

Peroxide in nanoparticles is an effective method to disinfect areas

Abstract

Introduction:

of contamination by bacteria, spores, fungi or even viruses identified as: ?the recurrent cycle of contamination?. Although the contamination risks in relation to external agents have been clearly identified and treated, it is certainly not the case for the surfaces and their environment: the air. There is a permanent exchange between both the surface and the air, which can be the origin of an important contamination. Especially contamination, which was a result of a

Study Design:

(hydrogen peroxide) ultra mist generator, the IC-4?. The IC-4? unit operates on basis of liquid spraying by aid of ultrasonic elements. A special generator operates the ultrasonic elements, an array of ceramic discs. This generator is a kind of electronic switch, generating electronic pulses activating these ceramic discs. These pulses are given with a frequency of ca. 1.7 MHz (1.700.000 Hertz). The ultra sonic elements are placed in a container with the detergent.

the dispersion. A spray containing hydrogen peroxide with ultra small particles is created.

Results and Discussion: The size of these particles is very small (ca. 1?); its weight very low, followed by an

so-called "umbrella" phenomena. As a consequence the nanoparticles will also be active behind a barrier and in small holes. Tests were done with bacteria-, spores- and virus-contaminated areas. Reduction rates were above log 5 and these results were also obtained in ?hidden? areas.

Conclusion: The hydrogen peroxide nanoparticles are very effective in the disinfection of MRSA infected hospitals.