

Characteristics	Count (N=35)	%
Countries		
United States	20	57
Italy	4	11
United Kingdom	3	9
Japan	2	6
Others	6	17
Years		
2020 and after	4	11
2010-2019	23	66
2000-2009	5	14
1999 and before	3	9
Study topics		
Effectiveness of OR cleaning in reducing environmental contamination	10	29
Compliance of OR cleaning practices	1	3
Interventions for improving OR cleaning effectiveness and/or compliance	24	68
Study designs		
(Non-)randomized controlled trial	8	23
Quasi-experimental	20	57
Observational	5	14
Qualitative and mixed-methods design	2	6
Funding		
Commercial	9	26
Non-commercial	5	14
Not reported	21	60

environmental contamination (Fig. 2), 1 examined the compliance of OR cleaning practices (Fig. 3), and 24 examined interventions for improving OR cleaning effectiveness and/or compliance (Fig. 4). Figure 5 summarizes the characteristics of the included studies. **Conclusions:** In this review, OR cleaning was inconsistently performed in practice, and mixed findings were reported regarding the effectiveness of OR cleaning in reducing environmental contamination. No study has systematically examined work-system factors influencing OR cleaning. Efforts to improve OR cleaning focused on cleaning tools and technologies (eg, ultraviolet light) and staff monitoring and training. Interventions targeting the broader work system influencing the cleaning processes are lacking. The scientific rigor of the included studies was modest. Most studies were either commercially funded or did not reveal their funding sources, which might introduce a desirability bias.

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Disclosures: None

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Presentation Type:

Poster Presentation - Poster Presentation

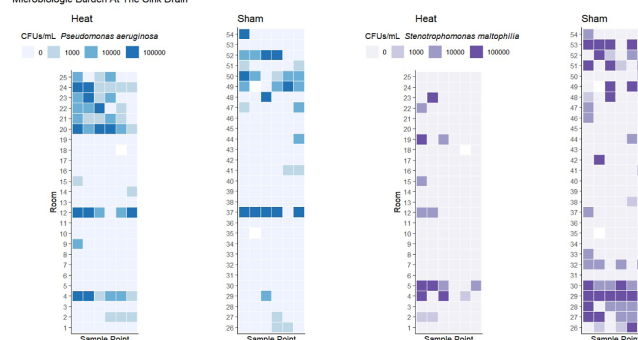
Subject Category: Environmental Cleaning

Some like it hot: Variable impact of a tailpiece heating device on different gram-negative bacteria

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Background: Transmission of multidrug-resistant bacteria to patients from colonized hospital sink drains has prompted attempts to interrupt transmission through a variety of interventions directed at the wastewater environment. We previously found that use of a heating device designed to disrupt biofilm formation between the P trap and the sink drain, which is the major point of dispersal of bacteria to the patient-care environment, was associated with reduced risk of detectable gram-negative organisms on hospital sink drains. However, there was no observed effect on some important pathogens, including *Pseudomonas aeruginosa* and *Stenotrophomonas maltophilia*. We hypothesized that heating to a higher temperature would provide additional efficacy in preventing drain colonization. **Methods:** As part of a previous randomized study, 54 tailpiece heaters were installed in 3 intensive care units in an academic hospital and 2 acute-care units in an associated regional hospital; half of these devices were shams (ie, no heat). The devices were programmed to heat for 1 hour every fourth hour. Prior to this study, a device update increased the heating temperature (during the previous study the median heated temperature was 65.9°C). Sink drains and P traps were sampled monthly. Samples were assessed for semiquantitative growth of gram-negative bacteria on MacConkey agar, looking

Microbiologic Burden At The Sink Drain



especially for *P. aeruginosa* and *S. maltophilia*. Frontline personnel were blinded to device assignment. **Results:** The mean heated temperature reached was 74.4°C. Based on proportional odds logistic regression (wherein the odds ratio reflects the likelihood of a given sample falling in a lower microbiologic burden level versus the levels above it), the heating device was associated with increased likelihood of lower microbiologic burden at the drain level for general growth on MacConkey agar (OR, 2.47; 95% CI, 1.11–5.51) and for growth of *S. maltophilia* (OR, 5.39; 95% CI, 2.20–13.18). The device did not have an effect on burden of Enterobacterales (OR, 1.38; 95% CI, 0.58–3.24). For *P. aeruginosa*, there was a trend toward decreased likelihood of lower microbiologic burden (OR, 0.41; 95% CI, 0.18–1.07) that did not reach statistical significance at the drain level, and the heating device was associated with decreased likelihood of lower microbiologic burden of *P. aeruginosa* at the P-trap level (OR, 0.20; 95% CI, 0.10–0.39). **Conclusions:** Heat disruption of biofilm between the P trap and sink may be a promising strategy for prevention of hospital sink drain colonization; however, the impact is variable across different bacterial species. Further understanding of the dynamics of the microbiome within wastewater is needed.

Disclosures: None

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Subject Category: Hand Hygiene

Measuring hand hygiene opportunities per hour across two neonatal intensive care units

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Background: To estimate hand hygiene compliance using electronic hand hygiene monitoring, the number of hand hygiene opportunities (HHOs) per period must be known in a given setting. Data on the number of HHOs in a neonatal ICU (NICU) are limited. We measured HHOs per hour and identified factors that may influence the number of HHOs per hour to calibrate compliance estimates for electronic hand hygiene monitoring. **Methods:** The study was conducted in 2 large NICUs in Ontario, Canada (72 and 42 beds, respectively). We centrally trained observers to identify HHOs using the Ontario-based “Four Moments of Hand Hygiene,” which is similar to combining moments 4 and 5 of the WHO “Five Moments of Hand Hygiene.” To apply the moments of hand hygiene to the NICU setting, the following modifications were made: moment 1 was entering the incubator or contact with anything within the ‘baby space’ directly around the incubator, and moment 4 was when hands exited the incubator and, as such, the ‘baby space.’ Using a standardized tool, the investigators conducted direct observation of HHOs during randomized observation periods from July 1, 2022, to January 9, 2023. In addition to HHOs, data on covariables potentially associated with the frequency of HHOs were collected: time and day of the week, acuity, additional precautions, corrected gestational age, and private