



The Robert A Good/Jeffrey Modell Fellowship in Transplantation and Immunodeficiency

The Jeffrey Modell Centers Network (JMCN) has identified training in stem cell transplantation and primary immunodeficiency as a high priority program. The goal of this program is to help attract to the field and educate the best candidates for the benefit of patients with primary immunodeficiency.

JMCN is proud to announce the establishment of the Robert A. Good /Jeffrey Modell Fellowship in Transplantation and Immunodeficiency.

The program will offer in its initial stages matching funds for three (3) Fellowship positions. The applying institutions must provide a written commitment for matching funds upon application for the Fellowship.

The Fellowship Steering Committee will evaluate the quality of the applicant as well as the suitability of the Center and training program. Although preferences will be given to Jeffrey Modell Centers, other qualified centers will be considered.

Applicants: MD or MD/PhD fully certified in their country in Pediatrics or Internal Medicine with a major interest and Career path in academic stem cell transplantation of primary immunodeficiency. Candidates who have already completed basic requirements of training in Immunology/Allergy or equivalent and are eligible for certification in their country will be preferred.

Centers: Preference shall be given to large referral centers with strong research focus in primary immunodeficiency as well as bone marrow transplantation and who have an existing structured (for Board Certification or equivalent) training program in Immunology/Allergy (or equivalent).

Applications from eligible institutions must be received no later than October 1, 2008.



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Objectives and requirements of Sub-specialty training

DEFINITION AND AIM

Transplantation and Immunodeficiency is an academic stream subspecialty concerned with the diagnosis, medical management and research involving diseases of the immune system. The aim of this program is to prepare trainees for a career in medical innovation in the field of Immunology with a particular focus on stem cell transplantation and primary immunodeficiency.

SPECIALTY TRAINING REQUIREMENTS AND UNIQUENESS

- Applicants must have been certified in Pediatrics or Internal Medicine with or without basic training in Allergy and Clinical Immunology or Rheumatology or Infectious diseases.
- This is a flexible program. When possible we accommodate the basic certification requirements of the trainee's homeland.
- Trainees may have the option to be exposed to other similar programs which have been set up globally.
- The program encourages creativity and independent thinking.

GENERAL OBJECTIVES

Upon completion of training, a resident is expected to be a competent Transplantation and Immunodeficiency specialist capable of assuming a consultant's role in the Specialty. The resident must acquire state of the art clinical knowledge and must participate in the basic medical sciences and research related to the specialty.

Residents must demonstrate the knowledge, skills and attitudes relating to gender, culture and ethnicity pertinent to Transplantation and Immunodeficiency. In addition, all fellows must demonstrate an ability to incorporate gender, cultural and ethnic perspectives in research methodology, data presentation and analysis.

Trainees should have supervised clinical experience and opportunities provided at in-patients as well as out-patient facilities. Training should include exposure to children as well as adults.

Trainees will be expected to become fully familiar with the methodology, application and interpretation of a wide variety of investigative/diagnostic tests applicable to the practice of Transplantation and Immunodeficiency. Trainees will be expected to participate actively in the

teaching activities of their program, including clinical rounds, grand rounds, conferences, seminars, journal clubs and other educational programs.

Trainees will be expected to acquire the basic skills and principles of bench research and to design and implement experiments.

SPECIFIC OBJECTIVES

At the completion of training, the resident will have acquired the following competencies and will function effectively as a:

Medical Expert/Academic Leader

Specialists possess a defined body of knowledge and procedural skills which are used to collect and interpret data, make appropriate clinical decisions, and carry out diagnostic and therapeutic procedures within the boundaries of their discipline and expertise. Their care is characterized by state of the art, ethical, and cost-effective clinical practice and effective communication. To excel they have to engage in research and strive to innovate in their field. The role of medical expert/academic leader is critical for progress in the specialty, and draws on the competencies included in the roles of scholar, communicator, health advocate, manager, collaborator, and professional.

General Requirements:

- Demonstrate diagnostic and therapeutic skills for ethical and effective patient care.
- Demonstrate effective teaching skills with respect to patients and their families, presentation of clinical findings and research data.
- Demonstrate solid ability to establish an independent research program.

