

## Tissue Lymphoma Standard Operating Protocol

Date effective: January 10, 2022

### Background Information:

Diagnosis and classification of lymphoproliferative disorders requires adequate sampling of tissue from clinically suspicious lesions. Morphology and immunophenotyping are essential for diagnosis. Additional tests such as fluorescent-in-situ hybridization (FISH), molecular studies for B-cell and T-cell clonality, and Next-generation sequencing (NGS) are applied by hematopathologists for diagnostic and prognostic purposes, as indicated, in selected cases. Ancillary studies can be reliably performed on formalin fixed paraffin embedded tissues. Tissue handling and triaging of tissue biopsies are critical pre-analytical steps for superior diagnostic outcomes. This overarching protocol aims to secure adequate sampling of tissue biopsies, optimal triaging of tissue, and appropriate utilization of diagnostic platforms by hematopathologists that govern lymphoma diagnosis.

### Clinical Practice Change:

Previously, all tissue specimens designated as suspicious for lymphoma on the clinical requisition were transported to pathology laboratories across the province in RPMI media, to facilitate immunophenotyping using flow cytometry studies. Although flow cytometry studies are useful for rapid turn around time for phenotypic data only, they lack morphologic details and complete immunophenotype that are required for precise classification. Variability in tissue handling in pre-analytical areas, and analytical areas within the laboratories compromises availability of tissue for morphologic evaluation, immunohistochemistry testing, molecular studies, FISH analysis, and next generation sequencing studies, if indicated.

- Tissue handling and triaging of biopsies is standardized across the province. Tissue biopsies originating in facilities external to Health Sciences Centre, designated as suspicious for lymphoma on the clinical requisition, will be transported in formalin to Health Science Centre pathology facility as STAT specimens, for centralized processing and diagnosis.
- At Health Sciences Centre all specimens designated as clinically suspicious for lymphoma will be delivered to pathology cutting room as URGENT. Tissue biopsies less than 2cm will be transferred to formalin in the cutting room immediately. Tissue biopsies greater than 2cm will be triaged for flow cytometry studies at the discretion of the lymphoma hematopathologist on service.
- Exceptions to the triaging process can be applied on selected cases based on clinical and pathology indications, and pre-operative discussions between surgeons and lymphoma hematopathologist on service. Consultation service with a lymphoma hematopathologist is available 24/7, during routine working hours, and via pager after hours.

### Patient Impact

Reduction of repeat biopsy procedures, availability of upfront pathology consultation in complicated cases, appropriate utilization of diagnostic testing platforms, improvement in system wide turnaround times, and improvement in clinical-pathologic correlations and outcomes.

### System improvements

- Province-wide integration and alignment of systems based clinical and diagnostic protocols.
- Province-wide standardization and guidelines for tissue biopsy sampling and triaging.
- Emphasis on multidisciplinary and patient-centric scientific management strategies, with continuous process improvement.
- Precise application and utilization of diagnostic tests and related clinical services.
- Improved interface within and between disease specific groups.

### References/Resources

- WHO Classification of Tumours of Haematopoietic and Lymphoid Tissues  
Revised 4th Edition, Volume 2, Edited by Swerdlow SH, Campo E, Harris NL, Jaffe ES, Pileri SA, Stein H, Thiele J.
- [NCCN Guidelines for Patients Diffuse Large B-Cell Lymphoma](#)

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