الهيئة السعودية للتخصصات الصحية
Saudi Commission for Health Specialties

مستشفى الملك فيصل التخصصي ومركز الأبحاث
King Faisal Specialist Hospital & Research Centre
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الشؤون الأكاديمية والتدريب
Academic & Training Affairs

Adult Allergy & Immunology
Fellowship Training Program

DEPARTMENT OF MEDICINE

(OCTOBER 2010)

ADULT ALLERGY & IMMUNOLOGY FELLOWSHIP PROGRAM
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ADULT ALLERGY & IMMUNOLOGY FELLOWSHIP PROGRAM

I. INTRODUCTION

We aim to establish a fellowship program in Adult Allergy and Immunology. Currently there is no program in the Kingdom to train doctors in the field of Adult Allergy & Immunology. The prevalence of allergic diseases is high and the incidence is increasing worldwide, carrying significant morbidity. It is important to train new doctors in the field of Adult Allergy & Immunology.

II. GENERAL OBJECTIVES

Our goals are to train Allergy-Immunology specialists who will provide expert medical care for patients with asthma, allergic disorders, immunologic disorders, immunodeficiency and related diseases.

III. SPECIFIC OBJECTIVES

To accomplish these goals, the Allergy-Immunology training program will provide trainees an academic environment that fosters the development of excellence in the practice of the field, encompassing the full spectrum of clinical and basic allergy and immunology. The Allergy & Immunology faculty will provide an environment of learning, clinical discussions, rounds, journal clubs, and research conferences to support fellows' participation in scholarly activities.
During their training, fellows will be given patient care responsibilities and will be expected to pursue self-directed learning. All fellows, with respect to their level of training, are expected to demonstrate the minimal skills, knowledge, and attitudes to sufficiently meet the requirements of the following competencies:

- Patient care
- Medical knowledge
- Practice-based learning and improvement
- Interpersonal and communication skills
- Professionalism

Fellows are also encouraged to engage in original research during their training years. They are also expected to demonstrate competencies in the following areas:

- Literature review
- Design of research protocols
- Data interpretation
- Research presentation

IV. ADMISSION REQUIREMENTS

Candidates must have completed accredited residency training in Internal Medicine. Applicants should possess a Saudi Specialty Certificate or must have at least passed the written examination and registered for the final parts. Other candidates must

possess an equivalent certification. Candidates must have passed the SCHS admission examination/interview for the subspecialty when required. Candidates must have successfully completed a personal interview by the members of the department. Three recent letters of recommendation and a sponsorship letter should be submitted.

V. STRUCTURE OF TRAINING PROGRAM

A. Duration. The fellowship extends for a minimum of two years. A third year is optional for interested fellows and may be granted if the Program Director thinks it would be in the interest of the fellows and supported by their sponsors. The content of the third year should be mainly based on the research interest of the fellows.

B. Training Capacity. One fellow each year.

NOW It's 2 fellow each year .. 01/2015

C. Rotations

First Year:	
Ward/Clinic/Day Medical Unit	8 months
Pediatric Allergy & Immunology	2 months
Immunopathology	1 month
Vacation	1 month
Second Year:	
Ward/Clinic/Day Medical Unit	7 months
Pediatric Bone Marrow Transplantation/ Immunodeficiency Clinic	2 months
Elective (Dermatology/Rheumatology/ Pulmonology/Infectious Disease)	1 month
Research	1 month
Vacation	1 month

D. Faculty Qualifications

Program Director: The fellowship program is directed by a Consultant Allergist and Clinical Immunologist. He should have a minimum of five (5) years' postgraduate experience and a broad range of experience in allergy as well as various aspects and forms of immune disorders and congenital immunodeficiency syndromes.

The Program Director is primarily responsible for monitoring all aspects of training of fellows as elaborated in this manual. The Program Director will also be responsible for assuring that the Allergy & Immunology and related specialty faculty fulfill their teaching and evaluation responsibilities. The Program Director will work with the Section Head and ATA to assure the proper functioning of the fellowship.

Other Staff Members: In addition to the Program Director, other staff in the section of Allergy and Clinical Immunology will participate in the training and research activities of the fellows.

Other Hospital Staff: Other hospital staff members certified in disciplines relevant to allergy and clinical immunology, such as rheumatologists,

pulmonologists, dermatologists, and scientists may be involved in the training of fellows.

