



UNIVERSITY OF ALBERTA
FACULTY OF MEDICINE & DENTISTRY
Department of Laboratory Medicine & Pathology



**ALBERTA PRECISION
LABORATORIES**

Leaders in Laboratory Medicine

CLINICAL FELLOWSHIP PROGRAM IN LYMPHOPROLIFERATIVE DISORDERS

Department of Pathology and Laboratory Medicine
University of Alberta, Faculty of Medicine and Dentistry
and
Alberta Precision Laboratories

PATHOLOGY FELLOWSHIP IN LYMPHOPROLIFERATIVE DISORDERS

INTRODUCTION and BACKGROUND

The Fellowship Program in Lymphoproliferative Disorders at the University of Alberta is tailored to the needs of the individual fellow. The Alberta Health Services – Edmonton Zone lymphoma service is a reference service for all of Northern Alberta with expertise in a wide spectrum of lymphoproliferative disorders in adults and pediatrics. The fellow will be exposed to the approach and investigation of benign and malignant lymphoid disorders utilizing standard morphology, flow cytometry, immunohistochemistry, and molecular pathology. For the typical fellow involved in the program, the rotation will be based at the Cross Cancer Institute under the supervision of Dr. Raymond Lai and Dr. Jean Deschenes but rotations throughout other laboratories in the Edmonton zone and involvement with specialty clinics in both adult and pediatric lymphoproliferative disorders will also be available.

The faculty within the divisions of Anatomic and Hematological Pathology, our laboratory scientists and technical staff will provide expertise in all aspects of lymphoproliferative disorder investigation. Fellows are supervised, in rotation, by all participating staff and faculty members in order to get the benefit of the subspecialty expertise that is available in the region, and be exposed to different points of view. They will participate in clinical consulting activities and teaching activities in which the lymphoma service provides. Fellows will also participate in the teaching programs of the University during which they may supervise residents, undergraduate medical students and medical laboratory science students. Clinical research is also a requirement and time allotment is provided.

PROGRAM CURRICULUM

The Lymphoproliferative Fellowship program curriculum will include a wide variety of exposures to coagulation studies. The fellow will be primarily located at Cross Cancer site with rotations in the other laboratories across Alberta Health Services. There will be rotations through the Adult and Pediatric lymphoma clinics.

Rotations:

Rotations are arranged in a flexible way to avoid duplication of areas in which the fellow may have had significant previous experience and to strengthen weak areas. The rotation schedule may also be adjusted depending on the fellows' progress. A minimum of one month is devoted to research.

Seminars, Rounds and Teaching Sessions

Numerous rounds and teaching sessions will be available to participating fellows. These include weekly Joint Hematology rounds, weekly Hematopathology / Hematology academic half days and weekly lymphoma rounds.

Clinical/On Call Experience

Lymphoma rounds are held weekly. These are clinicopathologic case review rounds. Fellows in the lymphoma fellowship program are expected to attend these rounds and assist in the preparation / presentation of cases as appropriate.

Quality Management

The fellow will be broadly exposed to the Quality system operations and accreditation requirements for running a laboratory. A major focus will be developing an understanding and approach to dealing with quality assurance within anatomic pathology and an understanding of proficiency testing of flow cytometry, immunohistochemistry and molecular techniques. The fellow will be expected to participate as opportunities arise in oversight committees such as Provincial Hematopathology special interest group and the Provincial Hematology Tumor Group.

Research and Development

The fellow will be expected to be involved with any R&D activities occurring in the coagulation laboratory during their training period. A minimum of a one month rotation to focus on a specific research or validation project is mandatory.

PROGRAM OBJECTIVES

During this program, the fellow will develop a detailed approach to assessing lymph node pathology, and become adept at the use of additional tests (including flow cytometry, immunohistochemistry, fluorescence in situ hybridization, cytogenetics and molecular diagnostic testing) in facilitating the diagnosis of lymphoma. The fellow will review all the new and consultation cases of malignant lymphoma received. He/she will also review the bone marrow biopsies and peripheral blood smears received daily for assessment of lymphoma and myeloma involvement. The resident will gain experience in examining body fluid samples referred for assessment of lymphoma involvement. In addition, there is an extensive archive of over 2000 lymphoma cases readily available for study.

