

PHSA Laboratories

BCCDC Public Health Laboratory

June 16, 2022

RE: Monkeypox virus Laboratory Testing Updates

Testing at BCCDC PHL

The BCCDC Public Health Laboratory (PHL) now offers an in-house Monkeypox virus nucleic acid test (NAT) with an approximate turnaround time of 24 hours from specimen receipt. This assay is specific for monkeypox viruses and can detect both Western and Central African clades. This assay is currently partially validated; negative results are considered final while positive results are considered preliminary and require confirmation by sequencing and/or NAT testing at the National Microbiology Laboratory. As such, positive results will be reported as “presumptive positive” until the assay is fully validated. All positive and indeterminate results will be reported to public health as a Reportable Communicable Disease. Indeterminate results can occur when the result is beyond the validated range and/or not reproducible.

Indications for testing

Any individual meeting the suspect or probable monkeypox case definitions (<http://www.bccdc.ca/health-professionals/clinical-resources/case-definitions/monkeypox>) should be offered testing. Given the epidemiology of the cases confirmed thus far in Europe and North America, clinicians should be aware of the differential diagnosis as lesions associated with monkeypox can resemble several other infections, including:

- Herpesviruses (e.g. herpes simplex virus, varicella zoster virus [i.e. shingles and chicken pox])
- Enterovirus (e.g. hand foot and mouth disease)
- Syphilis (*Treponema pallidum*)
- Bacterial skin infections
- Medication-associated allergies
- Other poxviruses (e.g. molluscum contagiosum)

Features of monkeypox virus infection may overlap with sexually transmitted infections (STI), and co-infections are possible. For each individual, consider risk-informed STI testing.

Specimen Collection and Testing Guidelines

Detailed information on sample types and containers can be found on the Monkeypox virus NAT page on eLabhandbook (<http://www.elabhandbook.info/phsa/>).

Please consult with the Microbiologist on call at BCCDC PHL (604-661-7033) or at a local hospital for submitting samples other than lesion material.

- **Illness Stage: prodromal**

Oropharyngeal swabs, nasopharyngeal swabs, EDTA blood and urine can be considered for testing following a consultation.

- **Illness Stage: rash/lesion**

The preferred sample type is **skin lesion material**. Collect lesion material (roofs, crusts, aspirate, exudate, tissue), including dry swabs or swabs in Universal Transport Medium (UTM). Samples should be shipped refrigerated. A consultation is not required.

Transport and Requisition Requirements

Collected specimens should be stored and shipped refrigerated. Monkeypox virus is a Risk Group 3 pathogen. Samples from suspect cases can be shipped by ground to laboratories as Transportation of Dangerous Goods (TDG) Category B (temporary Transport Canada certificate) but need to be shipped as TDG Category A, UN2814 “infectious substance, affecting humans” by air.

Please complete the BCCDC PHL [Virology Requisition](#) and indicate “Monkeypox” under the PATIENT STATUS/TRAVEL HISTORY/EXPOSURE” box (Figure 1).

The image shows a BCCDC PHL Virology Requisition form. The form is divided into two main sections: Section 1 - Patient/Provider Information and Section 2 - Test(s) Requested. Section 1 includes fields for Personal Health Number, Patient Surname, Patient First and Middle Name, DOB, SEX, Patient Address, City, Province, and Postal Code. It also includes fields for Ordering Practitioner Name and MScC, Address of report delivery, and Date Received. Section 2 includes fields for Respiratory Pathogens (Influenza A, B, RSV, COVID-19, MERS, Enterovirus D68, Other), Indicate sample site (Nasopharynx, Nares), Patient Status / Travel History* / Exposure (with 'Monkeypox' highlighted in a red oval), Outbreak Location / Information, Herpes Simplex 1,2 / Varicella Zoster Viruses, and Gastrointestinal Viruses. The form also includes a section for Additional Copies to Practitioner / Clinic and a section for Laboratory Use Only (Outbreak ID, Sample Ref. No., Date Collected, Time Collected).

Figure 1. BCCDC PHL Virology Requisition with Monkeypox testing indicated.

Surveillance Testing

To mitigate undetected transmission, the BCCDC PHL will be performing point prevalence surveillance testing. Monkeypox virus NAT will be automatically added to samples such as lesion swabs submitted for testing in the near future. Clinicians will be seeing the results of this test added to their reports if surveillance testing is performed. All positive results will be followed up with a verbal report to the most responsible physician when surveillance monkeypox testing is performed but not requested.

Sincerely,



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