

OSHA Compliance for Temporary Labor Agencies and Host Employers

Session 6: Ergonomic Hazards and Temporary Workers (0.5- 1.0 hours)

Lesson Plan

Overview

The field of ergonomics recognizes the importance of integrating human dimensions and capabilities into the overall manufacturing design process. Ergonomic design can have a significant impact on businesses, and poor ergonomic design in the workplace can lead to costly injuries. Certain manufacturing jobs involve repetitive motions and little employee control, which can lead to high employee turnover and absenteeism. Where frequent turnover is a factor, jobs tend to have a higher proportion of temporary workers. When ergonomic factors are not considered in the design of work, workers may become fatigued or uncomfortable, and consequently make more mistakes or take shortcuts that can affect safety and health. This lesson will provide ergonomic awareness training, allowing students to begin to assess the risk temporary workers may face at host companies. Students will consider the options to develop and implement engineering controls, job rotation, rest breaks, and safe work practices. Students will learn the importance of reporting and tracking hazards, near miss incidents, and on the job injuries.

The “Notes Section” of the slides has additional information to be used by the Trainer. The resource documents listed in the last section of the lesson plan should be carefully reviewed by the trainer and used as applicable.

Lesson Objectives

Upon completion of this topic students will be able to explain the importance of ergonomics in the workplace with respect to:

1. Ergonomics Awareness at host companies
2. Risk Assessment of job tasks
3. Solution Development and Implementation
 - a. Engineering Controls
 - b. Job rotation, rest breaks, safe practices
4. On-the-job training
5. Hazard or near-miss reporting
6. Injury reporting and recordkeeping

Training Resources

- PowerPoint Presentation: *Ergonomics*, with instructor's notes
- LCD Projector, screen (if needed), computer, and/or flip chart/white board with markers
- Internet Access (to browse Web sites) (if available)
- Ergonomics Short Course for Small Business Managers and Owners
 - <http://www.oshainfo.gatech.edu/ergotraining.html>
- *A Stitch in Time* Guide to Ergonomics
 - <http://www.oshainfo.gatech.edu/ergotraining.html>
- Ergonomic Training Resources for the Poultry Industry
 - <http://www.oshainfo.gatech.edu/ergopoultry.html>

Activities and Classroom Procedures

1. PowerPoint (PPT) slides
2. Class discussion of key concepts
3. Facilitation of interchange of ideas among participants

Lesson Roadmap

1. Introduction to ergonomics, prevalence and impact of ergonomic injuries
 - a. Slides to be used: 1-4
 - b. Objectives Covered: 1, 3
 - c. Exercise/Demos; none
 - d. Training Aids: Use of PowerPoint slides, with instructor's notes
2. Ergonomics: economic and regulatory concerns
 - a. Slides to be used: 5-9
 - b. Objectives Covered: 1, 2
 - c. Exercise/Demos: none
 - d. Training Aids: Use of PowerPoint slides, with instructor's notes
3. Risk Factors for workplace musculo-skeletal disorders (WMSD)
 - a. Slides to be used: 10-16
 - b. Objectives Covered: 2, 6
 - c. Exercise/Demos: *An Exercise in Strength*—Pencil Gripping Exercise (see attached)
 - d. Training Aids: Use of PowerPoint slides, with instructor's notes

4. Assessment techniques and tools
 - a. Slides to be used: 17-22
 - b. Objectives Covered: 2, 4, 6
 - c. Exercise/Demos: none
 - d. Training Aids: Use of PowerPoint slides, with instructor's notes

5. Control methods and training
 - a. Slides to be used: 23-29
 - b. Objectives Covered: 3, 4
 - c. Exercise/Demos: none
 - d. Training Aids: Use of PowerPoint slides, with instructor's notes

6. Injury, near miss, and temporary workers
 - a. Slides to be used: 30-32
 - b. Objectives Covered: 1, 5, 6
 - c. Exercise/Demos: none
 - d. Training Aids: Use of PPT, with instructor's notes

Evaluation and Assessment

- Interactive discussion, exchange, demonstration of concepts

Resources/Web Sites

- OSHA Safety and Health Topics: Ergonomics
 - <https://www.osha.gov/SLTC/ergonomics/index.html>
- CDC NIOSH Workplace Safety and Health Topics: Ergonomics and Musculoskeletal Disorders
 - <http://www.cdc.gov/niosh/topics/ergonomics/>
- OSHA Safety and Health Management Systems E-Tool
 - <http://www.osha.gov/SLTC/etools/safetyhealth/index.html>
- OSHA Safety and Health Programs Web Site
 - <http://www.osha.gov/dsg/topics/safetyhealth/index.html>
- Georgia Tech's OSHA Consultation Program Ergonomics Resources
 - <http://www.oshainfo.gatech.edu/ergotraining.html>
- Georgia Tech's OSHA Consultation Program Ergonomic Training Resources for the Poultry Industry
 - <http://www.oshainfo.gatech.edu/ergopoultry.html>

An Exercise in Strength (Pencil Gripping Exercise)

An Exercise in Strength

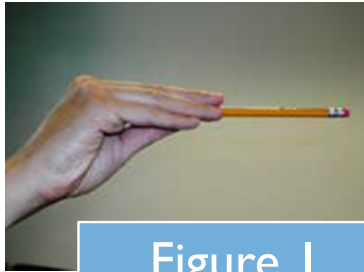
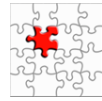


Figure 1

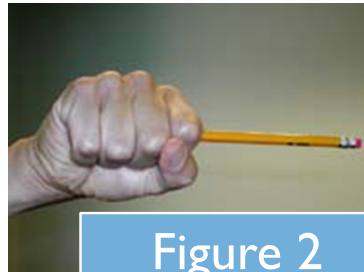


Figure 2

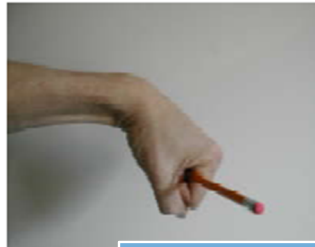


Figure 3

▶ 29

Center for Young Worker Safety and Health at Georgia Tech Research Institute

Supplies

- wood pencils (**unsharpened**) enough for half of the students in the class, or if time is an issue, two-four pencils to allow for a demonstration.

Some pencils will break if the students pull on them at an angle. Instruct them to pull straight out. Make sure you have some extra pencils just in case.

Instructions

This exercise should be done either

1. using two volunteers from the class, or
 2. giving one pencil to each group of two students and have the entire class participate (**preferred**).
- The first student holds the pencil in a pinch grip as in figure 1. The other student tries to pull the pencil out of the grip. Then the first student holds the pencil in a power grip, figure 2. The other student again tries to pull the pencil out of the first student's hand.

Ask students:

- *Which was easier to pull out, the pinch grip or the power grip? Why?*
- *What does that tell you about doing a task with the hand in a pinch grip rather than a power grip?*

The power grip is the stronger grip since all of the fingers and palm are supporting the pencil.

- Reverse roles and have the second student hold the pencil as in B (power grip with a straight wrist). Now the first student tries to pull it out. Now hold the pencil the same way but bend the wrist forward (down) as far as you can (Figure 3). Student 2 now tries to pull it out again.

Ask the class:

- *Which was easier to pull out this time, straight wrist or bent wrist?*
- *For the student holding the pencil what did it feel like trying to hold it with the wrist bent so far?*

The straight wrist is stronger, which is the neutral posture for the wrist. Holding the wrist bent and trying to grip is uncomfortable.