

**SUPERVISOR'S**

**SURVIVAL GUIDE TO**

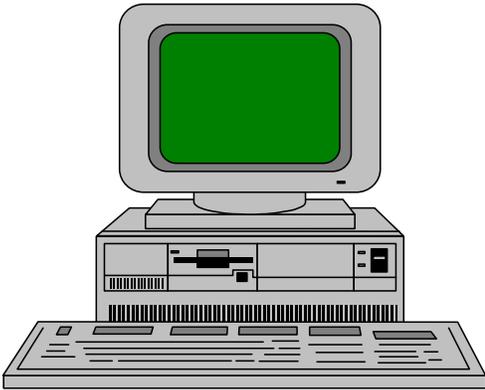
**WORKSTATION INJURIES**



# THE SUPERVISOR'S SURVIVAL GUIDE

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# **SUPERVISOR'S SURVIVAL GUIDE**

## **TO WORKSTATION INJURIES**

### **What You Should Know About Workstation Injuries**

Solving most computer-related injuries appears mysteriously complex, yet most of us can do it. If you cannot, then contact your Safety Officer. But before you do, find out what the employee perceives is the problem. Observe the problem firsthand, and then check the enclosed tables for a possible solution.

#### **THE CURIOUS QUESTIONER**

Unless an employee has had a distinct off-work injury, consider the problem to be work-related. If there is something wrong with the workstation, you will find it. If not, you will be able to inform the Safety Officer or Risk Management that the workstation looks fine and additional evaluation is needed.

Start by making sure you have a clear understanding of what the employee does throughout the day. Is the keyboard work done in only one stretch of time? Are there other tasks that are painful? Once you understand the job structure, you may already have learned the solution. For instance, if the computer work is all being done in one four-hour block, consider breaking up the computer work into two hours in the morning and the afternoon.

Most injuries are caused by gross very noticeable movements. If an employee is twisting his/her neck to look at a client at the counter and then back to the monitor, then that may explain the neck aches. Or if the wrists are held in a bent position, instead of straight, then that may explain the wrist aches. Observe the employee doing his/her tasks for thirty minutes can usually produce a wealth of information about what may be the source of the problem. (See Page 6 for a list of problems and their associated causes.)

What most people do when they see a problem with ergonomics is buy or create a solution. "Buying" means finding an accessory in a catalog. If you do not see the solution in the catalog, then perhaps you can create one like a little wooden stand for the monitor. Ergonomics means fitting the task to the person, not just to the catalog items.

## **The Ideal Workstation**

The "ideal" sitting position at a computer is designed so that:

- The top of the monitor is roughly the level of the user's eyes (unless the employee wears bifocals. With bifocals the monitor should be placed almost at desk level.)
- The monitor is 18" - 24" from the face.
- The shoulders and upper arms are in "neutral" positions (vertical to the floor).
- The back and neck are roughly 90° to 100° to the thighs.
- The thighs are parallel to the floor.
- Knees and lower legs form a right angle to the thighs.
- Feet are on some surface.
- Wrists are in a "neutral position" between 0 and 12° (see page 11).
- In any repetitive or forceful gripping or grasping activities (holding files, date stamping, etc.) the neutral hand position is maintained while the arm is used to take the brunt of any impact (see page 14).

The function of any accessories and changes should be to bring the employee as close to these objectives as possible. Even if every City employee did the same task at the same desk, they would have some variation in setup because of different body sizes.

Variation in tasks is also key. Employees have the least likelihood of injury when they frequently change positions.

Keep in mind that all accessories are not created equal. That's why if you are going to purchase chairs, you try before you buy. Either you, but preferably your staff, check out the variety of chairs for a "test drive." Some chairs are made for short people, some for heavy people, and some chairs have arm rests and/or seat tilt mechanisms. If an employee is going to spend eight hours a day in that chair, do not believe you are going to get a great buy by purchasing a \$150 chair that looks to have all the features of a \$400 - \$600 chair (because it doesn't). And when it comes to wrist rests or any other accessories, especially if you are purchasing quantities, get something that's comfortable, or the money will be wasted. Again, Risk Management's advice is free, so take advantage!

Also consider that there are solutions outside the "norm." A person who has a back problem might be much better off standing to work part of the time. They can easily be accommodated by raising the desk with blocks! Another person with a back problem may need to lie down for brief periods during the day and could be accommodated with permission to do this and a mat to lie on.

## **IF ALL ELSE FAILS . . .**

Call Risk Management. The Loss Control Specialist will come to your office and, if necessary consult with an Ergonomist. He will go through the same steps you have gone through and see if there is a subtle piece of the puzzle you missed.

