



Adoption of EUCAST Susceptibility Testing Standards & Resultant Changes to Urinary Processing

From 5th January 2015, the microbiology laboratories at Pathlab Bay of Plenty, Pathlab Waikato and Laboratory Services Rotorua will be changing from CLSI to EUCAST standards with regards to antimicrobial susceptibility testing. Both these standards are well accepted internationally, but we feel that the EUCAST standards are more user friendly from a laboratory point of view, and the technical validation of their clinical breakpoints is more comprehensive and evidence based.

The effect on laboratory users will be minimal. Very occasionally, when a micro-organism has borderline susceptibility to an antimicrobial, different laboratories may vary as to whether the micro-organism is called susceptible or resistant depending on which susceptibility testing standards are adopted by the laboratory.

The main changes seen by clinicians will be in the urine susceptibility testing and these are detailed below:

- **Cephalexin will be reported instead of cefaclor.** EUCAST standards use cephalexin as their urinary antibiotic. Therefore from January 2015, cephalexin will be the cephalosporin tested for and reported on urinary pathogens. As cephalexin is a first generation cephalosporin and cefaclor is second generation, a bacterium that is cephalexin susceptible will be susceptible to cefaclor. However if a bacterium is cephalexin resistant it may be resistant or susceptible to cefaclor.
- **Nitrofurantoin will no longer be reported in the first line antibiotic susceptibilities.** To comply with the EUCAST standards of 6 antibiotic discs per plate, we have decided to remove nitrofurantoin from first line antibiotic testing for urines. Against the more common pathogens, nitrofurantoin susceptibility is highly predictable. *E.coli* and *Staphylococcus saprophyticus* have susceptibility rates to nitrofurantoin above 99%, whilst *Proteus mirabilis* is always nitrofurantoin resistant. Thus the value of susceptibility testing for nitrofurantoin is limited. Nitrofurantoin susceptibility will still be performed on request and also on multi-resistant organisms.

Nationally, other microbiology laboratories are making this switch at the start of next year, and over the next 12-18 months it is anticipated that the vast majority of microbiology laboratories in New Zealand will have switched to EUCAST susceptibility testing standards. Please do not hesitate to get in touch if you want any more information on this change.

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EUCAST (European Committee on Antimicrobial Susceptibility Testing)
CLSI (Clinical Laboratory Standards Institute)
EUCAST website: www.eucast.org