

October 13, 2022

CLINICAL MICROBIOLOGY

## **PCR Testing for *Pneumocystis jiroveci* Pneumonia (PJP pneumonia), formerly known as *Pneumocystis carinii* pneumonia**

**Date effective: October 31, 2022**

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### **Key Messages:**

- Effective October 31, 2022, Shared Health will be performing PCR as the diagnostic method for *Pneumocystis jiroveci* pneumonia (PJP pneumonia), formerly known as *Pneumocystis carinii* pneumonia. Microscopy for PJP will no longer be available.
- Only unpreserved bronchoalveolar lavages and bronchial washings submitted to Clinical Microbiology in sterile specimen containers will be accepted for the diagnosis of PJP. Sputa will not be accepted.
- Only patients with immunocompromising conditions should be tested for PJP. Ordering practitioners should indicate an appropriate immunocompromising condition on the requisition.
- PCR is more sensitive than microscopy for the detection of *Pneumocystis jiroveci*. Positive results may be reflective of colonization or infection. Expert clinical correlation with laboratory results is required to interpret results.

**Please review the following information for submitting specimens for PJP PCR.**

### **Indication for testing:**

PJP PCR should only be ordered for immunocompromised patients with atypical pneumonia. Clinically irrelevant colonization leading to positive PCR results may occur in the absence of disease. Clinical correlation is required to interpret the test result. Examples of patients with atypical pneumonia who are eligible for PJP PCR are HIV+ patients with CD4 count below 200, long term moderate to high dose glucocorticoid use, defects in cell-mediated immunity, other immunosuppressive medications, hematologic malignancy, hematopoietic cell or solid organ transplantation, organ rejection, treatment for certain inflammatory conditions (particularly rheumatologic diseases) and severe primary immunodeficiencies.

### **Specimen type:**

Do NOT place specimens into CytoLyt preservative.

PJP PCR is only validated for use on bronchoalveolar lavage specimens and bronchial washings. Specimens ( $\geq 10$  mL) must be submitted labelled with patient name, PHIN and specimen type unpreserved in a sterile 100 mL specimen container (see below).



**Requisition:**

A Shared Health Clinical Microbiology requisition must accompany all specimens submitted for PJP PCR. The requisition must be filled in accordance with all patient and ordering professional identification requirements. The PJP PCR test should be requested in the “Other test” section of the requisition. The immunosuppressive condition justifying PJP PCR must be indicated (See example below).

<b>Other Tests/Special Requests</b> *Contact lab to confirm availability or to obtain approval	
Specimen: <u>Bronch wash</u>	Specify Site: <u>Right bronchus</u>
Test(s) Specify: <u>PJP PCR</u>	
Clinical information/test justification: <u>HIV positive CD4=120</u>	

**Transport:**

Specimens should be promptly delivered ( $\leq 2$  hours) to a Shared Health Clinical Microbiology laboratory. If delayed transport is anticipated, specimens can be kept at 2-8°C for up to 48 hours.

**Reporting:**

PJP PCR is a qualitative test. No quantitation can be provided. A report will be issued to indicate the result is negative for *Pneumocystis jiroveci* DNA (reference value) or positive for *Pneumocystis jiroveci* DNA. This assay cannot differentiate between colonization with *Pneumocystis jiroveci* and infection. Presence of *Pneumocystis jiroveci* with clinical pneumonia in an immunocompromised patient is suggestive of PJP pneumonia. If an invalid result is obtained, a new sample will be required to perform repeat PCR testing. Testing is performed three times weekly and results will be issued through hospital EPR and eChart.

**Other tests requested concurrently:**

If sufficient specimen is received, bacterial cultures and Gram stain, fungal cultures and stains, legionella cultures, and mycobacterial cultures and stains can be performed on the same sample submitted to Microbiology for *Pneumocystis jiroveci* PCR, on request. If required, a separate specimen for cytology in accordance with cytology specimen requirements must be submitted to pathology for identification of tumor cells.

**For questions related to PJP PCR, please contact:**

Dr. Philippe Lagacé-Wiens, Medical Microbiologist, Clinical Microbiology, Shared Health, 204-237-2483, [plagacewiens@sharedhealthmb.ca](mailto:plagacewiens@sharedhealthmb.ca)

Dr. James Karlowsky, Medical Director, Clinical Microbiology, Shared Health, 204-237-2105, [jkarlowsky@sharedhealthmb.ca](mailto:jkarlowsky@sharedhealthmb.ca)

Joelle Carlson, Technical Director, Clinical Microbiology, Shared Health 204-237-2073, [jcarlson@sharedhealthmb.ca](mailto:jcarlson@sharedhealthmb.ca)