**Health Care Factsheet -** **Ergonomics**

**What Is The Hazard ?**

Advances in technology have led to greater demands on workers for increased production. These factors—especially if coupled with poor machine design, tool, and workplace design or the use of improper tools—create physical stress on workers’ bodies, which can lead to injury.

Ergonomists, industrial engineers, occupational safety and health professionals, and other trained individuals believe that reducing physical stress in the workplace could eliminate up to half of the serious injuries each year.

**How Can It Harm Me ?**

If work tasks and equipment do not include ergonomic principles in their design, workers may have exposure to undue physical stress, strain, and overexertion, including vibration, awkward postures, forceful exertions, repetitive motion, and heavy lifting.

Physical strain, repetitive motions and increase workloads - especially if coupled with poor machine design, tool, and workplace design or the use of improper tools - create physical stress on workers’ bodies, which can lead to injury including Musculoskeletal disorders (MSDs).

Musculoskeletal disorders (MSDs) or repetitive strain injuries are musculoskeletal disorders that result from repeated exposure to physical risk factors. Risk factors affect tendons, ligaments, nerves, muscles and bones. Risk factors in the workplace are caused by sustained awkward postures, repetitive motions, using excessive force or compression.

MSDs, or musculoskeletal disorders, are injuries and disorders of the soft tissues (muscles, tendons, ligaments, joints, and cartilage) and nervous system. They can affect nearly all tissues, including the nerves and tendon sheaths, and most frequently involve the arms and back. Occupational safety and health professionals have called these disorders a variety of names, including cumulative trauma disorders, repeated trauma, repetitive stress injuries, and occupational overexertion syndrome. These painful and often disabling injuries generally develop gradually over weeks, months, and years. MSDs usually result from exposure to multiple risk factors that can cause or exacerbate the disorders, not from a single event or trauma such as a fall, collision, or entanglement. MSDs can cause a number of conditions, including pain, numbness, tingling, stiff joints, difficulty moving, muscle loss, and sometimes paralysis. Frequently, workers must lose time from work to recover; some never regain full health. These disorders include carpal tunnel syndrome, tendinitis, sciatica, herniated discs, and low back pain. MSDs do not include injuries resulting from slips, trips, falls, or similar accidents. Work-related MSDs occur when the physical capabilities of the worker do not match the physical requirements of the job. Prolonged exposure to ergonomic risk factors can cause damage a worker’s body and lead to MSDs.

**What Engineering & Work Controls Can Be Used ?**

Based on information from the job analysis, an employer can establish procedures to correct or control risk factors:

* Appropriate engineering controls: such as work station, tool, and equipment design or redesign
* Work practices, such as proper lifting techniques and keeping work areas clean
* Administrative controls: such as worker rotation, more task variety, and increased rest breaks, and if necessary
* Personal protective equipment: such as knee pads, vibration gloves, and similar devices

**What Safe Work Practices Can I Use ?**

* When working at a desk, make sure your workstation is properly adjusted to suit your needs.
* When working at a computer, occasionally look away from the screen and focus on a distant object to rest the eyes.
* Perform simple stretching exercises to reduce muscular discomfort: Conduct stretching exercises slowly and smoothly. Hold each stretch for approximately 15 to 30 seconds. Relax the muscles between stretches. A specific stretch produces better results when repeated at least two times.
* Vary your activities to change your posture and the muscles you are using 
* Get out and go for a walk for some fresh air
* Adjust your workstation and to meet you
* Maintain a neutral, relaxed posture, and work in a comfortable position,
* Keep tools and equipment well maintained to reduce effort
* Keep frequently used tools, supplies, and equipment within your arm’s natural reach
* Take a balanced stance, put your feet shoulder width apart, when lifting
* Get close to the object and squat down to pick up the load and test the weight of the load before trying to lift it 
* Do not twist your body while you are lifting 
* Lift loads gradually and smoothly, keeping your back and neck straight.

**This factsheet was compiled of excerpts from the following publicly available sources:**

United States Department Of Labor - Occupational Safety & Health Administration

World Health Organization

United States Center For Disease Control & Prevention

United States National Institute for Occupational Health and Safety (NIOSH).

Ontario Canada - Workplace Safety & Prevention Services