



MATERIALS HANDLING

Materials handling work contributes to a large percentage of the over half a million cases of musculoskeletal disorders reported annually in the United States.

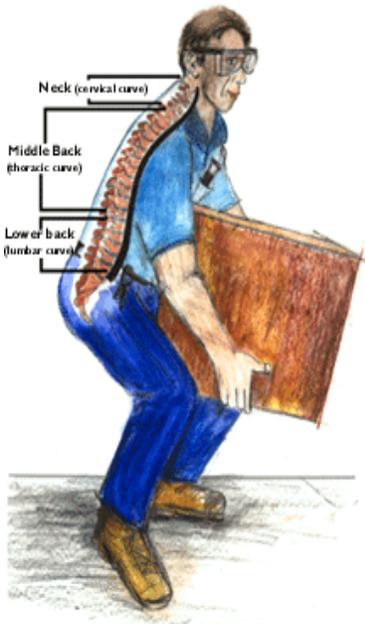
Musculoskeletal disorders often involve strains and sprains to the lower back, shoulders, and upper limbs.

Scientific evidence shows that effective ergonomic interventions can lower the physical demands of materials handling work tasks, thereby lowering the incidence and severity of the musculoskeletal injuries they can cause.

Proper Lifting Techniques:

Lifting is strenuous – it requires proper training and technique. Lifting with your large, strong leg muscles instead of the small muscles of the back, you can prevent back injuries and reduce low back pain.

There are five steps to follow when lifting an object:



- ☑ **Get close to the load:** Get as close to the load as possible (as if you're hugging the object). Having the object close to your body puts less force on your lower back.
- ☑ **Maintain your curves:** Keep yourself in an upright position while squatting to pick up.
- ☑ **Tighten your stomach muscles:** Tightening the stomach helps support the spine. Don't hold your breath while tightening the muscles.
- ☑ **Lift with your legs:** Your legs are the strongest muscles in your body - so you use them.
- ☑ **Pivot - don't twist:** Turn with your feet, not your back. It isn't build for twisting from side to side.



Factors Associated with Back Disorders:

Back disorders result from exceeding the capability of the muscles, tendons, discs, or the cumulative effect of several contributors:

- Reaching while lifting
- Poor posture--how one sits or stands
- Stressful living and working activities--staying in one position for too long
- Bad body mechanics - how one lifts, pushes, pulls, or carries objects
- Poor physical condition - losing the strength and endurance to perform physical tasks without strain
- Poor design of job or work station
- Repetitive lifting of awkward items, equipment, or (in health-care facilities) patients
- Twisting while lifting
- Bending while lifting
- Maintaining bent postures
- Heavy lifting
- Fatigue
- Poor footing such as slippery floors or constrained posture
- Lifting with forceful movement
- Vibration, such as with lift truck drivers, delivery drivers, etc.

Back Safety Tips: Protect Yourself

Injuries can be reduced by planning, changing the work process, and by training workers and supervisors.

Plan

- Warm-up exercises before work can help reduce muscle injuries
- Cut down on carrying. Have materials delivered close to where they will be used.
- Try to store materials at waist height
- Raise your work to waist level



- Make sure floors and walkways are clear and dry. Slips, trips, and falls can result in a back injury.
- Take rest breaks. When you are tired, you are at greater risk for a possible injury.

Get Help

- Use carts, dollies, forklifts, and hoists to move materials — not your back.
- Use carrying tools with handles to get a good grip on wallboard or other odd-shaped loads.
- If materials weigh more than about 50 pounds, do not lift them by yourself. Get help from another worker or use a cart.

Move Carefully

- When lifting or carrying materials, keep the load as close to your body as you can.
- Try not to twist, when lifting and lowering materials. Turn your whole body instead.
- Lift and lower materials in a smooth steady way. Try not to jerk the lift.
- When you pick up materials off the ground:
 - Try supporting yourself by leaning on something while lifting.
 - Don't bend over; instead, kneel on one knee and pull the load up on to your knee before standing.



Requesting Back Safety Training

Departments requesting back safety training or on-site workplaces observations should contact Environmental Health & Safety (EH&S).

Environmental Health & Safety instructors will demonstrate ways to prevent musculoskeletal strain or injury by demonstrating:

- Stretching techniques
- Lifting techniques
- Proper bending and reaching techniques
- Review proper application of material handling equipment



This course will also provide educational resources on materials handling and engineering controls and best work practices.

Prior to Classroom Training:

Before the classroom training session, EH&S will visit the workplace to conduct back safety – material handling observations.

- We will observe the work environment, take notes and photographs. This information will then be used to conduct back safety/material handling training that is unique to that specific job task and group.
- Educational training materials will be tailored for the classroom based training session.
- Following the observation/training session, a written report with recommendations on proper work practices and materials handling will be issued to the School/Department.