

A Change in Practice from Performing Susceptibility Testing on *Enterococcus Faecalis* Isolates in Urine Cultures

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Dear Editor,

Enterococci are gram-positive cocci which are part of normal gut flora. They commonly cause urinary tract infections. The species *Enterococcus faecalis* (80-90%) and *Enterococcus faecium* (5-10%) are the most important in clinical practice. Ampicillin is the agent of choice for treatment of most *E. faecalis* infections and acquired resistant to ampicillin in *E. faecalis* is rare¹.

Urine samples submitted to the Department of Medical Microbiology in Galway University Hospital (GUH) from hospital inpatients and from General Practice are subjected to quantitative culture on bioMérieux CHROMID CPS Elite agar. After overnight incubation, isolates that are grown in pure culture at >10,000 colony-forming units per ml are identified via MALDI-TOF (matrix-assisted laser desorption/ionization time-of-flight) mass spectrometry. Susceptibility testing is performed on these isolates by the EUCAST (European Committee on Antimicrobial Susceptibility Testing) disk diffusion method. Final results are generally authorised and reported 48 hours after receipt of samples in the laboratory.

In 2019, *E. faecalis* was cultured from 1,162 urine samples. Susceptibility testing was performed and interpreted by the EUCAST disk diffusion method on all 1,162 isolates. All (100%) isolates were susceptible to ampicillin, 1,159 (99.7%) were susceptible to nitrofurantoin, and 1,086 (93.5%) were susceptible to ciprofloxacin. Based on the evidence that susceptibility is predictable for nitrofurantoin, which is the first-line agent for treatment of uncomplicated urinary tract infections on [Antibiotic Prescribing - HSE.ie](https://www.hse.ie/eng/health/antibioticprescribing/), and for ampicillin, the laboratory stopped performing routine susceptibility testing on *E. faecalis* from urine isolates in early 2020. Isolates are reported with a comment advising that the isolate is predictably susceptible to these agents. Urine isolates are retained in the laboratory for one week, so that susceptibility testing can be performed if specifically requested. This practice is an extension of existing practice with respect to *Staphylococcus saprophyticus*, *Streptococcus agalactiae* (Group B streptococcus) and *Streptococcus pyogenes* (Group A streptococcus) which are also reported with an interpretive comment without routine susceptibility testing except if associated with invasive infection. Annual surveillance susceptibility testing is performed on selected isolates to ensure with confidence that this practice is appropriate.

Susceptibility testing of clinical isolates should be performed when it adds value or is reasonably likely to add value. It should not be performed as a ritual. The principle of reporting isolates with predictable susceptibility is well established. The extension of this approach to *E. faecalis* in the microbiology laboratory in GUH makes final results available to guide treatment 24 hours earlier than was possible with routine susceptibility testing. The change described also reduces the environmental impact of the laboratory service (reduced use of materials including disposable plastics) and reduces consumable costs and workload. The saving in medical scientist time (estimated at 116-232 hours per year) is particularly important at present given the intense pressure to support diagnostic testing for COVID-19.

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