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comprehensive education from a sterile processing educator. Their reprocessing skills were validated during a follow up visit that included a competency.

Results: Sterilization practices were improved as a result of this study and were demonstrated by competency validation and improved compliance scores on the trace audits at all 13 offices.

Conclusions: This study found that a comprehensive education program did improve compliance on sterilization processes in the outpatient physician offices which was demonstrated as by competency validation and increased compliance scores on the tracer audits at all offices. The improved sterilization processes have reduced the risk of infection and exposure to infectious pathogens in addition to reducing risk for the organization.

DS-40

What Risks Does the Residential Laundry Process Pose?: A Quantitative Microbial Risk Assessment (QMRA) Study

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Background: Fomites are an important pathway for infectious disease spread in residential and home healthcare settings (i.e., nursing, assisted living, and retirement communities). Many healthcare professionals launder work clothes at home that may be contaminated by contact with infected patients. Through quantitative microbial risk assessment (QMRA), the study objectives were to (1) evaluate pathogen transmission risks for those doing laundry, and (2) compare infection control interventions to reduce laundering risks.

Methods: A simulation model was used to evaluate exposure events related to laundry process. One baseline scenario (no handwashing) and three handwashing scenarios (scenario 1: after moving dirty clothes to washing machine, scenario 2: after moving wet clothes to dryer, scenario 3: after both of these previous steps) were evaluated. Each scenario involved a single user, three contacts with contaminated laundry, and three contacts with the face. Five representative microorganisms known to spread via intra-familial transmission were modeled: SARS-CoV-2, rotavirus, norovirus, nontyphoidal Salmonella, and Escherichia coli.

Results: The mean infection risks for the baseline scenario were all above a 1 in 1,000,000 risk threshold: 7.22×10^{-4} (SARS-CoV-2), 8.74×10^{-1} (rotavirus), 7.49×10^{-4} (norovirus), 7.12×10^{-1} (Salmonella), and 1.41×10^{-3} (E. coli). Regardless of organism type, handwashing after loading dirty clothes into the washing machine yielded a greater risk reduction (scenario 1: 39.95 – 99.86 %) than handwashing after loading washed clothes into the drying machine (scenario 2: 1.35 – 55.25 %). Handwashing two times (scenario 3) further reduced risk where SARS-CoV-2 achieved 1/1,000,000 risk threshold and norovirus and E. coli achieved 1/10,000 risk threshold.

Conclusions: More data is needed to more accurately evaluate real-world exposure potentials (i.e., the hand-to-face contact frequency during laundering and viability of organisms on laundry), however, handling contaminated garments may pose considerable infection risks for some pathogens. To prevent infection, it is important to reduce hand-to-face contacts and to handwash directly after touching contaminated clothing.

Education, Training and Competencies

ETC-41

Abundant Opportunities to Improve Infection Control Training and Assessment in Dentistry

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Background: Infection control (IC) training and practice in dental facilities is not well studied. The Nebraska Infection Control Assessment and Promotion program (ICAP) offers free consultations to Nebraska healthcare facilities, in which infection preventionists visit the site, interview stakeholders, and provide a complete assessment of the facility's IC program using an adaptation of the Centers for Disease Control's "Basic Expectations of Safe Care" infection prevention checklist. Here, we report the ICAP team's findings during voluntary assessments of dental IC programs.

Methods: ICAP solicited invitations into eighteen dental facilities (nine private practice clinics, seven public health clinics, and two other facilities) across Nebraska from 2018-2021. Fourteen assessments were conducted in 2018-2019 and four from April to June 2021; assessments were suspended in the interim due to the COVID-19 pandemic.

Results: We found 24% of facilities provided no IC training to employees upon hire and 35% did not provide annual refresher trainings. When facilities did offer training, key subjects were frequently omitted, including safe injection practices (omitted in 60%), protective personal equipment (PPE) selection and use (50%), hand hygiene (44%), and sterilization and disinfection procedures (38%). Few facilities required employees to demonstrate competency in PPE selection (19%), safe infection practices (7%), or hand hygiene or sterilization and disinfection (0% each). Additionally, few facilities performed audits with feedback regarding adherence to proper procedures for sterilization and disinfection (19%), hand hygiene (6%), PPE selection and safe infection practices (0% each). New hire and annual IC training rates were higher in post-pandemic assessments, but other measures had not improved.

Conclusions: Most dental facilities offered employees IC trainings, but these were often neither routine nor comprehensive. Important gaps in dental IC programs included failures to assess employee competency regarding IC procedures and failures to engage in audit and feedback processes to ensure adherence to IC measures.

ETC-42

Error Reduction in Sterile Processing Through Standardization of Operations and Training

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Background: Surgical instrument processing is critical to safe surgical care. Hospitals have massive instrument inventories that are