LifeLabs®

Health Care Providers' Newsletter

April 2016

Patient Service Centre Closures May 14-15

Mike Kelly, MD, PhD, FRCPC, BC Medical Director

On the weekend of May 14-15, 2016, LifeLabs will be implementing a new state-of-the-art testing platform. This will require the closure of some patient service centres that are normally open on weekends. The availability of cardiac services will also be affected.

In an effort to minimize the impact of this change on your patients, please note the following:

- **A list of locations that will be open on May 14-15 can be found on our website.** Please direct your patients to these locations.
- A list of locations that will be closed on May 14-15 can be found in the 'news' section of LifeLabs.com and will also be indicated on the location finder on LifeLabs.com.
- All specimens collected from offices and clinics on May 14-15 will be tested at our Surrey Lab.
- Cardiac services (Holter & ambulatory blood pressure monitoring) will not be available at any location on Friday, May 13.
- Electrocardiograms (ECGs) will not be available at any location on Saturday, May 14 or Sunday, May 15. Patients who require urgent ECGs should be directed to the nearest hospital.
- Regular services will be available on Friday, May 13, except as noted above for Holter and ambulatory blood pressure monitoring.
- Regular services will resume at all locations on Monday, May 16.

For more information please contact our Customer Care Centre at 1-800-431-7206.

High Sensitivity Troponin T

Kent Dooley, PhD, FCACB, Clinical Biochemist

On May 16th 2016, Mainland LifeLabs will be implementing high sensitivity Troponin T testing (hsTnT) and discontinuing the previous Troponin I test (cTnI). This will align our testing with hospitals such as St Paul's.

The hsTnT assay reliably measures small elevations of this cardiac marker which are undetectable using previous Troponin assays. Note that the units of measure for hsTnT (ng/L) provide numerical results that are 1000x greater than for the previous cTnI (ug/L). The reference limit is set at the 99th percentile.

Due to the increased sensitivity of hsTnT, some (non-ACS) chronic conditions may now give an abnormal result *e.g.* arrhythmias, myocarditis, pulmonary embolism, acute heart failure, septic shock, cardiotoxic drugs, cardiac trauma. We will interpret hsTnT results as follows:

hsTnT	<14 ng/L	"Normal hsTnT level indicates a <2% risk for acute MI."
hsTnT	14 – 99 ng/L	"Low level positive suggestive of myocardial injury possibly evolving M.I."
hsTnT	>99 ng/L	"Strongly suggestive of an acute MI."

Any value >50 ng/L will be considered as critical.

It is important that patients with a high probability of an AMI should be sent to a Hospital Emergency Department and not LifeLabs. Consequently, patients with requisitions for 'STAT' Troponin testing will continue to be referred to their nearest Emergency Department.

Some dialysis clinics monitor Troponin levels to set base lines for their patients. This allows Troponin to be used as a marker for AMI in this population. As Troponin T accumulates to a greater extent than Troponin I with decreasing renal function, it is important that patients' baselines be re-established if they are being periodically tested at LifeLabs. Since hospitals in BC may be using either hsTnT or cTnI, the choice of lab for establishing baselines should be done in consideration of the local hospital testing method.

New Chemistry Analyzers

Kent Dooley, PhD, FCACB, Clinical Biochemist

As part of LifeLabs' commitment to delivering excellent quality and service to patients and to the health care system, we are introducing new instrumentation to replace our current routine Chemistry platforms.

Legacy Lifelabs:

Effective May 16, 2016, all specimens collected by **LifeLabs** Patient Service Centres (PSCs) will be transitioned from the current Siemens instrumentation to our new Abbott/Roche line. Depending on the test, the methodology may differ. Due to this difference in instrumentation, the reference ranges have changed for some tests. A suitable interpretive comment will be reported with results.

Former BCBio Labs:

At the end of May, specimens collected by former **BC Biomedical Laboratories** PSCs will be moved to the new line. Once each PSC is transitioned, the new reference ranges and interpretive comments will appear on laboratory reports. As the transition will be from a Roche line to an Abbott/Roche line, the change affects fewer tests, but the interpretative comment will still be present. This interpretative comment may or may not be significant to your results.

A sample comment is:

New method effective 05/16/2016.
Results will be 6% lower than with the previous method.
Reference ranges have been adjusted accordingly.

Please refer to the reference range listed on your laboratory report for the current interval. Ranges accompanying the patient report are deemed to be correct and should be used to interpret results.

Serum and RBC Folate

Kent Dooley, PhD, FCACB, Clinical Biochemist

With folate supplementation in the general food supply, there are few indications for testing either Serum or Red Blood Cell Folate. Since MSP decided to discontinue paying for folate testing in BC, the volume of testing has decreased substantially.