Specific Requirements:

1. Elicit a history, including relevant information that is relevant, concise, accurate and appropriate to the patient's problem.
2. Perform a physical examination that is relevant, sufficiently elaborate, and appropriate for the patient's problem that meets Transplantation and Immunodeficiency Specialty-specific standards.
3. Select medically appropriate investigations in a cost-effective, ethical and useful manner.
4. Demonstrate cognitive and process skills toward solving the individual patient's problem(s) while collecting data by the three above means.
5. Demonstrate effective consultation and teaching skills in presenting well documented clinical assessments or research papers.

6. Demonstrate familiarity in the pathophysiology and molecular basis of immune disorders and their treatments.
7. Describe the laboratory techniques used in clinical Immunology.
8. Discuss the limitations of common diagnostic tests in Transplantation and Immunodeficiency.
9. Access, retrieve, assist and apply relevant information of all kinds to problem-solving and introduce new therapeutic options to clinical practice.

The following list of topics summarizes the Specialty-specific knowledge in basic and clinical science relevant to transplantation and immunodeficiency. Trainees require a working knowledge of these topics at the level of a consultant in the subspecialty.

Basic Science

A. *Immune mechanisms*

1. Antigens/antigen presentation/super antigens
2. Major histocompatibility complex
3. Immunoregulation/tolerance
4. Immunogenetics/molecular biology
5. Immunoglobulins
6. T and B cell ligand-receptor interactions and signal transduction/cell activation/anergy
7. Cytokines/interleukins/chemokines and their receptors
8. Role of adhesion glycoproteins in inflammation
9. Complement/kinins
10. Mucosal immunity
11. Transplantation/tumor immunology
12. Immunodeficiencies

B. *Cells Involved in Immune Responses (Differentiation, Origin, Reception, Interactions, Secretions)*

1. Lymphocytes
 - a. T cells
 - b. B cells (Ig Production, Cytokine Regulation)
 - c. NK cells
 - d. LAK cells
2. Monocytes/macrophages/dendritic cells (i.e., antigen-presenting cells)
3. Mast cells/basophils
4. Eosinophils
5. Neutrophils
6. Platelets
7. Endothelial/epithelial/smooth muscle/fibroblasts

C. *Specific immune responses*

1. IgG/IgA/IgM-mediated reactions
 - a. opsonization
 - b. complement fixation & Fcγ receptor activation
 - c. antibody-dependent cell-mediated cytotoxicity
 - d. antibody-mediated immune regulation
2. Cell-mediated
 - a. CD4+ cells (Th1, Th2) and T regulatory cells
 - b. CD8+ cells
 - c. NK / LAK cells
3. Immune complex-mediated
4. Immediate hypersensitivity (IgE-mediated)

D. *Laboratory tests*

1. Immunoglobulin measurement
2. Specific antibodies(to protein or polysaccharide antigens)
3. Cell surface markers and receptors (flow cytometry)
4. Lymphocyte function: proliferation, cytotoxicity
5. Molecular analysis
6. NK activity
7. Thymus morphology
8. Immune complexes
9. Mediator or cytokine measurement
10. Complement

E. *Anatomy/ physiology / pathology*

1. Lymphoid system & organs
2. Upper airway, nose, sinuses, middle ear
3. Lower airway (remodeling)
4. Skin
5. Renal
6. Gastrointestinal

F. *Research principles*

1. Experimental design
2. Bench research methodologies
3. Data analysis and/or biostatistics
4. Epidemiology

Clinical domains

A. *Immunological disorders*

1. Primary Immunodeficiencies, humoral
2. Primary Immunodeficiencies, Cellular
3. Primary Immunodeficiencies, Combined

4. Primary Immunodeficiency Innate
5. Phagocytic disorders neutrophil
6. Lymphoproliferative disorders
7. Apoptotic defects
8. Susceptibility to infections
9. Complement deficiency
10. Neutrophil adhesion defects
11. Immune endocrinopathies/CMCC
12. Graft vs. host reaction/bone marrow transplantation
13. Immunologic rejection/organ transplantation
14. Systemic autoimmune disease
15. Immunologic renal diseases
16. Immunologic skin diseases
17. Immunologic eye diseases
18. Inflammatory gastrointestinal diseases
19. Immunologic neuropathies
20. Rheumatic disorders including SLE and poly-dermatomyositis
21. Leukemias, lymphomas, myelomas
22. Hypereosinophilic syndromes
23. Sarcoidosis
24. Cryopathies (amyloidosis)
25. Mastocytosis
26. Reproductive immunology
27. Acquired (secondary) immunodeficiencies
 - a. HIV/AIDS-related