Allergy-Immunology Training Program Faculty
Two full-time adult consultants and two part-time adult consultants. Further, there are five pediatric consultants. Currently, Pediatric Allergy/Immunology fellows rotate in Adult Allergy/Immunology.

VI. PROGRAM CONTENT

Curriculum: Didactic, Clinical and Literature Resources

Fellows will be provided with didactic, clinical and literature resources to develop their knowledge base of Allergy & Immunology. The knowledge base will include the etiology, immunopathogenesis, differential diagnosis, therapy, and complications of allergy and immunology diseases. Trainees are expected to develop clinical expertise covering the full range of allergy and immunology diseases, including the following: anaphylaxis, asthma, atopic dermatitis, contact dermatitis, drug allergy, food allergy, immunodeficiency, rhinitis, sinusitis, stinging insect hypersensitivity, urticaria, angioedema, autoimmune disease, bronchopulmonary aspergillosis, eosinophilic disorders, hypersensitivity pneumonitis, mastocytosis, ocular allergies, occupational lung disease, and vasculitis. These goals can be achieved by patient contact, lectures, meetings and reading. The educational program will include the following knowledge areas:

A. Knowledge of aerobiology; cellular and molecular immunobiology; humoral and cellular immunology; pulmonary physiology; mechanisms of inflammation; pharmacology and pharmacokinetics, drug metabolism, drug side effects, and drug interactions; the scientific basis of the methodology, indications, and interpretation of laboratory tests and imaging procedures used in the diagnosis and follow up of patients with asthma, allergic, and immunologic and other diseases; preparation and standardization of allergen extracts; means to measure indoor allergens and institution of environmental control measures in the home and other sites; transplantation medicine and tumor immunology; reproductive immunology; the costs of therapy and diagnostic testing; and the psychological effects of chronic illness.

B. Knowledge of applied immunology, to include the principles and techniques of clinical immunology laboratory procedures such as tests for humoral immunity, cellular immunity, neutrophil function, cytokines, immune complexes, cryoprecipitable proteins, total serum complement activity and individual complement components, and histocompatibility, as well as procedures for the preparation and use of monoclonal antibodies.

C. Knowledge of controversial or unproven drug or therapeutic techniques in allergy, asthma, allergic disorders, immunologic disorders, and immuno-deficiency diseases.

Curriculum: Patient Care

Fellows will be provided with patient care responsibilities (both inpatient and outpatient) appropriate to their level of training and covering the full range of Allergy & Immunology diseases.

A. Fellows will attend all required training sessions at the beginning of their fellowship.

B. For certification, fellows must maintain a log book of procedures performed where a minimum cut off for each procedure will be required before the end of the two-year fellowship.

C. The trainee will spend a minimum of 50% of his/her time in clinical education as direct patient contact in outpatient and inpatient settings, clinical care conferences, and record reviews.

D. Whenever possible, longitudinal follow-up of patients will occur. Fellows will maintain a continuity clinic for the entire duration of their fellowship. The continuity clinic will be assigned by the Program Director.

Competencies

Allergy-Immunology fellows are required to meet the following general, allergy-immunology-specific, and professional competencies by the end of their fellowship.

General competencies:

Patient care that is compassionate, appropriate, and effective for the treatment of health problems and the promotion of health.

Medical knowledge about established and evolving biomedical, clinical, and cognate (epidemiological and social-behavioral) sciences and the application of this knowledge to patient care.

Practice-based learning and improvement that involves investigation and evaluation of the patient care they provide, and the appraisal, and assimilation of scientific evidence, and improvements in patient care.

Interpersonal and communication skills that result in effective information exchange and team building with patients, their families, and other health professionals.

Professionalism, as manifested through a commitment to carrying out professional responsibilities, and adherence to ethical principles, and sensitivity to a diverse patient populations.

Systems-based practice, as manifested by actions that demonstrate an awareness of and responsiveness to the larger context and system of healthy care and the ability to effectively call on system resources to provide care that is of optimal value to the patient.

Allergy and immunology-specific competencies:

Conduct a comprehensive and detailed medical interview with children and adults who present with suspected allergic and/or immunologic disorders.

Perform a physical examination appropriate to the specialty.

Select, perform, and interpret diagnostic tests or studies.

