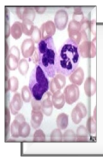
PROVINCIAL LABORATORY MEDICINE SERVICES
Provincial Health Services Authority

PLMS Discipline Advisory Committees

Newsletter

The purpose of this quarterly newsletter is to provide Laboratory Operations with updates from the PLMS Discipline Advisory Committees

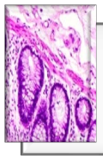
Biochemistry
- Gerome Mangubat
- Dr. Michael Chen



Hematology
- Dr. Nadia Medvedev

Medical Microbiology
- Hope Byrne
- Dr. David Goldfarb

Transfusion Medicine
- Kristin Rosinski
- Dr. Doug Morrison



Anatomical Pathology
- Brigette Rabel
- Dr. Lik Hang Lee

Genetics Genomics
- May He
- Dr. Blake Gilks

General Information

- Final revisions from the discipline advisory committees have been submitted to the Ministry of Health to the standard outpatient laboratory and maternity requisitions (SOPLR/M).
- The new PLMS website launches February 13, 2024. Each discipline advisory committee has a dedicated page to share discipline-specific resources and links. Provincial Laboratory Medicine Services (phsa.ca)
- A sustainability checklist has been finalized enabling the analysis of the environmental impact of new tests by Provincial Discipline Advisory Committees and teams.
- PLMS will complete collaborative work with the Ministry of Health and the Regional Health Authorities as part of a cross-sector provincial planning and will continue to advance its important health system initiatives to deliver on health system priorities.

- *The **PLMS Discipline Advisory Committees** have medical, technical, and operational representation from all health authorities, the PLMS, private labs, and the MoH.*
- *The **Committees** were created to support the implementation of the provincial mandate of Provincial Laboratory Medicine Services (PLMS), which is to ensure that clinical laboratory diagnostics are quality driven, achieve excellent clinical outcomes, and remain sustainable by being provided effectively and efficiently.*
- *The **Committees** work with PLMS, the Health Authorities, private laboratory partners, and the Ministry of Health (MoH), by providing discipline specific clinical, technical, and operational leadership; and providing advice/expertise on*

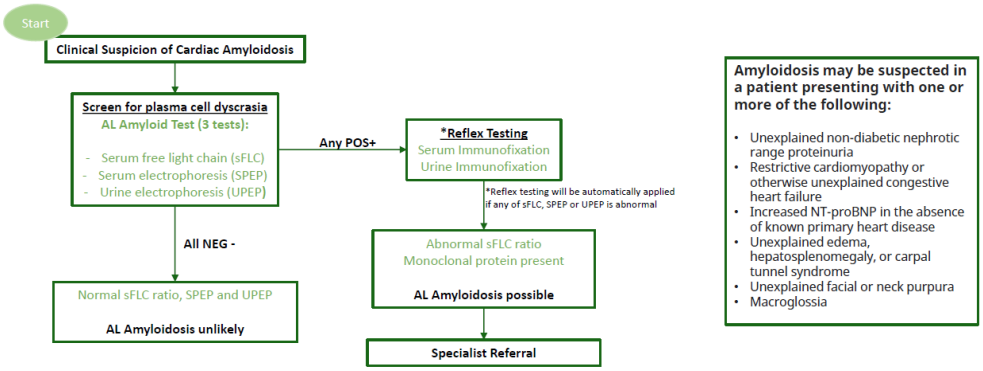
Biochemistry

Gestational Diabetes testing changes

- See Lab Bulletin at www.bcaplm.ca or the PSBC Health Hub

Cardiac Amyloidosis

- Cardiac Amyloidosis testing algorithm finalized and shared with all BC labs



BC Association of Laboratory Physicians (BC ALP) Critical Values list

- Provincial Medical Biochemistry Advisory Committee (MBAC) completed critical values list review of biochemistry tests and submitted back to BC ALP for final approval

Provincial Testing Algorithms

- Serum Free Light Chain bulletin re: repeat ordering frequency will be shared by March 2024
- Celiac Disease testing algorithm in progress as we engage with BC Gastroenterology

Medical Peer Review

- Re-initiating Biochemistry Medical Peer Review with all BC health authorities and labs
- Working in collaboration with BC ALP

provincial guidelines, policies, and discipline strategic planning.

