

PHSA Laboratories

BCCDC Public Health Laboratory

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Laboratory Update on Pertussis Testing – discontinuation of Amies Charcoal swab and updated extraction method

Pertussis is a vaccine preventable infection that causes upper respiratory tract infection associated with prolonged coughing. It is of particular concern for neonates and infants who have not yet been vaccinated. Testing for pertussis is a key public health intervention to identify cases for treatment, for contact tracing, and for antibiotic prophylaxis for high-risk people. Pertussis has traditionally been difficult to diagnose since culture sensitivity on clinical samples taken at the time that characteristic symptoms develop is very low (20%). Newer technologies relying on nucleic acid amplification (NAAT or PCR) have proven invaluable in increasing the sensitivity of testing, although there are still clinical cases that test negative.

To optimize pertussis detection at BCCDC, we have been continually working to increase the yield of NAAT tests and to improve clinical workflow. We are happy to announce that we have completed the validation of ESwab testing and have optimized the extraction process for pertussis. This allows us to perform NAAT and culture from the same specimen and to have reserve material in case additional testing is needed. We will no longer accept Amies Charcoal swabs for pertussis PCR. Samples received for pertussis testing on Amies Charcoal swabs will be set up for culture, however they will be reported with an interpretive comment regarding the low sensitivity of culture and recommending recollection of the specimen, if clinically indicated.

General Testing Guidelines:

Patients should be tested for pertussis if:

- There is clinical suspicion for pertussis
- There is recent contact with a known case and the patient has any upper respiratory tract symptoms
- Public health officials have recommended testing
- The patient is pregnant in the third trimester and has been identified as a contact of a known case

Specimen Collection & Ordering:

Complete up-to-date testing information, including appropriate specimen collection devices, procedures, and transportation, is available at: <http://elabhandbook.info> (Relevant section: "Pertussis")

When submitting a test for pertussis:

- Please collect a pernasal swab with an ESwab (green top) and request NAAT testing and culture on the Bacteriology and Mycology requisition {link}.
- Note that Amies Charcoal swabs are no longer accepted for NAAT
- Note that pernasal swabs in Universal Transport Medium (UTM) are not validated but will be tested and reported as a non-validated specimen for NAAT testing. Pertussis culture cannot be performed on these samples.

Yours truly,



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