



**UNIVERSITY OF
CALGARY**



*Department of Pathology and Laboratory Medicine
Division of Hematopathology*

Hematopathology Training Program

LYMPH NODE PATHOLOGY **Goals & Objectives and Training Schedule** **(Revised April 2016)**

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GOALS & OBJECTIVES

GENERAL OBJECTIVES:

The four week long Lymph Node module is designed to familiarize the trainee with the process of the lymph node/hematolymphoid mass biopsy, processing, evaluation and diagnostic assessment at the level of both primary and consultative/expert pathology practice, which comprehensively covers all aspects of patients care including: expert, education and legal matters.

At the completion of the rotation the clinical trainee is expected to be familiar with:

- indications for the LN biopsy
- distinction between the FNA, core biopsy and excisional biopsy
- distinct portions of the lymphoma protocol
- will be able to describe and interpret microscopic findings at the level appropriate for his/her training (graduate responsibility)
- value of ancillary techniques with respect to the final diagnosis/sub-classification.

At the Medical Expert level the trainee will be able to:

- differentiate the reactive, atypical and neoplastic hematolymphoid proliferations
- subclassify hematolymphoid neoplasms into 2016 WHO categories
- provide differential diagnoses at the level appropriate for his/her training
- appropriately utilize and interpret ancillary technique data
- research/review papers relevant to investigated cases
- independently pose own investigative questions/projects
- be familiarized with expert, educational and legal aspects of the consultative pathology practice

It is expected that this four weeks long exposure limited to LN pathology will result in an adequate expertise to independently handle 75% of service lymphoma cases and appropriately differentiate/triage top 25% complex cases. It is expected that the latter cases be handled at the level of a "pathology consultant" following appropriate consultative/referral practice/letters.

General expectations:

1. Daily evaluation of cases and designated rounds attendance.
2. Record/log of reviewed pathology cases with own and final diagnoses and choice of ancillary techniques.
3. Pager availability for daily lymphoma protocol cases at FMC and after hours/weekend cases at other Calgary Region Hospitals (arrange with techs/pathologists on call).
4. Preparation of at least two formal presentations at Clinical Haematology Tumour Rounds at TBCC.
5. Self-schedule two day long Molecular Pathology exposure with Bob Winkfein, MPL Laboratory Scientist at 403.220.8667. Group scheduling with other residents rotating thru HP with you is encouraged
6. Self study; regular daily review of teaching slides sets, CD ROM talks/lectures, relevant papers, etc.
7. Independently select clinically interesting/relevant cases for a review with the pathologist, in order to enhance one's specialty (paediatric/CNS etc) experience
8. Writing end-of-rotation test, which will include two short answer questions and two pathology cases evaluation/differential diagnosis discussion (last Friday of the rotation).
9. Participate in module/preceptor evaluation.
10. Maximum one week long vacation/absences, which must be pre-approved by the hematopathology training co-ordinator prior to the start of the elective

SPECIFIC OBJECTIVES:

At the completion of each training week, the trainee will be familiar and will acquire understanding of the following competencies:

Medical Expert competencies include:

By Week #1

1. Demonstrate understanding of a role of consultative practice in surgical pathology.
2. Demonstrate understanding of all parts of a lymphoma protocol.
3. Effective selection and utilization of immunohistochemical markers.
4. Understands the principles of screening immunohistochemical panels.
5. Comprehends value of ancillary techniques/data and their utility in the diagnosis of malignant lymphoma
6. Demonstrates knowledge of histology of a normal lymph node and developmental pathways of hematopoietic cells.
7. Understands the concept and distinct morphologic features of various reactive lymphadenopathies.
8. For Aperio access, contact Tom Kryton to set up an account for you:
Thomas Kryton
Digital Imaging Specialist, Virtual Microscopy Lab
403-220-8322
Thomas.kryton@cls.ab.ca

Talks/lectures available on G drive:

1. Development of B/T lymphocytes.
2. Histology of a normal lymph node.
3. Reactive lymphadenopathies. .
4. Lymphoma protocol and ancillary techniques in the diagnosis of non-Hodgkin lymphoma
5. Flow cytometry: Applications in neoplastic hematopathology.

