

584 GAS RISKS IN FREIGHT CONTAINER HANDLING

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Background Transport container traffic carries millions of containers worldwide. To protect transported freight and inhibit the spread of foreign species, the containers are fumigated with chemicals, some of which having effect to central nervous system. Gas components and concentrations should be known to define safe handling procedures for each container. The Finnish Work Environment Fund and VTT funded and performed project to collect the needed information, including ventilation times, to support future work to prepare instructions.

Methods Research contained literature studies and practical measurements for ventilation times.

Results Based on the literature study, close 80 different volatile compounds were detected, including about 60 chemical substances classified due to their occupational health risk. About 15 of those were known fumigants, others were supposed to be evaporated from the freight. Methods typically used for the measurement of gas concentrations are indication tubes, small hand held detectors and gas analysers. Their reliability and investment cost varies a lot. Ventilation times of containers loaded using separate numbers of corrugated board boxes were tested in field conditions with different loading ratios, temperatures and with different external ventilation systems. Fully loaded containers had even 60 times longer ventilation time than containers loaded partially. Thus, the ventilation of containers can take even several days, depending on the temperature and ventilation procedures.

Conclusions To prevent occupational risks during container handling, the concentrations of harmful substances in container must be known. Today, such measurements need several analysis methods. Safe handling procedures should be based on reliable data to conclude when the safe working environment with sufficient high security margin is achieved in the container.

585 WORKPLACE INJURIES – SOCIO-DEMOGRAPHIC, OCCUPATIONAL AND HEALTH RELATED DETERMINANTS

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Background Characteristics of the host (e.g. socio-demographics, behaviour), the agent (energy-transmitting objects) and the environment (e.g. physical, organisational) are the main determinants of unintentional injuries. Focusing on host characteristics the present analysis tries to clarify whether health-related determinants and mental work strain contribute to the explanation of workplace injuries (WI).

Methods The phone survey German Health Update 2010 (n = 22,050) provides information on up to three medically treated WI within one year (gainfully employed 18–70 ys, n = 14,041). Logistic regression considering socio-demographic (e.g. gender, age), occupational (profession, work strains) and health-related determinants (chronic conditions, behaviour) is applied to identify relevant risk factors.

Results Overall, 2.8% (CI95 2.4–3.2) of persons gainfully employed reported at least one WI (women: 0.9% CI: 95 0.7–1.2; men: 4.3% CI: 95 3.7–5.0). In the final model, male sex (OR 3.2), age 18–29 (OR 1.5) as well as agricultural (OR 5.4), technical (OR 3.4), skilled service (OR 4.2) or manual (OR 5.1)

and unskilled service (OR 3.1) or manual (OR 5.0) profession is associated with a significantly higher probability of WI. The same holds for work strain such as heavy carrying (OR 1.8), awkward postures (OR 1.5), environmental stress (e.g. noise, heat, emissions) (OR 1.5) and working under pressure (OR 1.4). Among the health-related variables lack of physical activity (OR 1.5) and obesity (OR 1.7) entail significantly higher WI probabilities. Increased ORs for harmful alcohol consumption, regular smoking, chronic back pain, working overtime or shift-work decrease and lose significance when models are adjusted for occupations and physical work strain.

Conclusions Certain health-related factors as well as mental work strain increase the probability for WI or are mediated by occupational factors. These aspects should be considered when tailoring measures for the prevention of WI.

586 ESTABLISHING A FOCUS ON CLEAN AIR IN WORKSAFE NEW ZEALAND – AN IMPLEMENTATION EVALUATION

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Background WorkSafe New Zealand has recognised the need for an explicit focus on occupational health in its work. The initial area of concentration for this is clean air, with a particular effort in educating those exposed to airborne contaminants on available controls. In order to do this, WorkSafe needed to upskill its inspectorate and provide tools to support engaging and educating employers and employees across a number of sectors. This evaluation looked at how well the upskilling of staff was implemented and the role it played in establishing a focus on occupational health in the inspectorate.

Methods The evaluation utilised a mixed method approach, including administrative data analysis, surveying and focus groups with inspectors to understand whether the project was implemented as intended.

Results Results are still being analysed, but will be available at the time of the presentation.

Conclusions Occupational health is an area of new but increasing focus of WorkSafe. Learnings from this evaluation will provide valuable information for other regulators and health and safety specialists on what will support implementing practice change.

587 PEDESTRIAN SLIPPING INJURIES COMPARED TO WEATHER

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Background Slipping injuries use to happen through the year but winter time with ice and snow increases the risk of slipping injuries. Young people use to slip more often than older ones but slipping injuries becomes typically more harmful when the person becomes older. Slipping injuries are a big problem not only economically but also because causing long sick leaves among the people on the best work age.

Methods The amount of slipping injuries can be seen especially from the database maintained by Federation of Accident Insurance Institutions. That database includes injuries and accidents which have happened when walking from home to work, during