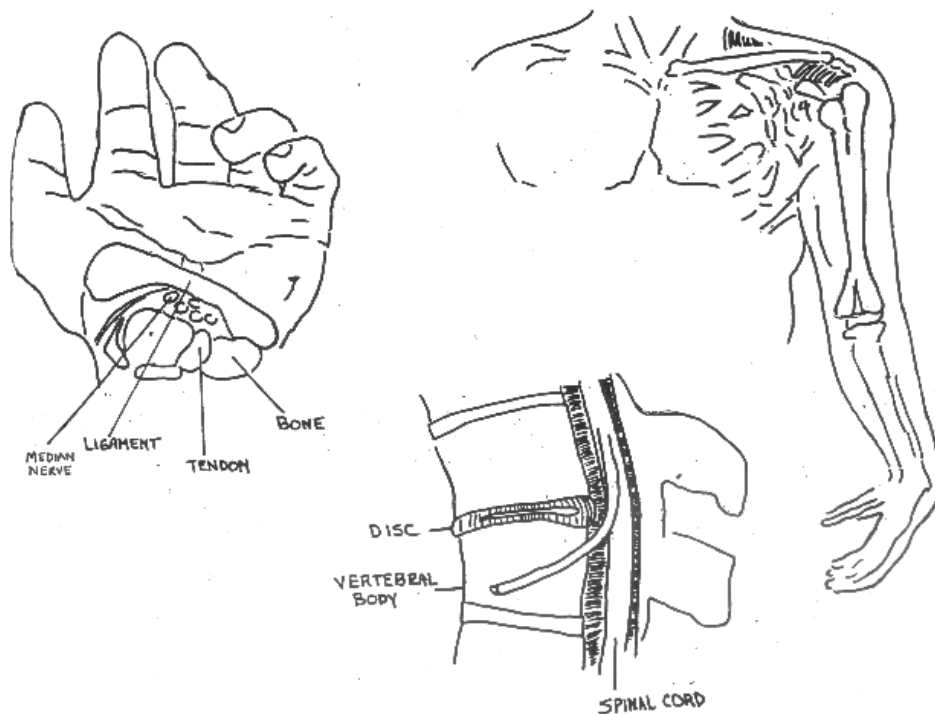


# MUSCULOSKELETAL DISORDERS: THE BIGGEST JOB SAFETY PROBLEM

## What Are Musculoskeletal Disorders

Every year more than 1.8 million workers in the United States suffer painful back and repetitive strain injuries, also known as *musculoskeletal disorders (MSD)*. These injuries affect the *musculoskeletal* system – muscles, tendons, ligaments, cartilage and discs in the back. Nerves and blood vessels, which are not technically part of the musculoskeletal system, can also be affected by these injuries. These injuries have become the nation's biggest job safety problem.



## MUSCULOSKELETAL DISORDERS

Musculoskeletal injuries happen over a period of time – usually a little at a time – until pain, other symptoms and sometimes permanent damage result. They are different from *acute* injuries, such as falling down the stairs and breaking a leg, where the effect of the injury is felt immediately.

Because musculoskeletal injuries develop as parts of the musculoskeletal system get worn out from over use, they are sometimes called *overuse* injuries. Because many result from using the same body parts over and over in repeated motions, they are also called *repetitive motion* or *repetitive strain* injuries.

## **Symptoms of Musculoskeletal Disorders**

The most common symptoms of musculoskeletal injuries are pain, numbness, tingling, burning, stiffness, limitation of motion, and/or soft tissue swelling.

In many cases no one but the injured person knows that the injury exists or how severe it is. There is no blood on the floor and often no bandages, stitches, crutches or other outward signs of an injury.

However, even though there may be no visible sign of injury, these injuries can prevent workers from being able to do their jobs, or in some cases, being able to work at all. They can also prevent workers from doing the most basic "activities of daily living" and force them to live in constant pain.

Musculoskeletal disorders do not have to happen. Equipment, machinery, tools and jobs can be changed to eliminate the hazards that can cause these injuries. This involves the science of *ergonomics* – designing jobs to fit workers. No one should be injured or have to live in pain because of their work. Pain does not have to be "just part of the job".

