**Supplement**

Supplement to F. Günther, K. Rudolph, U. Frank, N.T. Mutters. Improvement of Hand Hygiene Quality and Compliance Using Bioburden Measurement and Online Feedback in Germany. ICHE 2016.

**Figure S1**



**Legend Figure S1**

On-site workflow of HH assessment: *1, 2*, preparation of the sampling bag; *3,* reopening of the sampling bag using sterile scissors; *4*, sampling by intense hand washing movements in the sampling solution as described in detail on the offered handouts; *5*, resealing of the sampling bags by using a bag sealer for prevention of preanalytical contaminations; and *6*, barcode labeling of the sampling bag for sample identification by the individual participant using an anonymized numeric barcode.

**Table S1**

|  |  |  |
| --- | --- | --- |
| **CFU** | **rating** | **grade** |
| **skin flora and apathogenic bacteria**  (e.g. coagulase negative staphylococci, *Micrococcus spp.*, ect.) | | |
| < 100 | Low bacterial counts were detected on your hands. Your hand hygiene practice up to the time of the examination was exemplary. | A (1) |
| < 1000 | Low bacterial counts were detected on your hands. Please review your personal hand hygiene practice! | B (2) |
| < 10.000 | High bacterial counts were detected on your hands. Please review your personal hand hygiene practice! | C (3) |
| <100.000 | Very high bacterial counts were detected on your hands. Please review your personal hand hygiene practice! | D (4) |
| > 100.000 | Extremely high bacterial counts were detected on your hands. Please review your personal hand hygiene practice! | E (5) |
| **pathogenic bacteria**  (e.g. *Staphylococcus aureus*, Enterobacteriaceae, MDRO,ect.) | | |
| >0 | Potentially pathogenic bacteria were detected on your hands. Please review your personal hand hygiene practice. | F (12) |

Arbitrary evaluation scheme for microbiological HH assessment by THB based on colony counts and/or detection of pathogenic bacteria. The depicted evaluation scheme is adapted to a mean colony count of approximately 100,000 CFU on hands without prior HH according to the pre-evaluation in untrained medical students conducted in this study. The grading is adapted to the fact that a Log10 reduction factor of at least 4 and the absence of pathogenic bacteria on participants’ hands are required for assuming an effective performance of HH measures prior to the assessment.

For more details see also “European Standard EN1500 Chemical disinfectants and antiseptics – Hygienic handrub”.