



LABORATORY BULLETIN

13th December 2004

To: Valued Clients

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Re: Changes in testing algorithm for lower respiratory tract specimens submitted for viral investigation

Conventional methods based on culture and antigen detection (DFA) are useful for many viral targets but are heavily reliant on the quality (and type) of sample collected and the pathogen to be identified. Nucleic acid amplification methods (e.g. that utilize PCR or NASBA) can be used to enhance the sensitivity of diagnostic processes and may pick up respiratory pathogens that are not readily identified by DFA or culture.

Proposed plan for changes to respiratory virus testing from 10th January 2005

The proposed changes will mainly effect viral testing for acute respiratory specimens. Recently validated nucleic acid amplification methods for detection of influenza A, influenza B, parainfluenza viruses (PIV) 1-3, respiratory adenoviruses, respiratory syncytial virus (RSV) and metapneumoviruses will be applied to enhance diagnostics for critical specimens. "Critical specimens" in this context are bronchoalveolar lavage (BAL) and endotracheal (ETT) samples submitted for virological investigation. Yield of DFA and culture is low for these specimens (more than 95% reported as no virus identified). Despite low sensitivity, impact of a positive DFA result is high and thus this method will still be undertaken on BAL/ETT specimens if requested but molecular testing will proceed independently of DFA result to ensure shortest turn-around time (TAT). Culture of these specimens has low sensitivity and often does not produce timely results. Thus this approach will not be undertaken routinely. Our validation data confirms published studies showing molecular approaches give enhanced sensitivity above culture for respiratory viruses. Investigation for possible herpesvirus infection (HSV and CMV) will still be undertaken on BAL/ETT from immunocompromised patients using culture-based methods but this testing would be compared to a molecular approach retrospectively over the season with results evaluated for a possible further change next year.



Expanded testing and typing for respiratory pathogens

Although nucleic acid amplification methods for detection and typing of other microorganisms are available within the Prov.Lab, they require further validation and will only be available in a limited set of circumstances for individual cases (or potential outbreaks) at your specific request and in consultation with the Microbiologist/Virologist on call (Calgary call 403 268 7210; Edmonton call 780 407 7121). These additional tests will only be performed if identification of an agent will significantly change patient management, if it is important for infection control or as part of a hospital outbreak investigation. Such testing will be audited over the season to provide useful information for a possible further change to procedures next year but please be aware that at the moment such testing cannot be provided routinely.

If you have any queries or comments please provide feedback by e-mail or fax as soon as possible.

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