

HOMEBUILDING: CARPENTRY FINISHING

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Musculoskeletal disorders (MSDs), such as chronic back pain or shoulder problems, often take time to develop. Forceful exertion, awkward positions, hand-arm and whole-body vibration, contact stress, and repetitive tasks can add up over time to produce an MSD.

This profile can help you identify and control MSD hazards in your job. We recommend that you add the best practices outlined here to your company's health and safety program. The hazards in a particular job, however, may be different than the ones on this profile, so evaluate the risks of your particular activities.

In general, when implementing controls, consider the following ergonomic principles:

- 1. Use handling equipment when possible.** The most effective intervention to control the risk of developing an MSD is to eliminate or reduce the frequency of lifting, carrying, pushing, and pulling. Use material-handling equipment such as carts, dollies, pallet jacks, or manual forklifts.
- 2. Don't lift a load from the floor.** Lifting from the floor or below standing knuckle height can expose your back to significant stresses and reduce your lifting capacity. Avoid this procedure by storing objects above standing knuckle height and below standing shoulder height.
- 3. Avoid working on the floor.** Constantly working on the floor can result in injuries to your back, hips, and knees because it usually requires kneeling and bending your back forward. When possible, raise the work height by using a workbench.
- 4. Minimize work above your shoulder.** High lifting or constant reaching above the shoulder level is harmful for three reasons.
 1. Your muscle strength is reduced because most of the muscle work is performed by your shoulders and arms instead of by the bigger muscles in your back and legs.
 2. Your shoulder and arm muscles fatigue more quickly than your back and leg muscles because of reduced blood flow.
 3. Lifting or removing an object from a high shelf can be dangerous because you could drop the object.
- 5. Move smaller weights often or get help.** Smaller weights put less stress on your back than larger weights, even if the frequency of lifting is increased.
- 6. Exercise programs.** Consider exercise programs. They help to prevent MSDs and promote general good health.

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Tasks	What can happen (Hazards/Risks)	Potential Controls
Millwork <ul style="list-style-type: none"> ▶ Installs kitchen cabinets 	<ul style="list-style-type: none"> ▶ Back injuries due to lifting heavy, awkward loads 	<ul style="list-style-type: none"> ▶ Cabinets can be awkward to handle because of their size. Get help to carry them. If possible, slide them along the floor instead of carrying them. ▶ To reduce strain and exertion when installing cabinets, use a mechanical support device or build a portable prop stand and use it to support the upper cabinets for fastening. ▶ Cut all materials on a work bench. Avoid cutting below your waist level.
Trim <ul style="list-style-type: none"> ▶ Installs baseboards, door and window casings, crown moulding, chair rails, and more 	<ul style="list-style-type: none"> ▶ Back injuries due to awkward postures (bending, squatting, and kneeling) 	<ul style="list-style-type: none"> ▶ Use dollies and carts to move heavy materials. ▶ Cut all materials on a work bench. Avoid cutting below your waist level. ▶ Set up the saw at a comfortable height on a long, sturdy table. Try to use a table long enough to support a length of trim. ▶ When working on the floor, reduce pressure on your knees by wearing thick knee pads to distribute your body weight over a wider area. Knee pads also reduce the risk of wounds and infections from kneeling on sharp objects. ▶ Use knee pads with castor wheels to help you move around while working on the floor. ▶ Use kneeling creepers (such as Master Rac) to support your upper body and to allow you to move easily when working at or near floor level. ▶ Take a five-minute break during each hour of work. Stretch your back, legs, arms, and neck. ▶ During breaks, give your muscles a rest. For example, sit on a comfortable chair with a back rest.

Tasks	What can happen (Hazards/Risks)	Potential Controls
Permanent Stairs ▶ Installs stairs	▶ Overexertion injuries to the back and shoulders from lifting heavy, awkward loads ▶ Back injuries due to awkward postures (bending, squatting, and kneeling)	▶ Bring the vehicle as close as possible to the entrance so you don't have to carry materials over a long distance. Use a metal bridge plate to span the gap from the truck to the porch, when applicable. ▶ Site supervisors should schedule work so that the house entrance is clear when deliveries arrive. ▶ Make sure you have a clear path from the truck to the house before unloading stairs. ▶ When possible, use mechanical devices to lift and place stairs. Get help from other workers if the stairs are large.
Railing Installation ▶ Removes temporary rails and installs permanent rails	▶ Back injuries due to awkward postures (bending, squatting, and kneeling)	▶ Cut all materials on a work bench. Avoid cutting below your waist level. ▶ Set up the saw at a comfortable height on a long, sturdy table. Try to use a table long enough to support a length of rail. ▶ When working on the floor, reduce pressure on your knees by wearing thick knee pads to distribute your body weight over a wider area. Knee pads also reduce the risk of wounds and infections from kneeling on sharp objects. ▶ Take a five-minute break during each hour of work. Stretch your back, legs, arms, and neck. ▶ Avoid working in one position for a long time. Get up and stretch to reduce the risk of injury.

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