Assess the risks and benefits of therapies for allergic and immunologic disorders (e.g., drug therapy, allergen immunotherapy, immunomodulatory therapy).

Counsel and educate patients about diagnosis, prognosis, and treatment.

Consult with and educate other physicians and health care providers.

Apply basic and clinical science to the clinical care of patients.

Coordinate the care of patients, including the use of consultations.
Analyze medical and other scientific literature.

On Call

Fellows will take calls as per the schedule. While on call, fellows will carry a pager and respond to telephone calls and will also be responsible for inpatient allergy consultations and allergy admissions. An Allergy/Immunology attending physician on second-call will always be immediately available for consultation either by telephone or by coming to the hospital as needed.

Meetings

Fellows will be required to attend lectures and seminars in the field of allergy and immunology given by staff and visiting professors as well as attend regional meetings related to the specialty. Attendance of at least one international conference on allergy and immunology will be encouraged. To gain experience in teaching and presentation, fellows will be required to present lectures and organize topics for discussion in workshops, conferences, and teaching seminars.

Research

Fellows will engage in ongoing clinical research projects in allergy and clinical immunology. Each fellow will be encouraged to prepare at least one manuscript during the fellowship. The manuscript should be submitted for publication before the conclusion of their fellowship. Fellows are encouraged to present their work in international meetings.

Conferences

Conferences serve an important function in the didactic and scholarly functions of the Allergy-Immunology program. In recognition of this, fellows and attending physicians are expected to attend and actively participate in the conferences.

Educational Curriculum for Allergy & Immunology Fellows

Reading Expectations

A. During the training period, the Allergy & Immunology fellow is expected to read the following journals:

The Journal of Allergy and Clinical Immunology.
Journal of Immunology
Annals of Allergy, Asthma & Immunology.
American Journal of Respiratory and Critical Care Medicine.
In addition, the resident should be familiar with pertinent Allergy & Immunology papers published in other journals such as The New England Journal of Medicine, Journal of Clinical Investigation, Nature, and Science.

B. The fellow will have access to the following textbooks (latest edition):
Clinical

1. **Allergy: Principles and Practice (2-volume), (Middleton & Others),
2. **Primary Immunodeficiency Diseases Molecular & Genetic Approach,

3. *Immunological Disorders in Infant and Children (E. Richard Stiehm),
4. *Allergy and Allergic Diseases (2-volume) (A. Barry Kay),
5. *Clinical Immunology Principles and Practice (2-volume) (Rich),
6. *Allergic Diseases: Diagnosis and Management (Roy Patterson).

Basic

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

**High priority

* Priority

C. The Allergy-Immunology training program director (TPD) reading list.

Educational Curriculum for Allergy/Immunology Fellows
TPD Core Curriculum Outline

Basic Sciences

Strategies and resources for acquiring the body of knowledge within the Basic Science Core Curriculum should include structured didactic programs (courses, lectures, and seminars), textbooks, TPD reading list, and regional and national seminars. The fund of knowledge obtained through the basic science curriculum should serve as the foundation for understanding allergic diseases, immunodeficiencies, immunoregulatory disorders, immunodiagnostics, and therapy for immunologic and allergic disorders.

A. Anatomy and Cellular Elements of the Immune System

1. Lymphoid organs: anatomy and functions
2. Cells of relevance to the immune response, their unique identifying features, and positive and negative selection during ontogeny
    a. Lymphocytes
        1. B cells
        2. T cells
        3. NK cells
    b. Monocytes, Macrophages, Dendritic Cells
    c. Mast Cells and Basophils
    d. Eosinophils
    e. Neutrophils
    f. Platelets and RBC's

B. Immune Mechanisms

1. Innate and acquired immunity
2. The major histocompatibility complex – molecular structure and function
3. Antigens – processing and presentation, conventional and superantigens
4. Immunogenetics – gene arrangement in the generation of immune system diversity
5. T cell mediated immunity
    a. T cell activation
        1. T cell receptor
        2. Epitope recognition
        3. Accessory molecules in signal transduction

b. Cytokines and co-stimulatory molecules in T cell activation
c. T cell mediated immune responses – participating cells and granuloma

