

between each exposure method (individual, full JEM and asymptomatic JEM) and hand pain (Prevalence ratios with asymptomatic JEM=1.15–1.34; all $p < 0.05$).

Conclusions A JEM using responses only from asymptomatic workers created more homogenous exposure groups, but initial analyses showed no other significant evidence of biased exposure estimates due to symptoms. JEMs are a useful method of exposure assignment for some epidemiological studies of musculoskeletal disorders.

Oral Presentation

Intervention Studies

0166

MISMATCH BETWEEN SURVEILLANCE OF RISKS AND RECORDED INJURIES IN CONSTRUCTION: INTEGRATION OF ERGONOMICS INTO A COMPREHENSIVE SAFETY PROGRAM

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10.1136/oemed-2017-104636.134

Background Musculoskeletal disorders (MSD) are the most common nonfatal injuries in construction, occurring more frequently in construction than in most other industries. Construction safety programs typically focus on traumatic injuries and rarely address ergonomic hazards. This project presents data from a gap analysis that is driving an ongoing intervention to incorporate MSD prevention into an existing safety program.

Methods Using data from three large construction projects, we examined differences in annual injury records for MSD compared to other common hazards (falls, struck by, electrocution), frequency of hazards noted on daily pre-task safety assessment forms (PTSA), and topics presented in weekly safety trainings.

Results 26% of recorded injuries were MSD, primarily from lifting, and similar to the proportions from falls (26%) and "struck bys" (32%). However, only 3 of 152 weekly safety trainings related to lifting. PTSA forms showed that workers commonly recognised and recorded potential hazards from falls (40%), struck bys (47%), and lifting (41%) but rarely recognised other MSD risks such as poor posture (9%). When recognised, adequate hazard controls were usually described for falls (96%) and struck bys (65%), but less often for lifting and other MSD risks (45%).

Conclusions Despite having many musculoskeletal injuries, the studied safety program paid little attention to ergonomic training, hazard recognition, and abatement compared to other types of hazards. Our ongoing intervention incorporates ergonomic surveillance, risk assessment, and consistent monitoring of controls into the overall safety management system. Initial results of worksite audits and delivery of the modified program will be presented.

Poster Presentation

Injuries

0167

ASSOCIATION BETWEEN AMBIENT TEMPERATURE AND OCCUPATIONAL INJURY

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10.1136/oemed-2017-104636.135

Background Exposure to high temperature has been linked to adverse effects including cardiovascular and renal functions. It was also proposed to diminish human performance capacity and increase accident risk. However, the effects of high temperature on occupational injury have not been extensively studied.

Objective The aim of this study was to determine the association between ambient temperature and occupational injury (OI) occurrence.

Material and Methods OI information was extracted from the National Health Insurance Research Database (NHIRD). Daily ambient temperature and relative humidity (RH) were obtained from the Taiwan EPA air monitoring station. The day of first time OI outpatient/emergency visits during 2006–2011 was used as the event day. The same weekdays of the month were used as the referent day. Time-stratified case-crossover design and conditional logistic regression was used to investigate the relationship between ambient temperature and OI outpatient visits, adjusting for RH.

Results There were 18 951 first time OI outpatient/emergency visits during 2006–2011. The odds ratio (OR) of OI outpatient visits associated with per interquartile range (7.7 degree centigrade) increase in ambient temperature of the same day (lag 0 day) was 1.15 (95% confidence interval, CI: 1.08–1.22). The ORs associated with lag1 (the day before visit day) to lag3 day was 1.13 (95% CI: 1.06–1.19), 1.11 (95% CI: 1.04–1.17), and 1.11 (95% CI: 1.02–1.14), respectively.

Conclusion Exposure to higher ambient temperature was associated with increased risk of OI outpatient visits.

Poster Presentation

Exposure Assessment

0168

QUANTIFICATION OF VIABLE STAPHYLOCOCCUS AUREUS AND VIABLE BACTERIA IN WORKPLACES BY PROPIDIUM MONOAZIDE WITH QPCR

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10.1136/oemed-2017-104636.136