Poster Presentation

Cancer

0460 SMOKING ADJUSTED OCCUPATIONAL RISK OF BLADDER CANCER USING PROXY SMOKING FROM LUNG CANCER IN NORDIC MALES

1Kishor Hadkhale*, 2Jan Ivar Martinsen, 2,3Elisabete Weiderpass, 2Kristina Kjaerheim, 4Elisebete Lynge, 5Pär Sparen, 5Laufey Tryggvadottir, 6Eero Pukkala. 1University of Tampere, Faculty of Social Sciences, Tampere, Finland; 2Cancer Registry of Norway, Institute of Population-Based Cancer Research, Oslo, Norway; 3University of Tromsø, Faculty of Health Sciences, The Arctic University of Norway, Tromsø, Norway; 4Folkhälsan Research Centre, Genetic epidemiology group, Helsinki, Finland; 5Karolinska Institute, Department of Medical Epidemiology and Biostatistics, Stockholm, Sweden; 6University of Copenhagen, Institute of Public Health, Copenhagen, Denmark; 7Icelandic Cancer Registry, Reykjavik, Iceland; 8University of Iceland, Faculty of Medicine, Reykjavik, Iceland; 9Finnish Cancer Registry, Institute for Statistical and Epidemiological Cancer Research, Helsinki, Finland

10.1136/oemed-2017-104636.381

Withdrawn at the author’s request

Oral Presentation

Intervention Studies

0461 CAN A WATER.REST.SHADE INTERVENTION REDUCE THE RISK OF CHRONIC KIDNEY DISEASE AMONG SUGARCANE WORKERS?

1David Wegman*, 2Jenny Apelqvist, 3Theo Bodin, 3Matteo Bottai, 3Ulf Ekstrom, Ramón Garcia-Trabanino1, 3Jason Glaser, 3Christine Hogstedt, 4Kristina Jakobsson, 5Emmanuel Jarquin, 6Rebekah Lucas, 7Sandra Peraza, 8Rebekah Lucas, 9Sandra Peraza, 10Ilana Weiss, 3Catharina Wesseling. 1University of Massachusetts Lowell, Lowell, Massachusetts, USA; 2Department of Laboratory Medicine, Division of Clinical Chemistry and Pharmacology, Lund University, Lund, Sweden; 3Institute of Environmental Medicine, Karolinska Institute, Stockholm, Sweden; 4Centro de Hemodialisis, San Salvador, El Salvador; 5La Isla Network, Ada, Michigan, USA; 6Section of Occupational and Environmental Medicine, University of Gothenburg, Gothenburg, Sweden; 7Agencia para el Desarrollo y la Salud Agropecuaria (AGDYSA), San Salvador, El Salvador; 8School of Sport, Exercise and Rehabilitation Sciences, University of Birmingham, Birmingham, UK; 9Faculty of Chemistry and Pharmacy, University of El Salvador, Ciudad Universitaria, San Salvador, El Salvador; 10Division of Occupational and Environmental Medicine, Institute of Laboratory Medicine, Lund University, Lund, Sweden

10.1136/oemed-2017-104636.382

Background The Central American kidney disease epidemic persists despite efforts to identify cause(s) and introduce clear, evidence-based interventions to protect workers. Evidence suggests that chronic dehydration during heavy work in hot environments contributes to morbidity. An intervention was introduced to determine if risk could be reduced in sugarcane workers.

Objective To assess efforts to implement a Water.Rest.SHADE intervention in one setting where sugarcane cutting was believed to increase CKDu in the workforce.

Methods The intervention was introduced mid-way through the harvest in one of two work groups. The intervention group received water throughout the day with scheduled rest breaks in shaded settings. Health data (anthropometric and questionnaires), blood and urine were collected four times over a six-month harvest. Daily wet bulb globe temperatures (WBGT) were recorded.

Results There were significant changes in biomarkers across-shift and across-harvest that reduced the markers of dehydration (changes of urine osmolality and serum albumin) and reduced rate of loss in estimated glomerular filtration rate (eGFR). Cross-shift change in eGFR was reduced in the group receiving the intervention. Significant decreased eGFR over the harvest appeared to stop after the intervention in those receiving the Water.Rest.SHADE program.

Conclusion Preliminary evidence indicates a Water.Rest.SHADE intervention program reduces the impact of heat stress on acute and over-harvest biomarkers of kidney function. Potential long-term benefits of such an intervention need to be confirmed in long-term follow-up and in other settings. Further research is needed to determine whether biomarker changes predict reduced risk of CKDu in this type of work.
Poster Presentation
Exposure Assessment

A COMPARISON OF DISTAL UPPER LIMB PHYSICAL EXPOSURE QUANTIFICATION TOOLS: THE STRAIN INDEX, ACGIH TLV FOR HAL, AND THE RECENTLY DEVELOPED REVISED STRAIN INDEX
Jay Kapellusch*, Anu Garg, University of Wisconsin – Milwaukee, Milwaukee, Wisconsin, USA
10.1136/oemed-2017-104636.383

Introduction There are several questionnaires and observational measurement tools to quantify distal upper limb (DUL) physical exposures. Perhaps the most commonly used observational methods are the Strain Index (SI) and the ACGIH TLV for HAL. However, there is currently no “gold standard” observational tool.

