

## PHSA Laboratories

BCCDC Public Health Laboratory

December 21, 2022

### RE: Mpox virus Laboratory Testing Updates

## Testing strategy

Any individual meeting the suspect or probable mpox case definitions (<http://www.bccdc.ca/health-professionals/clinical-resources/case-definitions/monkeypox>) should be offered testing. The BCCDC Public Health Laboratory (PHL) offers a mpox virus nucleic acid test (NAT). Positive and indeterminate results are reported to public health as a Reportable Communicable Disease. Detailed information on the NAT test and sample types for testing can be found by searching eLabhandbook for mpox (<http://www.elabhandbook.info/phsa/>). Regional laboratories may also offer local mpox testing.

**Surveillance testing for mpox virus is no longer being performed.** From June to October, 2022, the BCCDC PHL was also performing mpox surveillance testing on a subsample of mucosal/lesion swab specimens submitted for HSV/VZV testing. Further, with the help of local laboratories, STI clinics that serve populations at highest risk of mpox were engaged until early December for this add-on surveillance testing to mucosal/lesion swabs. Surveillance-based testing proved to be a low-yield diagnostic strategy. As such, surveillance-based testing for mpox virus is no longer being performed; all tests will be performed only as requested.

## Potential impact of virus variants on test performance

The BCCDC PHL mpox NAT is based on a method previously published by the US CDC (Li *et al.* 2010). In September, 2022 the CDC reported on the circulation of mpox virus variants that harbor deletions in the target region of this NAT, leading to false-negative results (<https://www.cdc.gov/locs/2022/09-02-2022-lab-alert-MPXV-TNF-Receptor-Gene-Deletion-May-Lead-False-Negative-Results-Some-MPXV-Specific-LDTs.html>).

**Reflex testing of mpox NAT negative samples by an additional NAT test will no longer be performed.** From September to early December, specimens requested for mpox NAT at BCCDC PHL that were negative were further tested using a pan-orthopoxvirus NAT targeting an alternative region of the viral genome. Regional laboratories performing mpox NAT were also able to forward samples for this subsequent test. No additional mpox cases were identified from this reflex testing strategy. As such, reflex testing of mpox NAT negative samples by orthopoxvirus NAT will no longer be performed. Instead, mpox NAT negative samples will be reported with the comment: "If the clinical suspicion for mpox is high, please contact the laboratory to request further investigation. Some mpox virus variants may lead to false-negative results." The BCCDC PHL plans to implement a new mpox NAT in the future.

Sincerely,



Inna Sekirov, MD, FRCPC  
Acting Medical Co-Director  
BCCDC Public Health Laboratory



Agatha Jassem, PhD (D)ABMM FCCM  
Head Virology/Molecular Diagnostics  
BCCDC Public Health Laboratory