



# Laboratory Medicine Bulletin

## *Pneumocystis jirovecii* pneumonia (PJP) testing by PCR

January 16, 2017

Effective today, the Medical Microbiology Laboratory at St. Paul's Hospital will be offering molecular testing for *Pneumocystis jirovecii* (previously *Pneumocystis carinii*) by real-time PCR (polymerase chain reaction). Microscopy for the diagnosis of PJP (i.e., toluidine blue) will be discontinued.

The specimen of choice for the PCR is a **bronchoalveolar lavage (BAL)**. Expecterated or induced sputa will not be accepted. Testing will be available Monday to Friday during regular laboratory business hours and will require approval by a Medical Microbiologist.

While the performance of the assay depends on the patient population under consideration, the overall clinical sensitivity and specificity of our in-house developed and validated PCR assay was previously found to be 97.5% and 95.1%, respectively.

Colonization with *Pneumocystis jirovecii* is not uncommon, and some positive PCR results may ultimately be interpreted as clinical false positives. Please note that PCR cannot distinguish between colonization and disease, and that a positive test result simply indicates the presence of *Pneumocystis* DNA in the specimen submitted for testing.

In order to optimize the usage of the assay and minimize the reporting of false-positive results, the following testing criteria should be met prior to seeking approval by the Medical Microbiologist:

- Severely immunocompromised (HIV/AIDS, haematological malignancy, transplant)
- Clinical symptoms of acute infection (fever, cough, dyspnea)
- Compatible radiological findings (CXR, chest CT scan)

Test results should always be correlated with clinical presentation.

For all testing inquiries, please contact a PHC Medical Microbiologist by calling the Laboratory at ext. 68184. On evenings and weekends, please page the Medical Microbiologist on call through the PHC Call Centre.