth early on to look at the tonsils!) The single exception to most of these demands perhaps is the newborn baby who has no voice, no will to resist, no confidence to gain! Gentleness is however essential. Rather than the more formal testing in adults (where there is greater cooperation), much of the physical examination will have to be deduced by *observation*. Much can be learned in a child's manner, cry, general appearance, etc. *Documenting size and weight is always essential, using centile charts for correct interpretation;* However, this part of the examination will often have to be left until last thing you do. Many an examination of toddlers will have to take place on the floor whilst playing.

The following list is an example of a paediatrician's clientele: it serves to illustrate why difficulties are so often encountered during the examination of children.

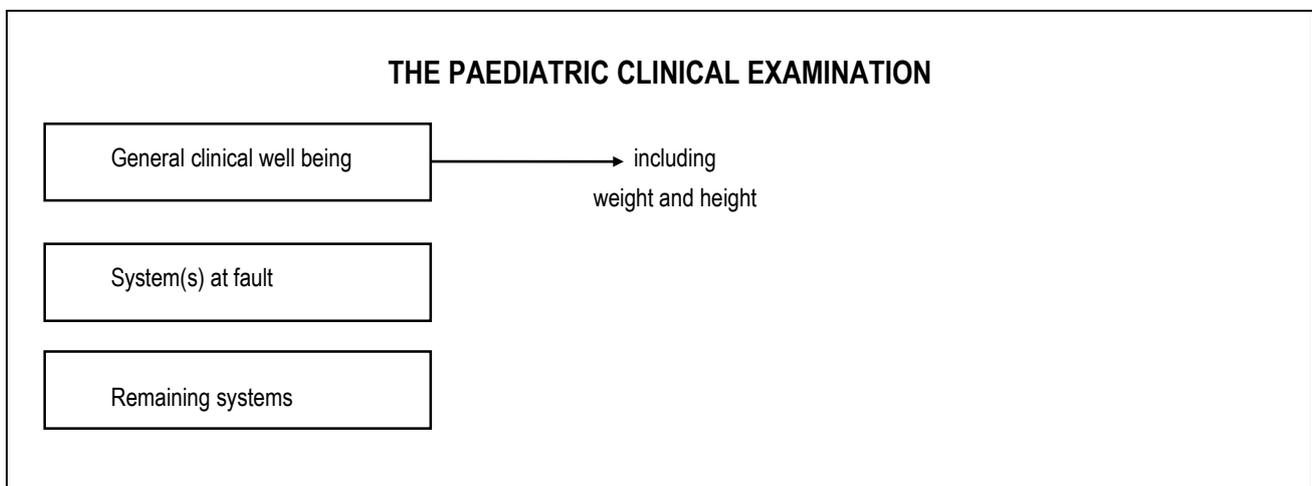
- a bawling infant who cannot be pacified;
- a toddler who tearfully clings to its mother's skirts and screams as soon as a doctor approaches;

- a hyperactive child hurling toys over the room and flatly refusing to remove its shirt;
- an embarrassed older child referred on account of small stature and in whom assessing the stage of puberty reached is an essential part of the examination;
- a worried young teenager who is frightened by such objects as a sphygmomanometer, auriscope, let alone a needle and syringe.

Sequence of Examination

For the clinical examination to be seen as a meaningful not haphazard part of the clinical method a logical order is necessary as in the clinical history. For example, if a child presents with a problem of abdominal pain it is illogical to begin the examination by examining the cardio-vascular system. The following approach should be encouraged.

- An impression of “clinical well-being” – including fever; nutritional state; colour of skin and mucus membranes; enlarged lymph glands, etc. It is in this compartment that exact details of height and weight should be included and allotted a centile score. *If they are not performed at this stage they will nearly always be forgotten!*
- Examination of the system(s) suspected at being at fault from the clinical history. *This is where diagnostic hypotheses emerging out of the history are mostly tested.*
- Examination of the remaining systems. For the student the latter part is important principally so that experience is gained in all aspects of the clinical examination.



