

■ Research Brief

Decontamination of Reusable and Non-Critical Healthcare Vessels by Compact Kitchen Dish Washer in Ward

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Background: In smaller hospitals in Japan, reusable small noncritical vessels are usually immersed in the hypochlorite solution for reuse. However, in most occasions residual air remains in the vessels, which is highly likely to lead to an ineffective decontamination. This study will examine the cleaning effect of a domestic dish washer for the reuse.

Objective: Decontaminating effectiveness of domestic dish washer for the noncritical small vessels used in ward is tested.

Design: Mixed-Methods, sequential explanatory study.

Methods: A hot water dishwasher (NP-TR5[®], Panasonic) was studied for the decontamination of the vessels. The temperature in the dishwasher (DW) was measured with a data logger with ten channels (GL220-UM-801[®], Graphtec). Soil indicator plate (TOSI[®], Nichion) and *Enterococcus faecalis* JCM5803 were used for the decontamination test. 10⁷CFU of *E.faecalis* were loaded on each test vessels and recovered with phosphate buffer solution after reprocessing. And the solution was cultured on tryptic soy agar at 30°C for 48hrs and then counted. The effectiveness of decontamination was evaluated by hemoglobin indicator(HemoCheck-s[®], PEREG GmbH). The results were evaluated by color reactions of twelve steps.

Results: The temperature in the dish washer exceeded 71°C, in 3 minutes, which is recommended temperature and length of the disinfection in UK. And the results of the soil test with TOSI[®] demonstrated the sufficient effectiveness. Log10 reduction of *E.faecalis* in the test vessels were more than six. Despite set up a test piece in the opposite direction to the water flow of the washing machine, residual hemoglobin measurement, residual 0μg (limited 0.01μg) was 95%.

Conclusion: The dishwasher examined in this study is demonstrated to be effective for the decontamination of reusable non-critical vessels used in ward