



FELLOWSHIP TRAINING PROGRAM
IN
PEDIATRIC GASTROENTEROLOGY
AND NUTRITION

PEDIATRIC GASTROENTEROLOGY, HEPATOLOGY AND CLINICAL NUTRITION FELLOWSHIP PROGRAM

I. INTRODUCTION

Over the past few years, there has been an increasing recognition of pediatric gastroenterology as a separate subspecialty in Saudi Arabia. The establishment of Saudi Pediatric Gastroenterology, Hepatology and Clinical Nutrition Fellowship Program is an important step in recognizing this field as a subspecialty.

II GOAL

To provide participants with training in pediatric gastroenterology, hepatology and clinical nutrition, with special emphasis on the common pediatric problems encountered in Saudi Arabia.

III ADMISSION CRITERIA

To be admitted to the program an individual must:

- Possess a Saudi Specialty Certificate in the General Pediatrics (or an equivalent), recognized degree classified by the Saudi Commission for Health Specialties **OR**

Have successfully completed the training program for Saudi Specialty Certificate in General Pediatric and passed the Final Written Examination.

- Pass successfully the written examination and/or interview by the Scientific Committee.
- Provide three letters of recommendation from consultants with whom the candidate has recently worked with for a minimum period of six months.
- Provide written permission from the sponsoring institution of the candidate allowing him to participate, on full time basis, for the entire period of the program.
- Pay the annual registration fee

IV NUMBER OF FELLOWSHIP POSITIONS

One to two fellows per year per center depending on the accreditation status of each center.

V. PROGRAM DURATION

This program requires three years of training.

VI. ACCREDITATION CRITERIA

For a hospital to be accredited to offer a Fellowship training program or to participate in such training, the following requirements must be fulfilled:

- A minimum of two (2) qualified subspecialty consultants with satisfactory experience in teaching and commitment to carry out the approved teaching and training program as stipulated by the Saudi Council for Health Specialties.
- An inpatient subspecialty service with a minimum of 4 beds and the following facilities:
 - a) Endoscopy Unit
 - b) Pediatric Surgery Service
 - c) Histopathology Service
- To ensure an adequate clinical exposure and professional supervision a ratio of one fellow in each year per four subspecialty inpatient beds is required.
- A curriculum-based teaching activities as approved by the Saudi Council for Health Specialties should be designed so that each trainee will develop high quality practical and academic expertise which includes as a minimum
 - a) Histopathology conference 2/month
 - b) Radiology conference 1/month
 - c) Pediatric surgery conference 1/month
 - d) City Wide Grand round in Pediatric Gastroenterology to discuss interesting and difficult cases 1/month
- Research-oriented activities, that allows the Fellow sufficient exposure and participation is encouraged.
- The program must allow the Fellow to perform not less than the minimum number of procedures required. (see table)
- Broad exposure for Fellow to multiple centers is required.
- An active subspecialty service, dealing with various medical disorders in the subspecialty with sufficient diversity and skills.

- The accredited hospital will be reviewed regularly by the Saudi Council and accreditation will be renewed periodically.

VII. QUALIFICATIONS OF PROGRAM STAFF

- A) Fellowship Program Director. The fellowship program is directed by pediatrician certified by the Saudi Board of Pediatrics (or equivalent). He/she should be classified by SCHS with satisfactory experience in the specialty. The director should also have an academic background in training residents and fellows in pediatric gastroenterology, hepatology and clinical nutrition. The director should have experience in research supported by publications in peer review journals.
- B) Other Program Staff Members. In addition to the fellowship program director, there should be at least one other consultant in pediatric gastroenterology, and nutrition. He/she must be certified by the Saudi Board of Pediatrics (or equivalent). He/she should be classified by SCHS with satisfactory experience in the specialty. Other staff members in pediatric gastroenterology and nutrition division will assist the fellows in their training and research.

VIII. DEFINITIONS

- A) Gastroenterology (including Hepatology) is a subspecialty that concerns itself with the investigation, diagnosis and medical management of disorders of the digestive system, including the pancreas and liver.
- B) Clinical nutrition is defined as the application of that science concerned with the basic knowledge, diagnosis, and treatment of diseases affecting the entry, intestinal absorption, and metabolism of dietary constituents. This definition encompasses both a basic understanding of the role of deficiency, excess or imbalance in altered metabolism of nutrients and pathogenesis of diseases, and the role of dietary modification and specialized nutrition formulation and delivery system in preventing and treating chronic and acute illnesses.