- *The **Committees** will provide advice and guidance, will foster engagement and act as change management champions for discipline specific quality improvement, innovation, and optimization opportunities.*
- *The **Committee** objectives will align with the PLMS purpose to lead innovative, high quality laboratory services that improve the health of B.C. citizens by helping providers and citizens make timely and insightful decisions regarding patient care.*

Hematology

Acquired Hemophilia A (AHA) testing recommendations

- Regarding Acquired Hemophilia A diagnosis and testing, to address current variation in aPTT comments, mixing study variability, communication of results with ordering clinicians, and interpretation timing across BC, as a guide, the Special Coagulation specialists' team from St. Paul Hospital have come up with a summary of Acquired Hemophilia A testing recommendations and an interpretative comment for isolated prolonged aPTT.

Acquired Hemophilia A (AHA): Summary of Testing Recommendations

M. Bahmanyar, MD, FRCPC. H. Nicolson, MBChB, FRCPC. R. Onell, MD, FRCPC. S. Jackson, MD, FRCPC.

1. AHA should be suspected in patients with recent onset of abnormal bleeding and an isolated prolonged activated partial thromboplastin time (aPTT) (normal PT/INR), especially the elderly, peripartum and postpartum women. [1]

   An example of an interpretive comment for isolated prolonged PTT:
   - **Isolated prolonged PTT**: The differential diagnosis includes deficiency/deficiencies of intrinsic coagulation pathway factor/factors versus inhibitor. Possible inhibitors include anticoagulant therapy, lupus anticoagulant and specific inhibitors (e.g., acquired FVIII inhibitor). Correlation with medication history and the clinical picture is required. **If there are new bruising or bleeding symptoms raising clinical concern of an acquired FVIII inhibitor, emergency hematology or bleeding disorder clinic consultation is recommended to guide additional investigations**.

2. AHA should be suspected in a non-bleeding patient not on anticoagulation with an isolated prolonged aPTT, an aPTT mixing study consistent with an inhibitor (see point 5 and 6), and negative lupus anticoagulant (LA) testing. [1]

3. An isolated prolonged aPTT (cutoff to be determined by the local laboratory) should always be investigated. The effects of anticoagulants (heparin, direct oral anticoagulants (DOACS), etc.) should be appropriately ruled out.

4. An appropriate comment for an isolated prolonged aPTT should be added in a timely manner (preferably < 24 hours). This comment preferably should be added by a pathologist and if not possible at smaller sites, automated comments (LIS, middleware, etc.) should be considered.

5. An aPTT mixing study (1:1 ratio) including incubation step (see point 6, below) is recommended in the investigation of an isolated prolonged aPTT. If the aPTT of the "mix" fails to show correction or any partial correction, this is suggestive of an inhibitor. Correction of the immediate mix is usually suggestive of factor deficiency. However, since factor VIII inhibitors display time dependency, correction of the immediate mix does not rule out the presence of an inhibitor; therefore, an incubation step is recommended. [2]

6. The mix, patient plasma and normal pooled plasma (NPP) should be incubated for 1 to 2 hours (preferably 2 hours) at 37˚C. If the inhibitor demonstrates delayed acting properties, AHA should be suspected. Prolongation of aPTT after incubation can be less than 10 seconds. [2]

7. Variable definitions of mixing correction exist. Correction may be expressed relative to the normal aPTT reference range (i.e., within 2 or 3 standard deviations), the NPP (mix ≤ NPP results plus five seconds), as a ratio or absolute difference (subtraction method), as a percentage correction, or using the Rosner index. [2]

8. If there is a suspicion for AHA and Factor VIII assay is available, FVIII may be measured first based on the site preference.