3. Assessment of Clinical Problems

The findings (relevant *positive* and *negative*) of the history and examination must now be brought together to an **ASSESSMENT** (summary to date). This is an essential, though all too frequently overlooked, part of the clinical method. The assessment of the clinical *problem must be written down clearly in sentences*. Included in this assessment must be a clearly stated *diagnosis* or if not reached, a differential diagnosis in terms of:

- the organ (system[s]) at fault
- the state of disordered function or structure (pathophysiology) immediately responsible for the problem
- the influence triggering the pathophysiological events (aetiology)
- any complications of the main suspected diagnosis.

Note

It is important not to jump to conclusions and to make hasty spot diagnoses. Sometimes the clinical features alone are sufficient to give a pathophysiological diagnosis, e.g. chest infection. Microbiological investigations might be needed to identify the aetiology. More often than not, however the clinical assessment is intermediary in reaching a diagnosis. It should provide foundations of the plan of management of the clinical problem.

4. Plan of Management

There are 3 components to this concluding part of the clinical method.

- **Establish the Diagnosis:** Is there one from the history and examination? Is there a need for further investigations (don't forget that the history and examination are also investigations) to confirm or establish a diagnosis? If so, what investigations are required.
- **Treatment** of various problems that emerge out of the diagnosis. *A diagnosis is not treated – its component problems are.*
- **Communication:** Education with parents and other involved health workers, etc.

These principles underlie a responsible and intelligent approach to clinical management! *They need constant reinforcement.* Doctors on the whole are not particularly skilled in this area. Diagnoses are made often by pattern recognition than by reason and logical deduction. *Excessive and inappropriate investigation and therapy (costly, often uncomfortable and not without hazard to the patient) are all too common the world over and regrettably point towards a misunderstanding of the clinical method.*

Doctors also need to be aware of basic financial and economic principles in their medical practice. Doctors should ideally be safe, effective and efficient.

(i) Establishing the diagnosis & the need for further investigations

These might be required to establish or to confirm a clinical diagnosis. These further investigations will usually be directed to the *main problem* (its pathophysiology and aetiology and on occasions, its social associations) and to its possible *complications*. Conceptually the only difference between the preceding "history and examination" and "further investigations" is the nature of the investigations – "further investigations" simply being more laboratory or image orientated. *Routine investigations are to be discouraged.* They very often create problems and are a costly drain on a limited budgetary resource.

The following catechism should be borne in mind whenever contemplating further investigation:

- "It is a salutary exercise in mental discipline to catechise oneself when ordering any medical investigation, saying, why do I order the test?
- What am I going to look for in the result?
- If I find it will it affect my diagnosis?
- How will this affect the management of the case?
- Will this ultimately benefit the patient?"

Paediatric practice provides the ideal opportunity to learn this sensible approach to further investigations. Unlike adults, children's veins are small and their pain threshold is much lower. Thus on both technical and human accounts the case for invasive investigations must be carefully pondered!

The laws of probability determine that the greater the number of investigations asked, the more likely is at least one to be reported as abnormal. "It is the mark of the educated man that in every subject he seeks only as much precision as its nature permits, or the solution requires." (Aristotle)

(ii) Treatment

Whenever possible *diagnosis should always precede treatment.* Without a diagnosis it is difficult to establish an orderly problem list. Treatment can be considered in two categories – general and specific.

A. GENERAL ASPECTS

These include aspects such as diet, need for bed rest and monitoring measures such as temperature, blood pressure, pulse rate, respiratory rate etc. These aspects of care undertaken largely by nurses which, though often taken for granted, are as essential to achieve the best possible medical outcome as are more specific medical aspects of treatment. These are all essential, and may even be viewed as *continuing clinical investigations* though

for convenience it is best considered as part of the treatment schedule. They will always be taken into account in the day-to-day evaluation of clinical problems.

B. SPECIFIC ASPECTS

This involves the various problems that emerge out of a diagnosis. You do not treat a diagnosis – you treat clinical problems.