IX. PROGRAM CONTENT

Special Objectives:

In keeping with the fellows' background in pediatrics, the program will emphasize the acquisition of knowledge clinical and technical skills, and attitudes in areas of greater relevance to the appropriate age group. On successful

completion of the training program trainees will demonstrate competence in the following areas:

A) Knowledge

1) Gastroenterology and hepatology

- a) Anatomy, embryology, physiology and pathology of the digestive system including the pancreas and liver.
- b) Principles of biochemistry and genetics as they apply to the digestive system.
- c) Pharmacology, including the principles of metabolism, action and toxicity of drugs used in gastroenterology and hepatology.
- d) Principles of endocrinology, metabolism, and nutrition, microbiology, and psychiatry as they apply to the digestive system.
- e) A sound grounding in the principles of gastrointestinal surgery including the indications for and the complications of operations on the gastrointestinal tract and hepatobiliary system.
- f) A thorough knowledge of diseases affecting the digestive system, pancreas, and liver including the epidemiology, pathophysiology, methods of diagnosis, management, and prognosis of such diseases.
- g) Knowledge of the indications, interpretations, limitations and complications of diagnostic procedures performed on the digestive tract and liver.
- h) Knowledge of new advances in the management of gastrointestinal disorders, e.g., organ transplantation and therapeutic endoscopy.

2) Nutrition

- a) Basic nutrition including biochemistry, absorption and metabolism of nutrients.
- b) Principles of nutritional assessment, physiology of starvation and the metabolic consequences of critical illnesses.
- c) The clinical phase is to be assured by exposure to patients with pediatric medical and surgical illnesses through inpatient consultations and outpatient care, to encompass the following areas:

- i) Primary malnutrition, including protein energy malnutrition and nutritional anemias.
- ii) Secondary malnutrition resulting from systemic diseases including intestinal malabsorption syndromes, chronic liver and renal diseases, pancreatic insufficiency, and chronic illnesses.
- iii) Psychogenic eating disorders, including anorexia nervosa and bulimia.
- iv) Diseases of over nutrition including obesity and vitamin toxicities.
- v) Diet-related metabolic diseases including hyperlipidemia.
- vi) Nutritional metabolic consequences of critical illnesses including trauma, burns and sepsis.
- vii) Indications, principles and techniques of nutritional support of surgical patients including enteral and parenteral nutrition in the hospital and at home.

B. Research

Experience in basic and/or clinical research that should provide the fellows with training in experimental design, statistics, interpretation of data, oral and written presentation, research ethics, and preparation of grant applications.

C. Conceptual Knowledge

- 1) Ability to perform a complete history and physical examination with particular emphasis on areas specific to the digestive system and its disorders.
- 2) Communicating and interacting with patients, families, and allied health care personnel.

D. Skills

- 1) Evaluation and management of gastrointestinal emergencies including acute gastrointestinal hemorrhage, acute abdominal pain,

acute pancreatitis, and removal of foreign bodies from the gastrointestinal tract.

- 2) Selection and interpretation of x-ray and other imaging techniques of the digestive system, pancreas and liver.
- 3) Selection, performance and interpretation of tests commonly employed in gastrointestinal function laboratories including esophageal PH studies/motility studies.
- 4) Selection, performance, and interpretation of:
 - a) tissue biopsies of the gastrointestinal tract and liver; and
 - b) endoscopic procedures of the upper and lower gastrointestinal tract; the trainee should be knowledgeable in the use and care of equipment.
- 5) Endoscopic Competence

It is defined as the ability to recognize abnormalities and to understand the pathologic features of the lesions that can occur. Therapeutic competence is the ability to recognize whether a therapeutic procedure is indicated in a given patient and the ability to perform that procedure is indicated in a given patient and the ability to perform that procedure safely and successfully in pediatric patients.

