Health Care Providers Newsletter

February 2020

INR Mobile Lab Service – Updated Testing Frequency

Starting in March, LifeLabs will be adjusting the frequency of MLS visits for INR patients according to the table below. You will be notified of these changes by fax/letter. Please review these changes to ensure they are suitable for your patients and if you have concerns we will make exceptions for patients that are not stable and require more frequent testing.

We recognize that Mobile Lab Service is of great value to patients unable to visit a collection centre and for their families. Over the past few years, demand for Mobile Labs Services has increased. Despite increasing capacity, wait times have continued to grow.

Frequency	Service Duration
Daily	Maximum 5 days
Twice a week	Maximum 2 weeks
Weekly	Maximum 1 month
Bi-weekly	Maximum 2 months
Monthly	Maximum 2 years
Bi-monthly	Maximum 2 years

New recommended frequency and service duration for INR patients using Mobile Lab Service

A review of our records indicates that many Mobile Lab Service patients with INR testing have been receiving weekly visits for up to 10 years which makes it difficult to accommodate new requests for Mobile Lab Services.

Your assistance will reduce wait times for new patients requiring home collection and allow additional time for repeat testing for out-of-range blood work for existing patients.

Thank you in advance for your assistance in this matter.

If you have any questions, please contact Leslie Pribyl, Manager, Mobile Lab Services at 604-317-5372.

Health Care Providers Conference 2020: Registration Now Open!

We are pleased to announce that registration for this year's Health Care Providers Conference is now open. The conference will take place from 5:30 to 8:30 PM on Thursday, May 14th, 2020 at the Oak Bay Beach Hotel in Victoria. Speakers will address a range of lab medicine topics in a beautiful setting over a delicious meal.

Registration is free for all Health Care Providers, but attendance is limited, so register now to secure your spot.

See the event website at https://www.lifelabs.com/annual-conference to register and for further details

Coronavirus (2019-nCoV) Update

Cortney Cook, Communications

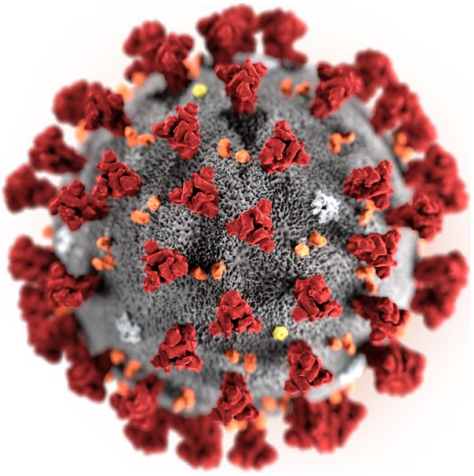

Photo credit: US Centers for Disease Control

LifeLabs has implemented screening protocols for the coronavirus due to the recent decision by the World Health Organization to declare the coronavirus a public health emergency of international concern. To protect our employees and customers, we will not provide collection services to at Patient Service Centres or via Mobile Lab Services to customers who meet the following criteria:

- **Have a fever and symptoms of lower respiratory illness or pneumonia, AND**
- **Travelled to China within the last 14 days OR**
- **Had close contact with an ill individual who is under investigation in relation to the coronavirus outbreak**

Lifelabs will continue to pick up patient samples collected by healthcare providers in their offices, including samples for coronavirus testing, which will be referred to the British Columbia Centre for Disease Control (BCCDC). Customers who arrive at Patient Service Centres will be screened using the criteria above and—if they screen positive—will be directed to return to the ordering healthcare provider with a form outlining why we did not serve the customer. If, after returning for assessment, a customer does not meet the coronavirus screening criteria, please have him/her return to LifeLabs with **this signed form**.

The BCCDC Public Health Laboratory (PHL) has developed laboratory guidance for 2019-nCoV diagnostic testing. Such testing requires notification and consultation with your local Medical Health Officer and the BCCDC PHL Medical Microbiologist on-call (604-661-7033).

For regular updates, please visit the BC Centre for Disease Control website.

For more information on diagnostics, reporting, and infection prevention and control, please visit the Public Health Agency of Canada's website.

Clinical Pearls: Helpful Tips for Lab Testing and Interpretation—Fentanyl Testing

Dr. Jan Palaty, PhD, FCACB, Clinical Biochemist

Photo credit: Manfred Heyde

Scenario: A patient in a substance use disorder clinic continues to test positive for Fentanyl (at LifeLabs) even though he's adamant about not having taken any illicit drugs in the past week. Could the lab result be due to an interfering substance? Should you believe the patient?

Discussion: LifeLabs initially screens all urine samples for Fentanyl against a cut-off of 1 ng/mL with an immunoassay targeted at the parent compound. Samples testing positive are then confirmed by mass spectrometry to check for analogues such as Carfentanil, Cyclopropylfentanyl and U-47700. Consequently, all Fentanyl results reported as positive by LifeLabs should be considered as definitive.

We suspect that the typical estimate of the Fentanyl detection window in urine (3 days) is misleadingly short and likely based on early studies with Duragesic patches rather than current street drugs. LifeLabs data from substance use disorder clinics suggests that the detection window is often as long as 2-3 weeks.

Fluoroquinolone Breakpoint Updates

Diana Whellams, MD, FRCPC, Medical Microbiologist

Have you noticed that more of your patients' gram-negative microbiology isolates are resistant to ciprofloxacin than they used to be? It may be due to a change in lab testing of fluoroquinolone antibiotics.

