Flying forms—Musculoskeletal disorders

Explain dangers

Flying forms are popular because they can save time and, in some cases, are safer than using built-in-place methods. Although there are some advantages to using flying forms, there are also some disadvantages. The hazards associated with flying forms can lead to serious injury if proper precautions are not taken.

Musculoskeletal disorders (MSDs) are one of the significant risks of working with flying forms. MSD is an umbrella term for a number of injuries and disorders of the muscles, tendons, ligaments, bones/cartilage, and nerves. They occur when the physical demands of work tasks exceed the physical capabilities of the workers.

Although flying forms are moved by heavy equipment from one area to another, workers must assemble them. The tasks involved in assembling the forms can put you at risk of developing an MSD.

The following are some of these hazards:

- **High forces** (e.g., carrying and lifting heavy forms, shoring, steel and wood columns, operating hand tools like wrenches, hammers, and pry bars, etc.)
- **Awkward postures** (e.g., bending and kneeling to cut or nail material, assembling forms below knee level, working in tight spaces, etc.)
- **Repetition** (e.g., repeatedly assembling forms throughout the day, etc.)
- **Contact stress** (e.g., putting pressure on your shoulders while carrying large objects on the shoulder and/or kneeling on the ground, etc.)

Identify controls

Engineering controls

- Place heavy materials close to your work area to reduce the carrying distance.
- Use sawhorses or a raised bench to cut plywood.
- When possible, store heavy materials at least at standing knee height to avoid bending.
- Consider using pre-assembled, engineer-approved guardrail systems instead of building wooden guardrails and posts at the jobsite.

- Use mechanical equipment such as cranes, forklifts, or backhoes to lift or move heavy objects.
- Use a cart to transport materials.
- Use tools that allow you to grip the tool using a power grip.
- Eliminate the use of pinch or key grips.
- Choose tools that have triggers that allow for the use of multiple fingers rather than one finger or a thumb.
- Choose tools that can be used with your wrist straight, that have vibration-reducing features, or that are lighter and designed to reduce hand torque and kickback.
- Ensure the tool is balanced and does not require static muscular effort to hold it in position.
- Ensure the handle of a tool does not create pressure points in the palm of your hand.
- Use tools with handles that fit your hand (e.g., use a smooth, cushioned hand grip rather than one with hard ridges that space out your fingers).
- Use rubber or sponge-type grips on tool handles.
- Make sure your employer provides tools that can be safely used by either left-handed or right-handed workers.

Flying forms—Musculoskeletal disorders continued

Administrative controls

- Use proper lifting techniques. Lift materials with your legs rather than bending over and lifting with your back. Keep the load close to your body.
- Get help from a co-worker if something is too heavy for you to handle safely.
- Maintain and inspect tools regularly. Ensure worn or damaged tools are fixed or replaced.

Personal protective equipment

- If you must carry heavy materials because a cart or other device is not available, use shoulder pads.
- Ensure equipment such as gloves fit you properly (per O. Reg. 231/91, s. 21(4)). Personal protective equipment can lead to additional force requirements if it fits poorly.

Demonstrate

Identify all transportation devices available on site that workers can use (e.g., carts, lift trucks).

Demonstrate the proper technique for lifting.

Survey the work area and provide tips for improvement (e.g., store material closer to work areas, ensure worktables are the proper height).