9. A FVIII inhibitor should be confirmed and quantified by the Bethesda Assay (BA) or Nijmegen Bethesda Assay (NBA). [1]

10. If AHA is confirmed, verbal notification of result should be given to the ordering clinician (or designated coverage physician) urgently. Additionally, recommendation for the ordering provider to contact a hematologist on call at Vancouver General Hospital, St. Paul's Hospital or Royal Jubilee Hospital.

Based on lab's availability for additional testing (i.e., mixing studies, etc.), individual site should develop its own interpretive comment(s) or consult SPH for sample comments.

References:

1. Kruse-Jarres et al. Am J Hematology. 2017; 92:695 – 705
2. Clinical and Laboratory standards institute guidelines: H47-Ed3 One-stage PT and aPTT Test. March 2023

Flow Cytometry education & training

- A set of 6 standardized Flow Cytometry technologist training modules is in development, with both technical and medical contribution.
- First three modules' content (Introduction to Flow Cytometry, Instrument overview, Sample Processing) has been developed and is under peer review.
- Currently looking for volunteers from the working group to work on the next three modules (Compensation, Data Analysis & QC Practices).

Medical Microbiology

Cryptococcal Antigen Method

- Facilitated by BCCDC and PLMS, BC microbiology labs are participating in a provincial validation of the Health Canada approved FungiXpert cryptococcal antigen test by ERA BIOLOGY.

COVID-19 Rapid Antigen Testing

- In collaboration with BCCDC, the committee developed and distributed a memo outlining COVID-19 rapid antigen testing requirements in acute care settings to mitigate non-accredited testing.

Microbiology Service Mapping

- The microbiology mapping project will kick off in February. The project aims to map microbiology services in BC to support quality, service delivery, test utilization, resource allocation, standardization of test names, contingency and future planning.

Transfusion Medicine

Immunoglobulin (Ig) Utilization

- Recommendations for Secondary Immunodeficiency have been updated including:
  - Indications and Diagnosis
  - Ig Dose and Schedule
  - Renewal Template form for SID Conditions
  - A new form – "SID Immunologist Referral Template" is now available for TM Physician use These revisions can be found here: https://pbco.ca/index.php/programs/immunodeficiency/secondary-immunodeficiency
- Working groups have been convened, and PBCO is in the process of updating recommendations and algorithms related to prescribing IVIg / SCIg for respirology cases
- High users of Ig for approved Peripheral Nervous System conditions are currently under review (Annual High and Chronic project)
  - Recommendation letters will be issued to Transfusion Medicine physicians and Utilization Management Coordinators, as well as ordering physicians following this project completion
- Several audits are in progress with regards to Blood Product Request Portal (BPRP) entry and appropriate screening practices

BC Blood Contingency Plan

- Updates are currently in progress for the provincial plan, with the goal of creating a simplified revision
- References to the National Plan will occur throughout
- Toolkits will be simplified for ease of access

Anatomical Pathology

New Outpatient Requisition

- The committee is creating a new provincial standardized outpatient requisition. After finalization, the requisition will undergo approval by the PLMS Requisitions Team before being disseminated to all laboratories for distribution.

Placenta SIG

- A new provincial Special Interest Group (SIG) in placental pathology for pathologists has been established to improve placental reporting in BC. Functions carried out by the group may include education, review of current literature and further developing the existing Placenta synoptic report by BCCW. Structured reporting benefits research, epidemiology, patient care, clinician understanding, and population health planning.
- Quality placenta reporting is crucial for addressing underfunded maternal health. With varying maternal care across BC communities, comprehensive placenta reports are vital, providing valuable data for various physicians in mother and infant care.
- While Perinatal Services BC collects data in the BC Perinatal Data Registry (BCPDR), placenta data is currently not included. Integrating discrete placenta data into the BCPDR is anticipated to enhance maternal care, improve long-term health outcomes, provide better care for infants, and optimize resource allocation.

