Podium Session 143

Ergonomic Processes, Tools and Interventions

Thursday, May 23, 2013, 8:30 AM – 11:00 AM

CS-143-01
Don’t Hire Your Next Injury Benefits of Pre-Employment Screening
T. Silva, Atlas Ergonomics, Grand Haven, MI.

Situation/Problem: Increasing numbers of organizations are utilizing Pre-work Screen processes to verify that their respective hires have the physical capabilities to perform the work at hand. This session will examine the issues an organization should be aware of when considering, designing, testing and implementing a Pre-work Screen process. In addition, we will provide an in-depth discussion of the legal issues related to federal employment guidelines, disparate impact, and interactions with employers.

Resolution: Case studies will demonstrate the importance of understanding the legal risks, illustrating real world positive outcomes and consequences. The session will go through each step of a Pre-Work Screen process: Employee input / interview process, Essential function measurement, Employee validation process, PWS Testing Construct: Documentation Trail, Consent Form, Expectations and Re-test Policy, ADAA Accommodation Requests, Appeal Process, EEOC Compliance Testing, Single Site vs. Multiple Site considerations, the implication of employee transfer.

Results: Return on investment of Pre-Work Screen process for one of the nation’s largest transportation and warehousing organizations.

Lessons Learned: This session will provide participants with a working knowledge of the screening process and how they might consider the implementation of such programming within their organizations. The lessons learned include understanding how the law differs on “pre offer and post offer” pre-work screens, and the legal limitations of pre-work screens, as well as understanding legal risk factors in developing and implementing pre-work screens. Participants will learn how to identify resources to help reduce legal risks associated with selection, reliability, validity and disparate impact. Understand strategies for helping employers mitigate risk associated with use of pre-work screens. They will also be shown how to recognize process and policy mistakes that can cause exposure to legal risk.

CS-143-02
Eliminating Duplication of Effort in your Ergonomics and Injury Management Processes
T. Silva, Atlas Ergonomics, Grand Haven, MI.

Situation/Problem: Organizations commonly build “Functional Silos” in and between the individual segments of the business, including Human Resources, Safety, Ergonomics, and Occupational Health/Workers Comp. In and of themselves, these functions tend to work reasonably well however when information flow is required between Silos it is often impeded or at a minimum inefficient. Such is the case as it relates to the cross pollination of information needed to develop Functional Job Descriptions, Ergonomic Risk Assessments, Safe Work Procedures and Return to Work strategies.

Resolution: This presentation will look at a case study with one of the nation’s largest manufacturing organizations and the solution set it has co-developed to minimize duplication of effort and optimize the flow of information in its ergonomics and injury management processes.

Results: The full integration of data used by safety, ergonomics, HR, workers’ compensation, and case management professionals. This has allowed more accurate monitoring of program performance, a focus on areas of risk to prevent injuries, up to date information to make the best decisions, and has allowed external access to subject matter experts to assist with solution development and the safe return of injured employees.

Lessons Learned: This session will review in detail the ergonomics and injury management processes using a value stream approach and show how duplication of
effort has been minimized and the sharing and access to data has been optimized.

**CS-143-03**

**Office Ergonomics Solution for a Geographically Dispersed Workforce**

T. Silva, Atlas Ergonomics, Grand Haven, MI.

**Situation/Problem:** The deployment of a sustainable Office Ergonomic Strategy within a geographically dispersed workforce can be a challenging task for any large, multi-city organization. Matching the appropriate level of interventional resource against the apparent risk at hand is a difficult balance. Too much direct, hands-on service, derived from an internal team or from an external resource can quickly become an expensive line item to any safety budget. In contrast, passive software packages can be exceptional for the inquisitive learner but can fall far short for passive or unknowledgeable work associates. The key is striking a balance between the relative risk of the situation and the required level of knowledge/service required to resolve this issue.

**Resolution:** This presentation will review the ergonomic implementation strategy of one of the nation's largest financial institutions. Their program encompasses coverage of greater than 180,000 employees deployed over 5,500 individual locations across the country. It will demonstrate a tiered approach to intervention based upon the risk of the work associate.

**Results:** The presentation will provide insight to the inherent challenges that an organization this size comes up against with implementation and deployment along with the successes they have garnered.

