



Monospecialist Section of Endocrinology of UEMS and European Board of Endocrinology (18 May 2017)

Endocrinology: The European Training Requirement

DEFINITION OF ENDOCRINOLOGY AND OUTLINE OF THE TRAINING NEEDS OF ENDOCRINOLOGISTS, IN ACCORDANCE WITH CHAPTER 6 (ENDOCRINOLOGY) OF THE UEMS CHARTER¹

Preamble

Central to the aims of UEMS are (a) the promotion of free movement, (b) ensuring the highest quality of postgraduate training and (b) improving the quality of medical care across Europe.

This European Training Requirement (ETR) outlines the overall direction and principles of training in Endocrinology is the result of an extensive review process by members of the Section and Board, informed by recommendations from specialist societies and complementing and supporting national legislation and guidance. It aspires to a holistic approach, reflecting expert clinician, academic scholar, professional leader and humanitarian inputs.

1. Definition

The specialty of Clinical Endocrinology, Diabetes and Metabolism (including Nutrition, Andrology, Reproductive & Sexual Medicine), but henceforward abbreviated to Endocrinology is that branch of Medicine concerned principally with structural and functional disorders of the endocrine glands, of hormone action and the metabolic consequences thereof.

2. The Practice of Endocrinology

Since hormones act on virtually every organ and cell type in the body, the Endocrinologist has to apply a wide experience in general medicine. Some disorders lie very clearly and completely within the domain of the Endocrinologists, being entirely or largely due to an abnormality of hormone production (as for example diabetes or thyroid disease). Other disorders are not exclusively endocrine in origin, but have important endocrine aspects (as for example osteoporosis or infertility). In the case of these, and also in many other less completely endocrine disorders, the Endocrinologist as a physician is often the most appropriate person to provide medical care or, where a multidisciplinary approach is appropriate, to co-ordinate care. The Endocrinologist will thus generally need to develop and maintain skills in acute and chronic aspects of General Internal Medicine. Faced with an increasing proliferation of tests and new therapeutic procedures, the Endocrinologist often has an important role in defining the most efficient and cost-effective strategy for their use in patient care. High-level communication and negotiation skills are thus central to the practice of Endocrinology, both in relation to direct patient care and to the workings of multidisciplinary teams.



3. Training Needs of European Endocrinologists

The training of the Clinical Endocrinologist should therefore involve the principles, the practice and ethical aspects of the following:

- Foundation or core training in general internal medicine (common trunk).
- Higher training in core areas of Endocrinology, including multidisciplinary training in a number of areas where the trainee should have responsibility for the care of patients
- Ideally some relevant research and clinical laboratory experience.

4. Foundation or Core Training in General Internal Medicine (common trunk)

It is of great importance that training involves adequate experience in General Internal Medicine after general medical registration (see below). This must be in the capacity of a practitioner working in a hospital, within an accepted postgraduate training programme, where he or she should have responsibility for the care of patients with a wide variety of medical disorders. It may also usefully include shorter periods of practice in other related disciplines such as Paediatrics and Obstetrics & Gynaecology.

5. Training in Core areas of Endocrinology

This should involve the following:

5.1. Background

A thorough modern grounding in the normal physiology of the endocrine system, including the physiology and biochemistry of hormones and their actions, and reflecting advances in molecular medicine.

5.2. Endocrinology

Extensive first-hand practical experience in a recognised training centre, of the management of diseases primarily involving the endocrine system, including all disorders of inadequate or excess hormone secretion or action, and specifically including disorders of the following:

- the thyroid gland, including an understanding of:
 - o extrathyroidal features of autoimmune thyroid disease
 - o the roles of sonography, cytology and histology in characterising thyroid nodules
- parathyroid glands
- adrenal glands
- endocrine and reproductive function of the gonads, including endocrine aspects of sexual development and sexual function
- neuroendocrine system: including hypothalamus, pituitary gland and “gastrointestinal” hormones.
- disorders of blood pressure physiology and endocrine causes of pathophysiology
- the endocrine system in pregnancy, growth and development.
- genetic predisposition to endocrine gland neoplasia (including MEN1, MEN2, VHL syndromes)
- mass lesions within the endocrine glands and their investigation
- ectopic hormone secretion syndromes (eg. Neuro Endocrine Tumours, tumour-hypercalcaemia , tumour- osteomalacia, ectopic Cushing’s).



