



Ergonomics

## **eSafetyLine – Safety Talk**

### **Lifting, Holding and Handling Materials**

Many construction sites these days use some type of mechanical device for lifting, carrying, holding pushing or pulling loads of materials. However, much of this type of work is still done manually putting employees at risk for injuries. Lifting and carrying materials often or for long periods of time puts constant stress on your back and shoulders. This will eventually lead to a serious muscle or joint injury. Although carts and dollies are used to reduce injury, their use can also lead to injury if they are very heavy or moved incorrectly.

The most common injuries that occur when lifting, holding or handling materials typically involve three areas of the body:

- **The back-** The back is made up of a series of joints between the bones of your back (vertebrae) and the flexible “jelly” filled pads called discs. These joints allow for the great flexibility of the back, it also puts the back at risk for pain and musculoskeletal injuries. When an employee lifts, bends forward, stretches upward or outward, the muscles of the back work harder, ligaments stretch and the discs get squeezed. These movements can, over time cause the discs to become weak and even to rupture. This can cause permanent pain for the employee.
- **Shoulders and neck-** Carrying even light loads above shoulder level can quickly lead to tired and sore shoulder and neck muscles. The heavier the load, the quicker these muscles will become tired and become at risk for injury. Carrying or resting a load on the shoulders can also cause neck and shoulder injuries. The shoulder joints are lubricated by fluid filled sacs called bursa. Continual stress on the shoulders will squeeze the bursa causing them to become stiff, swollen and inflamed. If this isn’t dealt with, it may become impossible to lift the arms.

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- Arms, hands and wrists- When a load is carried manually, the soft tissues of the hands and wrists can be cut or worn. By carrying a load that is large or awkward, the hands and wrists are forced into a stressful, dangerous position.

There will always be a certain amount of manual material handling at every construction site but it can be done in a way to reduce the possibility of an injury. Solutions can include methods to reduce how often and how long these tasks are to be performed or using smarter ways to lift and carry loads. These solutions can include changing:

- Materials or work process. This would mean using materials, building components or work methods that are less labor-intensive. The problem is that these types of changes can affect the cost or the contract and would probably require the approval of the architect, engineer or general contractor.
- Tools and/or equipment. There are many types of material handling devices that can be purchased or rented for all aspects of construction. Devices include special round handles and cushioned grips for carrying heavy objects, powered and non-powered carts and dollies for indoor and outdoor use. There are also a great variety of mechanical, hydraulic and vacuum lifts that can be used to position most construction components and materials.
- Work rules. Site rules can be set that require materials to be stored at a convenient height off the ground and transported using some type of mechanical device. Improved planning of storage areas can also help to minimize how often materials need to be moved at a site.
- Training- Employers can provide ergonomics training to help employees identify potential hazards and find effective solutions, as well as workplace exercise programs to help decrease muscle injuries.

Most of these solutions are cost effective and can help keep the employees safe and productive.

## **Discussion Questions**

What are the most common injuries associated with lifting, holding and handling materials?

How can these injuries be avoided?

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# MEETING / TRAINING ATTENDANCE ROSTER

COMPANY: \_\_\_\_\_

\_\_\_\_\_ SAFETY MEETING

JOB/DEPT: \_\_\_\_\_

\_\_\_\_\_ SAFETY TRAINING

DATE: \_\_\_/\_\_\_/\_\_\_\_\_

TIME: \_\_\_\_\_

TOPICS ADDRESSED: \_\_\_\_\_  
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### EMPLOYEE'S SIGNATURES

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EMPLOYEE SUGGESTIONS AND RECOMMENDATIONS: \_\_\_\_\_  
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ACTION TAKEN: \_\_\_\_\_  
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Supervisor's Signature

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Date

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Safety Coordinator's Signature

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Date