6. B cell mediated immunity
   a. B cell activation – T cell interaction and signal transduction
   b. Immunoglobulin production and epitope recognition
   c. Antibody isotype and maturation of the antibody response
   d. Biologic processes initiated by antibody. IgM, IgG, and IgA mediated:
      1. Opsonization
      2. Complement fixation
      3. Antibody dependent cell mediated cytotoxicity
   e. IgE mediated immediate and late phase reaction
   f. Immune complexes – physical properties, immunologic properties and mechanisms of clearance
7. Other immune mechanisms
   a. Natural killer cells
   b. Lymphokine activated killer cells
   c. Cutaneous basophil hypersensitivity
8. Receptor ligand interactions in immune functioning –
   a. Adhesion molecules
   b. Complement receptors
   c. IgE receptors, Fc receptors
   d. signal transduction resulting from receptors ligand interaction
   e. genetic polymorphisms produce gain or loss of function
   f. immunologic memory

C. Immunomodulation in the Immune Response
1. Cytokines, chemokines, and growth factors
2. Inflammation and its modulation
   a. Mediators – preformed and newly generated
   b. Cells in inflammation – allergic and other

D. Mucosal Immunity
1. Non-immunologic – enzymes, acids, glycocalyx, normal flora, etc.
2. Immunologic – mucosa associated lymphoid tissue, antigen processing, antibody and cellular production, cell trafficking and homing

E. Transplantation Immunology
1. Mechanisms of allograft rejection
2. Graft versus host reactions (GVHR)

F. Tumor Immunology
1. Antigens of tumor cells – unique tumor specific antigens and tumor associated antigens
2. Oncogenes, translocations and tumor suppressor genes
3. Mechanisms of immunosurveillance

G. Immunoregulatory Mechanisms
1. Tolerance mechanisms
2. Idiotypic networks
3. Apoptosis
4. Regulatory T cells

H. Laboratory Measurements

1. Techniques: understanding of the principles and methodology of these techniques, particularly as they relate to measurement of immunoglobulin levels, immunoglobulin classes and subclasses, specific antibodies, lymphocyte phenotyping, cellular response to mitogens, antigens and allogenic cells, immune complexes, cryoprecipitable proteins, total serum complement activity, complement components, and histocompatibility typing
    a. Serologic: ELISA, radioimmunoassay, in vitro diagnostic test (e.g., RAST, histamine release), radial immunodiffusion, nephelometry, immunoblots, high performance liquid chromatography, isoelectric focusing, immunoelectrophoresis, electroimmunodiffusion, and protein electrophoresis
    b. Cellular: flow cytometry, assays of chemotaxis, phagocytosis, cytolysis, lymphocyte proliferation, immunoglobulin production
    c. Immunofluorescense and immune histochemistry
    d. Molecular: Northern, Southern, Western blots; polymerase chain reactions; crossover break-point analysis; ligase chain reactions; in situ hybridization; DNA sequencing
    e. Hybridomas and monoclonal antibodies
2. Test-performance characteristics: principles of sensitivity, specificity, and predictive value
3. Unproven tests (for example)
    a. Provocation-neutralization testing
    b. Cytotoxic food tests
    c. Applied kinesiology
    d. Electrodiagnosis
4. Inappropriate tests (for example)
    a. IgG antibodies and circulating immune complexes to foods in diagnosis of food allergy
    b. Measurement of lymphocyte subsets, immunoglobulins, and interleukins in patients with alleged "environmental or ecologic disease" who have no symptoms of immunologic disease
    c. Serum, urine, hair, or fat analysis for chemicals in diagnosis of "environmental illness"

I. Research principles

1. Ethics
2. Experimental design
3. Data analysis and biostatistics
4. Epidemiology
5. Grant writing

Clinical Sciences

The subspecialty of Allergy and Immunology encompasses three major clinical areas: allergic diseases, immunoregulatory disorders, and immunodeficiency diseases. It is the intention of allergy and immunology training programs to train residents as expert consultants and accomplished practitioners in these areas.

Moreover, the scholastic approaches to maintaining the understanding and updating of the current concepts of the specialty over a professional lifetime must be instilled during the training program. It is required that each trainee be accomplished in the basic knowledge and clinical and laboratory skills required to diagnose and effectively treat allergic immunoregulatory and immunodeficiency diseases.

Following is an outline of the diseases about which allergy and immunology fellows must be knowledgeable.