As of January 2016, LifeLabs has no longer been providing testing for Serum or Red Blood cell Folate.

New Protein Electrophoresis Method

Cheryl Tomalty, PhD, FCACB, Clinical Biochemist

Our serum protein electrophoresis method will change from gel to capillary electrophoresis as of May 16, 2016 at our Burnaby testing lab. Reference intervals for protein fractions have been adjusted.

Monoclonal bands will be measured differently, resulting in slightly lower concentrations for small bands (<5 g/L). Please interpret the results with these changes in mind.

There are no changes to urine protein electrophoresis or serum or urine immunofixation methods.

The former BC Biomedical testing lab in Surrey has been using capillary electrophoresis for serum for several years. Consequently, results from patients previously monitored *via* this lab should be unaffected except for slight changes in the report format.

Sample Retention

Kent Dooley, PhD, FCACB, Clinical Biochemist

As of January 1, 2016, chemistry specimens will be stored for the periods indicated below following accessioning .

Specimen	Description	Storage after accessioning
Urinalysis, Stool OB & Fat		N/A
Routine serum/plasma		3 days
Tests requiring Path review	*e.g.* abnormal TSH, protein electrophoresis	7 days
Difficult to obtain	CSF, Amniotic fluid, sweat, joint fluids	7 days
Legal	Urine drug screens	Pos - 1yr / Neg – 14 d
Hepatitis A,B,C		7 days

Estradiol Accuracy

Cheryl Tomalty, PhD, FCACB, Clinical Biochemist

Like all Canadian labs, LifeLabs uses automated immunoassays for the routine measurement of estradiol in serum. Two specific sources of potential interference have been noted recently.

Fulvestrant (Faslodex®) is a selective estrogen receptor antagonist indicated for treatment of metastatic breast cancer. As a structural analog of 17β-estradiol, the parent drug and/or its metabolites in patient samples have been shown to generate falsely elevated (up to ten-fold) results by immunoassays.

Newer aromatase inhibitors such as Fomestane (but not Tamoxifen) are also structurally similar to estradiol and so it is anticipated, but not yet shown, that these drugs and/or their metabolites may interfere with estradiol immunoassays. Moreover, the measurement error is amplified by the inherently lower estradiol concentrations observed during therapy with these drugs.

It is worth noting that the steroidal aromatase inhibitors bind irreversibly to aromatase and so may not be available to act as interferents in immunoassays for estradiol.

While estradiol would be ideally measured in these patients by a more specific method such as mass spectrometry, such assays are not presently available in Canada.

For the full version of this article, please refer to our website.

Thrombophilia Screen

Clinton Ho, MD, FRCPC, Hematopathologist

Since January 2016, the thrombophilia screening panel has no longer been available at Lifelabs. This is to align with other laboratories in BC. Health care providers should order each required test individually on the requisition.

When individual thrombophilia tests are not listed on the requisition, Lifelabs will make an attempt to contact the ordering Health care provider for clarification.

In cases where the provider cannot be reached, the thrombophilia screening panel will be reported as unavailable in order to avoid undue delays in reporting.

For further information, please contact us at 604-412-4528.

Thalassemia/Hemoglobinopathy Investigation Update

Suseela Reddy, MD, FRCPC, General Pathologist

Thalassemia and hemoglobinopathies are inherited disorders, more common in people of Southeast Asian, South Asian, African, Mediterranean and Middle Eastern descent.

When investigating these disorders, it is important that ferritin/iron profile results and ethnicity information be available. The latter is very helpful in deciding if further molecular testing is required and which possible mutations should be considered.

As of April 2016, patients will be asked to complete the Ethnicity/ Family Origin Questionnaire form at our PSCs.

If Thalassemia/Hemoglobinopathy was previously diagnosed, repeat testing is not usually required. In our efforts to use health care resources as effectively as possible, LifeLabs will cancel requests for unnecessary repeat testing. Please call Client Information Centre (CIC) at 604-431-7206 for a copy of the previous report.

Known cases of sickle cell anemia undergoing treatment and being monitored for Hb S and Hb F levels will not be cancelled if clearly identified as such on the requisition form.

Depending on clinical information, ethnicity and previous CBC, molecular testing may not be performed on patients older than 50y. Note that “Thalassemia screen” has been removed from the test menu: please request “thalassemia/hemoglobinopathy investigation”.

In keeping with best practices, Thalassemia/Hemoglobinopathy investigations are now performed by capillary electrophoresis.

If you have any further questions/concerns please feel free to call any member of the Hematology group at LifeLabs, 604-431-5005 ext 3087.