

# Wellness @Work

Summer 2010

## The Ergonomics of Injury Prevention

According to OSHA, ergonomics is the science of fitting workplace conditions and job demands to the capabilities of the working population. Effective and successful "fits" assure high productivity, avoidance of illness and injury risks, and increased satisfaction among the workforce.

Although the scope of ergonomics is much broader, the term here refers to assessing those work-related factors that may pose a risk of musculoskeletal disorders and recommendations to alleviate them.

Common examples of ergonomic risk factors are found in jobs requiring repetitive, forceful, or prolonged exertions of the hands; frequent or heavy lifting, pushing, pulling, or carrying of heavy objects; and prolonged awkward postures. Vibration and cold may add risk to these work conditions.

A major component of ergonomics is the development of industry-specific and task-specific guidelines to reduce and prevent workplace musculoskeletal disorders

(MSDs). These voluntary guidelines are tools to assist employers in recognizing and controlling ergonomics-related risk factors. For a list of current OSHA ergonomic guidelines, visit—  
[www.osha.gov/SLTC/ergonomics/guidelines.html](http://www.osha.gov/SLTC/ergonomics/guidelines.html).

The determination of whether any particular MSD is work-related may require the use of different approaches tailored to specific workplace conditions and exposures such as:

- ✓ Taking a careful history of the patient and the illness;
- ✓ Conducting a thorough medical examination; and
- ✓ Characterizing factors on and off the job that may contribute.

Even if there are no guidelines specific to your industry, as an employer you still have an obligation under the General Duty Clause Section 5(a)(1) to keep your workplace free from recognized serious hazards, including ergonomic hazards.

For more information on how to establish an effective ergonomics program, visit [OSHA.gov](http://OSHA.gov) and [NIOSH.gov](http://NIOSH.gov).

### The Nature of Cumulative Trauma

#### Muscle Changes

Working with stressful postures and techniques contributes to muscle fatigue, spasms, diminished blood supply, and a ripe environment for strains and sprains. Over the years, more scarring and damage leads to increases in pain.

#### Joint Changes

Stressful body mechanics can increase the physical loads placed on our muscles and joints as much as 5 to 10 times. Cartilage weakens, cracks, and thins due to the excessive force and opens the door to strains and sprains. Episodes of inflammation and pain increase and the damage to our bones contributes to degenerative arthritis.

#### Disc Changes

As the main support structure for our body, our spines provide the ability to bend and twist. The discs act as shock absorbers and cushions to protect vertebrae from excessive loads. Over time, the elastic fibers that strengthen the disc bulge, overstretch, slowly tear, and put pressure on the spinal nerves.

### MED-1 Services

#### Screenings

- Biometric
- Cholesterol
- Diabetes
- Colo-rectal cancer
- PSA

#### Specialized Programs

- Health risk appraisals
- Immunizations
- Smoking cessation
- Customized worksite programs
- Drug free worksite
- Special exams

#### Education

- CPR/First Aid training
- AED programs
- Wellness coaching
- Health fairs
- Wellness education

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## Help Yourself to Feel Better Every Day.

Our bodies are like mechanical systems, designed to handle hard work. However, when we abuse our muscles, ligaments, joints, and nerves with poor working habits, the damage builds up and significant injury to tissues translates to cumulative trauma.

Symptoms of cumulative trauma include:

- ✓ Pain and discomfort
- ✓ Stiffness and soreness
- ✓ Numbness or tingling
- ✓ Muscle weakness and fatigue



Simple techniques can help you prevent serious conditions from developing.

R.I.C.E. – rest, ice, compression, and elevation - is the first aid for strains and sprains.

Moist or Dry Heat applications reduce muscle spasm and mild inflammation associated with chronic conditions.

Massage reduces muscle spasm, improves circulation, and promotes healing.

Stretching and Strengthening exercises are absolutely necessary to promote regeneration of damaged tissue.

See your doctor for traumatic joint injuries, severe or persistent pain, or infection.

Great body mechanics means using your body the way it was designed to work. The following principles make your work easier, less stressful, and protect you from injury:

Face Forward – always work with your feet, hips, and shoulders in the same direction.

Keep the Work Close – move objects, tools, and equipment close to your body before lifting.

Use Wide Stances – when lifting or standing in one place or leaning forward, pushing, or pulling.

Be an Elevator, Not a Crane – use your legs for power, not your back.

Use support – lean your body against stable objects whenever possible.



Wellness at Work is a informational publication provided by MED-1 Occupational Health System to facilitate health and wellness initiatives for employees.

For more information on any topics presented or to access additional copies of current or past issues, contact Tammie Milligan at 616.459.1570 or go to — [www.med1services.com](http://www.med1services.com).



### Office Worker Tips

Millions of workers use computers every work day. These tips help reduce your risk of experiencing painful and disabling injuries or disorders such as Carpal Tunnel Syndrome (CTS), Repetitive Strain Injuries (RSI), and Musculoskeletal Disorders (MSD).

- ❶ Sit with your buttocks in the back of seat for full back support.
- ❷ Adjust the lumbar support in your chair and/or add a cushion if needed.
- ❸ Adjust the height of your chair so your elbows are parallel to your desk top.
- ❹ Use a foot rest if your chair height doesn't allow your feet to rest on the floor.
- ❺ Place your computer monitor directly in front of you, about 2 inches below eye level.
- ❻ Adjust keyboard tray height to approximately 1 inch below your elbow and tilt to a slightly negative angle (back is lower than the front).
- ❼ Your keyboard and mouse must be close enough to reach them with elbows at your side.
- ❽ If your keyboard is on a desktop, adjust your chair so your wrists remain straight.

Increase comfort and productivity by varying your sitting posture based on the task, changing positions frequently, and taking microbreaks throughout the day.

Visit [www.osha.gov/SLTC/etools/computerworkstations/index.html](http://www.osha.gov/SLTC/etools/computerworkstations/index.html) for tips and checklists on workstation ergonomics.