AN OUTCOMES ANALYSIS OF A SPORTS MEDICINE APPROACH TO PREVENT AND MANAGE WORK-RELATED MUSCULOSKELETAL DISORDERS

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OBJECTIVE: The purpose of this investigation was to examine the effects of a proactive "sports medicine" program in an industrial setting on the incidence, severity, and financial outcomes of chronic musculoskeletal diseases (MSD).

DESIGN and SETTING: Five terminals of a large freight transporting company contracted with a separate firm to provide a full-time certified athletic trainer (ATC) and a program designed to prevent, identify, and manage work-related injuries. Injury rates and cost during the years without the program were compared to the program years at each site. Sites with the program were then compared to a site without the program during the same timeframe. Each site had similar job descriptions, number of employee hours, and tons of materials moved. SUBJECTS: The study population comprised of all full-time workers at each site from January 1993 through December 31, 2002. This group included dock workers, shipping/packing clerks, truck drivers, garage mechanics, and administrative office workers. MEASUREMENTS: Injury information was retrospectively obtained from company OSHA logs, incident reports, and the insurance carrier for each site from 1993 through 2002. Data were analyzed according to occupation, mechanism of injury, diagnosis, affected body part, days of lost work, days on restricted duty, and medical expense. Analyses of variance (ANOVA) were performed to determine if significant differences existed in the outcome measures pre/post program at each site (p<.05) or between the program sites and the site without the program (p<.05). A summary risk reduction (RRR) and return on investment analysis was completed. RESULTS: First time cases of MSDs and associated claims were significantly decreased after the start of the program at four sites, with the remaining site achieving a nonsignificant trend downward. These changes were not seen in the site without the program. One site had a significant decrease in the mean number of lost workdays and one site significantly decreased mean days on light duty per MSD case. When all data were combined, analysis revealed that the risk of a new MSD was decreased 52.8% (95% CI=.456-.613). Overall, the employer appreciated a cost savings of over $2.50 for every dollar invested. CONCLUSIONS: This was a retrospective analysis and a cause and effect relationship cannot be established. The program, however, was associated with a substantial reduction in the incidence of chronic MSD workplace injuries resulting in significant direct and indirect cost savings. It is unlikely that any confounding factor was responsible for these effects.

Key Words: Work-related injury, Prevention, Outcomes Analysis, Musculoskeletal Disorders