Disk diffusion antimicrobial susceptibility testing of *Clostridium difficile*

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Objective

To evaluate disk diffusion for antimicrobial susceptibility testing of *C. difficile* by comparing disk diffusion zone diameters with MICs from gradient tests.
Background

• Clinical significance of *C. difficile*.

• Emergence of decreased susceptibility towards metronidazole and vancomycin

→ Importance of antimicrobial susceptibility testing of *C. difficile*

→ Importance of having a simple testing method for the routine laboratory.

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Methods

• 221 isolates of *C. difficile* were collected from patients with diarrhoea hospitalised at
  – Aarhus university hospital, Denmark (n=110)
  – Odense University Hospital, Denmark (n=101)
  – University Hospital of Wales, UK (n=10)

• Welsh isolates: Known reduced susceptibility to either
  – Metronidazole (n=4, MIC 1.5, 2, 2, 3 mg/L, ECOFF ≤ 2 mg/L)
  – Vancomycin (n=6, MIC 1.5, 2, 2, 2, 3, 3 mg/L, ECOFF ≤ 2 mg/L)

• Disk diffusion and E-test was performed on Brucella Blood Agar Supplemented with Haemin and vitamin K

• Antimicrobials tested
  – Metronidazole, Vancomycin, Moxifloxacin, and Clindamycin
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Conclusion

• We find an excellent agreement between disk diffusion zone diameter and the MIC as measured by Etest.

• Disk diffusion method is a reliable option for antimicrobial susceptibility testing of *Clostridium difficile*
Results will be published in Clinical Microbiology and Infection. Article titled:

“Antimicrobial susceptibility testing of Clostridium difficile using EUCAST epidemiological cut-off values and disk diffusion correlates”