

**Method** Using the WSIB administrative database, we acquired a random sample of 6665 injured workers who reported an uncomplicated back injury (strain or sprain) with a date of injury between January 1, 2005 and June 30, 2005. We selected, *a priori*, 11 variables from the database that we judged may be associated with claim closure and predicted the direction of anticipated effects. We performed a time-to-event analysis using Cox proportional hazards regression to assess the association between time to claim closure and the independent variables. Receipt of WSIB-reimbursed chiropractic care or physiotherapy were treated as a time-dependent covariate to account for when treatment was initiated during the course of the disability claim.

**Results** Our adjusted regression analysis showed that older age and opioid prescription (adjusted hazard ratio [HR]=0.69; 99% CI=0.53, 0.89) in the first 4-weeks of claim reimbursed by the WSIB were associated with prolonged claim closure, whereas working for an employer that had a return-to-work program was associated with shorter claim duration (adjusted HR=1.73; 99% CI=1.42, 2.12). Neither reimbursement for chiropractic or physiotherapy were associated time to claim closure.

**Conclusions** Our analysis suggests that commonly reimbursed treatment for Workers' Compensation LBP claimants may be ineffective or even harmful.

#### 0183 FACE VALIDITY AND INTER-RATER AGREEMENT BETWEEN EXPERT ASSESSMENTS OF OCCUPATIONAL MECHANICAL EXPOSURES IN A LOWER BODY JOB EXPOSURE MATRIX

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**Objectives** We constructed a lower body job exposure matrix (JEM) based on five experts' assessments of occupational mechanical exposures. The aim of this study was to evaluate the face validity of the rankings of the job groups and the inter-rater agreement between the experts' rankings.

**Method** The JEM cross tabulates the mean of five experts' assessments of daily duration (hours/day) of standing/walking, kneeling/squatting, and whole-body vibration as well as total load lifted (kg/day), and frequency of lifting loads weighing  $\geq 20$  kg (times/day) in 121 job groups comprising occupational titles with expected homogeneous exposure patterns. The JEM covers 689 occupational titles, which were considered more than minimally exposed, out of 2227 in the Danish version of the International Standard Classification of Occupations. Weighted kappa statistics were used to evaluate inter-rater agreement on rankings of the job groups for four of these exposures. Two external experts checked the face validity of the rankings of the experts' mean values.

**Results** The experts' ratings showed fair to moderate agreement (mean weighted kappa values between 0.36 and 0.49). The external experts agreed on 586 of the 605 rankings.

**Conclusions** Experts agreed on rankings of the job groups, and rankings based on mean values had good face validity. However, further validation is warranted based on technical measurements or observations. The lower body JEM, which provides exposure

estimates free of recall bias, has been applicable in exposure response studies of hip and knee osteoarthritis, inguinal hernia repair, varicose veins, and lumbar disc disorders.

#### 0184 MORTALITY PROFILE OF THE FRENCH COHORT OF URANIUM PROCESSING WORKERS

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**Objectives** A cohort of nuclear workers employed in the fuel processing cycle was set-up in France in 2009 to assess the risk of cancer and non-cancer mortality related to uranium, in a context of occupational multi-exposure. Vital status and causes of death are now available.

**Method** The cohort includes workers employed at least 6 months between 1958 and 2006 by AREVA and CEA (French Atomic Energy Commission). Exposure assessment was realised by a dual approach combining individual monitoring data and specific job-exposure matrices, considering radiation exposures, chemical agents and physical stresses (heat and noise). Additional information like tobacco consumption and various clinical parameters (Body Mass Index, blood pressure, lipid profile etc.) was also collected from the Occupational Health Services. Vital status and causes of death were collected from French national registries.

**Results** The cohort includes 12 739 workers (88% men) with an average duration of employment of 17 years. The median year of birth is 1944. At the end of follow-up (31/12/2010), 19% are deceased and 96% of the causes of death are identified. Cancers (mainly lung, prostate and lymphatic and haematopoietic tissue cancers) represent 43% of all causes of death, non-cancers (mainly diseases of the circulatory system) 48% and external causes 9%. The analyses using French national mortality rates as reference will be presented.

**Conclusions** The observed mortality is that of an even young population and at this stage no further conclusions can be drawn. This cohort, with this wealth of data, will be very informative for the investigation of uranium related risks.

#### 0187 ALCOHOL CONSUMPTION AS A CONFOUNDER IN NEUROBEHAVIORAL STUDIES OF NEUROTOXICANTS

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**Objectives** To study the effects of manganese (Mn) exposure and alcohol consumption on tremor.

**Method** Tremor was measured in 137 shipyard welders (age 39.9) and 137 referents (turner/fitters) (age 40.1) with the Catsys TREMOR. Alcohol consumption was assessed by measuring serum carbohydrate deficient transferrin (sCDT).

**Results** The geometric mean (GM) of Mn air concentration was 214 $\mu$ g/m<sup>3</sup> (range 1–3230). The GM concentrations of Mn in whole blood (B-Mn) and urine (U-Mn) were 12.8 $\mu$ g/L and 0.36 $\mu$ g/g creatinine versus 8.0 $\mu$ g/L and 0.07 $\mu$ g/g creatinine in the referents. Concentration of sCDT (%) was 0.71 in welders and 0.65 in referents.