By Week #2

1. Demonstrates understanding of basis of WHO classification of tumours of hematopoietic and lymphoid tissues.
2. Understands clinical and morphologic basis of Hodgkin lymphoma diagnosis
3. Understands principles of diagnostic criteria and subclassification of Hodgkin Lymphoma
4. Understands differential diagnosis and mimickers of Hodgkin Lymphoma.
5. For Aperio access, contact Tom Kryton to set up an account for you.

Formal talks/lectures available on G drive:

1. Hodgkin lymphoma; diagnosis, subclassification and differential diagnosis.
2. WHO classification of tumours of hematolymphoid and lymphoid tissues. Dr. X. Jiang

By Week #3

1. Demonstrate knowledge of spectrum of mature clonal B-cell neoplasms.
2. Understand the principles of morphologic/immunohistochemical and cytogenetics principles of subclassification of mature clonal B-cell neoplasms, as per WHO classification.
3. Demonstrate knowledge of spectrum of mature aggressive B-cell non-Hodgkin lymphomas.
4. Understand the principles of morphologic/immunohistochemical and cytogenetic principles of subclassification of aggressive B cell neoplasms, as per WHO classification.
5. For Aperio access, contact Tom Kryton to set up an account for you:

Formal CD ROM talks/lectures available:

1. Mature small cell B-cell non-Hodgkin lymphomas
2. Diffuse Large B cell lymphoma

By Week #4

1. Demonstrate knowledge of spectrum of mature clonal T-cell neoplasms.
2. Understand the principles of morphologic/immunohistochemical and cytogenetics principles of subclassification of mature clonal T-cell neoplasms, as per WHO classification.
3. Understand the principles of morphologic/immunohistochemical and cytogenetic principles of subclassification of clinico-pathologically specific T/NK cell lymphomas, as per WHO classification.
4. Demonstrate general understanding of other hematopoietic disorders including: precursor B/T neoplasms, chronic myeloproliferative/myelodysplastic disorders, and acute myeloid leukemia/ myeloid sarcoma.
5. For Aperio access, contact Tom Kryton to set up an account for you.

Formal CD ROM talks/lectures:

1. T-cell and NK-cell neoplasms
2. An overview of haematopoietic disorders

Communicator

General Requirements:

- Establish effective working relationships with consulting hematologists/ oncologists/ pathologists and surgeons/ interventional radiologists
- Obtain and synthesize relevant clinical history from physicians, electronic and written health records.
- Listen and respond effectively.
- Convey and discuss in timely fashion laboratory data with the appropriate members of the patient's health care team.

Specific Requirements:

- Understand the role of a primary pathologist and consultant pathologist
- Act as a consultant to both pathology/clinical peers on the interpretation and relevance of pathological findings, with particular regard to their significance in the management of the patient.
- Understand the role pathologic findings could provide in a given clinical situation; be able to communicate it effectively and in a timely fashion in an oral and written form with designated members of the patient's health team.
- Assist in the continuing education of clinicians/pathologists/trainees and other members of the health care team.

Collaborator

General Requirements

- Consult effectively with laboratory personnel and other pathologists/clinicians and health care professionals.
- Contribute effectively to interdisciplinary team activities
- Contribute to formal and informal research and innovation initiatives of the laboratory and clinical teams

Specific Requirements:

- Must have experience in neoplastic hematopathology sufficient to achieve a sound understanding of the effects of disease and the role of pathology in clinical management.
- Demonstrate the ability to advise on the appropriateness of obtaining histologic/ancillary techniques specimens and following examination of these, to advise on further appropriate investigations and management
- Demonstrate the ability to advise on formal and informal research and innovation initiatives of the laboratory and clinical teams

Leadership

General Requirements:

- Utilize resources effectively to balance patient care, turn around time, and educational/research needs.
- Allocate finite health care resources wisely.
- Work effectively and efficiently in a health care organization.
- Utilize information technology to optimize and personalize patient care/prognosis, life-long learning and other activities.

