



NAES LAKEHURST

NAVY REGION NORTHEAST



SAFETY AND HEALTH NEWSLETTER

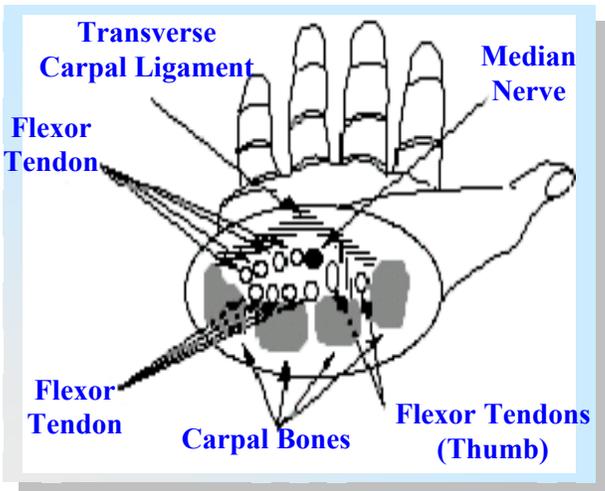
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NAES LAKEHURST SAFETY DEPARTMENT

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AVOIDING CARPAL TUNNEL SYNDROME

Carpal Tunnel Syndrome (CTS) is common among computer keyboard users. It can strike anyone, and its consequences are serious. Awareness of the problem and its causes is crucial to preventing CTS. With proper ergonomics and attention to the work routine you can prevent CTS; with early detection and treatment it need never become debilitating. The employer's attention to stress levels, proper ergonomics, and the early warning signs of CTS are important in keeping the ailment at bay in the workplace. CTS is a painful, debilitating condition. It involves the median nerve and the flexor tendons that extend from the forearm into the hand through a "tunnel" made up of the wrist bones, or carpals, and the transverse carpal ligament. As you move your hand and fingers, the flexor tendons rub against the sides of the tunnel. This rubbing can cause irritation of the tendons, causing them to swell. When the tendons swell they apply pressure to the median nerve. The result can be tingling, numbness, and eventually debilitating pain.



CTS affects workers in many fields. It is common among draftsmen, meatcutters, secretaries, musicians, assembly-line workers, computer users, automotive repair workers, and many others. CTS can be treated with steroids, anti-inflammatories, or physical therapy, or with surgery to loosen the transverse carpal ligament. Recovery of wrist and hand function is often, but not always, complete.

Like many skeletomuscular disorders, CTS has a variety of causes. It is most often the result of a combination of factors. Among these are:

✧ **Genetic predisposition.** Certain people are more likely than others to get CTS. The amount of natural lubrication of the flexor tendons varies from person to

person. The less lubrication, the more likely is CTS. One study has related the cross-sectional shape of the wrist, and the associated geometry of the carpal tunnel, to CTS. Certain tunnel geometries are more susceptible to tendon irritation.

✧ **Health and lifestyle.** People with diabetes, gout, and rheumatoid arthritis are more prone than others to develop CTS, as are those experiencing the hormonal changes related to pregnancy, menopause, and the use of birth control pills. Job stress has also been linked to an increased likelihood of CTS. And CTS seems to be more frequent among alcoholics.

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Do you have any safety related topics you would like to see in our publication or have questions, contact us at x2525.

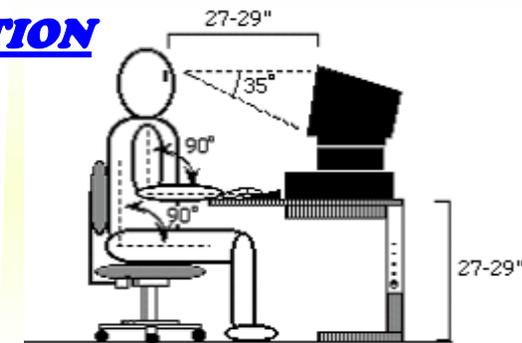
✧ **Repetitive motion.** The most common cause of CTS that's been attributed to the workplace is repetitive motion. When you flex your hand or fingers the flexor tendons rub against the walls of the carpal tunnel. If you allow your hand time to recover, this rubbing is not likely to lead to irritation. The amount of recovery time you need varies from fractions of a second to minutes, depending on many circumstances, including the genetic and health factors mentioned above, as well as the intensity of the flexing, the weight of any objects in your hand, and the extent to which you bend your wrist during flexing.

✧ **Trauma.** A blow to the wrist or forearm can make the tendons swell and cause or encourage the onset of CTS.

PREVENTION

Computer keyboard users can take several steps to lower their chances of developing CTS. Some of these center around the configuration of the workplace, or "ergonomics." Others have to do with human factors.