Remember that it probably took several years for the physical problem to become painful enough to warrant a doctor's visit. Many times it's just as slow for the problem to resolve. It may take awhile for the injured part to heal. (Some never do.) It may also mean that

attempting several changes in the job may be necessary before finding a solution that really works.

Last, keep an open mind on what works. Sometimes nothing short of job restructuring will work. It may not be the answer for today's problem, but it may be for tomorrow's.

## **PREVENTION**

The techniques used to decrease pain are more effective if used in prevention. Risk Management is willing to help you complete a survey your office for potential problems and possible solutions.

## **POST INJURY FOLLOW-UP**

One of the biggest problems is the delay between the onset of symptoms and treatment. The longer it takes the employee to identify and treat the problem, the longer it takes for the problem to be corrected. Corrections can take the form of:

- Ergonomic changes
- Therapy
- Medicine or invasive treatment such as surgery.

Ergonomic changes and therapy combined are the least disruptive interventions. If these are not successful and the employee cannot continue to cope with the status quo or if the level of pain increases, then it is likely a surgical intervention will become the next course.

Your task, along with Risk Management's Loss Control Specialist, is to make sure that all ergonomic changes that should be made are made. Make sure that some form of medical intervention is made as soon as possible. This type of occupational injury is well within the treatment capabilities of the City's Occupational Health Clinic. The medical staff not only can see to employees' needs, but can also communicate with you on return to work or work continuation strategies.

The important part is **"don't wait."** Time is money. The longer it is before action is taken, the more likely the employee will suffer a loss of income and or job.

## **A WORD ABOUT PRE-EXISTING CONDITIONS**

If a person had a prior injury to the part of the body he or she will use in a repetitive task, then there is a likelihood of another injury to that same area. As long as there is medical clearance and the employee claims that they will not be limited in their ability to do their work, the employee must be allowed to continue (or be hired without prejudice).

While returns to work from work-related injuries are verified through an examining workers' compensation doctor, a non-industrial problem can be verified through a fitness-for-duty evaluation. Often the return is a conditional one, such as working "light duty" or only working half days. In almost all cases, even if it is an unconditional release, attempt to provide some light duty to ease an employee back into the job.

If an employee has a non-industrial injury for which he/she begins to complain about, advise your administrative officer as soon as possible. Non-industrial problems can become work-related if the employee complains of an "aggravation." Again, a fitness-for-duty examination is the answer unless the employee makes a claim, in which case it is then up to the workers' compensation claims examiner to get an evaluation.

Under ADA you are required to assess any possible modifications and make them unless you can prove "undue hardship." A Rehabilitation Counselor and the Loss Control Specialist at Risk Management can assist you in your evaluation.

## SUPERVISOR'S GUIDE TO SOLVING VDT PROBLEMS

Problem	Situation/Observation	Solution
Blurred vision while at terminal.	<ul style="list-style-type: none"> <li>• Works 20+ hours/week at a terminal.</li> <li>• Lighting issues (too bright)</li> </ul>	<ul style="list-style-type: none"> <li>• VDT eyeglass. Check the City's policy for providing them.</li> <li>• Reduce light.</li> <li>• Purchase a Glare Screen.</li> <li>• Adjust brightness/contrast on monitor.</li> <li>• Reposition monitor to 90° incoming light</li> </ul>
Back ache	<ul style="list-style-type: none"> <li>• Employee leans forward, sits on the edge of the chair.</li> <li>• Employee twists.</li> <li>• Long periods in a chair.</li> </ul>	<ul style="list-style-type: none"> <li>• Adjust chair.</li> <li>• Get lumbar support.</li> <li>• Chair not suited to employee (see Pages 9 to 11)</li> <li>• Alternate sitting/standing tasks.</li> <li>• Reorganize position of desk tools (telephone, stapler, etc.).</li> <li>• Stretch every one-half hour.</li> </ul>
Shoulder ache	<ul style="list-style-type: none"> <li>• Employee frequently reaches at or above shoulder level.</li> <li>• Employee stretches at shoulder and low back level to reach something.</li> <li>• Employee had a previous shoulder injury.</li> </ul>	<ul style="list-style-type: none"> <li>• Move frequently used items to at or below shoulder level.</li> <li>• Purchase stool or ladder.</li> <li>• Have clients put items closer to employee's reach.</li> <li>• Move items closer.</li> <li>• Redesign work area.</li> <li>• May benefit from forearm supports or a chair with arms.</li> <li>• Oil the runners of heavy desk drawers and have employee face drawers.</li> </ul>