B. *Stem cell transplantation*

1. Related BMT
2. MUD BMT and cord blood
3. T cell depleted haploidentical BMT
4. Gene therapy
5. Alternative therapies (PEG-ADA)
6. Management of BMT complications; GvHD infections. PTLD
7. Follow-up and monitoring of Post-BMT period

C. *Pharmacology / therapeutics*

1. Immunoglobulin replacement therapy
2. Glucocorticoids
3. Imuran
4. Cyclophosphoride
5. Cyclosporine-A
6. Busulfan
7. Immunomodulators/suppressives (including Anti CD20)
8. Cytokine and cytokine receptor-mediated therapy (IFN-gamma, GM-CSF, IL-2)
9. Apheresis
10. Anti-inflammatory agents (including Cox-1 & 2)

11. Dermatologic and ophthalmic treatments
12. Cardiopulmonary resuscitation

Scholar

Specialists engage in a lifelong pursuit of mastery of their domain of professional expertise. They recognize the need to be continually learning and model this for others. Through their scholarly activities, they contribute to innovation and creation of new knowledge, and facilitate the education of their students, patients, and others.

General Requirements:

- Create new knowledge
- Innovate in your field
- Develop, implement and monitor a personal continuing education strategy.
- Critically appraise sources of medical information.

Specific Requirements:

Clinical:

1. Pose a clinical question relevant to the subspecialty of transplantation and immunodeficiency;
2. Recognize and identify gaps in knowledge and expertise around a clinical question;
3. Formulate a plan to fill the gap:
 - A. Conduct an appropriate literature search based on the clinical question;
 - B. Assimilate and appraise the literature;
 - C. Develop a system to store and retrieve relevant literature;
 - D. Consult others (physicians and other health professionals) in a collegial manner;
 - E. Propose a solution to the clinical question;
 - F. Implement the solution in practice. Evaluate the outcome and reassess the solution;
 - G. Identify practice areas for research.

Research:

1. Pose a research question relevant to the subspecialty of transplantation and immunodeficiency (basic or population health);
2. Develop a proposal to solve the research question:
 - A. Conduct an appropriate literature search based on the research question;
 - B. Acquire all methods and assays referred for your research;
 - C. Consult and collaborate with appropriate experts to help you conduct the research;
3. Carry out the research outlined in the proposal;

4. Defend and disseminate the results of the research;
5. Identify areas for further research that flow from the results.

Education:

1. Demonstrate an understanding of, and the ability to apply, the principles of adult learning, with respect to oneself and others;
2. Demonstrate an understanding of preferred learning methods in dealing with students, residents and colleagues.

Leader and Manager

Academic specialists function as managers when they make everyday decisions involving resources, co-workers, tasks, policies, and their personal lives. They do this by juggling major responsibilities which require multi-tasking. Thus, academic specialists require the abilities to prioritize and effectively execute tasks through teamwork with colleagues, and make systematic decisions when allocating finite resources. As managers, specialists take on positions of leadership within the context of professional organizations.

General Requirements:

- Utilize resources effectively to balance patient care, learning needs, and research.
- Allocate finite health care research facility resources wisely.
- Work effectively and efficiently in a health care research organization.
- Improve and diversify research funding sources.

Specific Requirements:

1. Develop an understanding of how to function effectively in academic environment.
2. Learn and gain confidence in leading innovative initiatives.
3. Practice and teach critical thinking.
4. Work effectively as a member of a team or a partnership and to accomplish tasks whether one is a team leader or a team member.
5. Develop the skill of managing a wet laboratory by budgeting appropriately salaries, equipment and reagents.
6. Learn how to lead fellow investigators (students, technicians or post docs) in your program.