☐ **Ergonomics.** Proper seating is crucial to good ergonomics. The height of your seat and the position of your backrest should be adjustable. The chair should be on wheels so you can move it easily. Arm rests on the chair, though optional, are often helpful.



☐ **Table height.** To adjust the chair properly, look first at the height of the table or desk surface on which your keyboard rests. On the average, a height of 27-29 inches above the floor is recommended. Taller people will prefer slightly higher tables than do shorter people. If you can adjust your table, set your waist angle (see below) at 90 degrees, then adjust your table so that your elbow makes a 90 degree angle when your hands are on the keyboard.

☐ **Wrist angle.** If your keyboard is positioned properly your wrists should be able to rest comfortably on the table in front of it. Some keyboards are so "thick" that they require you to bend your hands uncomfortably upward to reach the keys. If so, it will help to place a raised wrist rest on the table in front of the keyboard. A keyboard that requires you to bend your wrists is a common cause of CTS among computer users.

☐ **Elbow angle.** With your hands resting comfortably at the keyboard and your upper arms vertical, measure the angle between your forearm and your upper arm (the elbow angle). If it is less than 90 degrees, raise the seat of your chair. If the angle is greater than 90 degrees, lower the seat. Try to hold your elbows close to your sides to help minimize "ulnar displacement" the sideways bending of the wrist (as when reaching for the "Z" key).

☐ **Waist angle.** With your elbow angle at 90 degrees, measure the angle between your upper legs and your spine (the waist angle). This too should be about 90 degrees. If it is less than 90 degrees, your chair may be too low (and your knees too high). Otherwise, you may need to alter the position of the backrest or adjust your own posture (nothing provides better support than sitting up straight). (Note: If making your waist angle 90 degrees changes your elbow angle, you may need to readjust the height of your chair or table.)

☐ **Feet.** With your elbows and waist at 90 degree angles, your feet should rest comfortably flat on the floor. If they don't, adjust your chair and table height and repeat the steps above. If your table isn't adjustable and your feet don't comfortably reach the floor, a raised footrest can help. Otherwise, you may need a different table.

WORK ROUTINE

You need very little recovery time between keystrokes to cool and lubricate the flexor tendons. If you type constantly, however, the need for recovery builds. Further, working with your hands bent upward at the wrists or frequently bending your wrists sideways heightens the friction within the carpal tunnel. It takes longer to recover from these motions. Working under stress (deadline pressure, anger, or other anxiety) can make matters even worse.

Many studies recommend a 10-15 minute break each hour to give yourself the recovery time you need. This needn't be a break from productive activities just a break from your keyboard. Exercises can help, too. Try the following:

- ☐ Make tight fists, hold for one second, then stretch your fingers out wide and hold for five seconds. Repeat several times.
- ☐ With arms outstretched in front of you, raise and lower your hands several times. Rotate your hands ten times (make circles in the air with the fingertips).

Variety is the key. CTS occurs most frequently in workers whose motions are not only repetitious but are kept up for hours at a time. If you use a keyboard, structure your workdays to include a mix of activities each hour. For example, instead of typing all morning and filing all afternoon, mix typing and filing throughout the day.

EARLY DETECTION

The most painful cases of CTS are those that have gone undetected or untreated over a long time. CTS can be caught easily in its early stages, however, and much of the pain and all of the disability avoided.

Early symptoms include a tingling in the fingers, often beginning several hours after work activity has stopped. Because of this delay in the appearance of symptoms, many CTS sufferers don't make the connection between their work activities and the pain they feel until it's too late. The tingling can lead, over time, to stiffness and numbness in the fingers and hand, and then to severe wrist and hand pain.

For many individuals the early symptoms of CTS go unnoticed. Employers and co-workers can help one another identify the onset of CTS by watching for and pointing out any unconscious shaking of the hands, rubbing of the wrists, or unusual postures or hand positions at the keyboard.

At the first sign of CTS, you should be examined by a doctor who specializes in hand and wrist disorders. The doctor can perform a number of simple tests to detect CTS, and can prescribe specific steps for avoiding the problem.

If you have any questions on CTS or any other Safety related item please do not hesitate to contact the **Safety Department at X2525** and someone will assist you.



Office Chair Safety Tips

Data from the *Consumer Product Safety Commissions Injury Information Clearinghouse* indicates that people are sometimes hurt by falling from chairs. Usually resulting in bumps, bruises, strains and sprains, these injuries are almost always easily treated. It is still important however, to take adequate precautions to prevent injuries before they occur. This document can help you maintain the safe use of your office chair.

