

Brief interview with Prof. Dr. med. Hans Smola

“We owe it to the users to do everything for skin health.”

3 questions to Prof. Dr. med. Hans Smola, Dermatologist, Professor Extraordinarius at the University of Cologne, Germany and Head of Med Science, PAUL HARTMANN AG

Many studies have proved: alcohol-based hand disinfection is very well tolerated. However, there are nurses who complain of a burning sensation on the skin when disinfecting the hands with alcohol-based hand disinfectants. How do you explain that?

Hans Smola: The skin serves as barrier which – when it is healthy – protects us from external influences. The epidermis is our skin’s outermost layer and again comprises 5 layers with the stratum corneum as the outermost. The stratum corneum’s dead cells rich in keratin and oil protect the tissue beneath, e.g. against injuries. In case the skin is pre-damaged, for example due to frequent handwashing, the barrier function is reduced. The skin becomes dry and rough, cracks develop. Through these cracks, the alcohol can easily reach the living cells of the 4 other epidermis layers and thus cause the temporary burning sensation when disinfecting the hands.

What happens with the skin during hand disinfection and handwashing, respectively?

Hans Smola: Washing disturbs the lipid structure of the stratum corneum. The lipids are released from the outermost skin layer and rinsed off with the water. The skin can only replace these substances which are needed for the barrier function very slowly. People often perceive hyperhydration of the skin directly after handwashing. But that is an illusion: within 8 to 10 minutes, the water has evaporated through the damaged skin barrier. What remains is the dry skin. It is true that hand disinfection also releases the lipids, but other than with handwashing the lipids remain on the skin.



And even more: through the common rub-in method the skin lipids are even worked into the skin. Additionally, well-formulated hand disinfectants also contain re-fattening agents; Sterillium, for instance, contains glycerine and 1-tetradecanol.

In the mentioned study you could not only prove the skin compatibility but also a skincare effect of the tested alcohol-based hand disinfectant. What potential do you see in such an effect?

Hans Smola: On the one hand such a skincare effect helps anchor hand disinfection as something positive in the minds of employees. On the other hand, the skin on hands of those working in healthcare professions is highly stressed: through wet work, frequent use of gloves and, on average more than 30 hand disinfection procedures per patient day. With such strains not only employers and manufacturers have a veritable duty but also from a healthcare politics perspective there is the necessity to do everything for the skin health of healthcare workers which can be done according to the current state of research. This way, nursing staff and physicians can practice their professions for a long time with healthy hands – which is not only good for the individual employee's well-being, but also for the patient protection.