

Loss Control Services: SAFETY TOPIC OF THE MONTH

M.0812: Ergonomics 101**Facilitator Outline**

Purpose: Monterey Educational Risk Management Authority - Loss Control Services provides these monthly topics to promote safety awareness, injury prevention and regulatory compliance for member districts. These topics may be adapted specifically to the needs of your district by editing and reformatting. If desired, the topic may be expanded with video/DVD, Powerpoint, or other media.

Instructions: Make copies of the handouts and quiz for those attending. As the facilitator for this training – please keep track of attendance in accordance with your district recordkeeping requirements. Thirty minutes should be allocated to allow for review/discussion of the handouts and the quiz – it is possible to condense the topic time to 15 minutes or less if time constraints are severe. You may use the quiz as a pre or post discussion topic; using it as a pre-quiz and then discussing the answers after review of the materials is a good way to assure an interactive session in a minimal amount of time.

Answers to Handout #2: Ergonomics 101

1. Ergonomics is defined as the science of -----:
a) physical therapy **b) workplace design** c) early intervention d) logistical strategy e) injury prevention
2. Which term is not related to repetitive motion injuries?
a) MSDS b) MSD c) CTS d) RMI e) CTD f) all of these are correct
“MSDS refers to Material Safety Data Sheet” – not an ergonomic term.
3. Sometimes just the way equipment is arranged may cause ergonomic problems. **True**
4. Body strain is increased by periodically switching to other tasks involving different movements. **False**
Task rotation is standard practice in reducing physical stress caused by repetitive motions.
6. Exercise is an important part of a repetitive motion injury prevention program. **True**
7. The American Physical Therapy Association recommends these tips for CTS prevention:
a) straight wrists b) flexed wrists c) full grasp d) overexertion **e) a and c** f) b and d
8. It is best to avoid clothes (including gloves) and jewelry that are too tight around the wrist. **True**
9. Which of these symptoms may be an indicator of carpal tunnel syndrome - CTS:
a) pain in wrist b) loss of grip strength c) numbness in fingers/thumb
d) swelling of wrist **e) all of these are CTS symptoms** f) none of these are CTS symptoms
10. Surgery is always the best option to prevent a repetitive motion injury. True **False**
Generally, surgery is a “last resort” when dealing with repetitive motion injury.
11. The “bonus” question adds extra feedback and interactive discussion from the group.

Gary Metzler, **MERMA** Loss Control Manager may be contacted regarding this topic by email or phone:

Email: gmetzler@merma.org

Phone: (831) 783-3300 x13

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Handout #1: Ergonomics 101

Background

Many employers now pay a lot of attention to ergonomics—the science of workplace design that tries to make the job fit the person rather than the other way around. The goal is to prevent repetitive motion injuries (RMI), especially musculoskeletal disorders (MSDs) such as carpal tunnel syndrome (CTS). MSDs account for a growing number of occupational illnesses and workers' compensation claims in almost every industry. Another term used to describe these types of injuries are cumulative trauma disorders (CTDs)

It is now recognized that making the same motion over and over can cause physical problems. So can working in a position, or with equipment, that doesn't fit the body. One of the most common of these problems is CTS, which results in pain and numbness in the wrists and hands. It affects packers, painters, assembly line workers, and cashiers, as well as data entry workers and others who work at computer keyboards all day.

Making the Job Fit the Person

Ergonomics reduces physical strain by redesigning tools and equipment, reorganizing workstations, changing lighting, etc. The primary benefit of ergonomics is to reduce strain by cutting back on the physical stress and number of repetitive motions performed on the job. Though it sounds complex, many ergonomic changes can be implemented by supervisors and employees because they know best what each job entails and what tasks cause pain and discomfort.

The earlier a repetitive motion problem is identified, the more likely something can be done to correct it. Workers should be encouraged to promptly report any pain or soreness and be especially alert to carpal tunnel symptoms like numbness, tingling, and an apparent loss of strength in the wrist and hands. Sometimes workers almost unconsciously try to compensate for repetitive motion problems by taping tools, reorganizing their work stations, rubbing or shaking their arms, etc. By being alert to these symptoms and making employees aware of them, the employer can take measures to prevent injury. Then, working together and perhaps with other workers and the safety department, the job tasks that is causing problems can be evaluated and methods implemented to limit repetitive motions. If the problem lasts or recurs, medical attention may be needed.

