The findings suggest that there may be differences in the risk of internal microbial contamination with different types of connectors and that even 15 seconds of decontamination may not fully eradicate microorganisms from the injection ports of some devices" Casey et al (2018).

Abstract:

Background: needle-free connectors are widely used in clinical practice. The aim of this study was to identify any differences between microbial ingress into six different connectors (three neutral-displacement, one negative-displacement and two anti-reflux connectors).

Methods: each connector underwent a 7-day clinical simulation involving repeated microbial contamination of the connector's injection ports with Staphylococcus aureus followed by decontamination and then saline flushes through each connector. The simulation was designed to be a surrogate marker for the potential risk of contamination in clinical practice.

Results: increasing numbers of S. aureus were detected in the flushes over the 7 days of sampling despite adherence to a rigorous decontamination programme. Significant

differences in the number of S. aureus recovered from the saline flush of some types of connectors were also detected. Two different durations (5- and 15-second) of decontamination of the injection ports with 70% isopropyl alcohol (IPA) wipes were also investigated. There was no significant difference between the median number of S. aureus recovered in the saline flushes following a 5-second (165.5, 95% CI=93-260) or a 15-second decontamination regimen (75, 10–190).

Conclusions: The findings suggest that there may be differences in the risk of internal microbial contamination with different types of connectors and that even 15 seconds of decontamination may not fully eradicate microorganisms from the injection ports of some devices.

Reference:

Casey, A.L., Karpanen, T.J., Nightingale, P. and Elliott, T.S.J. (2018) The risk of microbial contamination associated with six different needle-free connectors. British Journal of Nursing. 27(2), p.S18–S26.

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