**Hand eczema and contact allergies in healthcare workers**

**Background:** Hand eczema (HE) is more common in healthcare workers (HCW) compared to the general population. Healthcare work implies not only a high level of wet work exposure, but also exposure to possible contact allergens. There are no recent data on hand skin exposure and on occurrence and causes of HE in Swedish HCW. Little is known of factors influencing skin exposure to occupational contact allergens such as rubber additives in medical gloves.

**Objectives - to assess:**
- skin exposure due to mandatory hygiene procedures
- occurrence of HE.
- possible associations between skin exposure and HE occurrence
- occurrence of contact allergies causing occupational HE
- factors influencing skin exposure to allergens in medical gloves

**Methods:** In a cross-sectional study prevalence of HE and daily exposure to soaps, hand disinfectants and medical gloves were assessed by an electronic questionnaire. Prevalences of occupational contact allergies and causes of HE in HCW were investigated by examination including aimed patch test based on chemical analysis of medical gloves, in 502 participants recruited from the questionnaire study. Factors influencing release of rubber additives from gloves were studied experimentally by ethanol wash of exposed hands and in vitro with synthetic sweat. The amount of additives were assessed by HPLC-analysis.

**Results and preliminary results:** One-year HE prevalence was 21% among 9501 HCW. There were dose-dependent associations between HE and use of soap at work, and time working with disposable gloves, but not for use of hand disinfectant. Irritant dermatitis was the most common cause to HE, but contact allergies was found in ca 10% of occupational HE. Rubber additives in medical gloves, like thiurams and diphenylguanidine (DPG), were the most common occupational allergens. Sweat pH did not influence DPG release from gloves. Hand disinfectant prior to glove use led to a modest increase of DPG found on skin.

**Conclusions:** Occurrence of HE is increased in HCW. Efforts to reduce use of soap and occlusion time under gloves are needed. Occupational contact allergies are mainly related to medical gloves. Analysis of additive contents in gloves and vigilance on changing trends is important in procuring medical gloves.

**Published:**

**Preliminary (posters presented at international conferences):**