



ESPGHAN - Training

Note - the status of this document is that of a proposal by ESPGHAN

THE EUROPEAN TRAINING SYLLABUS IN PAEDIATRIC GASTROENTEROLOGY HEPATOLOGY AND NUTRITION

This training syllabus is one of the subspecialist syllabuses for training in Tertiary Care Paediatrics as defined by the European Union of Medical Specialists (UEMS).

The syllabus has been drafted by the Committees of Gastroenterology, Hepatology and Nutrition of the European Society of Paediatric Gastroenterology, Hepatology and Nutrition (ESPGHAN).

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Paediatric Gastroenterology, Hepatology and Nutrition in Europe

A) INTRODUCTION

This document describes the European Training Syllabus in Paediatric Gastroenterology, Hepatology and Nutrition (PGH&N). A Paediatric Gastroenterologist and Hepatologist is a trained paediatrician specialising in the investigation and treatment of children with gastrointestinal, liver and nutritional disorders. It is expected that most Paediatric Gastroenterologists and Hepatologists as higher specialists in PGH&N will practice within the setting of tertiary care medicine where they are able to offer a full range of diagnostic procedures and the facilities for the treatment of intestinal, liver or nutritional failure.

This training syllabus aims to :

- (i) harmonise training in PGH&N between different European countries;

- (ii) establish clearly defined standards of knowledge and skill for tertiary PGH&N care;
- (iii) foster the development of a European network of competent tertiary care centres in PGH&N;
- (iv) further enhance the European contribution to international scientific progress in PGH&N.

B) AIMS OF TRAINING

The trainee in PGH&N should, prior to the specialist training described in this document, have completed training in basic paediatrics. At the end of the period of training the trainee should be suitable for appointment as a tertiary specialist in PGH&N at a tertiary centre. The duration of training in the specialty should be a minimum of two years. It is highly desirable that there is an opportunity for a period of full time research preferably leading to a higher degree. There should also be an opportunity to vary the gastroenterological, hepatological and nutritional training component depending upon the trainees requirements.

During the period of training the trainee should have had:

- (i) a broad range of clinical experience in gastrointestinal and hepatological diseases of children together with their associated nutritional problems;
- (ii) a wide experience of nutritional disorders of children;
- (iii) specific training in diagnostic techniques and their interpretation;
- (iv) experience in basic and/or clinical research;
- (v) contact with adult gastroenterology/hepatology To be able to organize smooth transition of patients growing out form childhood to the adult gastroenterologists
- (vi) knowledge of the administrative and organisational aspects of care for chronic PG&H diseases;
- (vii) experience of functioning as part of a multi-disciplinary team including psycho-social aspects of care.

C CURRICULUM

C1 CORE OBJECTIVES

- 1) Clinical experience and knowledge of the epidemiology of the principal diseases encountered in PG&H in childhood.
- 2) Diagnostic and therapeutic procedures required for examination of the gastrointestinal tract and liver:
 - i. Upper GI endoscopy
 - ii. Ileo- and colonoscopy

Endoscopic procedures eg polypectomy, removal of foreign bodies, sclerotherapy, variceal and/or, variceal banding, clipping of oesophageal varices
bleeding vessels, pneumodilatation and bougie-dilatation

 - iii. Knowledgeknowledge of ERCP, cholangiography, and videocapsule-endoscopy, double-balloon endoscopy, endosonography procedure
 - iv. , colonicRectal biopsy
 - v. Liver biopsy
 - vi. Motility studies, eg pH and luminal impedance monitoring, transit studies and knowledge of manometry, intraluminal impedance
 - vii. Interpretation of pancreatic function tests, eg screening tests, faecal elastase and knowledge of intubation tests.
- 3) Nutritional skills: -:
 - i. Assessment of nutritional status
 - ii. Dietary requirements of children
 - iii. Pathophysiology of malnutrition
 - iv. Theory and techniques of enteral and parenteral nutritional support
 - v. Role of nutrition support teams and special therapeutic diets.

