

# Department of Pathology

## News and Laboratory Updates

### **Pathology Completes Successful College of American Pathologists (CAP) Inspection**

In September, the BIDMC Pathology team successfully completed a two-day CAP inspection. Our passing inspection was a direct result of the steadfast collaboration, expertise and support everyone offered each other over the two days and leading up to the inspection. It showcases our collaborative culture, how we care for one another and our dedication to high quality care.

As we work on addressing the few identified deficiencies, our inspection team also provided recommendations for us to implement to strengthen the quality of the care we provide to our patients and improve the safety of the environment you work within. We will review these to identify and implement solutions.

### **Pathology Completes Successful AABB Inspection**

Congratulations to the BIDMC blood bank team for a successful inspection by the Association for the Advancement of Blood & Biotherapies (AABB) in early October. The two-day inspection involved observation of phlebotomy and transfusion procedures in the clinical areas, as well as a thorough, yet collegial, inspection of the Blood Bank. The inspectors praised not only the outstanding work of the Blood Bank team, but also the support and professionalism demonstrated by all BIDMC staff throughout the process. One inspector remarked, "The things we found are only to make an already great Blood Bank greater!" We will thoughtfully implement process improvements to address the deficiencies identified to ensure the highest quality of care for our patients.

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### Spotlight: Molecular Pathology Laboratory

In September, a crew from Hungarian TV interviewed Hungarian-American physicians/scientists, including Gyorgy Abel, MD, PhD. He showcased his colleagues and the work of the Molecular Pathology Lab. The interview was conducted in Hungarian for a Hungarian audience.

Most recently, the Molecular Pathology Laboratory has developed a Next Generation Sequencing assay designed for rapid and comprehensive analysis of key mutations associated with myeloid malignancies. The Ultra-Fast NGS Myeloid Panel was launched on July 7, 2025, and the volume has increased as we serve the needs of more patients of the BIDMC Blood Cancer Program. Leveraging streamlined workflows and optimized bioinformatics pipelines, this assay delivers high-quality results with significantly reduced turnaround time—typically within 3-4 days. It provides critical diagnostic, prognostic, and therapeutic information to support timely clinical decision-making in hematologic oncology. The assay is designed for sensitive detection of myeloid disorder-associated DNA mutations and RNA fusion transcripts in blood and bone marrow samples.

This work is part of our Precision Diagnostics Initiative, bringing innovative precision medicine diagnostics to support care of our patients with faster, more comprehensive diagnostics.

Congratulations to the Molecular Pathology Laboratory!

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### Spotlight: Molecular Pathology Laboratory (cont.)



Group photo, l-r: Atsushi Tanaka, MD, PhD, pathologist; Darion Tilton, MLS; Megan Pitts, MLS; Tom Moutinho, PhD, Genomic Bioinformatician; Annie Cheng, BSC, ASCP (M, SV), Clinical Manager; Eleanor Kelly, MLS; Samuel Smith, MLS; and Divya Bhagirath, PhD, Lead Genomic Scientist.



The Hungarian TV crew filmed Dr. Abel and colleagues on Monday, Sept. 8

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### Spotlight: Human Leukocyte Antigen (HLA) Laboratory/Immunogenetics



Many thanks to a great team! Annie Cheng, BSC, ASCP (M, SV), Clinical Manager; Dean R Sylvaria, BS, CHS (ACHI), Supervisor; Anthony R Jackson, MLS; Olga P Clavijo, MLS; Tim Girouard, MLS; Giulia Schneider, MLS; Jordan Meisinger, MLS; Archana Chungapally, MLS; and Matthew Chansignavong, LSA.

We are very proud of the entire HLA laboratory team, which works so hard and under stringent timelines for our patients who need transplants. We are also responsive to the changing clinical needs of BIDMC. For example, we increased the lab operation hours to accommodate the new heart transplant program, which just celebrated its two-year anniversary. The lab's efforts were recently recognized after a successful liver transplant for a patient and donor. Martin J. Dib, MD, Director of Hepatobiliary Surgery and Director of Living Donor Liver Transplant, reported that the patient and donor were doing well, and added:

*"To our colleagues in the BIDMC HLA lab: thank you for being the unseen guardians of our transplant patients. While many may not realize it, your work behind the scenes saves lives every day. Even if you don't always meet the patients directly, know that your precision and dedication protect transplanted organs and give patients a second chance at life. You are the hidden heroes of transplantation, and we are deeply grateful for all you do!"*

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### Spotlight: HLA Laboratory/Immunogenetics (cont.)