At the completion of training, the fellow will have acquired the following competencies and will function effectively in the following CanMEDS roles:

Role	Key Competencies
Medical expert	<ol style="list-style-type: none"><li data-bbox="597 1423 1320 1518">1. Understand approach to diagnosis of benign and malignant lymphoid disorders in peripheral blood, lymph node, bone marrow and extranodal sites.<li data-bbox="597 1560 1336 1623">2. Develop a practical approach in assessing lymph node morphology.<li data-bbox="597 1665 1369 1759">3. Develop intimate understanding of the diagnostic criteria and classification schemes for lymphoma and their potential pitfalls.<li data-bbox="597 1801 1344 1864">4. Understand and be able to recognize benign conditions that may mimic lymphoma.

	<p>5. Have extensive knowledge of the role of additional studies in diagnosis, including immunohistochemistry, flow cytometric immunophenotyping and T and B cell gene rearrangement studies, as well as FISH.</p>
Communicator	<p>1. Communicate effectively with medical colleagues, nursing and technical staff verbally and in written reports.</p> <p>2. Present cases effectively in lymphoma therapy planning meetings.</p>
Collaborator	<p>1. Ensure that reports are generated in a timely fashion.</p> <p>2. Work effectively as part of a multidisciplinary team in the diagnosis and treatment of patients.</p>
Manager	<p>1. Utilize time and resources effectively to balance patient care, budget restrictions, professional expectations and personal life.</p> <p>2. Allocate finite health care and health education resources effectively.</p> <p>3. Assist in the triage of cases for flow cytometry</p> <p>4. Identify and manage urgent diagnostic problems effectively</p>
Health advocate	<p>1. Recognize how technologic advances may apply to improvement in hematologic diagnosis, and advocate to introduce those technologies locally.</p>
Scholar	<p>1. Develop and implement a personal continuing educational strategy.</p> <p>2. Apply the principles of critical appraisal to sources of medical information.</p> <p>3. Review data and studies related to lymphoma diagnosis and treatment effectively.</p> <p>4. Participate in research studies to develop better diagnostic tools for lymphoproliferative disorders.</p>
Professional	<p>1. Deliver the highest quality of care with integrity, honesty and compassion.</p> <p>2. Practice medicine in an ethical manner.</p>

SPECIALTY TRAINING REQUIREMENTS

A minimum of 4 years of anatomic pathology OR 4 years of hematological pathology or 2 years of anatomic pathology and 2 years of clinical pathology. Each fellow will be assessed individually for experience in anatomic pathology to assess need for additional exposure / rotations in other aspects of anatomic pathology.

DURATION AND LOCATION

Twelve to twenty four months of approved training in lymphoproliferative disorders depending on previous experience. The fellow will be primarily located at Cross Cancer Institute.

EVALUATION & SUPERVISION

Although coordinated through the Hematopathology Divisional Director, the faculty member assigned to the lymphoma service for each rotation will be responsible for fellow supervision and rotation evaluation. As part of the fellowship, there will be case based practical examinations that will be coordinated on a 6 monthly basis. The performance of fellows is noted on the formal evaluation, which is done every six months. The fellows will also provide evaluations of each rotation.

RESOURCES AND PERSONNEL

Space and Workload

Space for the lymphoma fellow will be provided at the Cross Cancer Institute.

Funding

Funding for the successful fellowship training candidate will be provided by the Department of Laboratory Medicine and Pathology, University of Alberta commensurate to training level on the PARA scale.

Staff Responsible for Supervision and Instruction

Coordination of the Lymphoma Fellowship program will be through the Hematopathology Divisional Director's office with primary supervision by Dr. Raymond Lai and Dr. Jean Deschenes. Various clinical and technical staff will supervise the fellow during their rotation in order to get the benefit of the subspecialty expertise that is available in the province and to allow the fellow to be exposed to different points of view. In addition, there will be significant interaction with Ms. Juanita Wizniak, the laboratory scientist with oversight of the flow cytometry laboratory R&D activities.

ACCREDITATION AND CERTIFICATION

Upon successful completion the fellow will be issued a certificate from the office of Post Graduate Medical Education, Faculty of Medicine, University of Alberta, affirming that subspecialty training in Lymphoproliferative Disorders has been successfully completed.

RECOMMENDED READING and EDUCATION RESOURCES

A detailed reading package will be provided at the commencement of the fellowship program but a recommended resource includes:

- The WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues, 4th edition - published in 2008