The key to this aspect is the precise identification of problems, principal and associated, that require treatment. These can best be defined by referring to the clinical pathological model for clinical illness.

1. Is there a problem that might relate to the immediate MECHANISM (Pathophysiology) responsible for an illness which can be reversed or modified, e.g. treating hypothyroidism with thyroid hormone.
2. If the pathophysiological state cannot be removed or reversed can it be modified so as to lessen its severity, e.g. treating idiopathic epilepsy with anticonvulsants.
3. Is there any problem involving an AETIOLOGICAL INFLUENCE (the root cause) that can be removed. e.g. repair of a large ventricular septal defect in an infant with intractable heart failure; treating pneumococcal pneumonia with penicillin.
4. Is there a problem that reflects a *consequence* of a disease process e.g. treating dehydration of gastroenteritis with oral rehydration solution.

Note

In actual practice the diagnosis will often not be made for several days after the problem has initially presented (i.e., while awaiting the results of further investigations). The initial specific problem list will therefore not be complete. Some may have to be speculative, tentative or anticipating. For examples, a child with typical clinical features of acute post-streptococcal nephritis will have a streptococcal infection suspected and treated with penicillin several days before the result of the ASOT is returned.

(iii) Communication/Education

This much neglected aspect of the clinical method often provides the greatest challenge and is frequently the most difficult to learn. With experience, and provided rules are followed, diagnosis and treatment of illnesses and problems in children are often straightforward, although frequently demanding in mastery of certain technical skills. Less easy in many instances is often how to explain illness and its social and psychological consequences to children and their parents and who are often of very diverse social and educational backgrounds.

- How to tell parents of a newborn baby that its brain is so damaged that it will be permanently handicapped.
- How to tell a child of 9 and its parents that a diagnosis of leukaemia has been made.
- How to explain that in thalassaemia, treatment is largely palliative, often simply postponing death into early adulthood.

It is the acquisition of the art of talking to people about their problems with clarity, sympathy and understanding that often distinguishes the good from the mediocre doctor. Research suggests that the ways in which doctors interact with their patients affect not only the course of the interview but also later compliance and satisfaction with treatment. Indeed probably the major criticism of our profession by the lay public is not that we are insufficiently clever, but that we think ourselves too clever to spend time listening sympathetically and talking kindly to our patients. The practice of medicine is primarily a humanity: attitudes of thoughtfulness, kindness, humility and humour must be fostered as early in the clinical training as possible.

It is therefore imperative during clinical training to always consider the psychological and the social consequences of a clinical problem, however apparently trivial and how the problem together with its management can be explained to the child and its parents.

(iv) The follow-up record

The daily evaluation of progress should also follow the above problem orientated approach. In this way there should emerge better continuity and consistency. The same specific problems should be listed in the original order. The SOAP approach should be flexibly adopted. Particular care must be taken to include results of any investigations that have been requested under a particular problem. These should be separately documented *following* the physical examination findings and *preceding* the assessment. *The importance of careful and concise follow-up notes cannot be over-stressed. As much care must be taken with these as with the initial assessment of the clinical problem.*

An example illustrates this point

A child admitted with fever and cough. X-ray confirms left lower lobe pneumonia and child is treated with penicillin for 3 days:

Date # Pneumonia

S Feels better. Temperature settled. No cough. No pain on breathing

O Normal percussion note left lower lobe – some coarse crepitations

A Pneumonia resolving

P No need for further investigations.

Continue penicillin 250 mg qds for further 7 days.

Parents told of improved condition.

Home probably in a few days.

(v) The clinical presentation

To be able to present a clinical problem clearly and succinctly is a vital skill to be learned during the clinical years. It is the basis of good clinical practice. Mastery will reap its rewards in the house-officer years. This facility is acquired only by constant practice. The following scheme should be followed (with appropriate flexibility) when presenting a child on an evening presentation teaching session or ward round.

