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A CASE-CONTROL STUDY OF WORKPLACE EXACERBATION OF ASTHMA SYMPTOMS. *Z Berger, M Kim, J Reibman, R Shore, G Friedman-Jimenez. (NYU School of Medicine, New York, NY 10016)

Working patients with a physician diagnosis of asthma seen at any time from 2001 to the present at Bellevue Hospital participated in a case-control study of workplace exacerbation of asthma symptoms (WEAS). We hypothesized a priori that occupations and industries with high likelihood of exposure to asthma-aggravating agents would be associated with a greater probability of self-reported WEAS, as defined by Friedman-Jimenez et al. Of the first 191 subjects, 29% were male and 71% female. Age ranged from 18–55, mean 41. Racial/ethnic composition was: 51 white (39%), 54 black (41%), 14 other (11%), 13 refused (10%), 59 missing; 85 were not Hispanic (45%), 103 (54%) were Hispanic, one refused and two had missing data. 35% of 191 subjects were Puerto Rican, 3% Mexican, 3% Dominican, 1% Cuban, and 13% other. 43% reported WEAS in their most recent job, and 71% in any job. Odds ratios (OR) of association between WEAS and occupation or industry were calculated by logistic regression, using the generalized estimating equation (GEE). Job (n = 741 jobs for 191 subjects) was used as the unit of analysis, and GEE was used to improve estimates of precision. Unadjusted ORs below are given as (N of jobs, OR, 95% CI). The reference is all occupations or industries identified a priori with low likelihood of exposure to asthma-aggravating agents. Positive associations: Building cleaning and janitorial services (82, 3.4, 1.6, 7.6) Manufacture of wood, paper, printing, chemical, plastics, and non-metallic mineral products, NAICS 32 (14, 8.8, 3.3, 24) Manufacture of metal, industrial machinery, electronics, transportation equipment, motor vehicles, and office equipment, NAICS 33 (12, 3.4, 1.1, 11)

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MORTALITY TRENDS IN MALIGNANT NEOPLASM OF THE PLEURA–UNITED STATES, 1979–1998. *K M Bang, G A Pinheiro, and J M Wood (National Institute for Occupational Safety and Health, CDC, Morgantown, WV 26505)

This presentation describes trends in mortality from pleural neoplasms (International Classification of Diseases, 9th Revision, Code 163) and identifies specific occupations and industries with elevated mortality associated with pleural neoplasms. The most common type of primary pleural cancer is malignant mesothelioma, which is frequently caused by exposure to asbestos fibers. We analyzed National Center for Health Statistics multiple-cause-of-death data for the 20-year period 1979–1998, limited to U.S. residents aged 15 years and older. Annual mortality rates were calculated and age-adjusted to the U.S.Year 2000 Standard Population. A linear regression model was used for analyzing mortality rates trends over time. Proportionate mortality ratios (PMRs) by occupation and industry classifications, adjusted for age, sex, and race, were based on data restricted to certain states for which decedents' usual industry and occupational information was available since 1985. A total of 10,016 deaths during 1979–1998 were attributed to the pleural neoplasms. Overall age-adjusted mortality rates declined significantly (p<0.0001) from 2.8 per million in 1979 to 2.3 per million in 1998. The mortality rates for males and females both declined significantly: for females, from 1.4 to 0.9 (p<0.001) and for males, from 4.7 to 4.3 (p<0.05). PMRs for industries with elevated pleural neoplasm mortality included ship building, petroleum refining, and construction. Occupations with significantly elevated pleural neoplasm included insulation workers, plasters, and boilermakers. Much of this mortality likely resulted from historical exposure to asbestos fibers.

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MEDIAN NERVE PARAESTHESIAS IN A POPULATION. *M S Thiese, K T Hegmann, J J Wertsch, A Garg, R Kendall, K White, G Deckow-Schaefer, G Groth, J Kapellush. (University of Utah, Salt Lake City, UT, 84108)

Median nerve abnormalities are common but not well studied on a population basis. Baseline data from an ongoing cohort (n = 683) in 12 diverse plants in Wisconsin and Utah are reported. The workers are 66.1% female, 27.7% current and 23.9% former smokers, with a mean age of 40.7±11.3 years and mean Body Mass Index (BMI) of 28.5±6.4 kg/m2. All workers underwent a questionnaire, structured interview, physical examinations and a nerve conduction study (NCS) of both extremities. The one month period prevalence of tingling/numbness in the right and left hand was 38.9% and 32.8% respectively. Results from the NCS on the right /left hands were 18.3%/3.5% mildly and 6.1%/1.2% moderately/severely abnormal. Multiple logistic regression (SAS) was performed. Stratified analyses for both the right and left hands showed increasing age [Odds Ratio (OR) = 1.03 95% [Confidence Interval (CI) 1.01,1.05], 1.04 (95% CI 1.02, 1.07) respectively], BMI [OR = 1.09 (95% CI 1.06, 1.12)1,.10 (95% CI 1.06, 1.15)], and exacerbation of numbness/tingling at night [OR = 2.96 (95% CI 1.89, 4.71), 2.79 (95% CI 1.50, 5.19)] to be statistically significantly associated with an abnormal NCS. Diabetes [OR = 2.70 (95% CI 1.20, 6.10], and exacerbation of numbness and/or tingling when holding an object [OR= 2.72 (95% CI 1.42, 5.46) were statistically significantly associated with abnormal left hand NCS. Diabetes and exacerbation of numbness and/or tingling when holding an object trended towards statistically significance in the right hand. These results show a relatively high prevalence of paraesthesias in a large population.

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PREVALENCE OF NEEDLESTICK INJURIES AMONG HOME HEALTH CARE WORKERS. *M S Thiese, A M Wendelboe, K T Hegmann, A Garg, J Kapellusch (University of Utah, Salt Lake City, UT 84108)

Needlestick injuries are a significant problem for healthcare providers. While the majority of research on needlestick injuries has been completed among healthcare workers in the hospital setting, little has been reported in non-hospital healthcare workers. A cross-sectional study was conducted, which analyzed needlestick and sharps injuries among home health care (HHC) workers (n = 883) from 24 HHC agencies in Utah, Wisconsin, Iowa, and Canada. Workers were largely female (92.3%) with a mean age of 43.5±11.3 years and mean experience in HHC of 8.3±6.7 years. 431 (48.8%) were aides and 306 (34.7%) were nurses. The participation rate averaged >95%. The one year prevalence rate of needlestick injuries for was 1.2% among HHC aides and 7.6% among HHC nurses. Logistic regression analyses were performed. Variables included age, smoking status, seatbelt use, length of career in HHC, personal and work related psycho-social factors and smoking status. Stratified analyses showed that for aides increasing age was protective [Odds Ratio (OR) = 0.16, (95% Confidence Interval 0.03, 0.98)] yet total time working for a HHC agency was trending toward significance (OR = 5.59, p = 0.051) suggesting that aides who have worked in the HHC field for most of their career may be at increased risk for needlestick injuries. Analysis in nurses did not show similar trends. In aides these findings contradicted other published research indicating that newer employees had an increased risk for needlestick injuries yet paralleled reports that young age was a risk factor.

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