**Lessons Learned:** The lessons learned for this presentation include: Understand the ergonomic challenges of a large geographically dispersed workforce. Understand the balance / cost equation of a face to face intervention versus passive software instruction. Understand the concept of a tiered / escalated deployment strategy against the relative risk including: Online Risk Assessment, Online Educational Materials, Centralized Phone Intervention, Face to Face Intervention, Understand the importance of consistent feedback loop to track improvement or to identify the need for escalation of service. Understand the “Financial Value” of matching the appropriate level of resource to the risk at hand.

**CS-143-04**

**A Case Study of Utility Workers’ Perceptive of the Ergonomic Assessment Tools in the AIHA® Ergonomic Tool Kit**

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**Situation/Problem:** The AIHA Ergonomics Tool Kit provides a suite of ergonomic assessment tools and information on ergonomic analysis for the general public. To explore the usability of the assessment tools in the tool kit from a workers’ perspective, utility workers were asked to watch videos of job that they were familiar with and analyze the ergonomic hazards of the jobs using assessment tools that were pre-selected from the AIHA Ergonomic Tool Kit. After using the assessment tools, the workers were asked to report on advantages and disadvantages of each tool based on their experience. The workers were also asked to report on ease of use and understandability of the tool.

**Resolution:** The jobs analyzed represent a wide range of ergonomic hazards including poor back and shoulder postures to repetitive upper and lower body movements. The most challenging aspects of the jobs analyzed were the long or varied cycle times and the inconsistency of the work method between job sites and workers. The company’s ergonomist selected the ergonomic assessment tools believed to be most appropriate and the utility workers performed several ergonomic analyses collectively and individually. The workers received basic training in ergonomics and recognizing ergonomic hazards before performing the assessments.

**Results:** The results represent the utilities worker’s perspective of the tools in the AIHA Ergonomic Tool Kit based on his/her experience using the tool to assess ergonomic hazards. Usability was considered from the users’ perspective including understandability of the assessment forms, limitations of the tools, and advantages and disadvantages of each tool used.

**Lessons Learned:** Subjects in the case study preference qualitative tools. Training on identify ergonomic hazards and breaking jobs into task is necessary before conducting an ergonomic assessment.
What can be Done to Prevent the Chronic Health Effects of Shiftwork? A Systematic Review of the Evidence

M. Pahwa, P. Demers, Occupational Cancer Research Centre, Toronto, ON, Canada; S. Neil, School of Population and Public Health, University of British Columbia, Vancouver, BC, Canada; C. Gotay, Canadian Cancer Society-University of British Columbia Cancer Prevention Centre, Vancouver, BC, Canada.

Objective: Approximately 13% of Canadian workers work a regular night or rotating shift schedule. Links between shiftwork and injury and disease have been well-studied. However, the possible ways to reduce these harmful health effects is much less known. We aimed to summarize and evaluate the quality of interventions that have been attempted to improve shift workers’ health.

Methods: Keywords related to shiftwork, health, and interventions were developed and used to search MEDLINE, EMBASE, and CINAHL for studies published on or before August 15, 2012. Randomized and non-randomized interventions were included if they focused on improving chronic disease outcomes. Simulated studies and interventions for enhancing organizational outcomes were excluded. Data on the magnitude and direction of health effects were extracted from each study and quality was assessed using a 28-point checklist.

Results: The systematic literature search generated 5052 results. Of these, 46 studies representing 41 interventions were included. Interventions were grouped into five different types: 1) controlled light exposure; 2) shift scheduling; 3) behavioural; 4) scheduled nap; and, 5) pharmacological agents. Four studies assessed a combination of bright light and light-blocking goggles and found positive effects for sleep, melatonin, cortisol, and body temperature. Changing from backward, slowly-rotating shifts to forward, rapidly-rotating schedules was beneficial for sleep. Physical activity, weight loss, and health education programs generally enhanced health. Stimulants, melatonin, and other hypnotics showed limited and inconsistent effects. Quality assessment scores ranged from 8–27 points, with lack of blinding and power as prominent issues.

Conclusions: Many approaches can be used to prevent chronic health outcomes related to shiftwork. The heterogeneity of strategies and their effects in this review reflects the need for further high quality research on larger numbers of shift workers in real workplace settings. Nevertheless, this research may support the development of workplace practices and regulations that prevent occupational disease.