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## **Appendix 1 - Royal College of Paediatrics & Child Health**

### **ENDOCRINE SPECIALITY ADVISORY COMMITTEE FOR EDUCATION & TRAINING**

#### **BACKGROUND**

The Royal College of Paediatrics and Child Health is responsible for advising the Specialist Training Authority on the award of CCST and all that goes with that. To assist in this, each of the Speciality Groups will be responsible for Teaching and Training and advising the Higher Specialist Training Committee on the award of CCST. The College Speciality Advisory Committee Chairman will sit on the Education and Training Committee to advise *the RCPCH* on training and Education issues.

## **COMPOSITION OF THE COLLEGE SPECIALITY ADVISORY COMMITTEE IN ENDOCRINOLOGY AND DIABETES**

1. Current SAC Representatives/Advisers who will become the Chairman and Deputy Chairman of the CSAC and will represent the interests of Endocrinology and Diabetes on the College Education and Training Committee. These Advisers should reflect the broad nature of the Society so that:-
2. one will be a Paediatrician with a Special Interest and the other a full/or greater than half time in Paediatric Endocrinology and Diabetes. Currently [Tim Cheetham \(Newcastle\) \(Chair\)](#) and [Ahmed Massoud \(Northwick Park\) \(Deputy Chair\)](#).
3. A General Paediatrician or a Paediatrician from another Paediatric Sub-speciality. Nominated by the RCPCH. Currently Dr Gleadhill (N.I.).
4. An Officer of the BSPED, usually the Chairman.
5. The Secretary of the Society.
6. An adult Endocrinologist from the RCP College Committee on Endocrinology and Diabetes.
7. The CME coordinator.
8. A representative of the Junior Doctors in training in Paediatric Endocrinology.
9. A past or present RCPCH Regional Advisor (if not represented above).
10. Others to be coopted as necessary to provide expert advice or to provide for geographical needs.
11. An educationalist.

## **CONSTITUTION**

1. The Sub-Committee will be known as the "College Speciality Advisory Committee in Endocrinology and Diabetes," hereafter referred to as the CSACED.
2. The Chair and Deputy Chair, the 2 Training Advisers and the Junior Doctors' representative will be nominated at the Annual General Meeting of the BSPE and will serve for a period of 3 years in the first instance and may seek reelection for a further 2 year session. It is accepted that the Junior Doctors position may change with circumstances.

3. Nominations will be sought from the appropriate Bodies for the other Members of the CSACED who will serve for a period of 3 years in the first instance and then their position will be reviewed in the light of the CSACED.
4. The Chair or Deputy Chair will represent the CSACED on the College Education and Training Committee.
5. The Chair or Deputy Chair will become Members of the BSPED Executive Group and report at frequent intervals to that Group either directly or indirectly through the BSPED Secretary.
6. The CSACED will meet at least twice per year.
7. The CSAC will award Endocrine Training Numbers and advise on progress from the secondary to tertiary training schemes.
8. The CSAC will be consulted about the provision & advertisement of National tertiary training opportunities.
9. The whole constitution to be reviewed after an initial 5 year period.

## [Appendix 2 - Endocrine component of General Specialist Training](#)

This information supplements the information outlined in the RCPCH Syllabus and Training record.

### **GROWTH**

#### **1. Basic Knowledge**

- (i) Normal growth and physical development through infancy, childhood and adolescence: normal variation.
- (ii) Knowledge of the basic endocrinology of growth and puberty
- (iii) The effects of deprivation and social class on growth: differences between races.
- (iv) Influence of genetic, prenatal and postnatal environmental factors.
- (v) Understanding principles of growth charts: normal distribution.
- (vi) Normal sequence of puberty: the variation in its timing in the different sexes.
- (vii) Bone age as a measure of physical maturity.
- (viii) Principles of growth screening.
- (ix) Common and important causes of growth failure: chronic disease: long term steroid therapy.
- (x) Disproportionate growth.

#### **2. Skills**

##### **Clinical Skills**

- (i) Use of growth charts: distance and velocity.
- (ii) Assessment of stages of puberty (Tanner); including measurement of testicular size using an orchidometer.

### **Technical Skills**

- (i) Accurate measurement of height, length, weight, head circumference: knowledge of suitable measuring equipment.

### **3. Attitudes**

- (i) Acceptance that concerns about growth and puberty can have long-term effects on psychological development and social relationships.
- (ii) Understanding that most concerns about growth and puberty do not have a basis in organic disease.

