

Basic ergonomics training

By Mike Lampl

Before you begin

Observe your work areas and write down your observations. Pay attention to:

- Homemade adaptations to accommodate personal preferences and needs;
- Job tasks that require forceful exertions (i.e., heavy lifting, pushing and pulling);
- Job tasks that require awkward postures (i.e., bent wrists, bent backs, etc.);
- Job tasks that require repetitive motions (i.e., working at a fast pace);
- Information on injuries that may relate to ergonomic conditions.



Introduction

During this session you will discuss:

- What is ergonomics?
- What are cumulative trauma disorders (CTDs)?
- What are workplace risk factors that contribute to CTDs?
- How can you reduce these risk factors?
- What else can reduce CTDs?

Start the discussion by asking “What is ergonomics?” Ask the group each corresponding question and listen for the members’ input. Discuss the answers below and consider giving the group a copy of the questions and answers.

What is ergonomics?

Ergonomics is applying engineering and scientific principles when designing a work environment that accommodates the employee in relation to the workplace, product, equipment, tools, workspace and organization of the work. Ergonomics’ objective is to fit the task to the worker, rather than force the person to adapt to the work environment.

Ergonomics is essentially making jobs user friendly.

Benefits include:

- Fewer injuries and CTDs;
- Improved productivity;
- Better performance and quality.

What are CTDs?

Cumulative trauma refers to wear and tear on the musculoskeletal system. Common CTDs include carpal tunnel syndrome, tendonitis and lower back disorders.

Symptoms associated with CTDs, or sometimes may lead to CTDs, include pain, swelling, inflammation, burning and stiffness.

Ergonomics is not an overnight proposition. It is a continuous improvement process, which minimizes or eliminates workplace risk factors.

Workplace risk factors are:

- Forceful exertions;
- Repetitive motions;
- Awkward postures;
- Mechanical pressure on soft tissue;
- Inadequate rest.

Just because one or more of these risk factors are present in a job does not necessarily mean a CTD will develop. However, especially with exposure to multiple risk factors, the potential for CTD is higher. Conversely, if you eliminate any or all of these risk factors, the potential for overexertion or injury decreases. The next section will illustrate ways to minimize or eliminate these risk factors.

How do you reduce workplace risk factors?

- Reduce forceful exertions.
 - Reduce manual loading by using conveyors, hoists and other mechanical means.
- Use carts, hand-trucks or powered equipment when moving materials.
- Minimize the weight of tools.
- Use vices and clamps to hold materials.
- Learn from each other how to best use tools safely and efficiently.
- Maintain neutral postures as much as possible.
 - Maintain the s-curve in your back. This can be achieved by tilting containers and using seats with good lumbar support.
- Maintain straight wrists. Use tools with proper thickness, length and shape.
- Maintain a straight neck. Adjust working heights or tilt the equipment.
- Work at approximately elbow height — slightly below for heavier work and slightly above for precision work.
- When lifting, lift between your knee and shoulder height and carry at about your waist height.
- Minimize reaching. Locate frequently used items as close to you as possible.
- Reduce the mechanical pressure on your soft tissues.
 - Pad tools.
 - Use cushioned chairs.
 - Use floor mats.

What else can reduce CTDs?

Other important points to consider for reducing CTDs and/or the severity of CTDs include:

- Reduce repetition or duration when possible. Job rotation can help;
- Understand what is adjustable at your workstation;
- Report work-related pain and discomfort, and get a medical evaluation when necessary;
- Be willing to try new work methods and tools;
- Give suggestions for ergonomic job improvements;
- Exercise and maintain a healthy lifestyle;
- Use good ergonomic principles at home as well as work;
- Keep your work area organized and the floor clean.

Group actions

Conclude by asking each member what is one key point he or she can apply from today's discussion. If the discussion leads to making physical changes, such as raising or lowering a work height, be sure to document the discussion and follow-up appropriately.

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References

- Elements of Ergonomics Programs: A Primer Based on Workplace Evaluations of Musculoskeletal Disorders (National Institute for Occupational Safety and Health): <http://www.cdc.gov/niosh/docs/97-117>
- Guidelines for Retail Grocery Stores: Ergonomics for the Prevention of Musculoskeletal Disorders (Occupational Safety and Health Administration): <http://www.osha.gov/ergonomics/guidelines/retailgrocery/retailgrocery.html>

BWC strives to improve the *Safety Leader's Discussion Guide*. Your feedback can help. Please send your comments via e-mail to **Safety@ohiobwc.com**.