



## SAFETY & HEALTH TIPS



### Ergonomics

“Ergonomics” is becoming a popular word now. Illnesses, which we call **Cumulative Trauma Disorders (CTDs)**, are caused by repetitive and forceful motions done in awkward positions. These illnesses are frequently job related and preventable. CTDs are illnesses that affect the tendons, nerves, and blood vessels. Ergonomics, the study of good design for the workplace, can prevent many of these illnesses.

Ergonomic injuries are associated with several well known risk factors. These include highly repetitive tasks; large amounts of lifting, lowering, or force; awkward postures; vibrating tools or equipment; cold stress; and uncomfortable tool grips. Some people might argue that these are just part of the job and nothing can be done about the problem. But some employers have been able to reduce their injury rates successfully.

Ergonomics generally means trying to change the workplace to fit the worker and prevent injuries. Ergonomists, however, often focus on the prevention of musculoskeletal injuries, such as back injuries, wrist problems, knee, and shoulder injuries. This is where most of the injuries lie and most of the costs for Workers' Compensation. About one-quarter to one-third of workplace injuries are ergonomic injuries and they represent

about one-half of Workers' Compensation costs. Each back injury is estimated to cost about \$9,000 in compensation and medical costs. Many workers are also being forced to retire early because they are injured or their body is worn out.

**Carpal Tunnel Syndrome.** The Carpal Tunnel is located in the wrist and is formed by bones and ligaments. The Median Nerve, which sends impulses from the brain to the hand passes through this tunnel. Other nerves and tendons also pass through this narrow space. When the tendons swell because of overuse, they press on the Median Nerve. This causes severe pain in the wrist and permanent damage may result. Once this nerve is damaged you lose your ability to use your hand.

The symptoms of Carpal Tunnel Syndrome include:

- ⚡ Numbness, tingling, burning in the hand;
- ⚡ Pain;
- ⚡ Wasting of the muscles near the thumb.

**Tendinitis.** This illness is the inflammation of a tendon. Tendons are connective tissue that attach the muscles to the bones. When the hand or arm is overused, the tendons can become inflamed, causing pain. If you continue to abuse parts of the tendon, it may actually tear, become thickened and irregular. If this condition is left untreated, without rest and time to heal, the tendons may become permanently weakened.

**Tenosynovitis.** This illness affects the lining of the tendons, called the tendon sheath. It too can become inflamed from overuse. The inflamed tendon sheath fills up with fluid, sometimes causing a bump on the wrist

called a Ganglion Cyst and many times causing severe pain.

A common type of Tenosynovitis is called Trigger Finger. This illness happens when the tendon sheath becomes so swollen that the tendon becomes locked in the sheath. When you try to move the finger, the movement is jerky instead of smooth.

**Thoracic Outlet Syndrome.** This illness is caused by the pinching and squeezing of the nerves and blood vessels in the neck and shoulder. It causes numbness (the feeling of your arm falling asleep) and sometimes a weakened pulse at the wrist. It can be extremely painful and severely limit your ability to do your job.

### What Can Be Done To Prevent Ergonomic Injuries?

Prevention of ergonomic injuries involves identifying those jobs or tasks that place workers at higher risk of injury and then designing interventions or solutions that will reduce the risk. High-risk jobs can be identified by looking at injury records (OSHA logs and Workers' Compensation reports), talking with insurance carriers, and talking with workers about which jobs they find particularly difficult to do. Workers often can identify which jobs need to be looked at and have the best idea as to how jobs could be modified. **The goal is to work smarter not harder.**

**Checklists:** A checklist can also be used. The Center to Protect Workers' Rights (CPWR), the research arm of the AFL-CIO's Building and Construction Trades Department, is working to develop a checklist for ergonomic hazards in construction. It asks simple questions like, "Are carts and dollies readily available on the job site? If so, are they being used? If not, why not?" It may be the workers are

not using carts or dollies because poor housekeeping makes it hard to move them about the site. As a result more manual materials-handling is required, placing workers at higher risk of injury. So simply cleaning up a site could help prevent many sprains and strains. While not all injuries will be prevented, many of them could be.

