

Report – Disinfection efficiency of SoClean

Analysis was performed from Dezember 11th 2012 to January 31st 2013
by

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1) Disinfection of used CPAP equipment

Setup:

A used “Mojo Vented Full Face Mask” (Sleepnet Corp.) was examined by swab sampling before and after sanitizing the mask with one standard cycle of the SoClean system (15min Ozone generation, wait time 2 hours).

Results:

The swab-test showed slight contamination of the mask with aerobic sporulating bacteria. Fungi could not be detected.

After one sanitizing cycle no bacteria and fungi could be detected (Fig. 1).

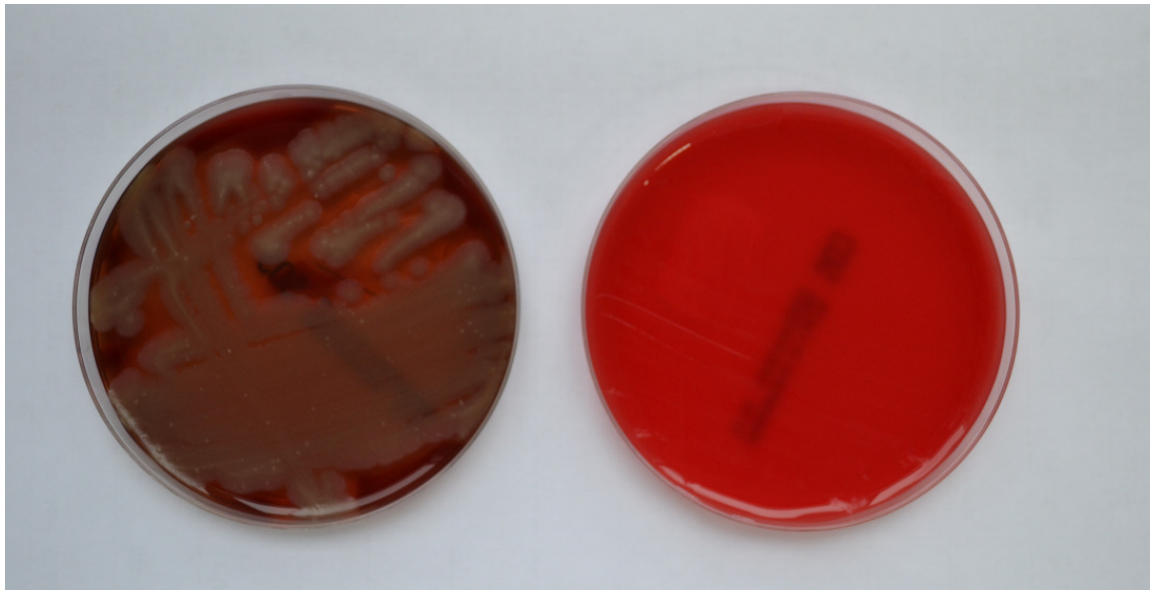


Figure 1: Result of the swab-test before (left) and after (right) one sanitizing cycle with SoClean.

2) Inactivation of *Enterococcus faecalis* immobilized on filter paper

Setup:

A reference cell culture of *Enterococcus faecalis* (ATCC 29212) was diluted 1/10 with sterile water. A membrane filter paper (0.45µm, Whatman, ME25) was contaminated with the bacteria by normal filtering. Each filter was separated into two parts. One part was positioned within the CPAP-mask (Fig.2), the other part was used as reference and was stored outside the incubation chamber during the sanitizing process. After one standard cycle the filter was directly placed on a culture medium (Slanetz and Burtley, Oxoid, P05018A) and incubated for 60h at 37°C.

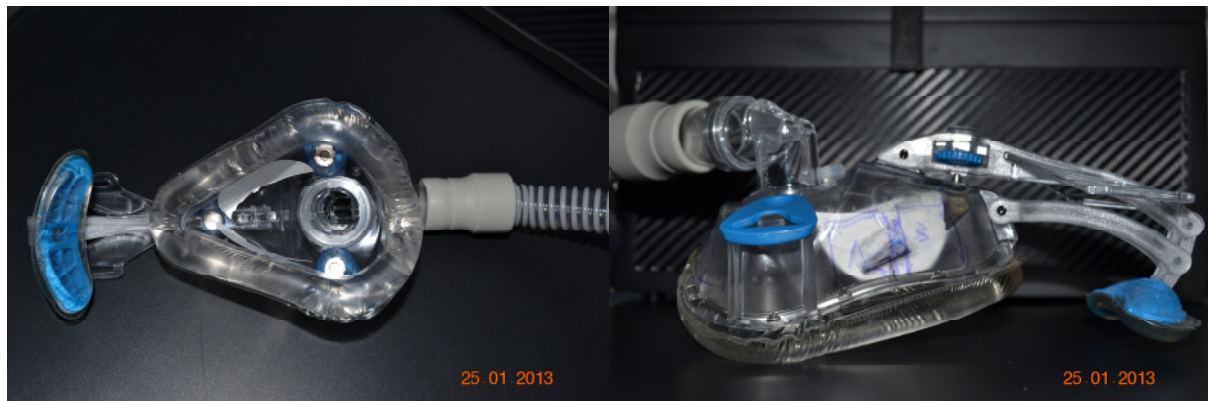


Figure 2: Positioning of the contaminated filter papers in the mask.

