p=0.015). Duration arm elevation <30° had a tendency to be associated with an improvement in NSP over the 2-year follow-up (<30°*time (ß=-0.07; p=0.089)). Neither duration 30-60° nor ≥60 were associated with the course of NSP during follow-up. After adjusting for confounders, none of the durations of arm elevation were associated with the course of NSP over the 2-year period (<30° and 30-60° (ß= 0.20; p=0.126); <30°*time (ß=-0.06; p=0.097)).

Conclusion Among construction and healthcare personnel, duration of working in awkward arm elevation postures was not associated with the course of NSP over a 2-year period. Arm elevation alone, without considering force exertion, may not be sufficient to influence the course of NSP.

Dermal Effects

WORKPLACE EXPOSURE ASSESSMENT (WEA), SKIN HEALTH IN CROATIAN HAIRDRESSING DERMAL EXPOSURE TO SOLVENTS: A NEED FOR QUANTITATIVE ANALYSIS

For many years, airborne exposure was considered as the main work-related exposure and efforts have been made both on air monitoring and reduction of respiratory exposure. Nevertheless, recent studies have shown that preventive strategies with an exclusive focus on airborne exposures may falsely indicate a ‘safe’ environment. In 2014, WHO highlighted the importance of dermal exposure and its potential impact on human health. Moreover, it stipulated that the current technical and knowledge gaps related to the assessment of skin exposure have major lacunae. In this context, there is an increased demand for standardized methods and tools for measuring and assessing skin exposure to hazardous agents.

We have developed an analytical method to simultaneously identify and quantify 195 volatile organic compounds (VOC) in dermal patches with activated charcoal cloth (ACC). Furthermore, we have done several field studies in different industrial settings, by the simultaneous assessment of dermal exposure using the ACC patches (on the hand, arm and neck), together with assessment of the respiratory exposure and determining the actual internal dose via urinary biomonitoring. Toluene, acetone and styrene exposure was found in a thermoplastic panel factory, styrene exposure in a composites body parts manufacturer, limonene and 1-methoxy-2-propanol exposure in a company that produces and prints plastic car body parts, and acetone and toluene in a pharmaceutical company. The results obtained from the quantitative ACC patches have been compared to the data obtained using Riskofderm for skin exposure, and the penetration through the skin was further estimated using IH-Skinperm and correlated with biomonitoring results.

Based on the analytical development and the results of the different field studies, we can conclude that ACC patches represent a suitable technique to evaluate the deposition of VOCs on the skin. We further believe that assessing dermal exposure to solvents using ACC patches can substantially improve occupational health programs.

SKIN HEALTH IN CROATIAN HAIRDRESSING APPRENTICES AT THE BEGINNING OF VOCATIONAL EDUCATION: A NEW COHORT STUDY

Potential skin exposure to irritants, allergenic metals, skin occlusion from gloves, skin barrier disruption and high occurrence of HE among workers handling oil and drilling waste are of concern.

O5B.2 DERMAL EXPOSURE TO SOLVENTS: A NEED FOR QUANTITATIVE ANALYSIS

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Conclusion Potential skin exposure to irritants, allergenic metals, skin occlusion from gloves, skin barrier disruption and high occurrence of HE among workers handling oil and drilling waste are of concern.

O5B.3 SKIN HEALTH IN CROATIAN HAIRDRESSING APPRENTICES AT THE BEGINNING OF VOCATIONAL EDUCATION: A NEW COHORT STUDY

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