**New Tools:** Tools and equipment can also be a source for ergonomic injuries. Using poorly designed tools in awkward positions or repetitively is another problem. Recently, tool manufacturers have begun paying attention to ergonomics and changing the design of tools to make them more comfortable. Such design features should be considered whenever new tools or equipment are purchased. The best tool for the job is often the one that is the most comfortable and easiest to use.

**Worker Training:** Worker training is another important element in injury prevention. Workers should be taught about the ways work can result in ergonomic injuries and how injuries can be prevented by redesigning jobs and different work methods. Workers should be encouraged to suggest how work methods can be improved. Workers must also be encouraged to report symptoms of injury early to allow for treatment before injuries can become more serious.

**Exercise programs:** On-site exercise programs help workers stretch their muscles before work and are thought to help prevent injuries as well. Several such programs are available now and they are becoming increasingly popular. If you suffer from CTDs, consult your doctor before undertaking any exercise program.

**Preplanning:** Preplanning can also prevent injuries. For example, materials should be delivered as close as pos-

sible to where they will be used to reduce the amount of manual handling. Each job should include a discussion of ergonomic considerations and materials handling planning in its prejob-planning meetings.

**Different Work Organization:** Work methods and work organization can also be an important factor in preventing injuries. Often injuries can occur when workers are rushed by production schedules or there is not enough help. Workers must be encouraged to get help to lift heavy materials and to take the time to do the work safely, even when there are production pressures. Supervisors also must clearly understand the emphasis on safety and support it in their decisions. As injuries are prevented this focus will save money. An emphasis on safety must come from the top down.

**Return-to-Work Programs:** Return-to-work programs can help reduce injury problems. Statistics show that the longer workers are away from work, the harder it will be for them to get back to work. And a small percentage of cases end up costing the most amount of money. So a program to get workers back to work at productive jobs as soon as possible benefits the workers and employers. To do this employers have to consider the essential requirements of each job and try to figure out what jobs a worker might be able to do even if not yet back to 100 percent of his or her abilities.

**Research:** CPWR is engaged in an on-going research project funded by NIOSH to help identify high risk tasks in construction

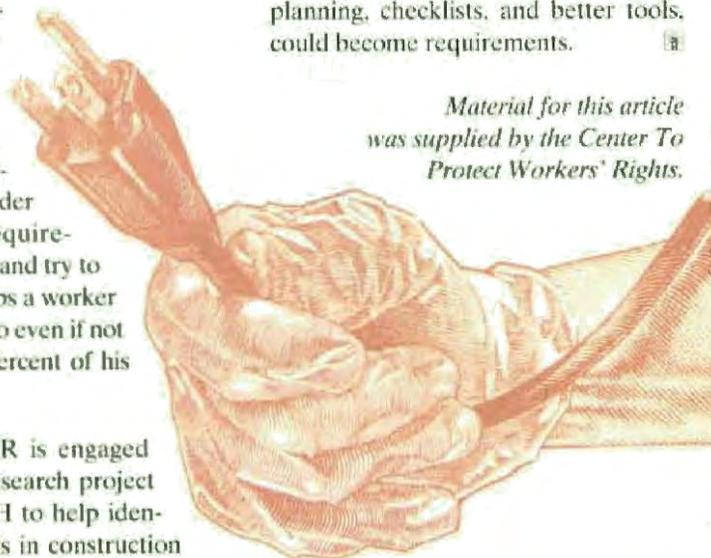
and figure out what can be done to reduce the risk of injury. Training materials are also being developed. Several publications are available from the CPWR on ergonomics. **For more information or publications contact CPWR at (202) 962-8490 or the Ergonomics Resource Center at the University of Iowa at (319) 335-4617.**

**Cumulative Trauma Disorders are preventable:** This can be done by making the workplace fit the worker, cutting down on the number of repetitions during a work shift, using appropriate tools, ensuring that the tools are sharp, and being able to work in comfortable positions. If you rely on your hands, arms, neck, and back to perform your job and you develop a Cumulative Trauma Disorder, you not only have to deal with the pain, suffering, and medical expenses, but the fear that you will not be able to work again.