Results:

Enterococcus faecalis was completely inactivated on all filter papers subjected to the sanitizing process. The part of the filter not placed in the ozone chamber showed almost the same bacterial activity as a freshly prepared filter.

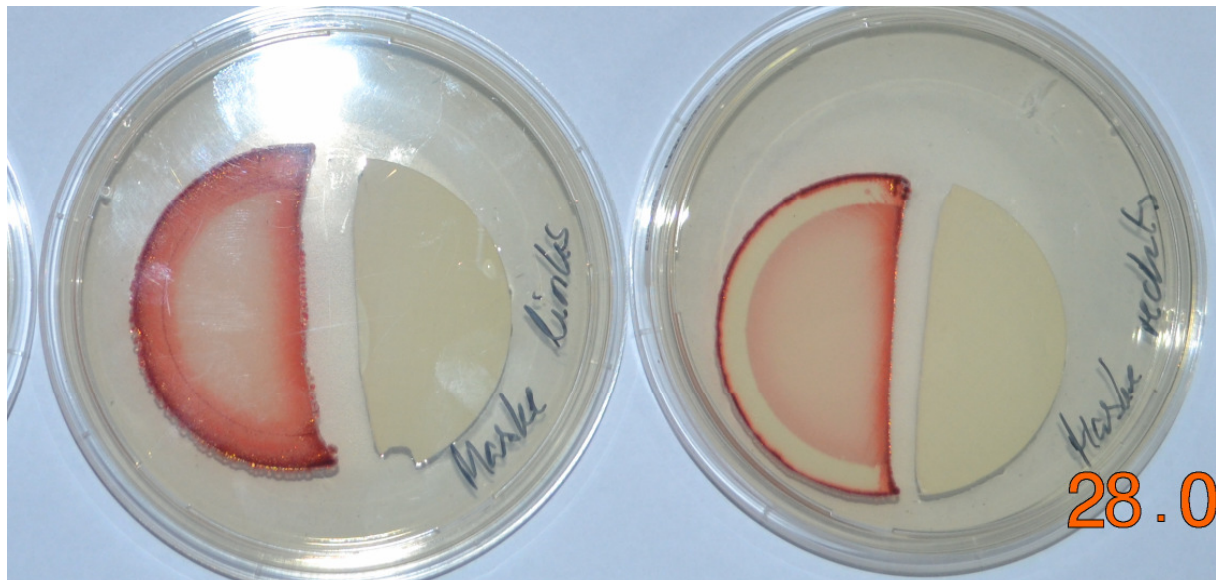


Figure 3: Result of the filter incubation from the left and right side of the mask. The red colour of the reference filters (left side of each plate) indicates the presence of bacteria. The white colour indicates complete elimination of the bacteria.

3) Sanitizing a mask, directly incubated with *Enterococcus faecalis*

Setup:

The mask and the hose were contaminated by an *Enterococcus faecalis* (ATCC 29212) cell culture solution (Fig. 4). The contaminated surfaces of the mask were examined by swab testing after one sanitizing cycle within the SoClean. A directly contaminated swab was used as reference.



Figure 4: Contaminated surfaces (marked blue) in the hose (left) and the mask (right).

Results:

On the contaminated surfaces all bacteria were inactivated (Fig. 5).

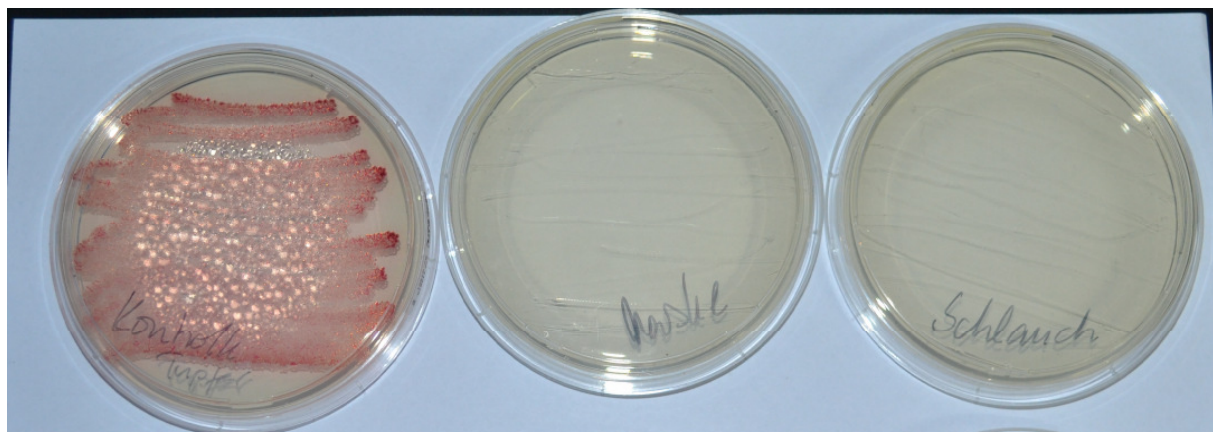


Figure 5: Result of the swab-test. Reference (left), mask (middle) hose (right). The red colour indicates the presence of bacteria. The white colour indicates complete elimination of the bacteria.