Limit Repetitive Motions

The best form of prevention is to limit the time any employee spends doing the same motion over and over, whether it is packing boxes, using a keyboard, mopping a floor, etc. - options may include:

- ✓ Job rotation: Body strain is reduced by periodically switching to other tasks involving different movements. Also, it is a big plus when each worker can do more than one job, since one worker's absence won't bring operations to a halt.
- ✓ Breaks: Make sure that workers do not perform a repetitive motion task for more than a couple of hours. This is especially important when overtime is common. Those extra few hours a day at the same task can result in overexertion and strain.
- ✓ Pacing: A repetitive motion performed at a breakneck pace means more motions—and more problems. Although the employer may want to get the job done as quickly as possible, they do not want it done so fast that it puts the person performing it out of commission.

Tools and Equipment

Hand tools are designed to fit everyone, which means that they may not fit everyone well. A worker with small hands, a left-hander—anyone who's not "the norm"—may have more than normal physical strain when holding and operating a tool for extended periods of time. The purchasing department can help supervisors order equipment and tools that will be more worker friendly and meet ergonomic criteria. Tools with wide handles, for instance, are easier to grasp. Many manufacturers now produce "ergonomic" tools with grips that are designed to better fit the hand. At the very least, redesigning a job so that the employee gets breaks from using an awkward tool will help reduce injury exposure.

Sometimes just the way equipment is arranged can cause problems. For example, a worker may have to keep stretching to reach a needed item or hunching over to perform a regular task. If that's the case, consider the way the workstation is arranged. A smaller or higher or otherwise reconfigured work surface can make a big difference. Perhaps a worker should be sitting instead of standing. Sometimes an armrest takes pressure off the wrist while performing repetitive motions. Small changes to improve ergonomics can have a big effect on comfort and posture.

Exercise

Exercise is an important part of a repetitive motion injury prevention program. First, fit people are less likely to experience physical problems and more likely to recover quickly if injured. Employees cannot be forced to join a health club, of course, but they may be encouraged to perform stretches before they start work. It's a good idea to include stretches, including shaking out the wrists and fingers, in any break. Workers that do a lot of repetitive motions on the job may benefit from specific finger-stretching exercises. The American Physical Therapy Association also recommends these tips for CTS prevention:

- ✓ Keep wrists straight, rather than bent or flexed, whenever possible.
- ✓ Grasp objects using your full hand and all fingers.
- ✓ Avoid clothes (including gloves) and jewelry that are too tight around the wrist.
- ✓ Try to use power, rather than hand tools, on repetitive jobs.
- ✓ Avoid repetitive movements whenever possible.
- ✓ Report any symptoms such as numbness of fingers/thumb, pain or swelling in the wrist or arm, loss of grip strength, hand weakness or problems moving the forearm or wrist.

Once a person develops a repetitive motion injury, the options become limited. Sometimes rest and physical therapy "cure" the problem—if the worker doesn't go right back to the same tasks. Sometimes surgery is required, but even that isn't always successful.

Ergonomic principles and attention to tasks and equipment that could cause problems may spare the employee and the employer a lot of pain and trouble. If a problem is not diagnosed and handled early, the employee may never be able to go back to the type of work that caused the injury. The employer is left with expensive medical and workers' comp payments, and the worker is left with a chronic, and often painful, physical problem. So the best solution is to expend the effort to avoid problems in the first place!

NOTES:

Handout #2: PRE -QUIZ - *Ergonomics 101*

Name: _____ Date: _____

Department _____ Job Title _____

Instructions: Please provide the best answer for each question – the “best” answer may be open to discussion during review of the quiz!

- Ergonomics is defined as the science of -----:
a) physical therapy b) workplace design c) early intervention d) logistical strategy e) injury prevention
- Which term is not related to repetitive motion injuries?
a) MSDS b) MSD c) CTS d) RMI e) CTD f) all of these are correct
- Sometimes just the way equipment is arranged may cause ergonomic problems. True False
- Body strain is increased by periodically switching to other tasks involving different movements. True False
- Exercise is an important part of a repetitive motion injury prevention program. True False
- The American Physical Therapy Association recommends these tips for CTS prevention:
a) straight wrists b) flexed wrists c) full grasp d) overexertion e) a and c f) b and d
- It is best to avoid clothes (including gloves) and jewelry that are too tight around the wrist. True False
- Which of these symptoms may be an indicator of carpal tunnel syndrome - CTS:
a) pain in wrist b) loss of grip strength c) numbness in fingers/thumb
d) swelling of wrist e) all of these are CTS symptoms f) none of these are CTS symptoms
- Surgery is always the best option to prevent a repetitive motion injury. True False
- Bonus Question: Do you have something to add to the discussion regarding your experience with situations involving ergonomics at work?

