

**Clinical Immunology and Allergy Fellowship Program
Kuwait Institute for Medical Specialization**

I. INTRODUCTION

The primary aim of the Allergy and Clinical Immunology Fellowship Program is to educate and train physicians to enable them to better understand allergic diseases, immunodeficiency syndromes, diagnosis and management of immune dysfunction from infancy to adulthood. Fellows will gain experience in allergic diseases and immunodeficiency syndromes and become knowledgeable in the acute and long-term management of these diseases. They will be trained in the area of clinical immunology which includes variety of primary as well as acquired immunodeficiency disorders.

II. ADMISSION REQUIREMENTS

Applicants should be board certified in an accredited pediatric/internal medicine residency training program.

III. STRUCTURE OF THE TRAINING PROGRAM

A. DURATION

The fellowship program extends for a minimum of three years. The program format should be as follows:

- 75% of the program will be devoted to direct patient care
- 25% of the program will be devoted to research activities
- 20% of the program will be spent in cross-training (Pediatric and Adult Clinical Immunology and Allergy)
- During the third year, 50% will be devoted to direct patient care to accommodate the fellow's own interest and 50% for research activities.

B. CLINICAL RESPONSIBILITIES

Fellows will participate in all outpatient and inpatient clinical activities. A structured progressive training in interviews; physical examination, assessment, and diagnosis of allergic diseases; and clinical immunology will be emphasized. Fellows will be responsible for the care of patients under the supervision of the training staff. Fellows are expected to gain experience in the evaluation and Management of patients with the following conditions:

- Anaphylaxis
- Asthma
- Atopic dermatitis
- Contact dermatitis
- Allergy to drugs and other biological agents

- Food allergies
- Primary and acquired immunodeficiency
- Ocular allergies
- Rhinitis
- Sinusitis
- Stinging insect allergy
- Urticaria and angioedema

They will also be exposed to patients with the following diagnoses:

- Autoimmune disease
- Allergic bronchopulmonary aspergillosis
- Eosinophilic disorders
- Hypersensitivity pneumonitis
- Vaccine reactions
- Mastocytosis
- Occupational lung disease
- Vasculitis

During the training program, fellows should learn the basic science of immunology and allergy and should comprehend the scientific basis of pharmacology (preparation, standardization, mechanism of action, pharmacokinetics, side effects, etc) of drugs, including allergen extracts, used in the treatment of patients with allergic and immunologic diseases. They will participate effectively in the counseling and education of patients, families, students, residents and other health professionals by presenting lectures and organizing topics for discussion in workshops, conferences, and teaching seminars. There will be a monthly journal club and bi-weekly presentation of interesting cases.

Fellows will have formal instruction and, clinical experience with, as well as demonstrate proficiency in, the following procedures. These procedures must be entered into the Fellows' log book (minimum of 15 cases for each Fellow):

- Allergen immunotherapy
- Drug desensitization and challenge
- Immediate hypersensitivity skin testing
- IVIG treatment and administration
- Pulmonary function tests
- Physical urticaria testing
- Food challenge testing
- Delayed hypersensitivity skin testing
- Provocation testing for hyper-reactive airways
- Patch testing

At the end of the training program, fellows are expected to exhibit sound professional understanding of allergen extracts (the underlying concepts of investigations related to the fields of allergy and immunology including imaging, skin testing, RAST, pulmonary provocation testing, aerobiology, and various immunologic tests.

Fellows must provide continuing care of patients with asthma, allergic disorders, immunologic disorders, and immunodeficiency diseases.

C. ROTATIONS

Adult Program

Year 1

- Adult allergy & immunology 4 months
- Adult respiratory 2 months
- Pediatric allergy & immunology 2 months
- Adult rheumatology 1 months
- Adult Dermatology 1 month
- ENT / aerobiology laboratory 1 month
- Vacation 1 month

Year 2

- Adult allergy & immunology 4 months
- Pediatric allergy & immunology 3 months
- Immunology laboratories 2 months
- Elective* 2 months
- Vacation 1 month

Year 3

- Adult allergy & immunology 2 months
- Research 5 months
- Elective* 4 months
- Vacation 1 month

*Electives may include options like hematology/ENT/infectious disease rheumatology/respiratory/dermatology/immunology laboratory

Pediatric Program

Year 1

- Pediatric allergy & immunology 4 months
- Adult allergy & immunology 2 months
- Immunology laboratories 2 months
- Pediatric respiratory 2 months
- Pediatric infectious disease 1 month
- Vacation 1 month

Year 2

- Pediatric allergy & immunology 4 months
- Adult allergy & immunology / transplant 3 months
- Pulmonary / aerobiology laboratory 1 month
- Pediatric dermatology 1 month
- Immunology laboratories 1 month
- Elective* 1 month
- Vacation 1 month

Year 3

- Pediatric allergy & immunology 2 months
- Research 5 months
- Elective* 4 months
- Vacation 1 month

*Electives may include options like hematology/ENT/infectious disease rheumatology/respiratory/dermatology/immunology laboratory

D. RESEARCH

Fellows will engage in ongoing clinical research projects in allergy and clinical immunology. They are expected to design and write a research proposal and attain a working knowledge of research design, statistics, clinical trials, and epidemiology and demonstrate thorough understanding of research ethics and principles of confidentiality. Each Fellow is expected to prepare and submit for publication at least one manuscript during the fellowship.

IV. RECOMMENDED BOOKS/LITERATURE

A. TEXTBOOKS (The Latest Edition)

Clinical

1. **Allergy: Principle and Practice, (*Elliott Middleton & Others*)
2. **Allergic Diseases: Diagnosis and Management, (*Roy Patterson*)
3. **Primary Immunodeficiency Diseases Molecular and Genetic Approach, (*Jennifer Puck*)
4. **Immunological Disorders in Infant and Children, (*E. Richard Stiehm*)
5. *Allergy and Allergic Diseases, (*A. Barry Kay*)
6. *Clinical Immunology Principle and Practice, (*Rich*)

Basic

1. **Cellular and Molecular Immunology, (*Abul Abbas*)
2. *Immunobiology. The Immune System in Health and Disease (*Charles A. Janeway Jr, Paul Travers*)

**High priority

* Priority

B. JOURNALS

1. The Journal of Allergy and Clinical Immunology
2. Journal of Clinical Immunology
3. Blood
4. Clinical Experimental Allergy
5. New England Journal of Medicine
6. Allergy
7. Current Opinion in Immunology
8. Clinical Immunology
9. Journal of Immunology
10. Annals of Allergy, Asthma and Immunology
11. International Archives of Allergy and Immunology

V. EVALUATION

Fellows will be evaluated following each rotation. They will also be evaluated every 3 months based on competence in patient care, medical knowledge, practice-based learning and improvement, interpersonal and communication skills, and professionalism.

Fellows should show improvement in performance appropriate to the educational level to be eligible for advancement in the program and to attempt the final examination.

The fellows will evaluate faculty members based on their clinical teaching abilities, commitment to the educational program, professionalism, and scholarly activities.

VI. COMPLETION / CERTIFICATION

Successful Fellows will be awarded a certificate of Kuwaiti Board in Clinical Immunology and Allergy upon successful completion of training and passing the final written and clinical examinations with score of > 70%.