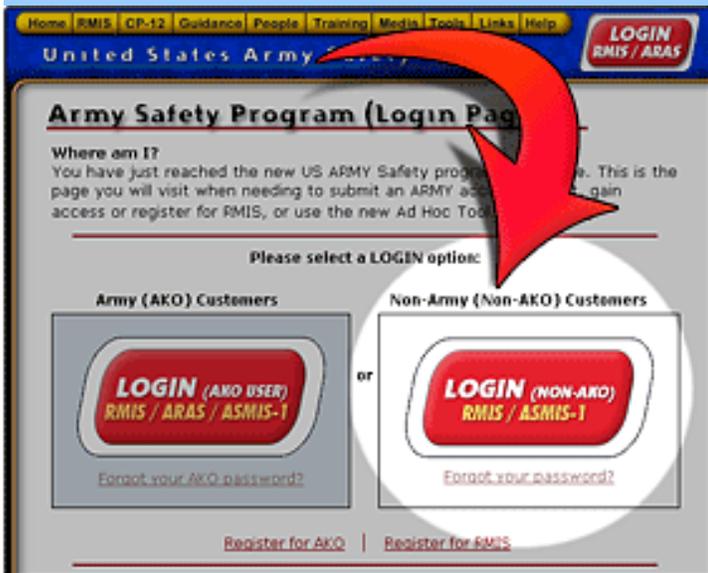
- ✧ **Always follow** the assembly directions completely. Make sure all the pieces are placed in proper order so that the chair stays tight and together.
- ✧ **Pay special attention** to making sure the casters or wheels are fully inserted into the base of the unit. Most office chairs are equipped with casters for use on carpeted surfaces. For other surfaces, speak to your retailer or manufacturer for appropriate custom selection.
- ✧ **Look for** and **use only** office chairs that have a 5-legged base.
- ✧ **Every 6 months** or so, make sure all the parts of the chair are tightened to ensure stability.
- ✧ Many office chairs are equipped with a tension control on the mechanism to compensate for different body weights. **Always ensure that the control is properly adjusted**, resulting in a smooth and controlled tilt motion.
- ✧ **Don't lean so far back in your chair that the wheels or legs lift up off the floor.** Leaning can cause the chair to slip out from under you, cause structural damage, or can loosen important connections that can cause the chair to fall apart.
- ✧ **Never put all your weight at the very front edge of the chair.** If you sit too far forward, the chair can tip over. Use a chair with a forward tilt mechanism if the task requires sitting in a forward position.
- ✧ **Don't leave electrical appliances on upholstered chairs.** Fire can result if they overheat. Be careful when smoking cigarettes or carrying lighted material around upholstered chairs.



ASMIS: On-Line Tool for PMV Trip Planning and Risk Assessment

The Army Safety Center has come up with a great risk-planning tool called the Army Safety Management Information System (ASMIS). Its first operational module is for POVs (in the works are modules for aviation and ground).

The ASMIS-1 home page is located at: <https://safety.army.mil/asmis1/> You will be presented with an option of two buttons. Click on the one on the right, which is for users who aren't Army and who don't have an Army Knowledge Online (AKO) account.



After you register, fill in information about your planned trip, and get a tailor-made risk analysis, along with specific guidance about steps to take to lower the overall risks. You can also view narratives of mishaps that happened during similar trips and other traffic-safety information.

A key feature for supervisors is that the system will send a copy of the risk analysis to you, so you and the traveler can discuss the planned trip, the risks and how to control them.

The Naval Safety Center released an [ALSAFE](#) message about ASMIS on July 1, 2004.

AIR SAFETY TRAVEL TIPS

A MUST read for anyone traveling by air.

Following these tips will help you reduce your wait time at the security checkpoint.

Before the Airport

- ✎ **Do NOT** pack or bring prohibited items to the airport. Read the [Permitted and Prohibited Items](#) (PDF 319KB) list. http://www.tsa.gov/interweb/assetlibrary/Permitted_Prohibited_12_18_2003.pdf
- ✎ Refrain from taking **wrapped presents** to the airport. It is recommending that you either ship wrapped packages ahead of time or wrap on arrival. If the package alarms, TSA will need to unwrap it to investigate the source of the alarm.
- ✎ **Avoid wearing shoes, clothing, jewelry, and accessories that contain metal.** Metal items may set off the alarm on the metal detector.
- ✎ **Put all undeveloped film and cameras with film in your carry-on baggage.** Checked baggage screening equipment will damage undeveloped film.
- ✎ Carry-on baggage is limited to one carry-on bag plus one personal item. Personal items include laptops, purses, small backpacks, briefcases, or camera cases. Remember, 1+1.
- ✎ Place identification tags in and on all of your baggage. **Don't forget to label your laptop computer.** These are one of the most forgotten items at Screening Checkpoints.

