Repetitive Strain Injuries in the Workplace

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Repetitive Strain Injuries (RSI) is a general term used to describe a number of painful conditions that affect soft tissue such as tendons, tendon sheaths, muscles, nerves and joints. RSI can result in pain that commonly affects the neck, shoulders, forearms, hands, wrists, elbows and lower limbs.

RSI is a common workplace health concern that may cause pain and suffering for workers. These injuries place economic burdens on individuals, employers and society in lost productivity, workers compensation costs and healthcare costs. According to the U.S. Department of Labor and Occupational Safety and Health Administration (OSHA), RSI’s are the nation’s most common and costly occupational health problem, affecting hundreds of thousands of American workers, and costing more than $20 billion a year in workers compensation.

Causes: Activities that involve gripping, holding, bending, twisting, clenching and reaching in the workplace can result in an RSI. It is important to note that RSI can also occur during activities of daily living and recreational activities. What makes activity hazardous is continual repetition of the movements (e.g., using a computer mouse, cutting meat, or working on a production line). Other work factors that may contribute to injuries are awkward postures, fixed body positions, excessive force concentrated on small body parts such as the wrist, hand and fingers and a fast pace of work without sufficient breaks or recovery time.

Some people may develop RSI and others who do the same work do not. Psychosocial factors (e.g., stress at work or outside of work) can also contribute to RSI, increasing muscle tension and affecting how the body feels pain. Each of these factors alone may not cause injury, however a combination of factors may cause RSI.

Prevention: This may be best accomplished by eliminating the root cause or source which may be repetition, prolonged forceful gripping, overextending extremities and awkward body positions a person may be in while performing work activities. In the workplace, prevention should focus on minimizing repetitive work through job design, worker rotation between various tasks where they do something completely different, using different muscles groups and paying attention to ergonomics.

When it is not possible or practical to minimize or eliminate the repetitive aspect of a job, a well-designed workstation adjusted to fit the worker's body size and shape can greatly help. Workstations should be fully adjustable to enable a worker to work in comfortable positions and maintain proper posture and reach.

Workers should be provided with the right tools and equipment to reduce the force needed to complete tasks and prevent muscle strain. Providing equipment to help with tasks that require holding elements (e.g. vise's and clamps for woodworking and machining) can save workers from exerting a great deal of muscular effort in awkward positions.

RSI’s develop slowly. Workers should be advised to understand what causes these injuries, how to prevent them and how (Continued Page 2)
to recognize the early signs and symptoms of RSI. Workers should be instructed how to adjust workstations to fit their tasks and individual workers’ needs. Besides providing training, employers may encourage scheduled rest or group stretching breaks to allow workers’ muscles to relax, and to proactively control muscle tension throughout the work shift.

Many RSI cases can resolve once the source is eliminated. However if nothing is done to address the injury or remove its cause, the damage could become costly due to lost productivity and the need for medical treatment. Workers are advised to communicate early with their employer to address symptoms of RSI so elimination of the problem can take place. This usually results in elimination of the problem and good outcomes.

**What Can Be Done:** The solutions are often simple. In some cases redesigning the workplace or workstation is the best way to prevent RSI, often many simple and inexpensive remedies will eliminate a significant portion of the problem. For instance, providing knives with curved handles to poultry workers, so they won’t have to unnaturally bend their wrists; taking more frequent short breaks to rest muscles; providing lifting equipment so nursing home workers won’t strain their backs lifting patients by themselves; or varying tasks to break up the routine of activities.

Additional solutions may be to take rest breaks while working at computers. Adjust chairs for proper back, neck and leg support. While using a keyboard, keep hands and wrists relaxed and straight. Strike keys softly, without force and keep mouse in close range; do not reach.

Position computer monitors with the top of the screen at eye level. Avoid posture that places neck and shoulders in forward position. Neck and shoulders should be straight, with ears above the shoulders.

Since there are many different types of jobs and vocations to consider, employers and workers should work together to understand and identify the risk factors early to avoid RSI before it occurs.

Living a healthy lifestyle can help prevent RSI, musculoskeletal injuries and disease. To improve musculoskeletal health and overall health, a person should:

- Be physically active every day or almost every day. Include activities that increase endurance (e.g., brisk walking), strength (e.g., climbing stairs), flexibility (e.g., stretching), and coordination (e.g., dancing), these are all good components of musculoskeletal fitness.
- Eat a healthy diet including foods that contain calcium and vitamin D, as these nutrients are important to bone health.
- Reach and keep a healthy body weight. Being obese is a risk factor for musculoskeletal injuries, diseases and chronic pain that is sometimes associated with these conditions.
- Quit smoking to improve blood flow and lung function.
- Work towards life/work balance to manage life stress and enjoy the opportunities that may be presented to us.

**Palomar Corporate Health can help you prevent and alleviate RSI’s.** We have experienced occupational medicine professionals that can conduct a work station analysis. Contact our Business Development Rep, Duane Johnson, at 760.637.7665 for details.