- 4) Acquire skills in co-operation with other specialists (surgeons, pathologists, radiologists, laboratory scientists, adult specialists).
- 5) Achieve skills in relevant aspects of organisation and management.
- 6) Experience in clinical audit.
- 7) Achieve skills in teaching.
- 8) Knowledge and some experience of research in PGH&N.

C2 SYLLABUS

Introduction:

Current general professional training in paediatrics is not adequate for tertiary specialist PGH&N. It is also necessary to define the boundaries between skills and competence of general paediatricians and those of the specialist. The content of this syllabus details the additional training required for a specialist in PGH&N and thus also defines the boundaries between general and specialist PGH&N paediatricians.

Training Requirements for Tertiary Specialists.

- C2.1 Basic knowledge
- C2.2 Clinical, technical and management skills and competencies
- C2.3 Attitudes
- C2.4 Particular problems.

C2.1 Basic Knowledge

C2.1.1 Gastroenterology

- (i) The relationship of abnormal embryo-genesis to clinical disorders, e.g. diaphragmatic hernia, gastroschisis, malrotation, atresias, biliary atresia.
- (ii) Physiology of the gastrointestinal tract including liver and pancreas: causes of malabsorption, steatorrhoea and protein losing enteropathy.
- (iii) Fluid-electrolyte and acid-base balance disturbances and causes and treatment of dehydration including acute gastroenteritis.
- (iv) Recognition and interpretation of common symptoms including failure to thrive in infancy, chronic diarrhoea, recurrent abdominal pain, vomiting and functional gastrointestinal disorders.
- (v) Presentation, investigation and treatment of major gastrointestinal disorders e.g. coeliac disease, gastro-oesophageal reflux, chronic inflammatory bowel disease etc.
- (vi) Basic knowledge of mucosal immunology.

C2.1.2 Hepatology

Presentation, investigation and treatment of :

- (i) Neonatal liver disease
- (ii) Acute liver disorders and infections
- (iii) Chronic liver disease
- (iv) Liver failure.
- (v) Mechanisms of disease and disorders leading to cholestasis.
- (vi) Role of nutritional support particular to liver disease
- (vii) Metabolic liver disorders
- (viii) Indications for liver transplantation,
- (viii) Post-transplantation management

C2.1.3 Nutrition

- (i) Understanding of the basis of normal infant/childhood feeding.
- (ii) Assessment of feeding ability and nutritional status.
- (iii) Recognition and management of feeding disorders including anorexia nervosa and bulimia.
- (iv) Understanding of the mechanisms of malnutrition in gastrointestinal and liver disease.
- (v) Understanding of methods of nutritional support and their use.
- (vi) Knowledge of the dietary requirements of children.
- (vii) Knowledge of the short and long term effects of malnutrition in the infant, child and adolescent.

C2.1.4 Investigation

- (i) Understand the basis of tests of malabsorption, liver dysfunction, breath tests, oesophageal pH and luminal impedance monitoring and manometric studies.
- (ii) Indications and usefulness of relevant imaging and endoscopic techniques.

C2.2 Skills

C2.2.1 Clinical Skills

- (i) Assessment of nutritional status of infants and children, including auxological measurement of height and weight.
- (ii) Assessment of dehydration: planning fluid therapy.
- (iii) Interpretation of plain X-ray films, contrast and other imaging studies such as US, EUS, CT, MRI
- (iv) Management of enteral and parenteral nutrition.
- (v) Prescription of elimination diets.
- (vi) Prescription of medication to diagnose and/or treat diseases of the gastrointestinal tract.
- (v) Knowledge of techniques for measuring dynamic nutritional parameters e.g. resting energy expenditure.

