

### Risk Factors

#### List MSD hazards on site

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### Explain dangers

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

Some recognized risk factors for MSDs are:

#### 1) Forceful exertion

- Force is the amount of effort required to perform a task or job.
- Lifting, pushing, pulling, and gripping a tool are examples of activities that require you to exert force or muscle effort.

#### 2) Repetitive movements

- Movements performed over and over are called repetitive movements.
- Nailing a deck, screwing drywall, and tying rebar are examples of repetitive tasks.

#### 3) Awkward postures

- Awkward postures are those in which joints are held or moved away from the body's natural position. Examples are stooping (bending over), kneeling, and reaching overhead.

#### 4) Secondary risk factors

- **Contact pressure**, which is any external pressure applied to soft tissues of the body.

Holding tools where handles press into parts of the hand is an example of contact pressure.

- **Vibration** can cause damage to nerves and blood vessels as well as other soft tissues.

### Identify controls

Two approaches are widely accepted for preventing MSDs.

#### 1. 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 MSD risk.

#### 2. 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.

Although engineering controls are preferred, administrative controls can be helpful as temporary measures until engineering controls can be implemented or when engineering controls are not technically feasible.

### Demonstrate

- Ask the crew to describe any tasks that can contribute to MSDs and any solutions that can reduce the risk of MSDs.