SUBSPECIALTY CREDENTIALLING AND TRAINING

IN

PAEDIATRIC ENDOCRINOLOGY & DIABETES

INTRODUCTION

A paediatric endocrinologist is a paediatrician specially trained in the field of endocrinology and diabetes in children to late adolescents. This training program intends to

- harmonise training program in paediatric endocrinology and diabetes between different centres in Malaysia
- establish standards of knowledge and skills required for practice in paediatric endocrinology and diabetes at tertiary level in Malaysia
- foster the development of a national and regional network of centres for paediatric endocrinology and diabetes
- improve the level of care for children with complicated or chronic endocrine disorders

The objective of the program is to provide advanced training and experience in paediatric endocrinology and diabetes for suitably qualified paediatrician to allow competent practice as a specialist in the field.

1. ENTRY REQUIREMENT

A candidate who wishes to pursue training in Paediatric Endocrinology and Diabetes must have the following requirements:

i. A basic medical degree recognized by the Malaysian Medical Council

AND

ii. A post-graduate qualification in paediatric medicine registrable under the General Paediatrics Specialist Register in Malaysia

AND

iii. a) At least FOUR years of working experience in paediatric medical practice

OR

b) At least TWO years of working experience in paediatric medical unit after MRCP or equivalent

AND

iv. Satisfactory report from the head of the paediatric unit where the candidate is working and from one other practicing paediatrician who has more than five years of working experience.

AND

v. Registration with and approval by the Ministry of Health Malaysia for subspecialty training

vi. A pass in the entry Viva

2. DURATION OF TRAINING PROGRAM

A minimum of THREE years is to be spent in subspecialty training in accredited centres in the following order **:

Year 1 & 2 : Candidates will be working in an accredited training centre locally under the supervision of the trainer

Year 3 : Candidate will continue his/her training in an approved overseas centre

** The first two years of training should be done locally afterwhich the candidate should continue his/her training overseas for a period of 6-12 months. If overseas training is less than 12 months, an extension of local training is required to complete the third year of training.

Candidates who are working overseas and have been accepted for training in an overseas training centre may start with overseas training for 1 year followed by local training for 2 years.

A three to six month period spent in an established endocrine research laboratory is desirable. This may be incorporated into the training period locally or overseas

Candidates are allowed medical leave for not more than 2 weeks in one year. An extension of training is required to replace medical leave longer than 2 weeks.

All candidates must have registered with and approved by the Ministry of Health Malaysia for subspecialty training, prior to entry to training.

3. PROGRAM CONTENT AND MODALITIES

Content of the program covers complex endocrinology in the following areas:

<u>General</u>

- General principles of molecular biology
- Neuroendocrinology of the anterior and posterior pituitary hormones and their actions
- Transport, biochemical actions and control of hormones secretion
- Embryology and physiology of the endocrine galnds
- Adrenal steroidogenesis
- Embryology of the genital tract and molecular basis for sexual development
- Physiology of growth and development
- Principles of growth assessment. Use of growth charts
- Glucose homeostasis
- Calcium homeostasis

<u>Diabetes mellitus</u>

- Epidemiology and aetiological classification of diabetes mellitus

- Presentation and management of diabetes in infancy, childhood & adolescents
- Obesity, Insulin resistance and type 2 diabetes mellitus
- Management of DKA, hyperglycaemia, hypoglycemia
- Cerebral oedema precaution & management
- Pharmacokinetics of insulins and their appropriate use
- Intensified insulin therapy and continuous subcutaneous insulin infusion (CSII)
- Medical nutrition therapy and carbohydrate counting
- Management of diabetes mellitus in special occasions
- Complications and co-morbidities of diabetes
- Diabetes associated with other diseases

Endocrinology

- Recognise, initiate diagnostic tests and management of hypothalamic-pituitary disorders including hypopituitarism, hGH deficiency, central hypothyroidism, diabetes insipidus, hypogonadiam.
- Adrenal hyper and hypo states including congenital adrenal hyperplasia, Cushing's, pheochromocytoma, adrenal insufficiency.
- Normal sex development, Ambiguous genitalia, disorders of sex development.
- Aberrant growth and puberty.
- Thyroid disorders in children. Neonatal hypothyroid screening.
- Recognition and management of endocrine emergencies.
- Peri-operative management in endocrine surgery.
- Obesity, its pathophysiology, co-morbidities, complications and management
- Autoimmune poly-endocrine syndrome.
- Endocrine hypertension.

Metabolic Diseases

- Diagnosis and management of hypoglycaemia
- Polyuria/polydipsia. Differential diagnoses and Investigations
- Lipid biochemistry, lipid disorders, genetic diagnosis and clinical management
- Metabolic bone disease and calcium disorders. Evaluation and management of hypo and hypercalcaemia in neonates and children.
- Assessment of bone health

Skills

- Assessment of endocrine function of hypothalamic-pituitary, H-P-A, H-P-G, H-P-T axes. Ability to plan, administer and interpret endocrine investigations.
- Assessment of parathyroid function and calcium homeostasis.
- Use of growth charts, interpretation of growth pattern and final height prediction.
- Development of a team-approach to diabetes cares and weight management.
- Counseling patients and family to cope with diabetes.
- Performing and interpreting hormonal assay, bone densitometry