A fully trained pediatric gastroenterologist must be competent in the procedures outlined for the level 1 trainee (see table). Advanced endoscopic procedures should be mastered by level 2 trainees who seek to become experts in pediatric endoscopy. Competence in some of these procedures requires additional training in adult endoscopy training programs.

E. Attitudes

Trainees should demonstrate:

- 1) empathy and compassion for patients and their families;
- 2) concern for the need of the patients and their families to understand the nature of their illnesses, the goals and possible complications of investigations and treatment;
- 3) concern for the psychosocial aspects of the patient's illness;

- 4) respect for and ability to work in harmony with other allied healthcare personnel;
- 5) recognition of the importance of self assessment and of continuing medical education in gastroenterology and a willingness to teach others, including trainees from other disciplines and allied healthcare personnel; and
- 6) an understanding and appreciation of the significance of research in the advancement of knowledge

Upon completion of the fellowship training, the trainees are expected to become competent consultants with a good fund of knowledge in gastroenterology, capable of establishing an effective professional relationship with patients. They must have a sound knowledge of general pediatrics and an appreciation and understanding of the close relationship that often exists between diseases of the gastrointestinal tract and other organ systems. They should be capable of teaching gastroenterology to students, trainees and allied healthcare personnel.

X. PROGRAM STRUCTURE

First and second years will be spent in the recognized hospital for training.

The first year will be spent as follows:

- 1) 6 months in pediatric gastroenterology
- 2) 2 months in adult gastroenterology endoscopic unit
- 3) 1 month in pediatric surgery
- 4) 1 month pathology
- 5) 1 month radiology
- 6) 1 month vacation

The second year will be spent as follows:

- 1) 6 months in pediatric gastroenterology
- 2) 2 months in liver transplant program
- 3) 1 month in inborn errors of metabolism
- 4) 2 months in adult gastroenterology endoscopic unit
- 5) 1 month vacation

The third year will be spent as follows:

- 1) 4 months in pediatric gastroenterology
- 2) 3 months elective
- 3) 1 month in nutrition services

- 4) 3 months research
- 5) 1 month vacation

XI. FACILITIES

The trainee is expected to use the available facilities in the training centers such as Outpatient Clinics, patient Wards, Day Surgery Unit, Emergency Room, Endoscopy Unit, Fluoroscopy Rooms, Pathology, Operating Rooms, Library, Medical Photography and others.

XII. EVALUATION CRITERIA

1. The following methods should be used to evaluate the trainee's competence:
 - a) Observation during procedures, rounds and conferences.
 - b) Formal evaluation forms from each member who comes into contact with the trainee
 - c) Formal in-service examination to test the knowledge base of the trainee
 - d) Formal assessment of clinical skills using a patient-based examination
 - e) Logbooks and competency evaluations for all endoscopic procedures
 - f) Formal assessment of research progress and accomplishments
2. To be admitted to the final subspecialty examination, the candidate must be certified in general pediatrics
3. In all the evaluations the bylaws of the SCHS governing evaluation process will be observed. Upon the completion of training a final certifying examination will be held. The components of the final examination must include:
 - 3.1 a written examination
 - 3.2 clinical/oral examination

XIII. HOLIDAYS

As per regulations stipulated by the Saudi Council for Health Specialties.

Minimum numbers of procedures required to achieve competency in pediatric patients.

Study type	Threshold # for competence
Level 1	
Percutaneous liver biopsy	10
24 hr PH probe monitoring	10
Upper endoscopy	
Diagnostic (including biopsy)	50
Therapeutic upper endoscopy with:	
Foreign body removal	5
Sclerotherapy or band ligation of varices	15
Control of nonvariceal bleeding	5
Lower endoscopy	
Flexible sigmoidoscopy	10
Colonoscopy (including biopsies)	30
Therapeutic lower endoscopy with snare polypectomy	10
Level 2	
Upper endoscopy	
Percutaneous gastrostomy	10
Esophageal dilation (stricture)	15
Placement of transpyloric feeding tube	5
Dilatation of pyloric or duodenal stricture	5
Enteroscopy	5
Capsule Endoscopy	5
Lower endoscopy	
Therapeutic lower endoscopy with:	
Dilatation of stricture	10
Injection therapy or electrocautery	10
ERCP (with sphincterotomy, dilatation of stricture, stent placement or stone removal)	10