### **4. Particular Problems**

Ability to recognise early, initiate diagnostic tests and outline the management of concerns about growth including the following:

- (i) failure to grow
- (ii) emotional deprivation
- (iii) short and tall stature
- (iv) abnormalities of puberty
- (v) obesity

## **Appendix 3 - Syllabus for higher specialist training in endocrinology and diabetes**

**This information supplements the information outlined in the RCPCH Syllabus and Training record**

The components of the two courses are denoted by (2) Secondary and (3) Tertiary. All expected to cover sections A, C, E, F, H, I and J. As Endocrinology and Diabetes are predominantly Outpatient Specialities it is not possible to state precise times to be spent in each module. Competence rather than time spent in a module/teaching area is desired. As a result Training Centres/Modules are defined on patient numbers seen at the centre as well as the case-mix. The trainee should keep a written record of patients seen by themselves, procedures conducted, diagnosis and therapeutic interventions instigated and followed-up.

## **A. FOUNDATION STUDIES IN ENDOCRINOLOGY (2 & 3)**

### **Basic knowledge**

- general principles of molecular biology. Specific reference to the molecular regulation of the GH gene and steroid hormone action at the molecular level
- secondary messenger signalling systems used in the endocrine system
- neuroendocrinology of the anterior and posterior pituitary hormones and their action
- transport, biochemical actions and control of hormone secretion
- steroid biosynthetic pathways
- embryology of the endocrine system
- embryology of the genital tract and molecular basis for sexual differentiation
- principles of growth assessment

### **Skills**

- ability to conduct an anthropometric assessment
- assessment of skeletal maturation staging of pubertal development.

### **Resources**

- endocrine clinics
- liaison with basic scientists
- sessions dedicated to basic science issues
- structured in-house, BSPED approved, endocrine teaching courses
- postgraduate courses of the Society for Endocrinology/Royal College of Physicians/British Diabetic Association/European Society for Paediatric Endocrinology/BSPED Regional CME Meetings
- annual meetings of the British Endocrine Societies, the Society for Endocrinology, European Society for Paediatric Endocrinology and British Society for Paediatric Endocrinology and Diabetes

### **Evaluation**

- clinical progress
- course attendance
- supervision of anthropometric techniques
- membership of learned endocrine societies, Society for Endocrinology, Endocrine Society (USA), European Society for Paediatric Endocrinology, British Society for Paediatric Endocrinology and Diabetes.

### **Literature**

- clinical and basic science reviews in Journal of Clinical Endocrinology and Metabolism, Endocrinology, Endocrine Reviews, Clinical Endocrinology and Journal of Endocrinology

- Williams Textbook of Endocrinology. (8th Ed).
- Brook CGD. Clinical Paediatric Endocrinology. (3rd Ed) Blackwell Scientific Publications, Oxford, 1995.
- Brook CGD. A guide to the practice of Paediatric Endocrinology. Cambridge University Press, Cambridge, 1993.
- De Groot LJ. Endocrinology. (3rd Ed). Saunders, Philadelphia, 1995.
- Wilkins. The diagnosis and treatment of endocrine disorders in childhood and adolescence. Thomas, 4th Edition.
- Lifshitz. Pediatric Endocrinology. Dekker, 3rd edition.
- Wales, Wit & Rogol. Atlas of Pediatric Endocrinology & Growth. Mosby 1996

## **B. PRINCIPLES AND PRACTICE OF ENDOCRINOLOGY.**

### **Basic knowledge**

- recognise, initiate diagnostic tests and outline management and referral criteria (2) of:-
  - - hypo (2) and hyperthyroidism
  - - neuroendocrine system eg. Cushing's disease (3)
  - - adrenal hyper and hypo states including congenital adrenal hyperplasia (3)
  - - early and late sexual development (2)
  - - ambiguous genitalia (3)
  - - short stature, growth delay, excessive growth, (2)
  - - hypoglycaemia (2)
- evaluate biochemical, radiological and other tests used in endocrine practice (2)
- pharmacology of (commonly used (2) ) therapeutic agents (3)
- management of endocrine problems in adolescence (3)

### **Skills**

- administer and interpret investigations for endocrine disorders (2)
- competence in understanding pharmacokinetics/dynamics of therapeutic agents used (2)
- development of effective communication strategies (2)

### **Resources**

- distance based learning
- local endocrinology protocols and clinical service guidelines
- courses on communication techniques

### **Evaluation**

- attendance at clinics. Personal involvement in management of conditions.
- individual case discussion
- real data interpretation

### **Literature**

- Brook CGD. 1995 Clinical Paediatric Endocrinology. (3rd Ed.). Blackwell Scientific Publications, Oxford.
- Lifschitz F. Paediatric Endocrinology. (3rd Ed). Marcel Dekker, New York, 1997.
- Williams Textbook of Endocrinology. (8th Ed).
- Wilkins. The diagnosis and treatment of endocrine disorders in childhood and adolescence. Thomas, 4th Edition.