At the Airport

Put metal **IN** your carry-on bag. This includes jewelry, loose change, keys, mobile phones, pagers, and personal data assistants (PDAs). Take **OUT** your laptop computer. Place it in a bin, separate from its carrying case. Take **OFF** your outer coat. Place it in a bin. Suit jackets and blazers do not have to be removed, unless requested by the screener.



Survey Finds Nearly 73 Percent of Child Restraints Misused



Child restraint use is up, **but improper use of these safety devices continues to be high**, and that's why the U.S. Department of Transportation's National Highway Traffic Safety Administration (NHTSA) is launching a new campaign to **get parents to use the seats and use them correctly**. Nearly **73 percent of all child restraints are improperly used**, needlessly exposing children to an increased risk of death or injury.

But child restraint use has increased considerably since a similar study in the mid-1990s looked at restraint use for children weighing 60 pounds or less. Between then and now, restraint use has increased from 50.6 percent to 71.5 percent for children in that weight category. Tragically, nearly 12 percent of children were completely unrestrained, and thus at great risk, according to NHTSA.

"Child safety seats are very effective when used properly," said NHTSA Administrator Jeffrey W. Runge, M.D. "Parents and caregivers should take time to understand how to better protect children of all ages."

Data for the study were collected in the fall of 2002 for 5,527 children weighing less than 80 pounds in 4,126 vehicles in six states: Arizona, Florida, Mississippi, Missouri, Pennsylvania, and Washington.

Researchers also found:

- ☐ That 62.3 percent of these children were restrained in a child restraint system and 25.9 percent were restrained with a safety belt.
- ☐ That overall misuse was 72.6 percent. The most common critical abuses were loose harness straps securing the child and a loose vehicle safety belt attachment to the child restraint.
- ☐ 92 percent of the children who were transported by belted drivers were restrained, compared to only 62 percent of the children transported by unbelted drivers.

According to NHTSA, all infants should ride in a rear-facing child safety seat until they are at least one year old AND weigh at least 20 pounds. Toddlers between 20 and about 40 pounds should ride in a forward-facing child safety seat with a harness. Once a child has outgrown a forward-facing child safety seat, a child should be restrained in a booster seat until he or she is at least 8 years old, unless the child is taller than 4'9". Some seat manufacturers produce seats that can be used at higher weight limits, consumers should check their seat owner's manual to determine the upper weight limits of their seat. At least 4 out of 5 children who should ride in booster seats currently do not. Safety belts are not designed to fit smaller children. Booster seats remedy that problem by positioning the belt where it is most effective.

Restraint Use By Children

The study collected data on 5,527 children under 80 lbs in 4,126 vehicles. Most children were restrained in a CRS, but one-in-four 25.9 percent was using a safety belt and another 11.8 percent were completely unrestrained. CRS use predominated among infants under 20 lbs (97.1 percent) and toddlers 20 to 39 lbs (86.4 percent), but fell sharply among children 40 to 59 lbs (41.7 percent) and 60 to 79 lbs (10.9 percent).

Frequency of Restraint Use by Restraint Type and Weight Category

Weight Category	Restraint Type			Total
	CRS	Safety Belt	Unrestrained	
< 20 lb	496 (97.1%)	1 (0.2%)	14 (2.7%)	511
20-39 lb	2,146 (86.4%)	157 (6.3%)	180 (7.2%)	2,483
40-59 lb	710 (41.7%)	735 (43.1%)	259 (15.2%)	1,704
60-79 lb	90 (10.9%)	538 (64.9%)	201 (24.2%)	829
Total	3,442 (62.3%)	1,431 (25.9%)	654 (11.8%)	5,527

Percentage of CRSs Exhibiting Critical Misuses by CRS Type

Infant Seats	83.9%	497 CRSs
Rear-Facing Convertible	83.5%	140 CRSs
Forward-Facing Convertible	81.9%	1,247 CRSs
Forward-Facing Only	79.3%	766 CRSs
Integrated Forward-Facing	63.6%	22 CRSs
Belt-positioning Booster	39.5%	664 CRSs
Shield Booster	60.5%	86 CRSs
Integrated Booster	42.9%	7 CRSs
Other Booster	20%	5 CRSs
Lap Top	0%	6 CRSs
Other Restraints	100%	2 CRSs

HAZARD ALERT

CPSC, Kmart Corporation Announce Recall of Pool Pump Water Guns



WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission announces the following recall in voluntary cooperation with the firm below. Consumers should stop using recalled products immediately unless otherwise instructed.

