City of Raymond Case Study

Overview

Repetitive stress, awkward postures, and other risk factors continue to injure office workers who work in aging, non-adjustable, or improperly adjusted work stations. The purpose of this case study is to demonstrate that the symptoms of musculoskeletal disorders (MSD) present in such environments can be reduced or eliminated through the use of properly adjusted work stations. We hope this study will serve as a model for other organizations in their efforts to improve their work environments and reduce the potential for MSD amongst their workers. Funding and support for this study was provided through a Safety and Health Investment Projects (SHIP) grant.

Problem Statement

The Raymond City Hall Staff has been working at workstations which are thirty years old and not equipped for current technology. Since the late 70's, global business has gone to electronic communications and storage, calling on people to rely on a keyboard, mouse and monitor to be the source of their entry, analysis, and retrieval of data as well as many other aspects of their business. Virtually all Raymond City Hall staff have musculoskeletal injury histories and have desks and chairs which do not easily allow them to "fit" the work they do.

Project Goals

1. To provide new equipment with maximum adjustability, which will reduce the musculoskeletal strain on current and future employees in jobs at City Hall.
2. To provide education of employees which will help them make the adjustments to their new furniture necessary to reduce their risk of WMSDs.
3. To produce an evaluative case study for use in guiding changes, training, and adjustments for other office environments.

Process

The office and the five City Hall staff's individual workstations were assessed using a checklist. Additionally, a Symptom Survey was applied (June 2008), and the results reviewed. There was a reassessment (June 2009) at one year post installation and adjustment of the new equipment.

An L&I ergonomist worked with City Hall staff and an office furniture retailer in Olympia to determine the equipment for the space which would:

1. Fit the space and allow good traffic flow through the office.
2. Be highly adjustable (desk height, suitable depth of work surface) to allow staff to work in neutral postures and to accommodate the tools and tasks used by staff in their daily duties.
3. Provide usable and easily accessible storage.

Drawings were made of the final workstations and checked with staff to see if they met staff requirements. Upon approval, the workstations and chairs were ordered, a half wall, which had been determined an impediment to communications as well as reducing one office to a very small space (pictured) was removed. Installation was completed in January of 2009.

Half Wall

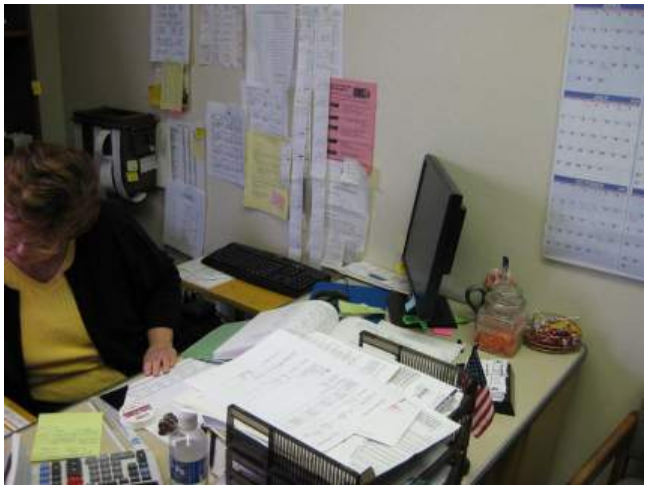
On February 10, 2009 workstation assessment was done for purposes of adjusting the workstations to fit the users. In March a short training was given to staff on guidelines for working at computer workstations, the importance of proper working postures and how to adjust their chairs, workstations, and tools to facilitate efficiency and reduce injury risk.

The following pictures are examples of improvements made to bring staff into neutral postures when working at their keyboards.

Before

After

Before



After

Symptom Survey Results

Results of the Symptom Survey are detailed in Appendix 1. They show that of the 41 comparable* responses from all staff:

- Frequency of symptoms were reduced in 28 (68%), and frequency of symptoms increased in 4 (9%), and was unchanged in 9 (21%).
- Discomfort level declined in 33 (80%) and increased in 3 (7%) and was unchanged in 5 (12%).

The highest discomfort levels (DL) were found in the shoulders and hip (8), low back, thigh, knee, lower leg (6) with high frequency (3), and post survey revealed a reduction of discomfort level to 2 with a frequency of 1 in all cases.

Summary and Conclusions

Many organizations have not kept up with the advance of technology by adjusting their offices to accommodate the computer and its requirements. People who use them as a result have often paid the price in the development of musculoskeletal injuries. The reasons for this are many. Many people may not be aware of the toll that bad postures, force, and repetitive motions can have on the body and costs associated with these types of injuries. Many also think that upgrading equipment to better accommodate the technology and the worker can be prohibitive. Through this SHIP project, the City of Raymond staff has shown that introducing adjustable work stations and training workers how to properly adjust their work environment reduces the risk factors that lead to WMSDs. The case study and related training materials demonstrate how businesses can effectively and economically improve the work environment for their office staff.

*Respondents indicated frequency and discomfort level for both pre and post surveys in the body part.