7. Learn how to diversify funding resources.

Communicator

To provide humane, high-quality care, specialists establish effective relationships with patients, other physicians and scientists, and other health and research professionals. Communication skills are essential for the functioning of a specialist, and are necessary for obtaining information from, and conveying information to patients and their families. Furthermore, these abilities are critical in becoming an academic leader and an independent investigator.

General Requirements:

- Listen effectively and establish therapeutic relationships with patients/families.
- Acquire the skill of presenting medical and scientific data.
- Learn how to write a manuscript and request funding for your research.

Specific Requirements:

1. Recognize that communication is an essential function of a physician, and describe how effective patient-physician communication can foster patient satisfaction and compliance as well as influence the manifestations and outcome of a patient's illness.
2. Establish relationships with patients that are characterized by understanding, trust, respect, empathy and confidentiality.
3. Demonstrate skills in working with others who present significant communication challenges such as anger or confusion, or an ethno-cultural background different from the physician's own.
4. Effectively provide information to the general public and media about topics relevant to transplantation and immunodeficiency of local, national or international concern.
5. Demonstrate skills in preparing and properly delivering clinical or scientific talks at various academic levels.
6. Demonstrate skills of planning and writing a scientific manuscript.
7. Demonstrate understanding of how to write a grant proposal.

Collaborator

Academic specialists work in partnership with others who are appropriately involved in the care of individuals or specific groups of patients. It is therefore essential for academic specialists to be able to collaborate effectively with patients, a multidisciplinary team of expert scientists or health professionals for provision of optimal patient care, education, and research.

General Requirements:

- Consult effectively with other physicians and health care professionals.
- Contribute effectively to other team clinical and research activities.

Specific Requirements:

1. Identify and describe the role, expertise and limitations of all members of an interdisciplinary team in transplantation and immunodeficiency required to optimally achieve a goal related to patient care, a research problem, an educational task, or an administrative responsibility.
2. Develop a care plan for a patient they have assessed, including investigation, treatment and continuing care, in collaboration with the members of the interdisciplinary team.
3. Participate in an interdisciplinary team meeting, demonstrating the ability to accept, consider and respect the opinions of other team members, while contributing Clinical Immunology Specialty-specific expertise. Provide feedback and be able to assume a leadership role.
4. Cooperate with other scientists or groups of scientists for the benefit of their project.
5. Participate and help others achieve their research goals.

Health Advocate

Specialists recognize the importance of advocacy activities in responding to the challenges represented by those social, environmental, and biological factors that determine the health of patients and society. They recognize advocacy as an essential and fundamental component of health promotion that occurs at the level of the individual patient, the practice population, and the broader community. Health advocacy is appropriately expressed both by the individual and collective responses of specialist physicians in influencing public health and policy.

General Requirements:

- Identify the important determinants of health affecting patients.
- Contribute effectively to improved health research of patients and communities.
- Recognize and respond to those issues where advocacy is appropriate.

Specific Requirements:

1. Demonstrate an understanding of:
 - A. Determinants of health by identifying the most important determinants of health (i.e. poverty, unemployment, early childhood education, social support systems), being familiar with the underlying research evidence, and applying this understanding to common problems and conditions in transplantation and

immunodeficiency.

- B. Public policy for health by describing how public policy is developed; identifying current policies that affect health of patients with diseases cared for by a specialist in Clinical Immunology, either positively or negatively (i.e., communicable diseases, tobacco), and citing examples of how policy was changed as a result of actions by physicians.
2. Demonstrate an understanding of these concepts as applied to the following three levels:
 - A. In the management of individual patients by identifying the patient's status with respect to one or more of the determinants of health (i.e., unemployment); adapting the assessment and management accordingly (i.e., the medical history to the patient's social circumstances); and assessing the patient's ability to access various services in the health and social system.
 - B. In the analysis of a specialist's practice population, work with the Specialty Society and other associations associated with the Sub-Specialty of transplantation and immunodeficiency in identifying current "at risk" groups within the Specialty practice and applying the available knowledge about prevention to "at risk" groups within the practice; and contributing "group data" for better understanding of health problems within the population.
 - C. In relation to the general population by describing, in broad terms, the key issues currently under debate regarding changes in the health care system, indicating how these changes might affect societal health outcomes and advocating to decrease the burden of illness (at a community or societal level) of a health problem relevant to the Sub-Specialty of transplantation and immunodeficiency through a relevant Specialty society, community-based advocacy group, other public education bodies, or private organizations.

