

2011 OSHA Susan Hardwood Capacity Building Grant

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Amputation Hazards and Machine Guarding Safety Awareness

Lesson Plan

Course Length: 2 Hours

Course Description:

This course is taught in accordance with the Occupational Health and Safety Administration Code of Federal Standards; 29 CFR 1910 Subpart O. This course is intended to provide safety awareness to company employees operating machinery. Amputations are some of the most serious and debilitating workplace injuries. They are widespread and involve a variety of activities and equipment. Amputations occur most often when workers operate unguarded or inadequately safeguarded mechanical power presses, power press brakes, powered and non-powered conveyors, and printing presses, roll-forming and roll bending machines, food slicers, meat grinders, meat-cutting band saws, drill presses, and milling machines as well as shears, grinders, and slitters. These injuries also happen during

Step 1: Planning the Lesson

Instructional Materials:

- Power point presentation
- Student Hand outs
- Instructional Notes
- Audio-visual equipment
- Lock out Tag out Video
- OSHA Safeguarding Equipment and protecting Employees from Amputations Publication 3170-02R
- OSHA e-Tool for Machine Guarding

Participant Handouts:

- Handout #1: Amputation Hazards Fact Sheet
- Handout #2: OSHA Amputation Quick Card (SP/EN)
- Handout #3: OSHA at a glance (SP/EN)
- Handout #4: Personal Protective Equipment Fact Sheet (SP/EN)
- Handout #5: OSHA 3149 "We can help" (SP/EN)

Learning Objectives:

Participants will:

- Identify sources of amputation hazards
- Describe available protection methods against amputation hazards
- Identify what type of machine components and motions are hazardous.
- Identify sources of amputations at the workplace.
- Protect, control and minimize amputation hazards

Step 2: Presenting the Lesson

Introduction: (5Mins)

- Introduce yourself
- Include name
- Title & Experience / Credentials
- Explain facility emergency action plan procedures
- Discuss classroom rules
- Start the lesson with an “ice breaker” such as an applicable story to capture the participant’s attention, etc.(**Stress Safety Training**)

Class Power Point Presentation: 45 minutes

- Introduction to OSHA video #2
- Objectives: #3
- Amputations: Definition Slides # 4-5
- Reasons why machines and equipment is not properly safeguarded Slide #6
- Sources of amputation Hazards: #7
- Hazardous Machine Components: #8-9
- Hazardous Motions: #10
- Hazardous Activities: #11
- Controlling Amputation Hazards: #12
- Protection Methods: #12
- Machine Safeguarding: #13
- Hand and portable tools: #14
- OSHA Standards: #15
- Resources: 16
- Summary:# 17
- Reference: # 18

Classroom Participant Activity: (30 Minutes)

- **Case Study:**
- Arrange class in groups of 3 to 4 depending on group size
- Provide a printout of case study for student review
 - Students should discuss what caused the accident
 - Provide solutions on how the accident could be prevented
 - Create and recommend engineering controls
- Students will present findings to the class and compared each other findings

Course Summary: (15 Minutes)

- Define a Physical and Health Hazards
- Basic Terminology and Identify
- How to protect themselves and others
- Proper Usage of Safe Guards
- Other Resources

Participant Critiques: (15 Minutes)

- Participants will complete a course critique.
- Participants receive course certificate (if applicable)
- Company receive certificate of completion and compliance (if applicable)

References

- 29 CFR Part 1910 Subparts O and P cover machinery and machine guarding.
- 29 CFR 1926 Subpart I, cover hand tools and powered tools.
- 29 CFR Part 1928 Subpart D covers agricultural equipment.
- 29 CFR Part 1915 Subparts C, H, and J;