C2.2.2 Technical Skills

- (i) Small intestinal biopsy
- (ii) Upper gastrointestinal endoscopy - diagnostic/therapeutic. Pneumodilatation and bougie-dilatation including mucosal biopsies.
- (iii) Ileo- and colonoscopy.
- (iv) Pancreatic function tests.
- (v) Oesophageal pH and motility studies e.g. transit studies and knowledge of manometry, intraluminal impedance
- (vi) Liver biopsies
- (vii) Knowledge of cholangiography, variceal banding,
- (viii) variceal banding
- (ix) Sclerosis and banding of oesophageal varices and other vascular malformations. where appropriate
- (x) Placement of endoscopic gastrostomy
- (xi) Polypectomy
- (xii) Removal of foreign bodies.

C2.2.3 Management Skills

- (i) Conduct a clinical audit.
- (ii) Manage admission policies, endoscopy lists etc.
- (iii) Understanding of contracting and purchasing where appropriate

- (iv) Organisation of post-graduate teaching programme.

C2.2.4 Research Skills

- (i) Design of clinical trials including medical statistics.
- (ii) Data organisation and presentation.
- (iii) Computer literacy including conducting a literature database search.

C2.3 Attitudes

- (i) Understanding the need for multidisciplinary approach.
- (ii) Understanding that investigations may be unpleasant, painful or frightening and that child and parents must be counselled in advance.
- (iii) Develop communication skills with the child and parents to ensure their full understanding and willing participation of the care process.
- (iv) Understanding the need to deliver compassionate care.

C2.4 Particular Problems

Ability to recognise, initiate diagnostic tests and outline the management of :

- (i) Gastroesophageal reflux disease
- (ii) Pyloric stenosis.
- (iii) Intussusception.
- (iv) Hirschsprung's disease.
- (v) Peptic ulceration and Helicobacter pylori infection.
- (vi) Vomiting.
- (vii) Constipation.
- (viii) Achalasia.
- (ix) Recurrent or protracted diarrhoea.
- (x) Acute and recurrent abdominal pain, and functional gastrointestinal disorders
- (xi) Persistent jaundice in the young infant.
- (xii) Bleeding of the GI tract.
- (xiii) Intestinal obstruction.
- (xiv) Differentiation of abdominal masses.
- (xv) Acute liver failure.
- (xvi) Short gut syndrome.
- (xvii) Intestinal transplantation and rehabilitation.
- (xviii) Chronic inflammatory bowel disease.
- (xix) Small intestinal failure and intractable diarrhoea syndrome.
- (xx) Infections of gastrointestinal tract and liver.
- (xxi) Gastroenterological problems with AIDS.
- (xxii) Gastrointestinal food allergy, and eosinophilic gastrointestinal disorders including EE.
- (xxiii) Acute diarrhoea including use of oral rehydration therapy.
- (xxiv) Outbreak of hospital acquired diarrhoea.
- (xxv) Chronic liver disease and metabolic liver disease.
- (xxvi) Pre and post liver transplant management.
- (xxvii) Intestinal motility problems.
- (xxviii) Gastrointestinal problems in handicapped children.
- (xxix) Chronic under-nutrition/failure to thrive.
- (xxx) Feeding disorders including self-starvation
- (xxxi) Specific nutrient deficiencies Fe, Folate, B₁₂, Vit A, D, E & K, thiamine, riboflavin, ascorbic acid, Zn, Cu, Se and essential fatty acids
- (xxxii) Dysphagia

D TRAINING PROGRAMME

D1 STRUCTURE OF PROGRAMME

The syllabus is arranged as a series of modules which can be completed in one or several different training centres. It is recommended that training should be carried out at not more than four centres. Each module contains training in a specific area, expertise or skill. All modules should be completed by the majority of trainees, but where it is clear that an individual will only practice hepatology the programme can be varied to include more hepatology and less gastroenterology and without the necessity for inappropriate technical skills.

D2 MONITORING OF TRAINING

Each trainee's progress is monitored both by the trainee her/himself and by an assigned tutor.

The trainee will maintain a personal log book, where he/she will document relevant training experiences and will complete a self assessment for each module/topic. The log book and the trainee's progress will be discussed with their tutor at 3 monthly intervals.