A. Allergic Disorders
- 1. Upper airway diseases
  - a. rhinitis
  - b. sinusitis
  - c. nasal polyposis
  - d. otitis (bacterial and serous)
  - e. laryngeal disorders
  - f. clinical skills
    - 1. skin testing (epicutaneous and intracutaneous)
    - 2. assessment of nasal secretions
    - 3. understanding of indications for and methodology of nasal challenges
    - 4. assessment of ciliary function
    - 5. rhinoscopy
    - 6. nasal and ear examination
    - 7. assessment of radiographic examination including computerized enhancement
    - 8. environmental assessment
    - 9. tympanometry
- 2. Eye diseases
  - a. conjunctivitis, iritis, iridocyclitis
  - b. clinical skills: eye examination
- 3. Dermatologic diseases
  - a. urticaria
  - b. angioedema
  - c. atopic dermatitis, contact dermatitis
  - d. urticaria pigmentosa and other manifestations of cutaneous mastocytosis
  - e. bullous disease
  - f. drug rashes
  - g. erythema multiforme
  - h. erythema nodosum and other immunologic skin diseases
  - i. clinical skills
    - 1. proper cutaneous examination
    - 2. patch testing
    - 3. drug skin testing (immediate hypersensitivity skin tests)
    - 4. dermatopathology and immunofluorescent tests

4. Lower respiratory tract disease
    a. asthma
        1. exercise-induced
        2. allergic bronchopulmonary aspergillosis
        3. sulfite-related
        4. aspirin-induced
        5. occupational
        6. menstrual cycle related
        7. vasculitis, infection-related, and intrinsic
    b. hypersensitivity pneumonitis
    c. chronic obstructive pulmonary disease
    d. chronic and acute bronchitis
    e. diagnosis of patients with cystic fibrosis
    f. immotile cilia syndrome
    g. sarcoidosis
    h. cough syndrome
    i. specific skills to be acquired:
        1. chest examination
        2. pulmonary function testing
        3. bronchial challenges
        4. sputum analysis
        5. interpretation of bronchoscopy and bronchial lavage
        6. interpretation of radiographs and other imaging modalities
5. Drug allergy
6. Adverse reactions to ingestants
    a. food allergies
    b. food intolerance
    c. gluten sensitivity
    d. food-additive reactions
    e. eosinophilic gastroenteritis
    f. clinical skills
        1. oral challenge for foods
        2. oral challenges for additives
7. Anaphylaxis
    a. anaphylaxis
        1. allergen-induced
        2. related to blood products
        3. exercise-induced
        4. intra-operative
        5. menstrually related
        6. idiopathic
        7. drug-related
        8. radiocontrast and media-induced
    b. clinical skills
        1. emergency treatment
        2. testing for responsible allergen, e.g. penicillin, latex, etc.
8. Insect hypersensitivity

a. stinging and biting insect reactions
b. clinical skills
1. venom skin testing, and interpretation of venom RAST testing
2. desensitization

9. Therapeutic modalities
a. environmental control of allergens
b. allergen immunotherapy
c. pharmacotherapy
1. antihistamines
2. theophylline
3. alpha and beta agonists
4. sympathomimetics
5. calcium channel blockers
6. cromolyn
7. anticholinergics
8. corticosteroids
9. corticosteroid modifiers
10. mucolytics
11. antibiotics
12. nedocromil
13. methotrexate
14. leukotriene modifiers
15. anti-IgE therapy
d. clinical skills
1. maintenance of therapeutic levels of plasma theophylline
2. step up and step down treatment of chronic asthma
e. allergenic extract vaccine preparation and principles of immunotherapy
f. unproven therapy
1. neutralization therapy
2. rotation diets
3. acupuncture
4. orthomolecular diagnosis
5. homeopathic remedies
6. autologous urine injection
7. chiropractic therapy
g. inappropriate forms of therapy

B. Knowledge of immunodeficiency diseases is an essential component of allergy-immunology programs, and allergy-immunology fellows should be exposed to and be familiar with the following diseases, their pathophysiology, differential diagnosis and their treatment.

