

From science into occupational hygienists' practice

Many occupational hygienists stay away from the topic 'heat strain' as they find it difficult to estimate the magnitude of the risk and to unravel all factors influencing the risk. In addition, it is a challenge to recommend effective measures. Common strategies of resting periods and reduction of workload are incompatible with maintained productivity, often directly affecting individual income or the economic performance of an enterprise.

Methods

Within the HEAT-SHIELD project over 50 scientific papers have been published. To bridge the gap between science and practice, the outcome of these articles were screened of practical use for the occupational hygienist.

Results

The HEAT-SHIELD studies added to the body of evidence for risks associated with hyperthermia and dehydration, such as increased workplace accidents, lower productivity and kidney disease. One of the HEAT-SHIELD studies pointed out that many workers are dehydrated prior to the work shift, which indicates the importance of not only addressing heat stress at work, but also at home during heat waves.

During the course of the HEAT-SHIELD project, a model for an early warning system has been developed and made accessible through a web based platform. In addition, an app with individual advise when working in the heat has been developed in a sister project (Climapp).

The HEAT-SHIELD projects provides both verification of effects of already common measures in practice, and new (industry specific) measures like the application of reflective paint and glass in truck cabins. In addition, HEAT-SHIELD produced a review with an inventory and evaluation of sustainable solutions to mitigate occupational heat strain. This review lists the most effective measures : wearing specialized cooling garments, (physiological) heat acclimatization, improving aerobic fitness, cold water immersion, and applying ventilation.

In addition infographics have been developed for use in the working place.

Keywords: Heat, mitigating strategies, occupational health, practical implementation, feasibility