MSI Risk Factors

Forceful Exertions

Forceful exertions describe the amount of effort exerted by muscles to complete a job or task.

A job may involve high amounts of force (a single action of lifting a heavy load) or a continuous build-up of force on the body over time (frequently lifting lighter loads). Without enough rest for muscles to recover, the soft tissues weaken over time.

Force is required to perform manual tasks like lifting, lowering, carrying, pushing, pulling, gripping, and manipulating loads.

Examples of forceful exertions:

- Lifting and supporting a client or animal.
- Lifting product on a packaging line.
- Manual order picking.
- Pushing and pulling carts.
- Loading and unloading trucks.
- Operating equipment overhead.
- Using a pry bar to move heavy objects.
- Moving trolleys in crammed spaces.
- Squeezing tin cutter pliers to cut sheet metal.

Risk of injury increases as:

- The amount of force required increases.
- The posture used gets more awkward.
- The number or speed of repetitions increases.
- The length of time the force is exerted between breaks increases.

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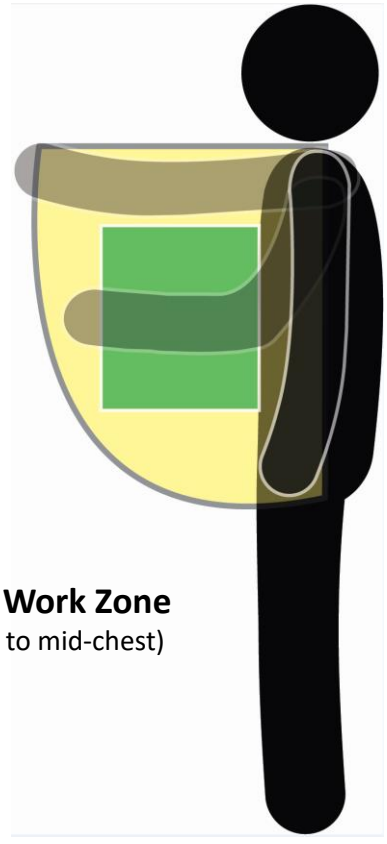
Engineering controls

- Automate tasks or provide mechanical aids.
- Provide adjustable equipment and machinery (like a pallet lift or turn table).
- Raise work level to avoid lowering forces.
- Replace lifting, lowering and carrying actions with pushing and pulling.
- Design carts for pushing rather than pulling.
- Position materials to be lifted close to the body and between mid-thigh and mid-chest height.
- Design containers to reduce the effort required to lift and hold them.
- Suspend heavier hand tools from balancers or tool supports.
- Use lighter and better-fitting hand tools.
- Design work for a power grip rather than a pinch grip.

Administrative controls

- Implement job rotation and task variety to reduce exposure to forceful exertions.
- Provide rest breaks and microbreaks so muscles can recover.
- Establish a preventative maintenance schedule for equipment and tools (e.g. knife sharpening, wheel greasing).
- Instruct workers in the use of specific measures to control risk (e.g. safe work procedures, mechanical aids).
- Train workers in proper body mechanics and lifting techniques.



Preferred Work Zone (knuckle to shoulder)

Best Work Zone
(waist to mid-chest)

What can you do?

- Warm up before doing physically demanding work.
- Follow safe work practices and procedures. Use any mechanical aids that have been provided.
- Pace your work.
- Take smaller loads and make more frequent trips.
- Take frequent microbreaks and regular scheduled breaks.
- Alternate physical and non-physical tasks.
- Use proper body mechanics during manual handling activities.
- Report ergonomics-related concerns and any signs or symptoms of MSI.

For additional information please contact:

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