1. Complement deficiencies
a. hereditary angioedema
b. complement-component deficiencies
c. clinical skills: interpretation of complement test results
2. Primary immunodeficiencies, e.g.
a. severe combined immunodeficiency

1. DiGeorge syndrome
2. adenosine deaminase deficiency
3. ataxia telangiectasia
4. Wiskott-Aldrich syndrome
5. congenital X-linked agammaglobulinemia
6. selective IgA deficiency
7. IgG subclass deficiencies
8. hyper-IgE syndrome
9. hyper-IgM syndrome
10. common variable immunodeficiency

b. clinical skills

1. assessment for thymic shadow
2. assessment of recurrent serious infections
3. immunoglobulin level interpretation
4. functional antibody interpretations
5. lymphocyte function interpretation
6. delayed skin test placement and interpretation

3. Acquired immunodeficiencies

a. acquired immunodeficiency syndrome

1. chromosomal defects
2. metabolic defects
3. immunosuppression
4. viral infections
5. parasitism
6. malnutrition
7. malignancies
8. autoimmune diseases
9. burns
10. splenectomy
11. radiation

b. clinical skills

1. interpretation of human immunodeficiency virus tests (ELISA and Western blot), PCR testing, and HIV-1 culture

4. Phagocytic cell disorders

a. chronic granulomatous disease of childhood
b. myeloperoxidase deficiency
c. leukocyte-adhesion disorder (types 1 & 2)
d. Chediak-Higashi syndromes
e. hypereosinophilic syndromes
f. mastocytosis
g. clinical skills

1. assessment of leukocyte function
2. chemiluminescence test interpretation
3. surface glycoprotein test (e.g. CD11 a, b, c, and CD18) phenotype interpretation
4. chemotaxis assay interpretation
5. absolute neutrophil count interpretation

6. superoxide generation
7. NBT testing

C. Immunoregulatory Disorders
1. Autoimmunity
a. systemic lupus erythematosus
b. other collagen-vascular diseases (connective tissue disease)
c. immune endocrinopathies
d. inflammatory gastrointestinal diseases
e. immunologic neuropathies and neuromuscular diseases
f. immunohematologic diseases
g. immunologic eye diseases
h. clinical skills
1. interpretation of physical findings
2. interpretation of autoantibody test results (including but not limited to) antinuclear antibody, anti-DNA, anti-Rho, and anti-La, anti-intrinsic factor, anti-parietal cell antibody, anti-receptor antibodies, anti-myelin antibody, anti-neutrophil antibody, and anti-phospholipid antibodies
2. Vasculitis
a. small vessel disease
b. medium vessel disease
c. large vessel disease
d. pulmonary disease
e. renal immune disease
f. cryoproteins
g. clinical skills
1. interpretation of biopsy specimens of skin, kidney, and lung (immunofluorescence)
2. interpretation of physical findings
3. interpretation of circulating immune complex levels
4. interpretation of cryoglobulins
3. Transplantation and GVHRs
a. pharmacologic modulation and immunomodulation of GVH reactions following transplant
4. Immune-related malignancies
a. plasma cell dyscrasia, multiple myeloma, gammopathies, and amyloidosis
b. clinical skills
1. interpretation of serum protein electrophoresis
2. interpretation of immunoelectrophoresis
3. interpretation of serum immunoglobulin levels
4. interpretation of lymphocyte subset data
5. Immune reproductive defects
a. infertility (male and female)
b. abortion (chronic)
c. Rh incompatibility

d. ABO incompatibility
e. secondary reproductive defects
f. semen sensitivity
g. clinical skills
1. interpretation of anti RH/AB
2. antibody levels and interpretation of appropriate autoantibodies

6. Immunomodulation
a. immunosuppressants
b. immune reconstitution
c. gammaglobulin and monoclonal antibodies
d. cytokine receptors and receptor antagonists
e. vaccines
f. plasmapheresis and cytopheresis
g. recombinant molecules

Trainees will be encouraged to spend 20% of the direct patient care time cross training in both pediatric and adult allergy/immunology patients with a combination of inpatient as well as ambulatory care patients.
With mutual agreement, and through special arrangements made by the Program Director, fellows may take up to 50% of their training abroad, in an accredited Allergy & Immunology training program, especially during the optional third year. At the same time, fellows from institutions abroad may also rotate in our training program, with mutual arrangement between the programs with no financial obligations on our program. Our fellows will be encouraged to pass USMLE or Canadian Boards before spending time in institutions abroad.