1. **FIRST** *Introduce the child – sex, age, home and the presenting problem(s)*

THEN

2. **HISTORY** *Summarise child's relevant personal history:*

- Family and social
- Birth and neonatal (including feeding)
- Development
- Past health
- Current health

THEN

Return to describing the presenting problem(s) **in detail** together with relevant points for making the diagnosis.

3. **EXAMINATION**

- General
- System(s) considered relevant to clinical problem
- Remainder of examination

4. **ASSESSMENT OF CLINICAL PROBLEM(S)**

Summarise relevant history and examination at the time of admission. Give a diagnosis/differential diagnosis as considered at presentation.

5. **MANAGEMENT**

- Describe any further investigations needed to have established a diagnosis.
- Outline initial problems needing treatment. These can be considered in order as those related to:
 - (i) aetiology
 - (ii) principal pathophysiological mechanism(s) immediately responsible for the problem
 - (iii) complications of the main disease processes.

For example, in a baby presenting with diarrhoea and in whom clinical examination and plasma biochemistry reveals dehydration a likely diagnosis of gastro-enteritis has been made. The immediate problems needing treatment would be:

- (i) those of the infection itself
- (ii) those of the abnormal mucosal function leading to diarrhoea (e.g. short transit time outpouring of fluid etc.)
- (iii) complications of dehydration
- Describe briefly the general aspects of treatment and then refer to treatment of each problem in turn and their outcome up to the day of presentation.
- What were the social and psychological consequences of the problem and its treatment?
- What explanations were given to the child and parents?

- If the child has been sent home, what arrangements have been made for follow-up? What problems are there in this follow up programme?

Summary Guidelines for Paediatric History Taking and Examination

1. The paediatric history should be a chronologic description of the presenting problem of the patient. It should contain all the information important for arriving at a diagnosis. The details of each components of the history may vary from one case to another according to the presenting complaint. The physical examination should have detailed description of the systems which are of particular relevance to the history. The history and physical examination should lead one to think of the most likely diagnosis and help the physician to think of the most important investigations for the case.
2. The following description of a “complete” history is a guide of what the components of the paediatric history should contain. However, the history should not be simply a checklist of these components as each history should be tailored for according to the presenting complaint and history of present illness. Furthermore, the history SHOULD NOT be simply a list of disjointed phrases. It should contain information of step by step logical reasoning leading up to the possible diagnosis and differential diagnoses.

Components of a paediatric history & physical examination:

1. Informant/Source of history
2. Presenting complaint
3. History of present illness: A chronological & logical description of the events leading up to the presentation
4. Past medical history: i) Birth History; ii) Past medical and surgical history
5. System enquiry
6. Allergy history: food, drugs or others
7. Family history
8. Drug history
9. Immunisation history
10. Environmental history
11. Developmental history
12. Social history
13. Physical examination
14. Summary and plan

Format of progress notes (SOAP format)

The following format of progress notes can be used to reflect the events after admission or at follow up in the out patient clinic.

Subjective: This is a description of how the patient is feeling. e.g. still febrile with severe abdominal pain

Objective: This is the description of what you find on examination. e.g. On examination of the abdomen, there was rebound tenderness in the right lower quadrant.

Assessment: This is your impression of what is happening to the patients in view of the subjective symptoms and objective findings. e.g. Compatible with the diagnosis of acute appendicitis

Plan: This is your plan of investigation or treatment for the patient in view of the changes that you have documented. e.g. Plan for emergency surgery, appendectomy.

GENERAL GUIDELINES FOR ONLINE LEARNING ACTIVITIES

Principles:

1. Students must be identifiable in all online learning activities. In keeping with a professional profile, personal nicknames or unrelated or offensive profile pictures are not allowed. For Zoom, students should log on using their CUHK Zoom account and preferably identify themselves in the following format:

SURNAME Chinese name, English name
e.g. CHAN Dai Man, John
2. The use of Zoom in online teaching is to facilitate interactive teaching and two-way communication between teachers and students. Active engagement and participation are expected for all online teaching and learning activities.
3. Be respectful and professional at all times. Behave as if you were in a clinical environment and be polite to fellow students and teachers.
4. When asking or answering a question or making a comment using the Chat function on Zoom, please use proper English and avoid abbreviations.
5. Please note that Zoom is an online teaching space which we intend to be a positive and safe learning environment for staff and students. Inappropriate remarks such as social chats, rude or discriminatory comments, political remarks, and/or cyberbullying will not be tolerated.
6. In large online groups it may be necessary and desirable to mute the microphone and to unmute only while speaking. In Zoom, while muted, one can temporarily unmute oneself by pressing on the space bar.

