

Ergonomics Monitor Training Manual

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Introduction

This manual was created by the Minnesota Department of Employee Relations-Safety & Industrial Hygiene Unit to help you perform your duties as a State Agency Ergonomic Monitor.

As a trained Ergonomic Monitor, your role is to furnish front-line evaluation, consultation and basic solutions that decrease the risk of ergonomic injury and thereby promote improved health and productivity among state workers. This manual contains an evaluation kit, survey forms, hand-outs and resource lists designed to serve as the tools you will need to carry out your role by building an ergonomically safe work environment within your agency.

But while this manual provides your general ergonomic safety tool kit, remember that additional help is available. If you have any questions about ergonomic safety risk factors, equipment, procedures or solutions, or if you need advanced expertise to deal properly with a specific ergonomic situation or injury, be sure to consult the Safety & Industrial Hygiene Unit.

Definition of Common Injuries

Common hand and wrist injuries

Carpal Tunnel Syndrome:

Compression of the median nerve in the carpal tunnel, which can occur from ongoing swelling (tenosynovitis) of the finger flexor tendons inside the carpal tunnel.

Cause:

Repetitive wrist motion (flexion, extension, ulnar and radial deviation), or sustained pressure over the wrist.

Symptoms:

Night pain, numbness/tingling in the median nerve distribution, loss of strength and grip (increased incidence of dropping items)

Ulnar Nerve Compression:

Compression of the ulnar nerve as it passes through the ligamentous tunnel behind the medial epicondyle (elbow), or compression of the nerve as it crosses the wrist or in the palm of the hand.

Cause:

Resting the elbow on a hard surface or using a poorly designed hand tool, both of which place prolonged compression on the ulnar nerve.

Symptoms:

Pain and tingling down the medial side of the forearm extending into the little finger.

Tenosynovitis:

Inflammation of synovial sheaths which surround tendons.

Cause:

Repetitive movement of the hand and wrist, although trauma and strain may be involved in some cases.

Symptoms:

Pain over the structures involved, swelling, decreased function.

Rheumatoid Arthritis:

Chronic, systemic, and progressive connective tissue disease, which usually begins in the small joints of the hand, fingers, and wrists.

Cause:

Remains a mystery.

Symptoms:

Joint pain, swelling, warmth, decreased mobility and fatigue.

Common neck & back injuries

Disc Injuries:

There are several stages of severity that range from bulging to herniated.

Cause:

Cumulative trauma resulting from ongoing postures of forward flexion.

Symptoms:

Varying degrees of back pain which may radiate into the buttocks and or legs.

Strain:

Stretching or tearing of the musculotendinous unit.

Cause:

Overstretching or overstressing muscle, a strength imbalance, or a sudden contraction against resistance.

Symptoms:

Loss of motion, function, or strength due to discomfort (dependent upon severity).

Sprain:

Stretching or tearing of a ligament.

Cause:

Abnormal force such as overstretching, or overstraining.

Symptoms:

Localized pain, swelling and instability.

Thoracic Outlet Syndrome:

Compression of the nerves and blood vessels between the neck and the shoulder.

Cause:

Forceful, sustained, or repetitive shoulder retraction, and or depression, as well as frequent work above shoulder level.

Symptoms:

Similar to carpal tunnel (diffuse numbness/tingling in the hand).

Common shoulder & elbow injuries

Rotator cuff impingement:

Inflammation of the tendon of the supraspinatus muscle and the tendon of the long head of the bicep muscle. This inflammation causes an impingement beneath the coraco-acromial ligament.

Cause:

Repetitive overhead activities, which lead to swelling and vascular compromise.

Symptoms:

Shoulder pain especially with overhead activity, and decreased range of motion. The discomfort may extend into the deltoid muscle.

Shoulder bursitis:

Inflammation of the bursa located in the shoulder.

Cause:

Repetitive overhead activities, which lead to swelling and vascular compromise.

Symptoms:

Inhibits free movement of the tendon in the shoulder girdle, which ultimately limits shoulder range of motion.

Tendonitis:

Tendon inflammation.

Lateral epicondylitis is inflammation of the tendons of the finger extensor muscles.

Cause:

Repetitive or static use of the finger extensor muscles.

Symptoms:

Discomfort that extends from the outside of the elbow into the forearm, and may cause a decrease in grip strength,(painful handshake).

Medial epicondylitis is inflammation of the tendons of the finger flexor muscles.

Cause:

Repetitive or static use of the finger flexor muscles.

Symptoms:

Discomfort that extends from the outside of the elbow into the forearm.

[Ergonomic Survey](#)

[Measuring for Modular or Height Adjustable Furniture](#)

VDT Workstation Evaluation

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Handouts

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