Methods Data from recently conducted prospective cohort studies of DUL musculoskeletal disorders (MSDs) were used to compare the SI, TLV for HAL, and the newly developed Revised Strain Index (RSI). A total of 3647 tasks performed by 710 workers were evaluated. When a tool lacked specific guidance, generally accepted techniques (e.g., time-weighted-averaging) were used to handle task complexity and multi-task jobs.

Results The SI, RSI, and TLV for HAL provide inconsistent estimates of physical exposure and predicted risk of DUL MSDs. Correlations and weighted kappa range from poor to good (e.g., weighted-kappa range: 0.16 to 0.82).

Conclusions Neither the TLV for HAL nor the SI were designed to assess multi-task jobs with complex tasks; whereas the RSI was. Assumptions made in order to use the SI and TLV for HAL for complex and multi-task analysis may contribute to the large differences between their physical exposure estimates. In this regard the RSI would appear to be a superior tool and one that has promising utility, at least for design and ergonomics intervention of complex and multi-task jobs. However, more research is needed to establish a “gold standard” DUL observational measurement tool.

Poster Presentation
Neurological Effects

A COMPARISON OF DISTAL UPPER LIMB PHYSICAL EXPOSURE QUANTIFICATION TOOLS: THE STRAIN INDEX, ACGIH TLV FOR HAL, AND THE RECENTLY DEVELOPED REVISED STRAIN INDEX
Jay Kapellusch*, Anu Garg, University of Wisconsin – Milwaukee, Milwaukee, Wisconsin, USA
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Methodology

The case of a 30-year-old male, a boilermaker (welder assembler) who is part of one of the teams responsible for replacing the carbon steel tubes of the exchanger through which sulphurous gases circulate with mercury remains is described. The initial symptoms were diarrhoea with mucus and blood and gum inflammation, initially presenting a blood mercury concentration of 475.9 mcg/L (NV =< 10 mcg/L) and urine mercury concentration 939 mcg/L (NV =< 30 Mcg/L) (BAL INSHT <5mcg/g creatinine), not receiving treatment until after 6 months with DMPS twice seeing a reduction in urinary values from 1830.47 to 7.38 mcg/L. As a clinical result of mercury poisoning he had severe mercurial erethism with dysthymia and aggressive behaviour, as well as a secondary complex visual disorder and a diarrheal syndrome due to secondary autonomic neuropathy.

Conclusion This paper aims to warn about the consequences of prolonged exposure to mercury especially for the central nervous system, as well as early diagnosis and timely treatment. On the other hand, note the importance of adopting an adequate and effective preventive system to protect the health of workers exposed to mercury.

Oral Presentation
Other

HOW DO GENDER AND JURISDICTION INTERACT WITH WORK DISABILITY DURATION?
1Robert Macpherson*, 1Mieke Koechon, 1William Quirke, 1Jonathan Fan, 2Benjamin Amick, 3Cameron Mustard, 3Sheilah Hogg-Johnson, 3Allen Kraut, 1,2Christopher McLeod. 1University of British Columbia, Vancouver, British Columbia, Canada; 2Institute for Work and Health, Toronto, Ontario, Canada; 3University of Manitoba, Winnipeg, Manitoba, Canada
10.1136/oemed-2017-104636.385

Objectives We examine whether gender differences in work disability duration were consistent across Canadian provinces and by length of work disability duration.

Methods Cohorts of injured workers in British Columbia (BC), Manitoba (MB) and Ontario (ON) were analysed using claim-level data for injuries occurring between 2007 and 2011. Work disability duration was measured using cumulative days that claims received work disability benefits during one-year post-injury. Extended Cox models provided hazard ratios (HR) and 95% confidence intervals (95% CI) to examine differences between women compared to men transitioning off work disability benefits and how this varied by length of work disability duration in each jurisdiction, adjusting for confounders.

Results In all three provinces, women transitioned off disability benefits slower initially (at 1 day, BC: HR: 0.90 [95% CI: 0.89–0.91], MB: HR: 0.89 [95% CI: 0.87–0.91], and ON: HR: 0.96 [95% CI: 0.95–0.97]) but in longer claims women transitioned off disability benefits faster (at 9 months, BC: HR: 1.10 [95% CI: 1.07–1.13]; MB: HR 1.14 [95% CI 1.08–1.21], and ON: HR: 1.03 [95% CI: 1.01–1.06]. This finding was consistent across different models by province and injury type.

Conclusions The persistent differences in work disability duration suggest that there may be underlying gender or sex differences in terms of recovery from work-related injury. Policies for the prevention and management of work injuries...