

MUSCULOSKELETAL INJURY (MSI)

IDENTIFY

Musculoskeletal injuries (MSIs) are injuries of the muscles, nerves, tendons, ligaments, joints, cartilage, or spinal discs. MSIs do not include musculoskeletal injuries that are the direct result of a fall, a struck-by or struck-against event, vehicle collision, violence, etc.

All employers and supervisors should review the Workplace Safety and Health Regulation Part 8 for more information.

Risk factors for MSIs include:

- 1. Forceful exertion** – force is the amount of effort required to perform a task or job (e.g. lifting, pushing, pulling, and gripping a tool).
- 2. Awkward postures** – awkward postures are those in which joints are held or moved away from the body's natural position (e.g. stooping, bending over, kneeling, and reaching overhead).
- 3. Repetitive movements** – movements performed over and over are called repetitive movements (e.g. nailing a deck, screwing drywall, and tying rebar).
- 4. Secondary risk factors:**
 - Contact pressure
 - Vibration
 - Poor fitting or restrictive gloves
 - Working in cold or hot temperatures

COMMUNICATE AND CONTROL

There are steps you can take to reduce or prevent MSIs.

Engineering controls

The preferred approach is to design the job to the capabilities and limitations of the workforce.

Engineering controls are measures taken to physically modify the forcefulness, repetitiveness, awkwardness, or vibration levels of a job. Examples include modifying the workstation layout as well as selecting and using tools, work materials, and work methods that will reduce MSI risk.

Administrative controls

Administrative controls are management-directed work practices and policies to reduce or prevent exposures to risk factors. Administrative control strategies include changes in job rules and procedures such as more rest breaks, job rotation, and training.

Manual handling of tools and materials

- Plan ahead to minimize material handling.
- Use carts, dollies, hoists, or other mechanical handling devices.
- Use ladder hoists, gin poles, daisy chains, or cranes to move materials on or off roofs.
- Use chain falls, motorized buggies, carrying handles, or extension handles for carrying large or awkward materials such as drywall.
- Break loads into smaller units. For instance, put cement in bags weighing less than 50 pounds.
- Use shoulder pads when carrying loads on shoulders.
- Warm-up and stretch before starting work.
- Label materials with their weight.
- Get another person to help you lift heavy objects.

Work at ground or floor level

- Use tables, benches, or stands to bring work to waist height.
- Store materials at waist height.
- Use pipe stands on pipe and steam fitting jobs, D-handles or longer handles for shoveling, rebar-tying devices, stand-up fastening systems for roof insulation, rug rippers, carpet stretchers, and pipe/conduit benders.

Overhead work

- Use drywall lifts, material lifts, duct jacks, scissor lifts, and extension poles or stands for tools when doing overhead work.
- Make use of adjustable scaffolds, aerial work platforms, or other work platforms to decrease awkward postures.

Kneeling

- Use knee pads. Wear pants with knee pad pockets.
- Take mini rest and stretch breaks.

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Hand tools

- Use handles that are more comfortable and give you a better grip.
- Select hand tools that are designed for a neutral wrist posture and that reduce the amount of force required.
- Use tools that are low torque, low kickback, and lightweight.
- Maintain your power tools regularly so that they run with low vibration.
- Use vibration-absorbing padding on grips and handles.

THE QUIZ

1. List two MSIs:
a) _____
b) _____
2. List two risk factors for MSIs:
a) _____
b) _____
3. List two examples of how to reduce or prevent MSIs for manual handling of tools and materials:
a) _____
b) _____
4. List two examples of how to reduce or prevent MSIs for working at ground or floor level:
a) _____
b) _____
5. List two examples of how to reduce or prevent MSIs for overhead work:
a) _____
b) _____
6. List two examples of how to reduce or prevent MSIs for kneeling work:
a) _____
b) _____
7. List two secondary risk factors of MSIs:
a) _____
b) _____
8. List two repetitive movements you may experience on site:
a) _____
b) _____

1. Strained back, sore neck, and/or sore wrists; 2. Forceful exertion, awkward posture, and/or repetitive motion; 3. Mechanical assistance, two-man lift, and/or stretch; 4. Use tables, pipe stands; 5. Aerial lift, scaffold; 6. Knee pads, and/or mini-rest breaks; 7. Vibration, extreme temperatures, and/or pressure; 8. Site-specific answers

ANSWERS: