



Molecular Testing for Enteric Pathogens

Pathlab is pleased to announce that from **early November 2018**, molecular diagnosis will replace traditional culture on stool samples for a range of enteric pathogens. The organisms routinely covered in the BD MAX molecular assay using multiplex PCR include:

Salmonella spp.

Shigella spp.

Campylobacter spp.

Verotoxin producing *E. coli* (VTEC)

Yersinia enterocolitica

Enterotoxigenic *E. coli* (EPEC)

Vibrio spp. vulnificus, parahaemolyticus, cholerae

Plesiomonas shigelloides

The new methodology will offer several advantages:

- **Decreased turnaround time:** The turnaround time for bacterial pathogens will decrease from 2-3 working days to 1 working day for the vast majority of stool samples.
- **Increased sensitivity:** Detection of enteric pathogens by molecular methodology is more sensitive than traditional culture. This is particularly the case for organisms such as *Shigella* and *Yersinia* species.
- **Detection of non-0157 VTEC strains:** A large proportion of VTEC induced diarrhoea in New Zealand are caused by non-0157 strains of *E. coli*. These non-0157 strains are considerably more difficult to detect using traditional culture. However, because the PCR looks specifically for the verotoxin (shiga toxin), these will be detected using the new technology.
- **Decreased risk from sample degradation:** As the molecular assay detects nucleic acid and does not require the presence of live organisms, any delays between the sample being taken and it reaching the laboratory will not affect the sensitivity of the test.

If antibiotic susceptibilities are thought to be required following a positive molecular result (either by the laboratory or the requestor), then we will attempt to culture the pathogen from the original clinical sample.

Test methodology for Rotavirus (immunochromatographic assay) and *Clostridium difficile* toxin (immunochromatographic assay +/- molecular confirmation), *Cryptosporidium* and *Giardia* (enzyme immunoassay) will not be affected by this change.

The mandatory requirement for relevant clinical details on all stool samples will not change. Please refer to the testing guide for enteric pathogens on the Pathlab website. <http://www.pathlab.co.nz/Pics/Hotel/PathLab/Brochure/Faeces%20Enteric%20Lab%20Testing%20Guide%202017.pdf>

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