5.3. *Diabetes mellitus*

Extensive practical experience in all aspects of diabetes mellitus and its complications. This includes:

- differentiation between subtypes of diabetes mellitus, reflecting advances in our knowledge of genetic and autoimmune markers
- all the complications of diabetes
- multidisciplinary approach to delivering diabetes foot care
- preconception and antenatal management of type 1 and type 2 diabetes and gestational diabetes
- care of diabetic children and adolescents transitioning into adulthood
- care of the diabetic patient undergoing surgery
- in-patient management of acute diabetes-related emergencies (ketoacidosis, hyperglycaemic hyperosmolar state, severe hypoglycaemia)
- in-patient management of glycaemic control in diabetic patients on intensive care units, those undergoing nasogastric feeding regimes and total parenteral nutrition
- delivery of basic diabetes education, including insulin initiation, blood glucose testing, identification of hypoglycaemia and treatment, nutrition
- basic pharmacology of the drug classes used in the management of diabetes
- insulin pumps
- basic principles of pancreas and islet transplantation surgery, and post-pancreatectomy diabetes
- understanding of the different models of delivery of diabetes care, *i.e.* primary and secondary care
- use of new technologies (*e.g.* smartphone-based continuous interstitial fluid glucose monitoring) to advance diabetes care and increase patient empowerment.
- fitness to drive different classes of vehicle in relation to diabetes subtype, glycaemic control and complications.

5.4. *Metabolism and Nutrition*

Extensive first-hand practical experience in a range of metabolic and nutritional disorders including:

- fluid and electrolyte disorders
- metabolic bone disease, including osteoporosis and disorders of calcium homeostasis
- lipid disorders
- obesity, including environmental and genetic influences
- eating disorders and re-feeding syndrome

5.5. *Laboratory Endocrinology*

An understanding of the principles and practice of hormone assay methods and the use of diagnostic tests is essential. Training should therefore include some exposure to endocrine laboratory services. The Endocrinologist should have access to an up-to-date hormone assay service and, if trained to do so, contribute to its management. Endocrinologists should also understand the growing availability and impact of molecular biology and genetics on clinical management.



5.6. Multidisciplinary Training

This is particularly important (as example) in the following areas:

- reproductive Endocrinology and the endocrine basis of infertility including use of gonadotrophic stimulation therapy and assisted reproduction.
- growth disorders, Disorders of Sexual Differentiation, and precocious/delayed puberty (jointly with paediatric Endocrinologists).
- surgical Endocrinology: involvement in pre- and post-operative management of pituitary, adrenal, thyroid/ parathyroid disease and diabetes.
- radioisotopes: diagnostic and therapeutic uses.
- imaging techniques relevant to Endocrinology, including ultrasound-, cross-sectional- and isotope-based- scanning.
- Endocrinology of oncology.
- hormone pharmacology and treatment.

6. Research Experience

The above training should preferably be supplemented by a period of direct involvement in scientific research into one or more of these areas.

7. Content and Duration of Training

Specialised training should only start after one year of supervised hospital clinical practice. The minimum total duration of such training before accreditation as a specialist should be 6 years full-time (or recognised equivalent) in a mixture of General Internal Medicine and Endocrinology and Diabetes.

7.1. *The Common Trunk*

The training should start with a period of practical experience (Foundation and/or Core) in General Internal Medicine and the major medical disciplines. The specialty of Diabetes and Endocrinology requires at least two years of full-time practical experience of General Internal Medicine in approved training centres. Since this trunk will be common with other medical specialties, high priority should clearly be given to definition of the requirement and duration of the Common Trunk.

7.2. *Specialist Training in Endocrinology*

This involves a minimum of a further four years of training. This time should include the equivalent of two years full-time in Endocrinology as defined under paragraph 5. The remaining two years should provide a balance of further experience in relevant medical disciplines, and in other clinical laboratory and research activities as defined under paragraph 6.

1. The present document is an update of the originally agreed version, dating from 1991, known as “The Leuven/Louvain Document” (<http://uems.dk/files/CHAPTER-6.htm>).