

European Society for Paediatric Nephrology

Recommendations for the training of European Pediatric Nephrologists by the European Society for Paediatric Nephrology

An outline of the minimal requirements for accreditation in the European Economic Community

Preface

To obtain a high standard of patient care and scientific research in the field of medicine, high-quality postgraduate training programs in the various medical specialities are indispensable. One of the endeavors of the Union of European Medical Specialists (UEMS) is to have training programs of comparable quality instituted in the various member countries throughout the European Economic Community (EEC).

Owing to the rapid integration of these countries, doctors can now freely practice medicine throughout the EEC. It is therefore of prime importance for the maintenance of standards of patient care that specialist doctors should receive equivalent training in each of the member countries.

The European Society for Pediatric Nephrology (ESPN), founded in 1967, has member pediatric nephrologists in most European countries within and without the EEC. According to its constitution, the purpose of the ESPN is “to promote the knowledge of paediatric nephrology and research in this field and to disseminate such knowledge at meetings and elsewhere.”

Drafted by the Council of ESPN 1992–93;

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Addendum 1997

The Union of European Specialists Management Council, in a plenary session in Brussels held on 20 March 1999, discussed the request of pediatric nephrology to become a subsection of the pediatrics division. The proposal was unanimously accepted

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In view of developments in the EEC, the ESPN has recognized the need to specify the minimal training requirements for the accreditation of pediatric nephrologists. It was also considered important to make recommendations about aspects of the establishments in which training should take place.

The aim of this report is to set out recommendations for minimal postgraduate training in pediatric nephrology and for an adequate infrastructure in the training centers. Until these recommendations are incorporated into national guidelines, it is envisaged that there will be a flexible transition period for each country, during which there will be a gradual change from existing training conditions.

This document was drafted by the late Dr Michael Winterborn, ESPN secretary general 1989–1992. After consideration by the council the recommendations contained in this report were adopted unanimously by the Annual General Meeting of the Society in Heidelberg on 6 September 1993. At the same meeting the Society decided unanimously that, in the best interests of patient care, research and education, pediatric nephrology should be accepted as a separate pediatric subspecialty.

This document was first submitted to the European Board of Pediatrics (EBP) the training body of the Confederation of European Specialists in Pediatrics (CESP) in 1997. The EBP and CESP recognized the need for subspecialty training within pediatrics in 1998. At the same time the ESPN was recognized by CESP as the representative body for pediatric nephrology in Europe. At that time the UEMS statutes did not allow for subspecialties within pediatrics. Subsequently the statutes were changed to allow the recognition of pediatric subspecialties. The management council of the UEMS in Brussels in 1999, in a plenary session, unanimously accepted that pediatric nephrology become a subsection of pediatrics. It is envisaged that the training document will be revised from time to time in line with developments in pediatric nephrology and postgraduate medical training in Europe.

Pediatric nephrology

Summary

This document defines a pediatric nephrologist (section 1) and the work that he or she undertakes (sections 2 and 3). The training requirements for general recognition in Europe as a pediatric nephrologist and hence for accreditation in the specialty by the EEC are set out (section 4). In outline they are as follows:

- Number of years activity (in chronological order)
- Training in general pediatrics (section 4.1)
- Research in pediatric nephrology (optional and may be carried out later)
- Higher specialty training in pediatric nephrology (section 4.2)

The requirements for recognition of an institution for the training of pediatric nephrologists are detailed (section 5). A mechanism for accreditation is proposed (section 6).

1. Introduction

A pediatric nephrologist is a trained pediatrician specializing in the investigation and treatment of children with renal disease and renal failure. He will often share the care of these children with a general practitioner or general pediatrician. His place of work will normally be an established pediatric nephrology unit. This should offer a full range of renal diagnostic facilities and facilities for treatment of acute and chronic renal failure in children. These will usually be part of an academic department of pediatrics in which research is an integral activity and in which nephrology will be linked with other pediatric subspecialties. This document does not address the training of general pediatricians with an interest in nephrology.