VII. EVALUATION AND PROMOTION

The fellow's level of competence and performance will be evaluated at a frequency determined by the Postgraduate Education Committee and in the manner as detailed in the Policy for Fellowship Training Program. A self-assessment examination covering the different topics in the subspecialty will be given at the end of the first and second years of fellowship training. A fellow's advancement from year to year is contingent upon professional performance and personal growth. The criteria for promotion are as enumerated in the Policy for Fellowship Training Program.

Evaluation of Competencies - Patient Care
Competency will be assessed every six months as described below.
Caring and respectful behavior. Fellows are expected to provide care that is sensitive to each patient's age, gender, cultural, economic, and social circumstances.
Interviewing. Fellows are expected to obtain a complete environmental and/or occupational history. Competency will be assessed through evaluations of faculty observed patient interactions. Every six months, fellows will be observed by two different faculty members for this purpose.

Informed decision-making. Fellows are expected to synthesize clinical history, physical examination findings, and laboratory results to arrive at a correct diagnosis. Competency will be assessed through evaluations of faculty observed patient interactions. Every six months, fellows will be observed by two different faculty members for this purpose.
Develop and carry out patient management plans. Provide written action plan for management of asthma of varying severity. Competency will be assessed through the fellows' performance on the Allergy-Immunology in-service examination. Fellows will also perform periodic review of patients previously seen by them and compare their management plans with published guidelines. Written plans to improve management outcomes will be prepared as necessary.
Counsel and educate patients and families. Provide information necessary to understand asthma pathophysiology and treatment, including technique of medication administration and emergency care. Competency will be assessed.
Perform medical procedures. Perform puncture and intradermal allergy skin testing; specific allergen immunotherapy; drug desensitization; pulmonary function testing; IVIG therapy. Competency will be assessed through review of the fellows procedure logs.
Preventive health services. Advise asthmatic patients to receive annual influenza immunizations; immunizations for immunocompromised patients.

Evaluation of Competencies – Medical Knowledge
Competency will be assessed every six months.
Analyzes own practice for needed improvement. Fellows will document their efforts to improve their own practice such as through reading, quality control, participation in specific learning modules/programs, etc. Records of these efforts will be collected in a portfolio, which will be reviewed by the program director every six months.
Uses evidence from scientific studies. Fellows will retrospectively review six charts per six-month period and prepare a report on symptoms, tests ordered, initial diagnosis, therapeutic approach, and follow up (if available). This report will be reviewed by the Program Director every six months for comparison against accepted patient care standards.
Facilitates learning of health care professionals and the public. The Program Director will assess the fellow's participation in teaching conferences. There will also be an in-service at the end of the first year of fellowship.

Evaluation of Competencies – Interpersonal & Communication Skills
Creation of therapeutic relationship with patients. Making sure that patients understand their medications and asthma action plans. Checklist evaluations of the fellow will be performed by at least two faculty members every six months. Listening skills enabling patients to be comfortable asking questions about their disease or medications as per faculty discussions.

Evaluation of Competencies - Professionalism
Respect, altruism. Accept responsibility for continuity of patient care; respect patient's privacy and autonomy.

Ethically sound practice. Consistently demonstrate high standards of ethical behavior.
Sensitivity. Demonstrate respect for the dignity of patients and colleagues as persons.

Final Fellow's Evaluation
At the end of the fellowship program, fellows will be given a final evaluation examination. This will consist of written as well as oral clinical exam. They will also be able to take the Allergy and Immunology Board examination when it becomes available.

VIII. COMPLETION

A certificate of fellowship training at KFSH&RC will be awarded upon satisfactory completion of the requirements of the program.

IX. DUTIES, LEAVES & HOLIDAYS

Regulations governing duties, leaves and holidays are as stipulated in the Policy for Fellowship Training Program.

v:October2010
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ADULT ALLERGY & IMMUNOLOGY FELLOWSHIP TRAINING PROGRAM

Recommended:

Farrukh Sheikh, MD
Section Head, Adult Allergy & Immunology
Department of Medicine

Recommended:

Hamad Al Ashgar, MD
Acting Chairman
Department of Medicine

Recommended:

Abdulrahman Alrajhi, MD
Deputy Executive Director
Academic & Training Affairs

Approved:

Abdullah Al Dalaan, MD
Executive Director
Academic & Training Affairs

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