

Abstract

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## **Skin diseases – the underestimated risk factor for nosocomial infection**

One important key to stop the spread of nosocomial infection in general and MDR in particular, for example in hospitals, are targeted hygiene measures. Hand disinfection is the most important measure to prevent the transmission of pathogens. The current rate of necessary hand disinfection procedures that are actually performed averages out at 50 % only.

Skin irritations on hands of nursing and medical staff are one of the compliance barriers that has not been considered in sufficient detail yet. When applying an otherwise well-tolerated hand disinfectant, skin damages cause a burning sensation and thus jeopardise the compliance with hand disinfection.

A problem that has to be taken seriously and its dimension should not be underestimated: according to a study conducted in 2009, 18 % of the examined healthcare workers suffer from a contact dermatitis on their hands. The U.S. (26 %), Korea (23 %) or the Netherlands (32 %) provide similar figures. In another study, 69 % of the 1828 surveyed nurses stated to have suffered from skin irritations at the workplace during the previous year. 22 % had a hand eczema. Female nursing staff are particularly likely to be affected by hand eczema.



**Research for  
infection protection**

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Skin diseases, however, not only endanger the exercise of the profession, but also the patient protection in two respects: the necessary hand disinfection is often replaced with the less effective handwashing, and healthcare personnel with severe hand eczemas is up to 15 times more likely to be colonised with resistant microorganisms. Taken together, the EU and U.S. rates of MRSA colonisations among clinic and nursing facility staff are 5 % on average. Depending on the facility, in Germany between 0.7 and 5.3 % of the entire healthcare personnel is colonised with MRSA.

Particularly atotics belong to the risk group here. The reason for the frequent MRSA colonisation among employees with hand eczema is the disorder of the skin's barrier. Hence, problem pathogens can penetrate the skin more easily and eventually they can also be transmitted more easily.

Successful therapies of hand eczemas address several aspects. A burning sensation during hand disinfection should be taken as clear early warning symptom of the initial stage of a skin disease. Of major importance is the education of healthcare employees and the promotion of a hand disinfection culture which follows the 5 Moments for Hand Disinfection as defined by WHO.