Statistical analyses focused first on describing the frequency and duration patterns for each of the 52 farm jobs/chores/tasks (which fell into the following categories: animal feeding/handling, cleaning, handpicking, farmstead repair/maintenance, handling silage/hay/straw/feed/seed, operating mobile farm machinery, operating/driving farm vehicles, operating/using stationary farm equipment, farm equipment/machinery repair/maintenance). In addition to investigating variation in both frequency and duration of job/chore/task by age, sex, and season/time of the year, we have attempted to identify (i) high frequency/low duration, and low frequency/high duration, chores, (ii) how often the daily reports suggest risk not only of unintentional acute traumatic injury, but also of potential chronic biomechanical overloading, and (iii) sources of bias in the work-related self-reports.

P17

Title: A Case-Crossover Pilot Study of Slips, Trips and Falls in Health Care Workers

Authors: Sorock GS, Wellman HM, Lombardi DA, Courtney TK, Collins JW, Bell JL, Wolf L, Gronqvist R

The U.S. Bureau of Labor Statistics reported in 1998 that slips, trips and falls (STF) account for the third largest proportion (20%) of non-fatal occupational injuries in private industry. Among health care workers in hospitals, the incidence rate of lost work-day injuries from STFs was 50% higher than the rate for all private industry (40.8 vs. 27.0 per 10,000 FTEs). We therefore began a case-crossover study to describe the circumstances of STFs in the hospital environment and to evaluate the role of potential transient risk factors in their occurrence.

Health-care workers who reported a STF to the occupational health department in four mid-western hospitals were recruited into the study. Fifty-one subjects were interviewed by telephone. Eighty-eight percent were women with a mean age (SD) of 45 (12.3). Most subjects were nurses (47%), clerks/registrars (16%) or housekeeping staff (12%). Forty-three subjects (84%) reported falling preceded by a slip (44%), a trip (28%), neither (16%) or both a slip and a trip (12%). Of 51 STF events, pain (27%) and contusions (25%) were the most common injury outcomes; five subjects (10%) reported a fracture. Sixty-three percent of the STFs occurred while walking in a transitional area, e.g., from wet to dry or dry to wet surfaces (33%), one type of floor surface to another (24%), or even-to-uneven surfaces (18%). The percent of subjects exposed to transient risk factors at the time of the STF were compared with the total person-time exposed to each factor in the previous work month. Preliminary analysis suggests that walking on a different pathway than usual, on contaminated floors (most often water or cleaning solutions), and being distracted or rushing may increase the risk of a STF in the hospital setting. The case-crossover design is a feasible method for studying the determinants of STF events.

P18

Title: Ergonomic Walkthrough Evaluations of a Pre-Manufactured-Home-Fabrication Plant

Authors: Zwiener JV, Pan CS, Chiou SS, Kau TY, Mozingo K

Drywall workers who perform work on pre-manufactured-homes have an increased risk of injury due to the highly repetitive nature and prolonged duration of their work tasks. The objective of this study was to examine the risk factors involved with drywall installation in a pre-manufactured home fabrication plant; and further, to determine possible interventions to reduce those risks. Eleven drywall workers (7 installers and 4 finishers; mean age = 35 ± 13 years) with working experience (mean experience = 11 ± 10 years) participated in this study. Each drywall worker was observed and videotaped for three hours. Two raters reviewed the tapes using a carpentry ergonomic checklist (Bhattacharya, 1997). This checklist was designed to provide a workplace assessment for three major ergonomic risks – posture, repetition, and slip/fall hazards. Postures of six body segments and tool uses were given scores of 1 to 5 based on a weighting system where biomechanical loading is associated with different postures (Bhattacharya, 1997). A score of 1 represented a neutral posture whereas; a score of 5 represented an awkward posture. Repetition scores for three body segments were calculated by multiplying the frequency by the assigned weighting factor for each posture. Analyses of variance showed that repetition in the upper extremities was a problem when taping, applying joint compound, and sanding for finishers. For installers, repetition of tasks (measuring and cutting, carrying, and securing drywall) showed problems in all three body regions- torso, lower extremities, and upper extremities/wrist. Findings of this study indicate that higher repetition result in severe ergonomic risks for the pre-manufactured home fabrication workforce. The daily activities of drywall workers that lead to the repetitive nature of the job need to be rectified by frequent work breaks, or through task rotation, and change in order to reduce the risk of injury.

P19

Title: Heat-related Fatalities In North Carolina

Authors: Mirabelli MC, Richardson DB

Introduction. Heat-related mortality is a well-documented effect of exposure to environmental heat. However, the epidemiology of occupational heat injury may differ from that of non-occupational heat injury. In this study we investigate heat-related mortality in a Southern state, compare characteristics of occupational and non-occupational fatalities, and provide case descriptions of occupational fatalities attributed to environmental heat.

Methods. We identified all deaths in North Carolina between

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