Clostridium Difficile:

Carriage & Transmission potential by single-use and reusable sharps containers

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Publication: American Journal of Infection Control 46 (2018) 1154-9 https://doi.org/10.1016/j.ajic.2018.04.206

"…neither DSCs nor RSCs play a role in C. difficile transmission to patients or staff…the assertion that sharps containers may be a fomite for C. difficile transmission is not scientifically feasible." - Authors

What was the study?

The study **'A microbiological study to investigate the carriage and transmission potential of Clostridium difficile spores on single-use and reusable sharps containers'** adopted a multifaceted epidemiologic, microbiologic, chain-of-infection, and test-of-evidence approach to determine if a relationship between Clostridium difficile infection (CDI) and sharps containers is scientifically feasible.

Stage 1: 197 Sharpsmart Reusable Sharps Containers (RSCs) were sampled for C. difficile at processing facilities

Stage 2: Sharpsmart RSCs were challenged with high C. difficile densities to evaluate efficacy of automated decontamination (Daniels Washsmart process)

Stage 3: 50 Sharpsmart RSCs and 50 Disposable Sharps Containers (DSCs) were sampled in CDI patient rooms in 7 hospitals for C. difficile carriage.

What were the results?

Stage 1: C. difficile spores were found on 9 of 197 (4.6%) RSCs prior to processing

Stage 2: Decontamination processing completely removed C. difficile

Stage 3: 4 of 50 RSCs (8%) and 8 of 50 DSCs (16%) had sub-infective counts of C. difficile.

- 2 links in the chain of infection were found to be broken
- 5 of 7 tests of evidence for environmental sources of infection were found to be unmet.

What does this mean for you?

The association of any sharps container with CDI is at odds with chain-of-infection principles, CDI transmission studies, CDI guidelines, the clinical practice of sharps containers being no-touch, and guidelines surrounding sharps container and glove use. In examining epidemiologic, microbiologic, chain-of-infection and test-of-evidence criteria, no scientific evidence or mechanism whereby sharps containers could be implicated in CDI transmission has been found.

The study concludes that neither disposable sharps containers nor reusable sharps containers play a role in C. difficile transmission to patients or staff, and that the assertion that sharps containers may be a fomite for C. difficile transmission is not scientifically feasible.

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