## OSHA Regulation

OSHA will be proposing a new regulation to prevent ergonomic injuries in the fall of 1994. While it will not go into effect for a few years, it will inevitably affect the way work is done. Many of the elements, like prejob planning, checklists, and better tools, could become requirements. ■

*Material for this article was supplied by the Center To Protect Workers' Rights.*






[Advanced Search](#) | [Find a Library](#)

Cite/Export Print E-mail Share Permalink

Add to list Add tags Write a review Rate this item:



## IBEW journal.

Author: [International Brotherhood of Electrical Workers.](#)

Publisher: [Washington, D.C. : IBEW, 1987-2009.

Edition/Format: Journal, magazine : Periodical : English [View all editions and formats](#)

Rating: (not yet rated) 0 with reviews - Be the first.

Subjects: [International Brotherhood of Electrical Workers -- Periodicals.](#)  
[Electric industry workers -- Labor unions -- United States -- Periodicals.](#)  
[Electricians -- Labor unions -- United States -- Periodicals.](#)

[View all subjects](#)

More like this [Similar Items](#)

Search this publication for other articles with the following words:

Services for this item:  
 Hide local services for this item  
[Get It @ CDC](#)

### Find a copy online

Links to this item

[ibew.org](#)

### Find a copy in the library

Enter your location:  
 Submit a complete postal address for best results.

Displaying libraries 1-6 out of 95 for all 6 editions (45213)

Show libraries holding [just this edition](#)

« First < Prev 1 2 3 Next > Last »

Library	Held formats	Distance	
1. <a href="#">Franklin College</a> Hamilton Library Franklin, IN 46131 United States	<a href="#">Journal / Magazine / Newspaper</a>	89 miles <a href="#">MAP IT</a>	<a href="#">Library info</a> <a href="#">Add to favorites</a>

2.	 <a href="#">Anderson University</a> Nicholson Library Anderson, IN 46012 United States	  <a href="#">Journal / Magazine / Newspaper</a>	92 miles <a href="#">MAP IT</a>	 <a href="#">Library info</a>  <a href="#">Ask a librarian</a>  <a href="#">Add to favorites</a>
3.	 <a href="#">Indiana University</a> Bloomington, IN 47405 United States	  <a href="#">Journal / Magazine / Newspaper</a>	113 miles <a href="#">MAP IT</a>	 <a href="#">Library info</a>  <a href="#">Add to favorites</a>
4.	 <a href="#">Huntington University</a> RichLyn Library Huntington, IN 46750 United States	  <a href="#">Journal / Magazine / Newspaper</a>	132 miles <a href="#">MAP IT</a>	 <a href="#">Library info</a>  <a href="#">Add to favorites</a>
5.	 <a href="#">Manchester University (Indiana)</a> Funderburg Library N Manchester, IN 46962 United States	  <a href="#">Journal / Magazine / Newspaper</a>	145 miles <a href="#">MAP IT</a>	 <a href="#">Library info</a>  <a href="#">Add to favorites</a>
6.	 <a href="#">University of Illinois at Urbana Champaign</a> Urbana, IL 61801 United States	  <a href="#">Journal / Magazine / Newspaper</a>	211 miles <a href="#">MAP IT</a>	 <a href="#">Library info</a>  <a href="#">Search at this library</a>  <a href="#">Add to favorites</a>

« First < Prev 1 2 3 Next > Last »

## Details

Genre/Form: Periodicals

Additional Physical Format: Online version: IBEW journal (DLC) 2013273439 (OCoLC)624453211

Material Type: Periodical, Internet resource

Document Type: Journal / Magazine / Newspaper, Internet Resource

All Authors / Contributors: [International Brotherhood of Electrical Workers.](#)

ISSN: 0897-2826

OCLC Number: 17452097

Notes: Title from cover.

Description: v. : ill. (some col.) ; 28 cm.

Other Titles: IBEW journal  
International Brotherhood of Electrical Workers journal

## Reviews

### User-contributed reviews

[Add a review](#) and share your thoughts with other readers.

 Be the first.

## Tags