Professional

Specialists have a unique societal role as professionals with a distinct body of knowledge, skills, and attitudes dedicated to improving the health and well-being of others. Specialists are committed to the highest standards of excellence in clinical care and ethical conduct, and to continually perfecting mastery of their discipline.

General Requirements:

- Deliver highest quality care with integrity, honesty and compassion.
- Exhibit appropriate personal and interpersonal professional behaviours.
- Practise medicine ethically consistent with obligations of a physician.

Specific Requirements:

Discipline - Based Objectives:

1. Display attitudes commonly accepted as essential to professionalism.

2. Use appropriate strategies to maintain and advance professional competence.
3. Continually evaluate one's abilities, knowledge and skills and know one's limitations of professional competence.

Personal/Professional Boundary Objectives:

1. Adopt specific strategies to heighten personal and professional awareness and explore and resolve interpersonal difficulties in professional relationships;
2. Consciously strive to balance personal and professional roles and responsibilities and to demonstrate ways of attempting to resolve conflicts and role strain.

Objectives Related to Ethics and Professional Bodies:

1. Describe and demonstrate an understanding of the professional, legal and ethical codes to which physicians are bound.
2. Recognize, analyse and attempt to resolve in clinical practice ethical issues relevant to the practice of Clinical Immunology and Allergy such as truth-telling, consent, advanced directives, confidentiality, conflict of interest, resource allocation, research ethics, etc.
3. Describe and be able to apply relevant legislation that relates to the health care system in order to guide one's clinical practice.
4. Recognize, analyse and develop strategies to deal with unprofessional behaviours in clinical practice, taking into account local and provincial regulations.



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Qualifying training programs/center

1. A program which delivers structured training in Immunology alone or in conjunction with Allergy, Rheumatology or other related fields.
2. A program which is accredited by the licensing bodies in their country to prepare trainees for certifications in immunology. (Board certification, FRCP or equivalent)
3. A program that includes stem cell transplantation as an integral part of the training.
4. A program that can offer research opportunities and can prepare for a career in academic as well as clinical service.
5. Selection of centers will be done by the Fellowship Core Committee.

Candidate Selection

1. This fellowship intends to enhance but not replace basic training in Immunology/Allergy.
2. Candidates will be preferred if they have already completed the requirement for Board certification in Immunology/Allergy.
3. Candidates who have shown interest in academic medicine including research background will be preferred.
4. Selection of candidates will be done by the Fellowship Core Committee.



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 Tel: (212) 819 – 0200
 Fax: (212) 764 – 4180
 Email: info@jmfworld.org

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APPLICATION #:		DATE:	
FELLOWSHIP APPLICANT			
Last Name:	First:	M.I.:	Degree:
Institution:	Department:		
Street Address:		Floor/Room:	
City:	State/ Prov:	Postal Code:	
Phone:	Fax:		
E-mail Address:			

EDUCATION			
Degree:	Institution:	M.I.:	
Undergraduate Degree:	B.A. <input type="checkbox"/>	B.Sc <input type="checkbox"/>	Other <input type="checkbox"/> please specify:
Graduate Degree:	Specify Institution:		
Medical Degree:	Specify Institution:		
PhD:	Specify Institution:		
Postgraduate Residency:	Specify Institution:		
Post-doc	Specify Institution:		

ACADEMIC ACTIVITY AND APPOINTMENTS			
Specialty Fellowship:	Research <input type="checkbox"/> Specify Date:	Clinical <input type="checkbox"/> Specify Date:	Combined <input type="checkbox"/> Specify Date:
Institution:	Department:		
Street Address:		Floor/Room:	
City:	State/ Prov:	Postal Code:	
Phone:	Fax:		
E-mail Address:			

INSTITUTION APPLYING FOR THE FELLOWSHIP			
University Affiliation	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, Name:
Formal Immunology Training Program?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If yes, State Certification:

BMT			
BMT:	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Number of BMT per year?
Number of SCID BMT per year?		Number of other PID per year?	