## **C. DIABETES (2 & 3)**

### **Basic knowledge**

- epidemiology and aetiology of IDDM
- presentation of IDDM in infancy, childhood and adolescence
- management of diabetic ketoacidosis, hyperglycaemia, hypoglycaemia
- cerebral oedema management
- pharmacology of insulin
- complications of diabetes
- diabetes associated with other diseases
- predictors of IDDM and intervention studies
- management of IDDM in adolescence
- obesity and NIDDM. Concept of insulin resistance

### **Skills**

- acute management of IDDM, role of ITU
- injection and monitoring skills
- develop teamwork approach to diabetic care, dietician, nurse specialists, psychologist
- Principles of basic dietary education; The adaption of diet to insulin profiles and exercise.
- develop concept of diabetic in the family and community
- administer and/or interpret tests to detect diabetic complications
- laboratory experience of glycated protein analysis

### **Resources**

- register of diabetic patients
- dedicated paediatric diabetic clinic

- team approach to diabetic care. Act as observer and team member on consultations/follow-up. Participation in diabetes camps/holidays.
- laboratory liaison
- sessions with adult diabetologists/nephrologists/opthalmologists

### **Evaluation**

- clinic attendance monitoring and follow-up of diabetic children
- tracking of changes in markers of control with respect to intervention
- research opportunities

### **Literature**

- Pickup JC, Williams G. Textbook of diabetes. Blackwell Scientific Publication, Oxford,
- Kelnar CJ. Textbook of childhood and adolescent diabetes. Chapman Hall, London.
- Court & Lamb. Textbook of childhood and adolescent diabetes. Wiley, 1997.
- Alberti et al. International Textbook of Diabetes Mellitus. Wiley, 1997.

## **D. METABOLIC DISEASE**

### **Basic knowledge**

- metabolic bone disease and calcium disorders (3)
- lipid biochemistry, lipid disorders, genetic diagnosis and clinical management (3)
- polyuria/polydipsia. Investigation of differential diagnosis. (3)
- diagnosis and management of hypoglycaemia (2)

### **Skills**

- ability to administer and interpret investigations (2)

### **Resources**

- single or multiple endocrine centres may be required to cover this area in depth
- liaison with adult lipidologist/diabetologist

### **Evaluation**

- attendance at clinics and personal involvement
- individual case discussion
- real data interpretation



## **Literature**

- Williams Textbook of Endocrinology. (8th Ed).
- Brook CGD. 1995 Clinical Paediatric Endocrinology. (3rd Ed). Blackwell Scientific Publications, Oxford.
- Wilkins. The diagnosis and treatment of endocrine disorders in childhood and adolescence. Thomas, 4th Edition.
- Lifshitz. Pediatric Endocrinology. Dekker, 3rd edition.
- Becker. Principles & Practice of Endocrinology & Metabolism. Lippincott, 1990.

## **E. LABORATORY ENDOCRINOLOGY**

### **Basic knowledge**

- principles of good laboratory practice (2)
- principles of radioimmunoassay and newer technologies eg. ELISA, chemluminescence (3)
- difference between immuno and bioassays (3)
- steroid hormone analysis by chromatography and mass spectroscopy (3)
- assessment of assay performance and quality control (3)
- principles of molecular biology (3)
  - - analysis of DNA and RNA
  - - role of PCR
  - - semi quantitative assessment
- importance of sample collection (3)
- limitations of commonly used endocrine tests (2)

### **Skills**

- perform an immunoassay (3)

### **Resources**

- time spent in endocrine laboratory
- time spent attached to molecular biology group
- Society for Endocrinology molecular biology courses

### **Evaluation**

- completion of laboratory work to satisfaction of laboratory manager
- regular review of laboratory methodology as applied to clinical practice

## **Literature**

- Edwards, R. Immunoassay. An introduction. William Heineman Medical, London, 1985
- Thakker R (ed). Genetic and molecular biological aspects of endocrine disease. Balliere.
- Strike, PW. Medical Laboratory Statistics. John Wright & Sons Ltd, Bristol, 1981

## **F. MULTIDISCIPLINARY TRAINING (2 & 3).**

### **Basic knowledge**

- the role of joint adolescent clinics in providing endocrine/diabetes needs for young adults
- transferring to adult endocrine/diabetes practice
- adolescent perspectives of chronic illness
- implications of childhood endocrine disease for Adult Endocrinology
  - - oncology and radiotherapy
  - - renal disease
  - - respiratory disease
- the role of surgery in managing endocrine disease
- application of imaging techniques to endocrine evaluation
- psychological implications of endocrine disease. Psychosocial impact on endocrine disease.