Laboratory

- Principles of radioimmunoassay and newer technologies
- Principles of hormonal analysis by chromatography and mass spectroscopy.
- Assessment of assay performance and quality control
- Importance of proper sample collection, transportation and storage on assay result
- Interpretation of laboratory results
- Limitations and pitfalls of endocrine tests

4. TRAINING CENTRES AND TRAINERS

The minimum requirements for accreditation as a centre for advanced training in paediatric endocrinology and diabetes are:

i. There is at least one actively practicing paediatric endocrinologist in the centre
ii. The centre provides an active paediatic endocrine service with not less than 500 cases per endocrinologist / year
iii. Facilities are adequate for in-patient, out-patient as well as ICU care of patients at tertiary level
iv. There are established in-house facilities for basic hormonal assays with internal and external quality control
v. Accessibility to nuclear medicine and radiology facilities.
vi. Surgical expertise for endocrine and neurosurgery.
vii. Adequate facilities to provide post-graduate education e.g seminar rooms, projectors, internet access, journal club, liaison with other departments e.g. pathology, oncology, orthopaedic, ophthalmology, adolescent gynaecoogy etc.

Criteria for accreditation as a trainer for Paediatric Endocrinology and Diabetes are:

i. An actively practicing paediatric endocrinologist
ii. Has more than 2 years of working experience as a paediatric endocrinologist
iii. A member of the National Specialist Registry of Malaysia (applicable to trainers in Malaysia)

5. LIST OF ACCREDITED TRAINING CENTRES

Institution	accredited period
Endocrine Unit, PPUKM	2 years
Endocrine Unit, UMMC	2 years
Endocrine Unit, Hospital Putrajaya (HPJ)	1 year

6. LIST OF ACCREDITED TRAINERS

Professor Dr Wu Loo Ling	PPUKM
Professor Dr Fatimah Harun	UMMC
Associate professor Dr Rahmah Rasat	PPUKM
Dr. Fuziah Zain	HPJ
Dr. Janet Hong Yeow Hua	HPJ

7. PAEDIATRIC ENDOCRINOLOGY & DIABETES SUBSPECIALTY COMMITTEE

Professor Dr Wu Loo Ling	PPUKM
Professor Dr Fatimah Harun	UMMC
Associate Professor Dr Rahmah Rasat	PPUKM
Dr Fuziah Zain	HPJ
Dr Janet Hong Yeow Hua	HPJ

The committee consists of a board of experienced and actively practicing paediatric endocrinologists from the Ministry of Health, Universities and relevant bodies in Malaysia. The role of the committee is to

i. organise and oversee the training program
ii. develop the structure and syllabus for the training program
iii. accredit training centres and trainers
iv. decide on criteria for accreditation as paediatric endocrinologist

The committee will meet from time to time to review and update the training program and syllabus.

8. CRITERIA FOR REGISTERING AS A PAEDIATRIC ENDOCRINOLOGIST IN MALAYSIA

A general paediatrician can be registered as a paediatric endocrinologist if he/she has obtained ALL the following requirements:

i. A basic medical degree recognized by the Malaysian Medical Council

ii. A paediatric postgraduate qualification recognized by the Malaysian Paediatric Specialty Board

- Master of Paediatrics awarded by University Malaya, Universiti Kebangsaan Malaysia or Universiti Sains Malaysia
- MRCP (UK) up to year 2000
- MRCPCH by the Royal College of Child Health, UK
- MRCPI (Ireland)
- FRACP
- M.Med Paediatrics (Singapore)
- Any other equivalent paediatric postgraduate degrees recognized by the Malaysian Paediatric Specialty Board on a case by case basis

iii. Successful completion of subspecialty training in Paediatric Endocrinology and Diabetes, as evident by

- *Completion of a minimum period of 3 years in subspecialty training* in accredited centres of which 6-12 months is spent in an approved overseas centre
- *Log book* of core procedures and key features of patients managed
- *Portfolio* with supporting document where relevant e.g. certificates of attendance at conferences, courses or workshops, published papers or abstracts, lectures or teaching sessions, journal reading, CME, laboratory experience
- *Satisfactory Supervisors' Reports* on professional and Core Procedural Skills (appendix A) & Clinical Core Competencies (Appendix B)
- *A satisfactory pass in Exit Viva at the end of the 3-year training*

Candidates who had completed training in Paediatric Endocrinology overseas can be considered by the Paediatric Subspecialty Board for accreditation if they fulfill a minimum period of 3 years clinical training in recognized paediatric endocrine centres. Each applicant will be reviewed on a case by case basis. Applicant has to provide supporting document as proof of training, evidence of work experience, clinical competence and research experience plus a detailed curriculum vitae and recommendation from two senior paediatric endocrinologists of at least 5 years experience in the field

GRANDMOTHER CLAUSE

A paediatrician may be credentialed as a paediatric endocrinologist without the need to submit log book, supervisors' reports and other supporting document of trainig if they fulfill the following criteria:

- Has been gazetted as a paediatric endocrinologist by the Ministry of Health or registered as a paediatric endocrinologist under the Specialist Register of the Academy of Medicine of Malaysia or appointed as a Professor of Paediatric Endocrinology by the University

  OR

- Has reports from two senior paediatric/adult endocrinologists with at least 8 years of working experience in the field, on his/her competency in paediatric endocrinology

  AND

- Has 3 years or more of working experience as a specialist in the field of paediatric endocrinology before 23rd August 2009