2. Type of work of the pediatric nephrologist

The age of the patients ranges from fetal life to the end of the adolescent period. The specific expertise of pediatric nephrologists makes them uniquely qualified to investigate and treat renal disease and its myriad consequences in children from the neonatal period and throughout growth and development. This responsibility would be difficult to undertake without an infrastructure dedicated to pediatric nephrology. The pediatric nephrologist finds it necessary to consult and collaborate with the majority of other pediatric disciplines both as a responder to requests to care for patients who suffer from acute renal conditions and electrolyte disorders and as a provider of care for children with end-stage renal failure. Particularly important are the (pediatric) urologist, pediatric surgeon, transplant surgeon, vascular surgeon, cardiologist, endocrinologist, adult nephrologist, dietician, pharmacist, psychologist, social worker, and school teacher.

The practice of pediatric nephrology includes:

- 2.1 Investigation and non-surgical treatment of patients with:
 - 2.1.1 Congenital and acquired renal disease
 - 2.1.2 Disorders of glomerular and tubular function
 - 2.1.3 Metabolic consequences of renal failure
- 2.2 Treatment of chronic renal failure:
 - 2.2.1 By peritoneal dialysis
 - 2.2.2 By hemodialysis and related techniques
 - 2.2.3 By transplantation: postoperative and long-term outpatient care
- 2.3 Prevention of renal disease: e.g., by screening programs

3. Specification of duties of the pediatric nephrologist

3.1 Patient care

Specialized knowledge and skills are essential, both for diagnosis and related procedures and for treatment.

3.1.1 Diagnosis

History and physical examination, familiarity with renal histopathology, and interpretation of urinary tract imaging. Needle renal biopsy, measurement of glomerular filtration rate, and tubular function. Performance of renal ultrasonography is an advantage.

3.1.2 Treatment

- 3.1.2.1 Management of glomerular and tubular diseases, body fluid and electrolyte disorders, and diseases of the urinary tract.
- 3.1.2.2 Hypertension
- 3.1.2.3 Maintenance of growth and physical and mental development in children with renal disease
- 3.1.2.4 Application of dialysis and related techniques to children with acute and chronic renal failure and other non-renal disorders
- 3.1.2.5 Medical management of renal transplantation

3.2 Teaching

The pediatric nephrologist is responsible for the education of students and junior doctors in the fields of renal development, function, and diseases in infants and children. The teaching obligation in more detail extends to pediatricians and trainees in pediatrics and pediatric nephrology and in a broader sense to trainees in primary health care and obstetrics, to nurses, and to paramedical personnel.

3.3 Scientific work

The pediatric nephrologist may engage in basic or clinical research into congenital and acquired renal disease. Research in nephrology frequently requires collaboration with other disciplines while the small number of patients often necessitates collaboration in multicenter studies with other pediatric nephrology units.

3.4 Management

3.4.1 The organization and running of the nephrology department including economic aspects

3.4.2 Evaluation (audit): maintenance of accurate records of the clinical activity of the department to permit audit of clinical activity and administrative efficacy of the nephrology department

4. Training requirements for accreditation in pediatric nephrology

4.1 General professional training

This must fulfil the requirements of the country to register as a pediatrician and must be of at least 3 years' duration. It should include experience in neonatology and intensive care and may also include adult nephrology.

4.2 Higher specialty training

This should comprise a further 3 years, some of which may be obtained during the period of general professional training. During the training period a high standard of expertise should be obtained in both inpatient and outpatient environments of:

- 4.2.1 The embryology of the kidney and urinary tract.
- 4.2.2 The anatomy, histopathology, and physiology of the kidney and its circulation under normal and abnormal conditions.
- 4.2.3 The pathology and pathophysiology of congenital and acquired diseases of the kidney and urinary tract in the growing child.
- 4.2.4 The etiology, symptomatology, diagnosis, and differential diagnosis of congenital and acquired renal diseases in the fetus, infant, and child and their appropriate investigation by imaging, tests of function, and histopathology.
- 4.2.5 The performance or detailed knowledge of the following procedures:
 - 4.2.5.1 Renal biopsy.
 - 4.2.5.2 Renal ultrasonography.
 - 4.2.5.3 Clearance techniques for the measurement of glomerular filtration rate and the activity of functionally distinct segments of the renal tubule.

