

## **SPECIALIST TRAINING IN PAEDIATRIC NUTRITION WITHIN PGHN**

### **Introduction**

The RCPCH CSAC in paediatric gastroenterology, hepatology and nutrition (PGHN) is responsible for defining, approving and monitoring training in this subspecialty. Chaired by the president of the BSPGHN the CSAC is made up of training advisers with responsibility for the three main components of training: gastroenterology, hepatology and nutrition. Site visits to assess training programmes have been undertaken by two members of the CSAC, hitherto principally representing gastroenterology and hepatology.

In recognition of the growing importance of nutrition to child health, both in the practice of gastroenterology and nutrition, and also in relation to nutrition support and treatment in other paediatric subspecialties, the CSAC believes that there is a need to review training in paediatric nutrition. Because of the close association between GI, liver disease and poor nutrition much of the skill and expertise in nutrition support of sick children resides in specialists in PGHN.

Within and allied to the RCPCH there are a number of initiatives relevant to this mission: the intercollegiate course in human nutrition (sponsored by the royal colleges, including RCPCH), the diploma in paediatric nutrition (conceived and under development by the RCPCH CoN), training course for nutrition teams (organised by BAPEN), European syllabus and training courses for PGHN (ESPGHAN), and diplomas and degree courses offered by a number of UK medical centres and universities (Leeds course and Glasgow MSc in clinical nutrition, for instance). Further details of these are summarised below.

The RCPCH CSAC aimed to review the following:

1. CSAC training programme and syllabus for paediatric nutrition
2. Competence of trainees, trainers and training centres
3. Relations between training needs and available training courses/programmes

### **1. CSAC Training Programme and Syllabus for Paediatric Nutrition**

The current training programme in PGHN is divided into three interrelated parts: gastroenterology, hepatology and nutrition. Clinical nutrition is a major component and the following curriculum is suggested. The topics in italics are regarded as essential, core, components for all trainees in paediatric gastroenterology and hepatology.

#### Scientific Basis of Paediatric Nutrition

- Genetics, biochemistry and physiology relevant to nutrition
- Nutrition in fetal, infant and child development
- Body composition and energy metabolism
- *Principles of growth and its regulation*
- *Pathophysiology of malnutrition*
- Short and longterm consequences of over and undernutrition

### Nutritional Requirements in Health and Disease

- *Concept of DRVs*
- *Energy requirements*
- *Macronutrient requirements*
- *Micronutrient requirements*

### Feeding & Nutrition of the Normal Child

- *Infant (milk feeding, particularly breastfeeding)*
- *Toddler (complementary feeding)*
- *Child (healthy diet)*
- *Adolescent (healthy diet)*

### Recognition of Nutritional Problems and Nutritional Assessment

- *Anthropometry*
- *Dietary assessment*
- *Clinical assessment*
- *Biochemical assessment*
- *Metabolic methods of assessment*

### Principles and Practice of Nutritional Support

- *Changes in diet and special diets*
- *Enteral and parenteral nutrition formulas*
- *Delivery systems and routes*
- *Monitoring, assessment and complications*

### Investigation & Management of Nutritional Problems Related to

- *Gastrointestinal disease*
- *Intestinal failure*
- *Hepatobiliary disease*
- *Protein-energy malnutrition*
- *Neurodisability*
- *Cystic fibrosis*
- *Critical and intensive care*
- *Childhood cancer and immunodeficiency*
- *Renal disease*
- *Bone disease*
- *Cardiac disease*
- *Food intolerance and allergy*
- *Specific nutrient deficiencies*
- *Overweight and obesity*
- *Anorexia nervosa*
- *Failure to thrive and eating disorders*
- *Neonatal problems*
- *Surgical GI problems, especially short gut syndrome*
- *Inborn errors of metabolism*

### Research and Audit Skills

- Epidemiology of childhood malnutrition
- Evaluation of clinical trials, methods etc related to nutrition

### Organisation and Management

- *Nutrition support team*
- *Interdisciplinary working*
- *Partnership and liaison with paediatric surgery*
- Provision of home EN and PN services

### Community and Child Public Health Nutrition

- Healthy eating
- Nutrition surveys
- Micronutrient deficiencies (iron and vitamin D)

## **2. Competence of Trainees, Trainers and Training Centres**

The following should be available in centres that provide training in paediatric nutrition:

### Clinical Environment

Tertiary/secondary paediatric centre that includes neonatal paediatric surgery, intensive care, community child health, department of dietetics, clinical academic department, and the major paediatric subspecialties (cardiology, nephrology, neurology oncology etc)

### Nutrition Support Team

- Two or more consultants, including one with an interest in paediatric nutrition, gastroenterology or hepatology
- Paediatric dietitians (hospital and community)
- Specialist paediatric nutrition nurses
- Pharmacist with special interest and responsibility for PN
- Speech therapist with special interest in feeding problems
- Psychologist with special interest in feeding problems
- Biochemist with special interest in clinical nutrition
- Microbiology laboratory
- Consultant paediatric surgeon
- Interventional radiologist
- IV/infection control nurse
- Stoma nurse

### Facilities and Services

- Basic anthropometry equipment (scales, stadiometers etc)
- GI endoscopy service including PEGs
- GI radiology, ultrasound, video-fluoroscopy
- GOR pH service
- Micronutrient assays
- Dual energy X-ray absorptiometry (DEXA)
- Breath tests

#### Essential Skills of Trainer and Trainee

- Capacity for multidisciplinary team working
- Skills in nutritional assessment
- Competence in prescription and management of EN and PN, ongoing care, diagnosis and management of complications
- Familiarity with enterostomies
- Expertise in basic anthropometry

### **3. Existing Courses and Training Programmes Relevant to Training Needs in Paediatric Nutrition**

These courses supplement, but do not replace, training in a suitably staffed and equipped paediatric clinical unit. The Intercollegiate course is strongly recommended by CSAC for all trainees.

#### Intercollegiate Course in Human Nutrition

This is a weeklong residential course designed for doctors, clinical trainees and other health professionals seeking a foundation in clinical nutrition. It has been suggested that attendance on this course might be a prerequisite to enrolment in the diploma course in paediatric nutrition (see below).

#### Diploma in Paediatric Nutrition

This course has been conceived and is under development by the RCPCH, by a subgroup of the Committee on Nutrition. It is envisaged that the diploma will be a basic qualification for trainees wishing to train in clinical paediatric nutrition.

#### MSc in Clinical Nutrition

There are a number of full time and part time taught courses in human and clinical nutrition, currently in the Universities of Glasgow, Southampton, Aberdeen, London and Guildford.

#### Leeds Course in Clinical Nutrition

This is an annual course for clinicians interested in nutrition support, particularly in relation to gastroenterology.

#### BAPEN course for nutrition teams

This is a weekend residential course for the members of new nutrition support teams.

#### ESPGHAN training courses

Under the auspices of ESPGHAN there are annual postgraduate courses, summer schools and other European opportunities for clinical training in paediatric nutrition.