Ancillary Testing

- An Immunohistochemistry Working Group is set to be established for the purpose of coordinating ancillary testing in BC. This group's initial effort will be to develop a comprehensive master list of Immunohistochemistry procedures performed in BC.

Couriers

- The committee is learning about the specimen courier experience in our AP labs. Committee members are sharing information on how material is processed at each site and where the delays exist. Once we understand where the issues exist, we can work to improve the courier system.

Digital Pathology

- The Digital Pathology strategy for BC continues to move forward. With our Provincial Digital Pathology Working Group, comprised of medical and operational leadership from each health authority, much of our recent activities have been focused on creation of a Digital Pathology reference architecture (RA).
- The RA describes and specifies the technical capabilities, characteristics, and behaviours to support the deployment of digital anatomical pathology, independent of vendor specific solutions.
- This RA has been the nidus of an innovation opportunity with the Ministry of Jobs, Economic Development and Innovation (JEDI), and Innovate BC to spearhead the development of an integrated 'test bed' for the provincial digital pathology solution. Through Innovate BC, we are actively seeking funding to propel strategic planning and frame the testing components of the Digital Pathology Reference Architecture. This approach would enable us to leverage current site-specific areas of work, de-risk the future state through testing the RA components. A detailed proposal was submitted in late December and the PLMS team is finalizing details to this proposal with the Innovate BC funding committee.

Genetics/Genomics

Provisional (P) FISH Fee items extension

- Approved under Record of Decision (ROD) LSA2023-034 by the Ministry of Health, effective December 31, 2023, the provisional (P) status for the following fee items is extended to February 29, 2024.
    - P93051 - Cytogenetic analysis/fluorescence in situ hybridization (FISH), single probe
    - P93052 - Cytogenetic analysis/fluorescence in situ hybridization (FISH), subtelomeric probe
    - P93053 - Cytogenetic analysis/fluorescence in situ hybridization (FISH), uncultured amniotic fluid

Optical Genome Mapping SIG

- Optical Genome Mapping is a new cytogenomic technology to investigate chromosomal structurl variants and copy number variants. We are in progress to convene a special interest group to share knowledge and experiences in adopting OGM.

Warm wishes to the retirement of Dr. Blake Gilks as the PLMS Discipline Lead for Genomics

- Dr. Gilks retired from the role of PLMS Discipline Lead for Genomics. The position will be posted shortly.

Hi colleagues,

It is with regret and warm wishes that I announce the retirement of Dr. Blake Gilks as the PLMS Discipline Lead for Genomics.

Blake joined BC's Agency for Pathology and Laboratory Medicine in 2016 providing expertise in the development of the Strategic Service Delivery Plan and the Anatomical Pathology Component Plan. In April 2020, he stepped into the vital role of PLMS medical lead for laboratory system COVID-19 response, and shortly afterwards assumed the duties of Chief Medical Laboratory Officer, stepping away from that role in December 31, 2022. It was during this period that Blake also took on the role of PLMS Discipline Lead for Genomics. Being a strong partner to the provincial laboratory system, Blake championed the development of an initial Provincial Testing Genomics Strategy, workplan and governance structure that continued to evolve.

Blake has been generous in providing sage insight and guidance to the entire PLMS team and his strong but gentle leadership has been an anchor for PLMS. The legacy of his contributions will remain a foundational part of PLMS as we evolve in the future. We could not be more appreciative of his time and efforts on behalf of PLMS.

Blake has been an incredible champion and role model for laboratory medicine at all levels and I know everyone at PLMS will miss his wisdom and mentorship. Please join me and the PLMS staff in wishing Blake all the best.

Our plan to maintain medical leadership continuity for Genomics will be developed in the coming weeks, with details to be shared as soon as possible.

Regards,

Craig