

■ Research Brief

The evaluation of the hand hygiene compliance with a video camera

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Background: Hand hygiene is an indispensable and important precaution for prevention and control of healthcare-associated infection. However, problems in hand hygiene still remains unresolved. In recent studies (Morgan, 2012) monitoring systems using electronic devices are employed for the evaluation of hand hygiene compliance.

Objective: To study the hand hygiene compliance with a video camera.

Method: A video camera was installed in an intensive-care unit. The nurses' hand hygiene compliance and glove-wearing were observed with the camera all day long. And the appropriateness was examined. In order to observe the psychological effect of installing video camera, the compliances before and after the installation (Hawthorne effect) were analyzed.

Results: In the result of the camera surveillance, the mean of hand hygiene compliance for every day or night shift (N=21) was $24.0\% \pm 7.1\%$, and no statistical difference was observed between day and night shifts. The hand hygiene compliance tended to be lower when the nurses wore gloves.

The nurses at ICU were always aware of surveillance camera even after the study period. However, except just after installation, Hawthorne effect was not observed in the video records. There were cases where the nurses were not able to keep adequate hand hygiene compliance when patients were at risk (168/ 2929 analyzed).

Conclusion: From the result of this study, it is concluded that video surveillance is very useful for the intervention of hand hygiene practice and the appropriate use of gloves. The recording is also useful for the education of hand hygiene and its assessment healthcare personnel.