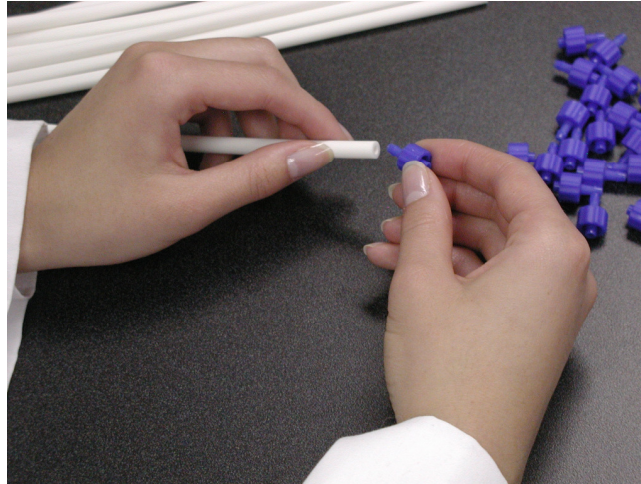


## Repetitive Stress Injuries: Musculoskeletal Disorders (MSDs)

In many areas of your workplace, workers are at jobs requiring repetitive bending and twisting of the hand and wrist. There are hundreds of jobs that involve these kind of hand movements. These repetitive tasks often place excessive stress on muscles and nerves in the hand and wrist and cause a musculoskeletal disorder--a painful and often crippling disease--tendinitis, ganglion cysts, and tenosynovitis. These are all serious hand and wrist disorders that are showing up in dramatic numbers among workers in all industries.



### What Causes Musculoskeletal Disorders?

The majority of work-related MSDs involve jobs which have in common one or more of the following **RISK FACTORS**.

**AWKWARD POSTURES** of the wrist or shoulders: Bending and/or twisting the wrists, twisting the arms, holding the elbows away from the body, reaching behind the body, lifting things above shoulder level, or using a pinch grip.

**FORCEFUL EXERTIONS:** Making forceful cuts, lifting heavy items, using a pinch versus a power grip, using a hand tool with hard, sharp edges.

**REPETITION:** Repeated and/or prolonged activity, making thousands of repeated motions a day. The more repetitive the task, the more rapid and frequent are the muscle contractions. Muscles performing highly repetitive tasks require more effort and consequently more recovery time or rest pauses than less repetitive tasks.

Other elements that contribute to MSDs are cold temperatures, slippery floors, poor grip on handles and vibrating tools. Many jobs require a combination of the above risk factors, such as forceful grip on a knife and repetitive cutting in an awkward posture.

### Job Analysis and Redesign

The way to prevent cumulative trauma disorders is to redesign tools, work stations and jobs. By improving the fit between the worker and the job, not only is the well being of the worker improved but so is productivity. These are known as ergonomic solutions. Ergonomics is the science of fitting the job to the worker so the worker can do the job without injury.

Redesign efforts include adding workers to the line to reduce repetitious work, adjustable platforms and maintaining sharp knives. Your hands and wrists are especially vulnerable to poor design of tools and equipment because they contain a delicate collection of nerves, tendons, bones, ligaments, and blood vessels. To prevent hand and wrist disorders, tools and equipment should be designed to keep employee hands and wrists straight--as though they were hanging relaxed at your side. Providing workers with adjustable work benches or tilting work surfaces may make a difference.

## Medical Treatment

Because these diseases are caused by working conditions, no medical treatment will really work unless the job design and/or tool design are changed to prevent these problems from recurring. The best treatment for these disorders is to eliminate the twisting and bending that caused it in the first place. However, until these problems are eliminated, good medical treatment is absolutely necessary to treat these problems.

Medical treatments, especially for carpal tunnel syndrome, include wearing a wrist splint at night (if you wear it during the day, it can interfere with doing your job and cause more damage) and physical therapy. Hot wax treatments--now provided in some workplaces--are not recommended for the treatment of MSDs. In fact, it can further aggravate the condition, rather than cure it. In some instances, anti-inflammatory drugs may be recommended--such as cortisone. Applying these drugs through ultrasound--rather than injection--is recommended. Some companies are using vitamin B-6 to treat these health problems. Studies have shown this to be ineffective in treating work-related MSDs. In fact, the high dose needed to produce any results can be dangerous--it can cause serious nerve damage. Surgery is often prescribed as a last resort--but is not recommended because the condition can return.

The key to treating MSDs is to treat it at the first signs of pain and tingling in the hand. The longer good medical care is delayed, the worse the disease will get, the greater the likelihood permanent damage will result.

## Evaluate Your Job for Risk Factors

Does your employee's job require them to:

- Repeatedly bend and twist their wrists?
  - Repeatedly twist their arms?
- Repeatedly hold their elbows away from their body?
  - Repeatedly use a pinch grip?
  - Repeatedly reach behind their body?
- Repeatedly reach or lift things above shoulder-level?
  - Repeatedly use a tool that vibrates?
  - Repeatedly use their hand as a hammer?
  - Repeatedly twist or flex their back?
- Repeatedly lift objects from below knee-level?
  - Repeatedly work with their neck bent?

All of the above are "risky positions" that can lead to the development of MSDs. If you answer "yes" to any of the questions above, you may be liable for medical claims made by your employees.