Musculoskeletal disorders (MSDs)—Controls

**Explain dangers**

Musculoskeletal disorders (MSDs) are injuries of the muscles, nerves, tendons, ligaments, joints, cartilage, or spinal discs. Risk factors for MSDs include:

1. **Forceful exertion** (e.g., lifting, pushing, pulling, and gripping a tool)
2. **Awkward postures** (e.g., stooping, bending over, kneeling, and reaching overhead)
3. **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

**Identify controls**

**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 lb.
- Use shoulder pads when carrying loads on shoulders.
- Exercise and stretch before starting work.
- Label materials with their weight.
- Get another person to help you lift heavy objects or awkward loads.
- Use proper lifting techniques. Lift with your legs, do not bend over and lift with your back, and keep the load close to your body.

**WORKING WITH HAND TOOLS**

- Use handles that are more comfortable and give you a better grip.
- Maintain your power tools regularly so that they run with low vibration.
- 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.
- Use vibration-absorbing padding on grips and handles.

**WORKING AT GROUND OR FLOOR LEVEL**

- Use tables, benches, or stands to bring work to waist height.
- Store materials at waist height.
- Change positions (e.g., sit, stoop, or kneel with kneepads).
- Use pipe stands on pipe and steam fitting jobs, D-handles or longer handles for shovelling, rebar-tying devices, stand-up fastening systems for roof insulation, rug rippers, carpet stretchers, and pipe/conduit benders.

**KNEELING**

- Use high-quality kneepads.
- Wear pants with kneepad pockets.
- Take short rest and stretch breaks.

**WORKING OVERHEAD**

- Use drywall lifts, materials lifts, duct jacks, scissors 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.

**Demonstrate**

Ask your crew to share ideas about how to reduce the risk of MSDs.