In 2019, the Clinical and Laboratory Standards Institute (CLSI) – an American agency that sets lab standards widely used in North America - made revisions to susceptibility testing of ciprofloxacin and levofloxacin, two fluoroquinolone antibiotics. These revisions included changes to the "breakpoints" – the values that laboratories use to test which bacterial isolates are susceptible, intermediate, or resistant to a given antibiotic. Using pharmacokinetic and pharmacodynamics data as well as information on patient outcomes, the CLSI decided to change breakpoints for *Enterobacteriaciae* and *Pseudomonas aeruginosa* to make them more conservative, which is in keeping with European standards. In other words, the breakpoints changed in a way that means more of these bacteria will test as resistant to ciprofloxacin and levofloxacin than previously.

After a validation study, LifeLabs adopted the new breakpoints in late 2019. As a result, we have seen an increase in the number of intermediate and resistant isolates, so you may notice this when interpreting results for your patients. Gram-negative organisms such as *Escherichia coli, Klebsiella pneumoniae, Citrobacter* species and *Enterobacter* species – all affected by the breakpoint changes - are commonly isolated in urinary tract infections but may be found in other infections as well.

Fluoroquinolone antibiotics have been in the news recently due to reports of increased risk of side effects including aortic aneurysm/rupture, arrhythmia, tendon rupture, and neuropsychiatric toxicity. Health Canada recommends that health care providers consider the possibility of side effects when prescribing fluoroquinolones, avoid these drugs for patients who have previously experienced side effects, and stop treatment if patients report adverse reactions (2). Other agencies (eg the USFDA, Alberta Health) specifically advise not to prescribe fluoroquinolones for uncomplicated urinary tract infections, bacterial sinusitis, or bronchitis when other treatment options are available (3).

References

Chantell C, Humphries R, Lewis J. (2019) Fluoroquinolone breakpoints for *Enterobacteriaciae* and Pseudomonas aeruginosa: CLSI Rationale Document MR02.

Health Canada. (2017) "FLUOROQUINOLONES - Risk of Disabling and Persistent Serious Adverse Reactions," available online at https://healthycanadians.gc.ca/recall-alert-rappel-avis/hc-sc/2017/61900a-eng.php

Andrew C Bennett, Charles L Bennett, Bartlett J Witherspoon & Kevin B Knopf (2019): An evaluation of reports of ciprofloxacin, levofloxacin, and moxifloxacin-associated neuropsychiatric toxicities, long-term disability, and aortic aneurysms/dissections disseminated by the Food and Drug Administration and the European Medicines Agency, Expert Opinion on Drug Safety, DOI: 10.1080/14740338.2019.1665022

Changes are Coming to ANCA Testing

Dr. William Schreiber, MD, FRCPC, Clinical Director, Chemistry

Anti-neutrophil cytoplasmic antibodies (ANCA) are found in most patients with ANCA-associated vasculitis, a group of inflammatory disorders that affect small blood vessels. When ANCA testing is ordered, two types of tests are performed: (1) direct measurement of antibodies to myeloperoxidase (MPO) and proteinase 3 (PR3) by immunoassay and (2) evaluation of antibody binding to neutrophils by visual examination of a slide. Positive patterns are reported as c-ANCA or p-ANCA.

That is about to change. Beginning later this year, only direct measurement of MPO and PR3 will be done and reported when ANCA testing is ordered. Slide-based testing will not be performed unless a specialist orders the test following review of MPO and PR3 results on the patient.

This practice has been endorsed by an international consensus of experts from across the world (1). They observed that immunoassays for MPO and PR3 now perform as well as or slightly better than slide-based tests for ANCA in detecting ANCA-associated vasculitis.

Once implemented, the new approach to ANCA testing will save healthcare dollars and provide rapid results to our customers. We will continue to offer slide-based testing to specialists for those cases that are difficult to assess with MPO and PR3 alone.

If you have questions about this article or ANCA testing in general, please contact me through the LifeLabs Client Information Centre (604-412-4528) or by e-mail at william.schreiber@lifelabs.com.

References

1) Bossuyt X, et al. Revised 2017 international consensus on testing of ANCAs in granulomatosis with polyangiitis and microscopic polyangiitis. *Nature Reviews*, Rheumatology 2017;13:683-692.

Sex-Hormone Binding Globulin: Expected Change in Results

Dr. Kent Dooley, PhD, FCACB, Clinical Biochemist

We have recently been informed by Roche Diagnostics of a gradual upward shift in Sex -Hormone Binding Globulin (SHBG) results over the past 8 years due to a slow deterioration of the reference material they provide for use in our testing. Roche has recalibrated the SHBG assay and a validation performed at LifeLabs shows that the expected results will be 15 – 18% lower on the new assay. Calculated Free Testosterone (FT) and Bioavailable Testosterone (BT) results are expected to shift upwards by 5 -16%, and higher SHBG results may yield an even larger shift.

An analysis of historical LifeLabs results has indicated that there was no significant clinical impact of this deterioration on male or female SHBG, calculated Free Testosterone or calculated Bioavailable Testosterone results. LifeLabs validation also confirmed that the reference interval, which was established before the reference material had deteriorated, has not changed. Therefore, no reference interval change is required for SHBG, FT or BAT with the implementation of the new testing.

Comments will be added to test reports upon implementation of the updated standardization.

For any clinical or technical questions regarding this change please contact the LifeLabs biochemist on call.