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TEACHING STAFF			
Last Name:	First:	M.I.:	Degree:
Is address same as above: YES <input type="checkbox"/>	NO <input type="checkbox"/>	If No, please provide details below.	
Institution:	Department:		
Street Address:		Floor/Room:	
City:	State/ Prov:	Postal Code:	
Phone:	Fax:		
E-mail Address:			

TEACHING STAFF			
Last Name:	First:	M.I.:	Degree:
Is address same as above: YES <input type="checkbox"/>	NO <input type="checkbox"/>	If No, please provide details below.	
Institution:	Department:		
Street Address:		Floor/Room:	
City:	State/ Prov:	Postal Code:	
Phone:	Fax:		
E-mail Address:			

BUDGET			
Do other funds exist for this fellowship?	YES <input type="checkbox"/>	NO <input type="checkbox"/>	If Yes, Please complete the following:
Agency:			Amount per year:
Agency:			Amount per year:

DISTRIBUTION OF FUNDS			
Please provide the following financial details for your institution:			
Institution:			
Department:			
Street Address:		Floor/Room:	
City:	State/ Prov:	Postal Code:	
Phone:	Fax:	E-mail:	



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PERSONAL STATEMENT



The Robert A Good/Jeffrey Modell Fellowship in Transplantation and Immunodeficiency

MANDATORY ATTACHMENTS:			
1. Mentor plus 3 other reference letters	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Mentors/ Reference Letter must include the following concerning the applicant: <ul style="list-style-type: none"> • Cognitive skills and knowledge • Problem solving and patient management • Creativity and ability to think outside the box • Ability and motivation to conduct research • Behavior and attitudinal skills • Communication skills and working relationships • Ability to work in a team • Motivation and punctuality • Sense of responsibility • Procedural skills specific to the discipline to which the application is being made
2. Institutes Letter	YES <input type="checkbox"/>	NO <input type="checkbox"/>	Specify commitment to match funding. Could be provided by University/Hospital administration or by Department/Division/Program Director.
3. CV	YES <input type="checkbox"/>	NO <input type="checkbox"/>	CV must include: <ul style="list-style-type: none"> • Address and current position of the applicant, indicating start date in that position • Publication record of the applicant for the last 5 years • List of all grants currently held and applied for, including the source of funding, time period of funding, grant title and the amount of funding
4. 7 Full Packages	YES <input type="checkbox"/>	NO <input type="checkbox"/>	One completed original package, along with 6 additional copies of the full package.

APPLICANT CERTIFICATION AND ACCEPTANCE

I certify that the statement herein are true, complete, and accurate to the best of my knowledge, and I agree to comply with the terms and conditions of award if an award is issued as a result of this application. I am aware that any false, fictitious, or fraudulent statements or claims may subject me to criminal, civil, or administrative penalties. I will acknowledge the fellowship in full name in all my scientific, medical or other publications.

I agree to all of the above terms by signing this application.

Applicants Signature	
Printed Name	Date

SPONSORING INSTITUTION CERTIFICATION AND ACCEPTANCE

We, the undersigned, certify that the statements herein are true, complete, and accurate to the best of our knowledge. If this application results in an award, appropriate training, adequate facilities, and supervision will be provided, and we accept the obligation to comply with the Public Health Service terms and conditions of award. We are aware that any false, fictitious, or fraudulent statements or claim may subject us to criminal, civil, or administrative penalties.

I agree to all of the above terms by signing this application.

Sponsor Signature	
Printed Name	Date

ALL APPLICATIONS SHOULD BE MAILED TO:

Professor Chaim Roifman MD, FRCP
 The Hospital for Sick Children
 Division of Immunology/Allergy
 555 University Avenue Room 7277 Elm

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