

ORAL PRESENTATION

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# The impact of real-time computerised video analysis and feedback on hand hygiene practice and technique on a surgical ward

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From International Conference on Prevention & Infection Control (ICPIC 2011)  
Geneva, Switzerland. 29 June – 2 July 2011

## Introduction / objectives

The fast hand movement and occlusion of observers' views make it difficult to audit hand hygiene technique. We investigate the effect of computerised video observation and real-time feedback on the hand hygiene technique.

## Methods

Hand wash monitors (SureWash, Ireland) were placed above clinical sinks in a 28 bed surgical ward. The clinical trial consisted four phases: Phase 1 (1 week) determined the baseline practice without any feedback. Phase 2 (4 weeks) provided real-time feedback. In Phase 3 (5 weeks) a printed report was also presented at the weekly staff meeting. In Phase 4 (1 week) the feedback was turned off. The feedback was shown on a computer screen of each unit. SureWash deemed a hand washing complete if it followed every step of the CleanYourHands protocol.

## Results

The number of hand wash events (HWE) for each day was divided by the product of the number of patients and staff. The daily averages of HWE were  $0.14 \pm 0.01$ ,  $0.36 \pm 0.02$ ,  $0.35 \pm 0.02$ ,  $0.18 \pm 0.2$  for phases 1, 2, 3 and 4 respectively. The increase between phase 1 and 2 was 156% ( $p < 10^{-7}$ ) and the fall in phase 3 from 4 was 48% ( $p < 10^{-4}$ ). The daily average number of completed HWE was  $0.02 \pm 0.004$ ,  $0.17 \pm 0.01$ ,  $0.16 \pm 0.18$ ,  $0.02 \pm 0.005$  in phases 1, 2, 3 and 4 respectively. The increase between phase 1 and 2 was 703% ( $p < 10^{-9}$ ) and the fall in phase 3 from 4 was 48% ( $p < 10^{-3}$ ). The total completion rates

were: 15.8% (38/240), 49.1% (719/1464), 44.4% (724/1630) and 13.3% (24/180) in each phase respectively.

## Conclusion

Real-time computerised feedback on proper technique resulted in a significant increase in the number of HWE (+156%) and in the adherence (+703%) to the CleanYourHands protocol. Feedback acted as a reminder of technique and provided instruction on "difficult" poses.

## Disclosure of interest

A. Ghosh: None declared, G. Lacey Shareholder of GLANTA Ltd, C. Gush: None declared, S. Barnes: None declared.

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Published: 29 June 2011

doi:10.1186/1753-6561-5-S6-O52

**Cite this article as:** Ghosh et al.: The impact of real-time computerised video analysis and feedback on hand hygiene practice and technique on a surgical ward. *BMC Proceedings* 2011 **5**(Suppl 6):O52.

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