Specific Requirements

- Demonstrate knowledge of the principles of laboratory management and administration.
- Demonstrate knowledge of the methods of quality control in the field of neoplastic hematopathology.
- Demonstrate knowledge of the methods for laboratory and professional quality assurance as applied to neoplastic hematopathology
- Demonstrate competence in basic computer skills with emphasis on automated electronic reporting, electronic communication and search strategies.

Health Advocate

General Requirements:

- Contribute effectively to improved health of patients and communities.
- Recognize and respond to those issues where advocacy is appropriate.
- Understand the role of primary and consultative pathology service in patient's care

Specific Requirements:

- As members of an interdisciplinary team of professionals responsible for individual and population health care, the hematopathologist will endeavour to ensure that laboratory practices and test selection are regularly evaluated to determine that they meet these community needs.
- Reinforce to the public and to the medical profession the essential contribution of laboratory medicine to the overall health care system.

Scholar

General Requirements:

- Develop, implement and monitor personal continuing education strategy/progress.
- Critically appraise sources of medical information.
- Facilitate learning of patients, laboratory personnel, medical students, post-graduate trainees and other health professionals.
- Contribute to development of new knowledge thru involvement in formal and informal research/innovation initiatives.

Specific Requirements:

- Able to search and appraise literature relevant to difficult pathology cases
- Be able to propose a research question relevant to lymph node pathology.

Professional

General Requirement:

- Deliver highest quality patient care.
- Exhibit appropriate personal and interpersonal professional behaviours.
- Practise medicine ethnically consistent with obligations of a physician.
- Demonstrate the knowledge, skills and attitudes relating to gender, culture, and ethnicity pertinent in practice of hematopathology.

Specific Requirements

- Act as an appropriate role model for trainees and others.
- Demonstrate a professional attitude to colleagues and other laboratory staff.
- Have an appreciation of the crucial role of the pathologist in providing quality patient care.
- Knowledge of an individual professional limitations and the necessity of seeking appropriate second opinions.

Lymph Node Pathology Weekly Schedule

WEEK 1

Date	Time	Description of Activities	Assigned To
Monday, Oct 26	09:00	Introduction to the 6 th Floor Hematology Department and clerical support staff	Dr. Iwona Auer
	10:00	Review of current cases with the lymphoma service pathologist	Doctor on service
	13:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	15:00	Case dictation and independent study time	Self-directed
Tuesday, Oct 27	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	10:00	Bone Marrow Rounds	6 th Floor Multi-headed Microscope Lab, Room C613
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed
Wednesday, Oct 28	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed
Thursday, Oct 29	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	10:00	Lymphoma Review Session	6 th Floor Multi-headed Microscope Lab, Room C613
	12:00	Hematology Rounds	TBCC Rm CC104
	13:00	Clinical Lymphoma Rounds	TBCC Radiology Conference Room
	15:00	Review of the current cases with the lymphoma service pathologist and case dictation	Doctor on service

Date	Time	Description of Activities	Assigned To
Friday, Oct 30	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed

WEEK 2

Date	Time	Description of Activities	Assigned To
Monday, Nov 2	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed
Tuesday, Nov 3	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	10:00	Bone Marrow Rounds	6 th Floor Multi-headed Microscope Lab, Room C613
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed
Wednesday, Nov 4	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed

Date	Time	Description of Activities	Assigned To
Thursday, Nov 5	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	10:00	Lymphoma Review Session	6 th Floor Multi-headed Microscope Lab, Room C613
	12:00	Hematology Rounds	TBCC Rm CC104
	13:00	Clinical Lymphoma Rounds	TBCC Radiology Conference Room
	15:00	Review of the current cases with the lymphoma service pathologist and case dictation	Doctor on service
Friday, Nov 6	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	13:30	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed

