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ASSESSING THE IMPACT OF VARIOUS INTERVENTIONS TO REDUCE INJURIES AMONG WEST VIRGINIA LOGGERS. *P Mujuru, J Helmkamp, and L Singla (WVU Injury Control Research Center University, Morgantown, WV 26506)

Logging, both as an industry and occupation, has long been recognized as one of the most dangerous areas in which to work. Data from the US Bureau of Labor Statistics from 2000 through 2004 indicates a logging fatality rate of 154.9 deaths per 100,000 workers that was substantially higher than most other industries and 37 times higher than the overall US occupational fatality rate of 4.2 for this 5-year period. In the same period the logging fatality rate of 386.5 in WV was one of the highest among all states. In 2003, the incident rate of nonfatal injuries among loggers was 6.4 per 100 workers nationally and 12.6 in WV. From 1999 through 2004, standard training targeting owners, supervisors and workers of logging companies was complemented with a video-based intervention that included safe logging cutting and felling techniques, and loading and unloading logging trucks. The impact of the training was evaluated through an analysis of WV Workers' Compensation (WC) claims for logging injuries during the period before the intervention (July 1996–June1999) and during intervention (July 1999–June 2004). The yearly average of logging-related WC injury claims decreased 15% from 188 in the pre-intervention phase to 160 during the intervention period. Incidence rates per 100 claims decreased from 12.8 to 11.3. The total cost of injuries decreased about 2% from $8,685,587 to $8,519,612. While these trends are positive, additional analyses will compare types and causes of injuries and if there was variation by age and geographical terrain. This could lead to the development of more directed intervention efforts for loggers.

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OCCUPATIONAL AND ENVIRONMENTAL EXPOSURES IN RELATION TO IMMUNE RESPONSIVENESS TO EPSTEIN-BARR VIRUS IN A POPULATION-BASED SAMPLE. *C G Parks, G C Cooper, J P Pandey (CDC, NIOSH, Morgantown, WV 26505)

Background: Epstein-Barr Virus (EBV) establishes life-long infection in B-cells, characterized by periods of latency and reactivation. Antibodies to viral capsid antigen (VCA) are often used to study the relationship of EBV with chronic diseases. While VCA-Immunoglobulin (Ig) G antibodies indicate past EBV exposure, VCA-IgA antibodies may reflect reactivation of latent infection. The present study examines occupational and environmental exposures in relation to EBV VCA-IgA antibodies in a population-based sample. Methods: EBV VCA-IgG and IgA antibodies were determined by ELISA in 272 controls (90% women, 26% African-American) selected to reflect the sex- and age-distribution of lupus cases in a 60 county area of the southeastern U.S. Occupational exposures estimated from lifetime job histories included pesticides, silica, solvents, sunlight, and shift-work. Analyses of VCA-IgA seroprevalence were limited to the 252 controls (93%) with VCA-IgG antibodies. Adjusted Odds Ratios (Adj. ORs) and 95% Confidence Intervals (CI) were estimated by logistic regression models including age, sex, race, and education. Results: Current smoking was significantly associated with VCA-IgA antibodies (Adj. OR = 4.2; 95% CI 2.1, 8.5). A moderate, but imprecise association was seen for occupational pesticide exposure (mixing or applying; Adj. OR = 2.7; 95% CI 0.7, 10.0), while UV exposure ($\geq$24 months of $\geq$10 hrs per week working outside; Adj. OR = 1.5; 95% CI 0.7, 3.1) was modestly associated with VCA-IgA. Conclusions: These findings suggest that immune modulating environmental and occupational exposures may be related to control of latent EBV infection, and should be considered in studies of EBV-related disease etiology.

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ACCURACY OF INJURY CODING IN A CANADIAN WORKERS' COMPENSATION SYSTEM. *H Alamgir, P Demers, M Koehoorn, A Ostry, and E Tompa (University of British Columbia, Vancouver, CANADA)

Objectives: Workers' compensation data are widely used by researchers to study incidence, epidemiology, outcomes and costs of work-related injury and to investigate the effectiveness of prevention programs. This study assessed the validity of injury related diagnostic codes used in the British Columbia Workers' Compensation Board administrative dataset using hospital discharge dataset as a comparative standard. Methods: Hospital discharge records and compensation records were extracted for a cohort of 5,876 sawmill workers in British Columbia. Work-related injuries were identified using the hospital dataset and codes for external cause of injury indicating a work setting or source of payment indicating the workers' compensation system. Hospital records were matched to compensation records by study subject where the claim injury date was within one week of either the hospital admission or separation dates. Results: A total of 333 injuries were linked. Of these, 107 injuries matched on 4 digit (32%), 162 injuries matched on 3 digit (49%) and 228 injuries matched on 2 digit (69%) ICD-9 codes. When comparing the nature of injury information between the two records, 232 (70%) injury events matched. The levels of agreement (measured by Kappa values) were good for all injuries (0.63); high for nature of injury such as burns (0.97) and fracture of lower limbs (0.81) and low for superficial injury/contusion/crushing (0.28) and internal injury of thorax/abdomen/pelvis (0.17). Conclusions: This study supports the use of compensation datasets for occupational epidemiology and surveillance investigations. This support is strong for more serious injuries such a burns and fractures and weak for superficial injuries.

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COMPARING ALGORITHMS FOR CLASSIFYING NOISE-INDUCED HEARING LOSS (NIHL) FROM AUDIOGRAMS. *X Shi, K J Cruickshanks, D M Nondahl, D S Dalton, T L Wiley, T S Tweed (University of Wisconsin, Madison, WI 53726)

Objective: It is difficult to classify NIHL from an audiogram. The purpose of this paper was to compare three published methods, using data from a population-based cohort study. Methods: Three algorithms: 1) Dobie & Rabinowitz (Spectrum 19 (Suppl 1): 17, 2002), 2) Coles (Clin Otolaryngol 25: 264–273, 2000) and 3) McBride & Williams (Scand Audiol 30: 106–111, 2001) were used to classify audiograms as NIHL. Audiometric evaluations were collected as part of the Epidemiology of Hearing Loss Study 10-year follow-up examinations, in Beaver Dam, WI (2003–2005, n = 2395). Detailed noise exposure histories were collected by interview at the baseline examination (1993–95) and updated at subsequent visits. History of occupational noise exposure, participation in any of five noisy hobbies, and firearm usage were used to evaluate consistency of the NIHL classifications. Results: The prevalence of NIHL varied by definition (47.2%, 32.0% and 25.9%, for methods1, 2 and 3, respectively). In this cohort, noise exposure was common (57.8% occupational, 46.4% hobbies, 8.0% firearms, 70.1% any of these three sources). None of the classifications showed strong agreement with history of noise exposure. Almost one third of "cases" of NIHL did not have a history of occupational noise exposure (32.5%, 31.4% and 33.0% for methods1, 2 and 3, respectively) and 20% did not have a history of exposure to any of the three sources of noise (20.9%, 19.4% and 20.4%). The agreement was weaker for women than men. Conclusion: In the general population, algorithms for classifying NIHL from audiograms may result in significant misclassification.

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