Problem	Situation/Observation	Solution
Pain in wrist or forearm	<ul style="list-style-type: none"> <li>• Employee bends the wrist, thumb, forearm repetitively or continually.</li>   <li>• Employee has pain in last two fingers.</li>   <li>• Readjusting chair leaves feet dangling.</li> </ul>	<ul style="list-style-type: none"> <li>• Reposition employee so wrists are straight</li> <li>• Add a wrist rest to support wrists when not typing.</li> <li>• Use a split keyboard.</li> <li>• Break up long periods of repetitive or forceful hand work.</li> <li>• Restructure job.</li>   <li>• Determine if employee is leaning on an edge; change from rectangular edge to a softer rounded edge.</li>   <li>• Use footrest.</li> </ul>
Neck ache.	<ul style="list-style-type: none"> <li>• Employee looks down at reading/writing material on desk for extended periods.</li>   <li>• Employee twists neck to look at a document on the table.</li>   <li>• Employee twists neck to look at client then back to monitor.</li>   <li>• Employee looks down at monitor or looks at monitor through bifocals.</li>   <li>• Employee cradles telephone on shoulder.</li>   <li>• Employee cranes neck (and possibly low back) to see monitor; monitor is more than 24" away from employee because of desk space issues.</li> </ul>	<ul style="list-style-type: none"> <li>• Slant paperwork up with slant board.</li>   <li>• Use document holder to bring document next to monitor.</li>   <li>• Place monitor so that it is next to client.</li>   <li>• Monitor should be raised or lowered.</li>   <li>• Employee to hold telephone with hand or use headset.</li>   <li>• Use a monitor valet.</li> </ul>

Problem	Situation/Observation	Solution
Hand pain	<ul style="list-style-type: none"> <li>• Frequent stamping.</li> <li>• Pain while writing or pressing too hard on pen.</li> <li>• Frequent hole punching or stapling.</li> </ul>	<ul style="list-style-type: none"> <li>• Obtain stamps with larger handles.</li> <li>• Roll stamp onto paper instead of pounding it.</li> <li>• Larger, softer pen holder.</li> <li>• Obtain electric hole punch/electric stapler.</li> </ul>



## **HOW TO DESIGN OR ADJUST THE VDT WORKSTATION**

An individual Video Display Terminal (VDT) workstation should provide the operator with a comfortable sitting position sufficiently flexible to reach, use, and observe the screen, keyboard and document. Some general guidelines to minimize fatigue and musculoskeletal discomfort are as follows:

1. Select a chair with easily adjustable seat pan height and backrest (height and angle). Arm rests are optional to provide support for the arms and shoulders.
2. Adjust the chair height so that the feet rest firmly on the floor with minimal pressure behind the knees. If the chair must be higher for the operator to reach the table, a foot rest should be provided. Adjust the back rest to that the back is firmly supported. The head should be vertically over the shoulders and hips, or in the absence of neck problems may be tilted slightly backward. For employees with low back problems or doing work that requires leaning over a desk, a slightly forward posture may be preferred.
3. Select or adjust the table/work surface such that the arms reach the keyboard while the forearm is approximately parallel to the floor (the table or home row of the keyboard will be approximately the same height as the elbows). Adjustable surface heights are an advantage. Many standard computer height tables are 25"-26" in height, but may be too low for tall individuals, or too high for very short individuals (usual range 23"-29"). There should be at least 1"-2" of clearance above the thighs, and sufficient room for the knees and feet under the table. The table should be large enough for any other equipment or materials used for the job, including a wrist rest, if desired. The front of the table should be rounded.
4. Adjust the screen height so that the top of the screen is at or below eye level. Individuals with bifocals may prefer lower screens. Adjust the distance of the screen-to-viewer, if necessary for clear focus. Adjust the screen angle for comfort and the reduction of glare (a 90° angle to incoming light or other light source is optimal for the least amount of glare).
5. Adjust the keyboard for comfort. A detachable keyboard is an advantage. Avoid excessive reaches. Place the keyboard so the wrists remain straight when typing. A wrist rest should be provided to those who need support when not typing.
6. Use a document holder adjusted to the same height as the screen. It should be at the same distance and orientation as well. Adjustable document holders are an advantage.
7. Adjust lighting, lighting sources, or placement of the workstation to minimize glare and direct bright light. Keep the screen clean. Use draperies and window blinds, reduced lighting, parabolic reflectors (egg crates), and glare screens as necessary.

# **WORKSTATION DESIGN ELEMENTS**

**From Working Safely With Video Display Terminal  
U.S. Department of Labor, OSHA #3092**

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## ILLUSTRATIONS

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