

Construction Ergonomics





Choose tools that are more ergonomically correct.

Make sure that vibration from power tools is kept to a minimum.

Choose tools that are as light as possible to reduce the force needed to use them.

Choose well-balanced tools so you are not expending extra energy trying to hold the tool in place. Make sure that the tool handle allows you to hold it comfortably.

Avoid bending at the waist for prolonged periods of time.

Raise the work, if possible, on two sawhorses or a bench. Sit on a stable stool if you must work at lower levels for any period of time. This helps reduce the stress on your back from bending forward and reduces the stress on your knees from squatting.

Avoid storing materials at ground level.

Balance your tool belt.

When worn all day, a tool belt that is heavier on one side than the other can pull your back out of alignment. This forces the muscles on the unloaded side to work harder to compensate.

Balance the tools and supplies around your tool belt. Don't carry more than you must, and don't

wear a tool belt if you don't need to.

Remember to take your tool belt off during breaks to give your body a rest.

Don't twist from the waist while working.

Repeated twisting of the lower back during lifting or shoveling is a common mistake. Instead, lift your feet and turn your hips and body in that direction when shoveling, moving blocks, etc.

If you must lift, lift safely.

You know the drill, but here's a reminder. Plan the lift and test the load. Get help. Use a buddy or material handling equipment.

Keep the load close. Tighten your stomach muscles as you lift.

Lift with your legs and keep your back straight. Lower the load the same way.

Minimize overhead work.

Overhead lifting and reaching causes the back to arch. Excessive arching places stress on the small joints of the spine and places additional strain on the neck and shoulders. If you must work overhead, get as close to your work as possible by standing on a platform or ladder. Take frequent breaks by lowering your hands and periodically bending forward with your hands on your knees to stretch out your back.

Keep your wrists and arms neutral.

Working with your wrist bent either back or forward increases the chances that you'll develop problems. Avoid working with your arms outstretched, if possible; this puts more strain on your body. And if you develop pain, swelling, tingling, and signs of an



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overuse injury, take the time to rest. Trying to work through the pain will only make it worse.

Push rather than pull.

Pushing loads allows you to maintain the natural curves in your back and reduces twisting.

Use good techniques when shoveling.

Keep your feet wide apart with your front foot close to the shovel.

Put the bottom hand low toward the blade. Shift weight to the rear foot. Keep the load close to your body. Turn your feet in the direction of the throw of your load. Try changing your grip or the direction of the throw periodically to avoid continually loading the same soft tissues.

Identify Difficult Jobs.

Because of the variety of tasks in the construction industry, it is important to identify tasks that require one or more of the above risk factors. By asking why these risk factors exist, the tasks can be retooled, or the work practices modified to reduce risk. The following tasks are some that have been identified as high risk.

Framing

Working at ground level (nail gun, saw, etc.).

Lifting building materials from ground level.

Manually lifting trusses to the top of the second story.

Lifting and carrying plywood flooring.

Lifting assembled walls.

Moving materials to the 2nd story.

Drywall

Lifting sheets of drywall from at or near ground level.

Prep work on drywall sheets (cutting/sanding) at or near ground level.

Installation of drywall sheets near ground level.

Overhead installation (either ceilings or high walls).

Masonry

Distribution of block/brick throughout the work site from delivered piles (using a wheelbarrow).

Re-distribution of block/brick from temporary piles (by hand or bucket).

Erecting scaffolding—lifting/positioning metal framework—lifting/placing flooring of the scaffold.

Lifting bricks and mortar to people on scaffolding (thrown or in a bucket).

Laying brick near or below ground level (on ground and scaffolding).

Lifting heavy bags up to the mixer and shoveling.