## TYPES OF ERGONOMIC INJURIES

**Cumulative Trauma Disorders**  
**Musculoskeletal Syndrome**  
**Repetitive Motion Disorders**

**Musculoskeletal Disorders**  
**Overuse Injuries**  
**Repetitive Strain Injuries**

All of these general terms refer to a collection of injuries that affect the soft tissues – muscles, tendons, ligaments, cartilage, nerves and discs in the back. Many of the specific injuries that fall under these general terms are listed below. Musculoskeletal disorders may affect any number of body parts, including the hands, wrists, arms, elbows, shoulders, neck, back and legs. Below is a listing of specific musculoskeletal disorders by the part of the body they affect. This list may not include every injury that exists.

### HAND, WRIST, AND ARM

Carpal Tunnel Syndrome	Compression of the median nerve of the hand and wrist in the tunnel through the carpal bones of the wrist. May cause tingling, burning, numbness, clumsiness or weakness in the hand. Symptoms are often worse at night.
deQuervain's Disease	An inflammation of the tendon and sheath at the base of the thumb.
Digital Neuritis	Inflammation of the nerves in the finger, which is caused by repeated contact or continuous pressure.
Ganglionic Cyst	A bump under the skin caused by small pockets of synovial fluid under a tendon sheath.
Hypothenar Hammer Syndrome	Injury of blood vessels at the base of the palm resulting in reduced blood flow to the hand. Associated with repeated blows or using the heel of the hand as a hammer.
Raynaud's Syndrome	Also known as “White Finger.” Blood vessels in the hands close causing skin to turn pale and cold, numb and tingly; loss of sensation and control in fingers and hands. The most common cause of this disorder is prolonged use of vibrating tools and exposure to cold or a combination of both.
Trigger finger	Swollen tendon becomes locked in tendon sheath causing finger to lock in place or jerk and snap when attempting to use it.

## **ELBOW AND SHOULDER**

Epicondylitis	Inflammation of tendons that attach forearm muscles to the elbow bone. Lateral epicondylitis (tennis elbow) involves tendons attaching muscles on the back of the forearm to the outer elbow. Medial epicondylitis (golfer's elbow) involves tendons attaching muscles on the palmar side of the forearm to the inner elbow. May cause pain and swelling.
Radial Tunnel Syndrome	A compression of the radial nerve in the forearm.
Rotator Cuff Tendinitis	An inflammation of the tendons of the shoulder. Sometimes called Rotator Cuff Syndrome
Thoracic Outlet Syndrome	Compression of the nerves and blood vessels between the neck and the shoulder. Causes numbness of the fingers, weakness of the arm, and a feeling that the arm is "going to sleep."

## **NECK AND BACK**

Degenerative Disc Disease	Breakdown or weakening of the tough outer tissue surrounding a spinal disc. May result in bulging or leaking of the gel-like substance inside the disc, causing compression of spinal nerves. Degenerative disc disease in the lower back may cause tingling, burning, numbness or weakness in the legs and feet.
Herniated Disc	The rupturing or bulging out of a spinal disc.
Lumbar Disc Damage	Damage to the discs between the lumbar (lower) vertebrae (bones) in the back.
Neurovascular Compression Syndrome	Compression of the nerves and blood vessels in the shoulders.

## **LEGS**

Patellar Synovitis	Also known as "water on the knee." An inflammation of the lubricating liquid deep in the knee.
--------------------	--

Phlebitis	Varicose veins and related blood vessel disorders that result from constant standing.
Plantar Fasciitis	Inflammation of the thick connective tissue in the arch of the foot.
Subpatellar Bursitis	An inflammation of the flat, moveable bone at the front of the knee.
Trochanteric Bursitis	An inflammation of the bursa at the hip that results from constant standing or bearing heavy weights.

### **INJURIES THAT MAY AFFECT VARIOUS PARTS OF THE BODY**

Bursitis	Inflammation of a bursa. Common locations are the shoulder, elbow and knee.
Ligament Sprain	The tearing or stretching of a ligament.
Myositis	Inflammation of the muscle tissue.
Sprain	Tearing or rupture of ligaments caused by twisting a joint beyond its normal range of motion.
Strain	Tearing of tendon fibers caused by stretching or high force muscle exertions.
Tendinitis	Inflammation of a tendon. May cause pain, swelling and loss of mobility.
Tenosynovitis	Inflammation of the tendon sheaths.

*Note – this material was developed from a resource handout developed by the Labor Safety and Health Project, George Meany Center – National Labor College*