

Ergonomics Primer

Important Concepts to Know and Remember

Prevention is the most important strategy for dealing with work-related musculoskeletal problems.

Preventing work-related musculoskeletal problems rests on an ergonomically sound work environment, good work practices, and employee awareness.

To keep work-related symptoms from recurring, something in your work practices or environment must improve. If not, you won't get better.

Each person has physical limits or a "comfort zone" of activities and work levels s/he can tolerate without developing lingering symptoms.

You must cut back temporarily when symptoms occur.

Your body doesn't know which are work activities and which are home or recreational activities--the two add up, and one is not necessarily worse than the other.

Improper use or overuse of splints can cause symptoms that may be hard to distinguish from your original problem.

To avoid work-related symptoms, stay in shape, get adequate rest at night, and take care of yourself.

Medical Conditions Associated with Musculoskeletal Symptoms

Muscle strain or fatigue

Tendonitis

Epicondylitis or "tennis elbow"

Carpal tunnel syndrome

Other "pinched" nerve entrapment syndrome

Nerve injury/irritation from external compression

Arthritis and other rheumatological disorders

Postures to Avoid

--Prolonged or repetitive flexion or extension of the wrist.

--Prolonged or repetitive bending at the waist.

--Prolonged standing or sitting without shifting your position.

--Suspending an outstretched arm for extended periods of time.

--Holding or turning your head consistently to one side.

--Any unnatural posture that is held repeatedly or for a prolonged time.

Motions to Avoid

--Repeated motion without periods of rest.

--Repeated motion with little or no variation.

--Repeated motions done with great force.

--Resting or compressing a body part on or against a surface.

--Lifting heavy objects far away from the body.

--Frequent reaching or working above shoulder height.

Factors Which May Contribute to Symptoms

--Furniture or a work area arrangement which produces bad postures.

--Physically demanding work you are not accustomed to doing.

--Home or recreational activities which produce stresses on the body similar to those at work.

--Being "out of shape".

--Diminished muscle strength or joint flexibility.

--Underlying arthritis.

Assessing Your Situation

Your Work Environment

Is your work arrangement sound?

Is there equipment which would make your work easier or less stressful?

Have you enlisted the aid of an OHS industrial hygienist?

Your Work Practices

Are you avoiding bad postures?

Are you taking breaks during repetitive activity?

Are you varying your activities to reduce repetitive stress?

Do you plan ahead to avoid periods of heavy repetitive work under tight deadlines?

Other Things to Consider

Do you and your supervisor have an adequate understanding of the ergonomic issues and factors involved your work?

Do you and your supervisor agree there are reasonable limits to what a person can do?

When you have been free of symptoms, have you tried to increase your muscle strength and joint flexibility?

Have you tried to stay fit in general?

Do you get ample rest at night particularly when symptoms occur?

Do you avoid aggravating activities at home when symptoms occur?

Improving Your Situation

There are four basic ingredients:

1. Medical treatment;
2. Work restrictions to decrease or eliminate stress on the body temporarily;
3. Employee education (and, if needed, supervisor education); and
4. Long-term solutions.

Medical Treatment

Anti-inflammatory medicines: include aspirin and ibuprofen. For some people, these can be hard on the stomach, however.

Ice: decreases pain and inflammation; use for acute injuries.

Heat: stimulates circulation and flexibility; use in the post-acute phase.

Splints: put a body part at rest. Wrist splints are often used for carpal tunnel syndrome at night. In some cases, splints can be used during work to avoid bad postures and reduce stress on certain body parts. They should only be used under the direction of a medical provider; splints can produce "deconditioning" problems if overused.

Exercises: used to increase range of motion, strength, and flexibility; should be done only when symptoms permit and to a degree that does not cause problems.

Steroid injections: beneficial in some cases.

Surgery: option of last resort when prescribed by competent specialist. The correct operation done on a properly diagnosed patient will often help, but there is no guarantee for improvement.

Long-term Solutions

Prevention is foremost; there is no substitute for ergonomically sound work environments and work practices. And obviously for the problem not to recur, *something must be done differently.*

Enlist the help of your supervisor and an industrial hygienist from OHS.

Make improvements to your furniture, equipment, and work arrangement.

Can your work be redesigned?

Pay attention to your body; cut back on all repetitive or strenuous activities if you develop symptoms.

Reconsider just how much repetitive or strenuous work you can actually do.

Do all of those things you can to improve the situation.