Support and help

1. If you experience any technical difficulties or access problems, for help please contact the department coordinator for paediatrics, Dr Kate Chan (katechan@cuhk.edu.hk), or e-mail our department project coordinator Ms Elly Cheung (ellycheung@cuhk.edu.hk).
2. If you experience any cyber bullying or have concerns about peer professional conduct, please contact the department coordinator for paediatrics, Dr Kate Chan(katechan@cuhk.edu.hk), or e-mail our department project coordinator Ms Elly Cheung (ellycheung@cuhk.edu.hk) in confidence.

FITNESS TO PRACTICE INCIDENTS

The following criteria are used in determining if one is unfit to practice medicine; criteria are adopted from the General Medical Council (UK)

Criminal conviction or caution

- **Theft**
- **Financial fraud**
- **Physical violence**
- Possession of illegal drugs
- Child abuse or any other abuse
- Child pornography

Drug or alcohol misuse

- **Drunk driving**
- Alcohol consumption that affects clinical work or the work environment
- Dealing, possessing or misusing drugs even if there are no legal proceedings

Aggressive, violent or threatening behaviour

- **Assault**
- **Physical violence**
- **Bullying**
- **Abuse**

Persistent inappropriate attitude or behaviour

- **Uncommitted to work**
- **Poor time management**
- **Non-attendance**
- **Poor communication skills**
- **Failure to accept or follow educational advice**
- Neglect of administrative work

Cheating or plagiarising

- **Cheating in examinations, logbooks or portfolios**
- **Passing off other's work as one's own**
- **Forging a supervisor's name on assessments**

Dishonesty or fraud, including dishonesty outside the professional role

- **Falsifying research**
- **Financial fraud**
- **Fraudulent CVs or other documents**
- Misrepresentation of qualifications

Unprofessional behaviour or attitudes

- **Breach of confidentiality**
- **Sexual harassment, racial harassment**
- **Persistent rudeness to patients, colleagues**
- **Inappropriate examinations or failure to keep appropriate boundaries in behaviour**
- Misleading patients about care or treatment
- Involvement in failure to obtain proper consent
- Unlawful discrimination

Health concerns and insights or management of these concerns

- **Failure to seek medical treatment or other support**
- **Failure to recognize limits and abilities or lack of insight into health concerns**
- **Refusal to follow medical advice or care plans, including monitoring and reviews, in relation to maintaining fitness to practise**
- Treatment-resistant condition

ABSENCE FROM COURSE ACTIVITIES

A student who needs to take leave should submit the duly-completed Application Form for [Leave of Absence](#) together with supporting document(s) to the Faculty and Planning Office at G07, Choh-Ming Li Basic Medical Sciences Building, CUHK or Room 44072, 2/F., Lui Che Woo Clinical Sciences Building, Prince of Wales Hospital.

1. Personal Leave (the leave form should be submitted 7 working days in advance)
Personal leave will only be granted to students if their leaves are taken to undertake activities related to medical education and research. Personal leaves other than the mentioned reasons will not be granted because this will undermine studies.
2. Sick Leave (the leave form and a medical certificate must be submitted not later than 5 working days from the leave of absence)

Approval procedures:

- Absence of one week or less
 - Approval must be granted by the Year Coordinator.
- Absence of more than one week
 - Approval must be granted by the Associate Dean (Education) in conjunction with the Associate Dean (Students Affairs), Assistant Deans (Education) and the Year Coordinator.

Please also refer to clauses 7.0 to 7.4 of the Regulations Governing Undergraduate Medicine Programme