



GOALS

This safety session should teach employees to:

- Understand the chief causes of musculoskeletal injuries.
- Be able to analyze their work duties to recognize the risk factors for muscle stress and look for ways to reduce those hazards.

Applicable Regulations: General Duty Clause 5(a) (1)



1. Musculoskeletal disorders (MSDs) are injuries that build up in the body over a period of time due to repeated stress to muscles and tendons.

- If a job is not designed to fit the worker properly, painful injuries can result.
- Some injuries can affect upper body nerves, tendons, and muscles, especially in the fingers, wrist, elbow, shoulder, and neck.
- Disabling lower back pain may be the result of frequent heavy lifting, especially if it involves awkward reaching or twisting.

2. It is important to analyze each worker's duties to see if they include any of these common causes of injury:

- Repetitive motions
- Forceful movements
- Awkward postures
- Vibration

3. Repetitive motions often cause problems for computer operators and workers who assemble small parts.

- Workers should take frequent minibreaks to rest the muscles—they should try to do another part of their job like phoning, filing, or packing—anything that will use different parts of the body.
- Computer users should keep their wrists straight, not bent, to avoid pinching a nerve and causing the weakness, pain, and hand numbness known as carpal tunnel syndrome.
- Workers should report any problems early when they can be treated easily.

4. Jobs that involve lifting often include forceful movements and awkward postures. Some factors that add to the stress include:

- Weight of object to be lifted—ask for help with very heavy objects.
- Beginning and ending height of the lift—it is much harder to lift something from close to the ground or to raise something to shoulder height or above.
- Awkward shape or size of the load—it is easier to lift something that can be held close to the body rather than a bulky object that involves stretching forward in order to carry it.
- Lifts that require twisting.
- Repeated lifts. Performing a certain lift a few times a day may be fine—performing that same lift over and over all day may cause severe problems.
- Frequent stretches to reach items beyond normal arm length.
- Often, many of these risks may be avoided by positioning work materials close to waist height and within about 20 inches.

5. Sometimes awkward positions are caused by the workstation itself.

- To avoid MSDs, someone who sits all day needs a chair that is comfortable and can be adjusted easily.



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- It should have good back support and allow the feet to be flat on the floor.
- Frequently used items should be kept close at hand.
- For workers who stand, a cushioned floor mat may reduce leg and back strain. A footrest can allow them to shift position from time to time.
- Sitting or standing for long periods of time without movement can lead to pain and discomfort in the lower back, so frequent changes of position are recommended.

6. **Arm-hand vibration injuries can result from extensive use of tools like grinders, sanders, drills, jackhammers, and chain saws.**

- Symptoms of arm-hand vibration include numbness, loss of finger coordination, and loss of dexterity. Loss of color to the fingers is another frequent symptom.
- Limiting use of such tools, frequent breaks, and rotation of job duties can help to reduce the risk of injury.
- Whole body vibration injuries can be caused by operating vehicles such as off-road vehicles and forklifts for long periods.
- Once again, it is the repeated operation, without breaks to allow the muscles to relax, that is a major cause of the problem.
- Modification of vehicles to improve the quality of the suspension system, shock absorbers, seats, and tires can reduce the risk of injury.

7. **Workers should review their daily routines.**

- Is their workday filled with repetitive motions?
- Do they try to vary their routines or take minibreaks?
- Do their jobs require forceful movements and awkward postures?
- Can these risks be reduced by better positioning of work materials to reduce lifting, stretching, bending, and twisting?
- Is their workstation adjustable for their size and individual needs?
- Can simple changes make the workstation more comfortable?
- Do workers avoid extensive use of equipment that exposes them to vibration?
- Do workers know they should report any symptoms like pain, tingling, or numbness to their supervisor immediately so they can receive treatment?



DISCUSSION POINTS:

Ask for input about risks for musculoskeletal injuries in your facility and suggestions for changes that could reduce those risks.



CONCLUSION:

- Be aware of the common risk factors for MSDs.
- There are often simple and inexpensive changes that can reduce the risks greatly. MSDs are painful, disabling, and costly to everyone. Everyone will benefit from a workplace and duties designed to fit the individual worker.



TEST YOUR KNOWLEDGE:

Have your employees take the Preventing Musculoskeletal Injuries quiz. By testing their knowledge, you can judge whether they are really aware of the risk factors or whether they need to review this subject again soon.



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PREVENTING MUSCULOSKELETAL INJURIES QUIZ

- Jobs should be designed to fit workers in order to prevent musculoskeletal disorders (MSDs).**
a. True b. False
- Workers whose jobs require repetitive motions often suffer injuries to the upper body, especially the fingers, wrist, elbows, shoulder, and neck.**
a. True b. False
- Workers who can sit all day don't have to worry about MSDs.**
a. True b. False
- The standard workstation has been designed to be right for all workers.**
a. True b. False
- Extended reaches and twisting are additional risk factors for MSDs.**
a. True b. False
- Jobs that involve lifting often include forceful movements and awkward postures and can cause disabling lower back pain.**
a. True b. False
- Driving off-road vehicles or forklifts for long periods can cause arm-hand vibration.**
a. True b. False
- A footrest allows standing workers to shift position from time to time and reduces the risk of MSDs.**
a. True b. False
- Lifting something placed close to the ground is more difficult than lifting something at waist level.**
a. True b. False
- Extensive use of tools like grinders, sanders, drills, jackhammers, and chain saws can cause arm-hand vibration injuries.**
a. True b. False

When you have completed this quiz, turn it in to your supervisor.

Name: _____

Date: _____



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ANSWERS TO PREVENTING MUSCULOSKELETAL INJURIES QUIZ

1. a. True.
2. a. True.
3. b. False. They still each need a comfortable workstation that has been adjusted for them, and they should vary their routines or take minibreaks to give their muscles a rest.
4. b. False. A workstation should be adjusted to a worker's size and individual needs.
5. a. True.
6. a. True.
7. b. False. Driving off-road vehicles or forklifts for long periods can cause whole body vibration injuries.
8. a. True.
9. a. True.
10. a. True.