WEEK 3

Date	Time	Description of Activities	Assigned To
Monday, Nov 9	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed
Tuesday, Nov 10	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> • Preliminary case review without pathologist • Search for past history/archived material/previously performed ancillary studies • Suggest diagnosis and immunohistochemical panel • Suggest ancillary studies (PCR/cancer cytogenetics) • Independent study time 	Self-directed
	10:00	Bone Marrow Rounds	6 th Floor Multi-headed Microscope Lab, Room C613
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed

Date	Time	Description of Activities	Assigned To
Wednesday, Nov 11	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> Preliminary case review without pathologist Search for past history/archived material/previously performed ancillary studies Suggest diagnosis and immunohistochemical panel Suggest ancillary studies (PCR/cancer cytogenetics) Independent study time 	Self-directed
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed
Thursday, Nov 12	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> Preliminary case review without pathologist Search for past history/archived material/previously performed ancillary studies Suggest diagnosis and immunohistochemical panel Suggest ancillary studies (PCR/cancer cytogenetics) Independent study time 	Self-directed
	10:00	Lymphoma Review Session	6 th Floor Multi-headed Microscope Lab, Room C613
	12:00	Hematology Rounds	TBCC Rm CC104
	13:00	Clinical Lymphoma Rounds	TBCC Radiology Conference Room
	15:00	Review of the current cases with the lymphoma service pathologist and case dictation	Doctor on service
Friday, Nov 13	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> Preliminary case review without pathologist Search for past history/archived material/previously performed ancillary studies Suggest diagnosis and immunohistochemical panel Suggest ancillary studies (PCR/cancer cytogenetics) Independent study time 	Self-directed
	13:30	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed

WEEK 4

Date	Time	Description of Activities	Assigned To
Monday, Nov 16	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> Preliminary case review without pathologist Search for past history/archived material/previously performed ancillary studies Suggest diagnosis and immunohistochemical panel Suggest ancillary studies (PCR/cancer cytogenetics) Independent study time 	Self-directed
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed

Date	Time	Description of Activities	Assigned To
Tuesday, Nov 17	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> Preliminary case review without pathologist Search for past history/archived material/previously performed ancillary studies Suggest diagnosis and immunohistochemical panel Suggest ancillary studies (PCR/cancer cytogenetics) Independent study time 	Self-directed
	10:00	Bone Marrow Rounds	6 th Floor Multi-headed Microscope Lab, Room C613
	15:00	Review of the current cases with the lymphoma service pathologist and case dictation and independent study time	Doctor on service
Wednesday, Nov 18	09:00	Check for new consult cases with consult secretary Michelle Bergen (944-2014) <ul style="list-style-type: none"> Preliminary case review without pathologist Search for past history/archived material/previously performed ancillary studies Suggest diagnosis and immunohistochemical panel Suggest ancillary studies (PCR/cancer cytogenetics) Independent study time 	Self-directed
	13:00	Review of the current cases with the lymphoma service pathologist	Doctor on service
	15:00	Case dictation and independent study time	Self-directed
Thursday, Nov 19	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> Preliminary case review without pathologist Search for past history/archived material/previously performed ancillary studies Suggest diagnosis and immunohistochemical panel Suggest ancillary studies (PCR/cancer cytogenetics) Independent study time 	Self-directed
	10:00	Lymphoma Review Session	6 th Floor Multi-headed Microscope Lab, Room C613
	12:00	Hematology Rounds	TBCC Rm CC104
	13:00	Clinical Lymphoma Rounds	TBCC Radiology Conference Room
	15:00	Review of the current cases with the lymphoma service pathologist and case dictation	Doctor on service
Friday, Nov 20	09:00	Check for new consult cases with transcriptionist Michelle McLean (944-2014) <ul style="list-style-type: none"> Preliminary case review without pathologist Search for past history/archived material/previously performed ancillary studies Suggest diagnosis and immunohistochemical panel Suggest ancillary studies (PCR/cancer cytogenetics) Independent study time 	Self-directed
	15:00	Evaluation and Feedback Session	Dr. Auer