Led by Indira Guleria, PhD, D (ABHI), Director, in collaboration with Yan Li, PhD, F(ACHI), Assistant Director, the lab conducts high complexity testing, specializing in histocompatibility and immunogenetics. It supports patients in transplant programs at BIDMC and BILH by providing comprehensive testing for compatibility and immunological assessment and risk stratification. In addition:

- The lab provides both testing and consultative services to support approximately 403 abdominal organ transplants and 40 heart transplants annually.
- Services also extend to pre- and post-transplant care for solid organ and bone marrow transplant programs, as well as transfusion medicine.
- They investigate HLA associations with specific diseases and drug hypersensitivity reactions to guide clinical management.

Over the past several years, the HLA Laboratory has expanded its testing menu for BIDMC and BILH to include flow cytometry crossmatch, a method more sensitive than complement-dependent cytotoxicity, and in-house anti-HLA antibody testing. Most recently, the laboratory has validated high-resolution HLA typing using Next Generation Sequencing (NGS) technology, which will be incorporated into routine workflow. You can read more about this launch of AlloSeq Tx 17 on [the Pathology LinkedIn page](#).

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### Flow Cytometry Laboratory Team Represents BIDMC at ICCS

The Flow Cytometry Laboratory team is at the International Clinical Cytometry Society (ICCS) Annual Meeting, today through Sept. 30 in Philadelphia. In addition to attending sessions on the latest advances in the field, our team members are proudly representing BIDMC in several key activities:

**Bruce Loewen, MLS (ASCP)**, our Lead Technologist, was one of only two individuals selected to receive a scholarship for the ICCS pre-conference course. He will also serve as an *anchor* for the Career Lab session, representing early-career professionals in discussions on career development in flow cytometry.

**Helena Varela de Araujo, SCYM (ASCP)**, Clinical Supervisor of the laboratory, has been invited by Sysmex to deliver a lecture titled *“From Validation to Routine Use: Lessons from Implementing the DryEx PNH High-Sensitivity Assay Kit.”*

**Veronica Alvarez, MD (PGY-2 Resident)**, was selected to present a clinical case on *“Challenges of Adult T cell Leukemia/Lymphoma Surveillance by Flow Cytometry: Limitations of TRBC1 / TRBC2 Analysis in the Setting of a Highly Constrained T Cell Repertoire.”*

Congratulations to the team on their achievements and contributions! Photo above (l to r): Jing-Ping Zang, PhD (flow tech), Bruce Loewen MLS(ASCP) (lead flow tech), Helena Varela de Araujo SCYM(ASCP) (clinical supervisor), Dionicy Tarantino MLS(ASCP) (flow tech), Bartosz Grzywacz, MD (medical director), Stefanie Mattson (clinical manager).

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### Flow Cytometry Laboratory Team Represents BIDMC at ICCS (cont.)



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### Spotlight: Immunohistochemistry Laboratory

We are pleased to share several recent updates from the Immunohistochemistry Laboratory (IHC).

Congratulations to **Inderjit Singh**, who is taking on the role of Lead IHC Technologist, overseeing daily operations, staff training, and coordination of validations across our staining platforms. We would like to thank **Tonora Archibald** for her outstanding work in this position and congratulate her on her new role as Supervisor of the Immunohistochemistry, Electron Microscopy, and Immunofluorescence Laboratories.

In recent months, the IHC Laboratory has completed multiple new validations to expand diagnostic capabilities. Newly validated stains include ATRX, CK5, SMAD4, BCL10, FOLR1, and Claudin-18, as well as PRAME and MDM2 in-situ hybridization (ISH). PD-L1 (22C3) is currently undergoing validation.

To support this continued growth, the laboratory will soon install two new Leica Bond instruments to increase capacity and efficiency across staining platforms and to help accommodate the anticipated implementation of approximately 150 send-out stains. In addition, a second Dako instrument will be installed in the coming weeks to provide backup capability for this system, enhancing operational reliability and ensuring timely turnaround of critical immunostains.

Special thank you to the entire IHC team — Tonora Archibald, Lia Jung, Inderjit Singh, Asmayt Tesfazghi, and Ivetta Avakov — for their hard work and dedication. The team's exceptional performance was also reflected in the recent CAP inspection, during which there were no deficiencies identified.