Successful completion of a training module/topic will be certified by the tutor in the trainee's log book.

Self Assessment

A suggested scheme of self assessment for gastroenterology, hepatology and nutrition is given below together with notes for trainers, trainees and principles for assessment in research. In addition the content of the log book is suggested.

SELF ASSESSMENT BY TRAINEE IN PAEDIATRIC GASTROENTEROLOGY, HEPATOLOGY AND NUTRITION

Note to Trainee

This self assessment is designed to help you and your supervisor review your training and experience, and identify any gaps. As a way of assessing your knowledge and clarity of understanding, ask yourself "Could I explain this condition/treatment/procedure clearly, logically and persuasively to a consultant colleague in another specialty, who is seeking advice about their own child?"

The conditions chosen in this exercise are those which trainees might expect during their training and therefore to some extent act as a marker of the breadth of experience available in their post.

Please fill it, in pencil initially so that you can change it if necessary, and discuss it with your local tutor or mentor, before your annual review.

Note to Supervisor

Please go through this with the trainee and discuss whether you agree with his/her own self ratings - if not, try to come to a consensus.

CODING

(a) Knowledge and Experience

- 1 = I do not feel knowledgeable or competent in this topic.
- 2 = I have reasonable knowledge but no “hands-on” experience.
- 3 = I have dealt with one or a few cases of this condition/problem.
- 4 = I feel I am reasonably competent to manage and explain this condition or problem.
- 5 = I feel able to assume complete responsibility for this condition or problem.

(b) Skills

- 1 = I have never seen or done this.
- 2 = I have observed but not done.
- 3 = I have done one or a few but I do not feel competent.
- 4 = I can undertake this but still want support to be available.
- 5 = I feel able to undertake this on my own responsibility.

CLINICAL EXPERIENCE

<u>Number Seen</u>	<u>Coding</u>

Paediatric Gastroenterology

- 1) Growth failure/failure to thrive and malnutrition - chronic diarrhoea.
- 2) Malabsorption disorder (coeliac disease, cystic fibrosis, pancreatic insufficiency)
- 3) Chronic inflammatory bowel disease.
- 4) Gastrointestinal food allergy.
- 5) Helicobacter pyloric gastritis and peptic ulcer disease.
- 6) Gastro-oesophageal reflux disease.
- 7) Congenital anomalies of gastrointestinal tract.
- 8) Functional bowel disorder (eg toddlers diarrhoea, irritable bowel syndrome, recurrent abdominal pain).
- 9) Acute gastroenteritis.
- 10) Gastrointestinal bleeding.
- 11) Motility disorders.
- 12) Chronic constipation.
- 13) Pancreatitis.
- 14) Intractable diarrhoea syndrome.

Paediatric Hepatology

- 1) Jaundice.
- 2) Liver failure (acute)
- 3) Liver failure (chronic).
- 3) Infectious liver disease.
- 4) Metabolic liver disease.
- 5) Neonatal liver disease.
- 6) Biliary atresia.
- 7) Chronic liver disease.
- 8) Liver transplantation.
- 9) Extra-hepatic portal hypertension.

Nutrition

- 1) Enteral nutrition.
- 2) Parenteral nutrition (Hospital and Home).

- 3) Experience of nutritional support team.
- 4) Self-starvation.
- 5) Chronic under-nutrition/failure to thrive.
- 6) Marasmus.
- 7) Specific nutrient deficiency :
Fe, Vit D, E & K, Folate, Vit B₁₂, Thiamine, riboflavin, ascorbic acid, Zn, Cu, Se, Essential Fatty Acids.

SKILL OBJECTIVES

- 1) Ileo- and colonoscopy.

Number performed on Service	Number performed by trainee	Coding

1. Colonoscopy.
2. Upper GI Endoscopy.
3. Establishment and maintenance of patients on parenteral nutrition.
4. Small intestinal biopsy
5. Percutaneous liver biopsy.
6. Breath hydrogen analysis.
7. Oesophageal pH.
8. Transit studies.
9. Pancreatic function test.
10. Anorectal manometry
11. Percutaneous endoscopic gastrostomies.