### **Skills**

- managing multidisciplinary teams

### **Evaluation**

- attendance at Adult Endocrinology clinics (formal involvement for 6 months)
- attendance at joint paediatric subspecialty clinics for the long term follow-up of complex endocrine problems
- visit to hospital imaging services. Liaison with imaging practitioners.

### **Literature**

- Becker. Principles & Practice of Endocrinology & Metabolism. Lippincott, 1990.
- Brook CGD. 1995 Clinical Paediatric Endocrinology. (3rd Ed.). Blackwell Scientific Publications, Oxford.
- Wilkins. The diagnosis and treatment of endocrine disorders in childhood and adolescence. Thomas, 4th Edition.
- Lifshitz. Pediatric Endocrinology. Dekker, 3rd edition.
- Alberti et al. International Textbook of Diabetes Mellitus. Wiley, 1997.

- Hofmann A. Adolescent Medicine. Addison Wesley, California, 1983

## **G. BIOSTATISTICS**

### **Basic knowledge**

- application of parametric and nonparametric statistics (3)
- statistical modelling (3)
- method comparison studies (3)
- principles of screening and surveillance programmes (2)
- study design (3)
- principles of health economics
- evidence based endocrinology (2)
- critical appraisal of literature (2)
- principles of systematic reviews (3)
- place of information technology in clinical and research practice (2)

### **Resources**

- university statistics clinic
- sessions with Health Services Research personnel
- local IT network

### **Evaluation**

- critical appraisal of literature
- worked examples
- trial design
- construction of scientific paper/presentation

### **Literature**

- statistical/health service reviews in New England Journal of Medicine, Lancet, British Medical Journal, Evidence Based Medicine
- Altman DG. Practical statistics for medical research. Chapman and Hall, London, 1991.
- Bailar JC, Mostellar F. Medical uses of statistics. (2nd Ed) New England Journal of Medicine Books, Boston, 1992

## **H. AUDIT (2 & 3).**

### **Basic knowledge**

- the audit cycle
- identification and conduct of audit studies

- promoting change

### **Resources**

- disease registers
- hospital audit departments

### **Evaluation**

- example(s) of audit process in action

### **Literature**

- reviews and reports in general medical journals

## **I. MANAGEMENT (2 & 3).**

*This generic syllabus has been prepared for the Academy of Royal Colleges to describe the management skills and knowledge needed by all practising doctors. There are 5 groups of capabilities.*

**Contextual awareness - understanding and ability to operate effectively at all appropriate levels in the context of the NHS structure. Knowledge of the following is important:-**

- Political and economic context - making difficult choices.
- Central government public health and health service strategies NHS funding
- Roles of major constituents of NHS and of other relevant agencies, e.g. social services
- Senior organisational roles
- Structure and process of local units
- Understanding the societal forces shaping the demand for health services.

**Strategic thinking - understanding of strategic processes and ability to apply them:-**

- Generating a vision and long term strategies
- Contributing to the development of organisational goals
- Linking day-to-day activities and strategic plans

**Functional/operational skills and knowledge- skills in a wide range of activities and processes associated with the day-to-day operation of units in health care organisations. These include:-**

- Implementing clinical guidelines
- Accessing information

- Making effective use of resources
- Handling complaints
- Recruitment
- Appraisal techniques
- Disciplinary procedures.

**Interpersonal/team skills -ability to relate effectively with colleagues, line managers, staff and others associated with the organisation. This may involve:-**

- Professional leadership
- Influencing others
- Using political skills
- Communicating sensitive information
- Counselling colleagues and subordinates, mentoring
- Contribution to meetings
- Making presentations
- Delegating work to colleagues
- Developing team spirit

**Self management skills -skills used in professional and personal development. These include:-**

- Learning effectively from experience
- Receiving direction from others
- Implementing difficult non-clinical decisions
- Acting independently/using initiative
- Time management
- Writing reports
- Adopting ethical management stance
- Handling uncertainty
- Self-awareness
- Effective presentation of self.

### **Literature**

- regular review articles in British Medical Journal/Lancet/New England Journal of Medicine

## **J. EDUCATION (2 & 3)**

### **Basic Knowledge**

- defining aims of teaching course/programme/lecture
- targeting different audiences

- preparation of teaching material

### **Resources**

- BSPED distance based learning

### **Evaluation**

- presentation of lectures to different audiences
- bedside teaching programmes
- educational material developed