Name of product: Pool Pump Water Gun

Units: About 38,600

Importer/Retailer: Kmart Corporation, of Troy, Mich.

Hazard: The cone-shaped nozzle can unexpectedly come off the water gun and be propelled causing injury.

Incidents/Injuries: There have been four reports of injuries to children including cuts and bruises to the face and head.

Description: The 15-inch-long water guns are shaped like giant syringes. When placed in a pool, they fill with water when the handle at the top of the device is pulled, and shoot water when pushed. They have either an orange tube with green handle and nozzle or a yellow tube with blue handle and nozzle. There is no writing on the water guns themselves.

Sold at: Kmart stores nationwide from January 2004 through June 2004 for about \$2.

Manufactured in: Hong Kong

Remedy: Consumers should stop using the water guns and return them to a Kmart store for a full refund.

Consumer Contact: Call Kmart at (866) KMART4U anytime or log on to the company's Web site at www.kmart.com.

CPSC, Georgia Boot Announce Recall of Steel Toe Boots



G8320

G8322

G9360

WASHINGTON, D.C. - The U.S. Consumer Product Safety Commission announces the following recall in voluntary cooperation with the firm below. Consumers should stop using recalled products immediately unless otherwise instructed.

Name of product: Georgia Boot Steel Toe Logger Boots

Units: About 10,000 pairs

Manufacturer: Georgia Boot, of Franklin, Tenn.

Hazard: The boots may have been mislabeled to indicate that they are resistant to electrical current, which is incorrect. This may result in a serious shock or electrocution to consumers.

Incidents/Injuries: Georgia Boot has not received any reports of incidents. This recall is being conducted to prevent the possibility of injuries.

Description: The recalled steel toe logger boots are brown and black and have laces that tie up to the calf. The recalled boots have stock numbers of G8320, G8322, and G9360, which can be found on a label under the tongue of the boot. The same label has stitching of the "Georgia Boot" name.

Sold at: Retail shoe stores nationwide and independent retail stores sold these boots from October 2002 through April 2004 for between \$80 and \$150.

Manufactured in: China.

Remedy: Consumers should stop using the boots immediately and return them to the company so they can be re-labeled or provided with a new pair of boots, free of charge.

Consumer Contact: Call Georgia Boot toll-free at (877) 795-2410 anytime, send an e-mail to the Company at

productnotice@georgiaboot.com, or write to Georgia Boot, P.O. Box 10, Franklin, TN 37063, Attn: EH Product – Labeling Issue. Consumers also can log on to the Company's Web site at www.georgiaboot.com

Heat Index and Physical Exercise

Heat related illness includes: heat rash, cramps, exhaustion and stroke. These illnesses are a real danger to people not accustomed to the stress of hot weather exercise.

The Wet-Bulb Globe Temperature Index (WBGT) takes into account four variables: air temperature, humidity, radiant heat and air movement. This reading gives a more accurate measurement of heat stress than any one reading alone.

Contact your local Environmental Prevention Medicine Unit (EPMU) for PT related weather readings.
Heat Index and Physical Exercise Chart

Heat Index	Color	Description
Less than 82	Blue	Extremely intense physical exertion may precipitate heat exhaustion or heat stroke, therefore, caution should be taken.
82-84.9	Green	Discretion required in planning heavy exercise for unseasoned personnel. This is a marginal heat stress limit for all personnel.
85-87.9	Amber	Strenuous exercise and activity (e.g., close order drill) should be curtailed for new and unseasoned personnel during the first 3 weeks of heat exposure.
88-89.9	Red	Strenuous exercise curtailed for all personnel with less than 12 weeks training in hot weather.
90 and Above	Black	Physical training and strenuous exercise suspended for all personnel (excludes operational commitment not for training purposes).

This applies to all personnel doing Physical Training (PT) activity. Personnel should check the status flag color before beginning any PT exercise.

How We Get Hurt at Lakehurst Mishaps that occurred in the Month of May

- Employee's chair collapsed causing multiple injuries resulting in **9 Lost Work Days.**
- Employee fell walking from building breaking nose and teeth resulting in **3 Lost Work Days.**

Definitions

Lost Work Day - Loss of at least one full work day subsequent to the date of injury.

Loss of Time - any time lost from work on the day of the injury or after the day of injury, but not resulting in a full lost workday

Reminder To All Supervisors

Report all injuries to the Safety Department as soon as possible at X2525.

Personal Injury Notice Reports can be printed out from the Safety Department's Occupational Safety and Health Website at <http://www.lakehurst.navy.mil/nl/web/safety/forms/safety/>