Principles Regarding the Assessment of Meaningful Accomplishment in Research

Each trainee must meet the following principles:

- 1) Research experience is an essential part of training in PGH&N.
- 2) For certification there must be evidence of productive research participation.
- 3) The evidence of meaningful accomplishment in research must be submitted.
Acceptable evidence could include one of the following :
 - (a) First author of a research paper accepted for publication in an appropriate peer reviewed journal.
 - (b) Submission of research grant proposal which has been approved by peer review.
 - (c) A postgraduate degree in a field relevant to paediatric gastroenterology, hepatology and nutrition.
 - (d) A research progress report (signed by both the applicant and supervisor) no more than five pages in length to include :
 - (i) A statement of hypothesis
 - (ii) A description of methodology
 - (iii) Results and analysis
 - (iv) Significance of the research
 - (e) Any other evidence which may be considered appropriate.

The trainee's supervisor would be responsible for ensuring appropriateness of research activity and be involved in planning research.

E RECOGNITION OF SPECIALISTS IN PAEDIATRIC GASTROENTEROLOGY, HEPATOLOGY AND NUTRITION

Recognition as a European Specialist in PGH&N at either secondary or tertiary level will require satisfactory certified completion of a recognised training programme.

F NATIONAL TRAINING PROGRAMMES

F1 EU COUNTRIES

Where national training programmes in PGH&N already exist or are at an advanced state of development they should be considered compatible with this European programme when:

- (i) they have a comparable syllabus
- (ii) have a similar duration
- (iii) have a means of assessment of the trainee.

Where a training programme does not exist national professional training bodies should be encouraged to adopt a national training programme in PG&H which is closely compatible with this European programme. Until such a programme exists individuals who have undergone a period of documented training compatible with this programme could obtain European recognition by passing a board examination in an EU country on a voluntary basis as laid down by the European Board of Paediatrics.

F2 NON EU COUNTRIES

The qualification of European Specialist in Paediatric Gastroenterology, Hepatology and Nutrition could be obtained as in F1 above.

APPENDIX

Paediatric Gastroenterology, Hepatology and Nutrition in Europe

Paediatric Gastroenterology developed rapidly in the late 1960s and '70s. ESPG was as a consequence founded in 1968 by a group of individuals actively engaged in gastroenterological research. In the mid '70s with the development of paediatric nutrition the society became ESPGAN and in the 1990s ESPGHAN to reflect the growth in hepatology. ESPGHAN's drive and interest has largely been of scientific research but during the 1990s has developed an educational initiative with the development of Summer Schools in Gastroenterology, Nutrition and Hepatology. Latterly travelling summer courses and study days throughout Europe have been features of this initiative. Interaction with our adult colleagues has developed through the United European Gastroenterology Federation (UEGF) of which ESPGHAN is one of the founding seven sisters. In 1996 the first UEGF Postgraduate Course in Paediatric Gastroenterology and Hepatology was held.

In spite of these European wide scientific training initiatives formal training in PGH&N through Europe is heterogeneous in standard and despite the pre-eminent standing of ESPGHAN in the world of paediatric gastroenterology PGH&N is not recognised in Europe as a board certified paediatric subspecialty unlike Australia and North America.

There is thus a need to ensure that PGH&N is recognised as a paediatric subspecialty. With the introduction of harmonisation of general paediatric training in Europe there is an opportunity to develop further training in PGH&N and to introduce uniform standards through Europe. In 1995 the Confederation Européenne des Spécialistes en Pédiatrie (CESP) set up a European Board of Paediatrics to standardise all aspects of Paediatrics at a European level. ESPGHAN as the predominant body for PGH&N in Europe should be instrumental in setting standards in training and establishing PGH&N as a recognised subspecialty in Europe.