4.2.5.4 The application of peritoneal dialysis, hemodialysis, and related techniques together with peritoneal and vascular access for acute and chronic problems.

4.2.6 The use of diet and drugs for the treatment of renal diseases.

4.2.7 During the training period the trainee should acquire knowledge of the indications and management of surgical interventions in the urinary tract.

4.2.8 A good understanding should also be obtained of the causes of bladder voiding abnormalities, their cystometric investigation and their medical and surgical treatment.

4.2.9 A good understanding should be obtained of the prevention, manifestations, and management of psychosocial problems which arise in children with chronic renal disease and their parents.

4.2.10 The trainee should be made aware of the ethical issues commonly encountered in the practice of pediatric nephrology and research.

5. Requirements for institutions offering pediatric nephrology training

Higher specialty training in pediatric nephrology should be based at established pediatric nephrology units which offer a full range of renal diagnostic facilities plus facilities for the treatment of acute and chronic renal failure. They will usually be part of academic departments of pediatrics in which research is an integral activity and they will be linked with other pediatric subspecialties.

- 5.1 Pediatric specialists should be employed within the institution or a linked one in the following specialties: anesthetics, cardiology, dietetics, endocrinology, histopathology, psychiatry, psychology, radiodiagnostics, pediatric surgery, transplant surgery, (pediatric) urology, and social work. Training should be conducted by at least two fully trained pediatric nephrologists in one or more centers.
- 5.2 Surgery: at the institution, or at a closely linked one, the necessary infrastructure for urological and renal transplant surgery in babies and older children must be present.
- 5.3 Ancillary services: The institution, or one closely linked to it, must be equipped for imaging of the kidney and urinary tract and for renal histopathology, including electron microscopy and immunofluorescent antibody staining of biopsy material.
- 5.4 Patient load: At the training institution the number of patients and their care must be of such a standard as to be able to meet the training requirements within the time set.
- 5.5 The institution should ensure that:
 - 5.5.1 The trainee is spending the major part of his or her time in paediatric nephrology

- 5.5.2 The trainee is fully acquainted with the theoretical aspects of pediatric nephrology listed in paragraphs 4.2.1–4.2.10
- 5.5.3 Whilst under training the trainee performs the procedures listed under 4.2.5 so that they can be performed independently and safely after accreditation
- 5.5.4 Discussions concerning patient care are held regularly
- 5.5.5 Joint discussions with collaborating specialists e.g., surgeons, histopathologists, are held regularly
- 5.5.6 The trainee is involved in the preparation of children and their families for dialysis and renal transplantation
- 5.5.7 The trainee has sufficient access to high-quality pediatric nephrology literature which is discussed regularly
- 5.5.8 All relevant equipment is of sufficiently high quality to allow good training
- 5.5.9 The trainee becomes familiar with the psychosocial problems of the patients and their families
- 5.5.10 There is appropriate contact with adult nephrologists
- 5.5.11 The trainee is given sufficient time and opportunity to undertake research in the field of pediatric nephrology and to present the findings at scientific meetings and publish them in reputable journals. This should amount to at least 2 half days per week, or the equivalent as a continuous period, away from the clinical service

6. Accreditation

Accreditation will be granted to trainees who have satisfactorily completed their higher specialty training in pediatric nephrology and a formal assessment.

Given the necessary funding, we propose that the recognition of training institutions and the assessment of trainees should be conducted by representatives of the ESPN.

Definitions (Addendum 29 September 1997)

Syllabus: The syllabus is the word used to describe the content of training and type of work to be covered during training.

Training program: This refers to the practical arrangements for training which enable the trainee to cover the syllabus. The training program may be arranged as modules carried out in different centers or in different sections within the same centre, to enable the trainee to gain experience in breadth and depth.

Training record: This refers to a personal log book of the trainees' experience which provides a record of work undertaken, experience, techniques learned, and conditions seen, as well as any other comments the trainee wishes to record. It serves to aid the trainee and forms part of the final assessment (accreditation).

Accreditation: At the present time it is considered inappropriate to include a final examination as part of the training programme or accreditation process. There is no mechanism or funding to undertake this and a written examination is not considered to be the best way to assess the skills required in pediatric nephrology.