

(Reviewed 5/08)

## GENERAL MATERIAL HANDLING / SAFE LIFTING

(For assistance, please contact EHS at (402) 472-4925, or visit our web site at <http://ehs.unl.edu/>)

To prevent back injuries, use correct procedures for lifting and get help whenever necessary, as described in this SOP.

### Maximum Comfort Zone

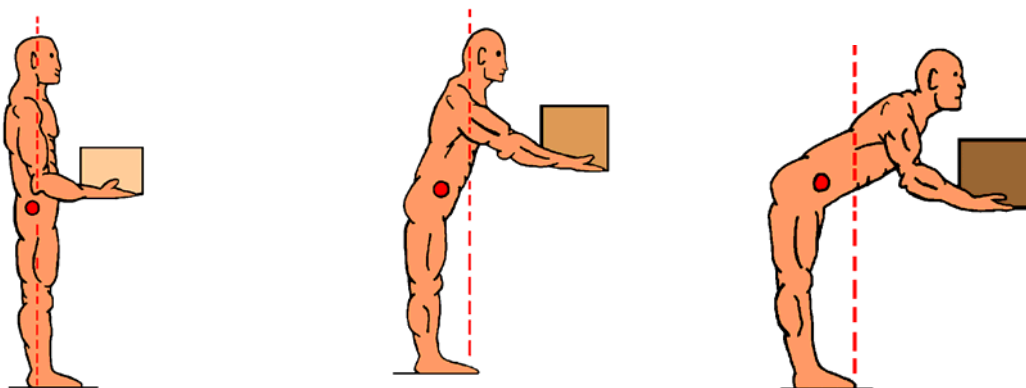
Handle boxes and materials within the maximum comfort zone, which is roughly the area just below the shoulders and just above the knees. Repeatedly lifting or carrying objects above shoulder height can put unnecessary strain on the neck and shoulders. Moving objects that are low to the ground (such as items on the bottom shelf of a storage rack) can put strain on the lower back.



### Plan the Lift

Lifting an object from the ground is more stressful than lifting the same object from several inches off the ground. When possible, store objects on platforms (i.e., shelves or pallets) that raise them off the ground. Starting positions that are at a level between the knee and waist are the least stressful to the back.

- Face the load squarely, keep back straight, and use legs to lift. Feet should be about shoulder width apart to provide a stable stance.
- Never lift and twist. This action is hard on the back.
- Use carts or mechanical lifting devices to prevent excessive lifting.
- The load should be lifted and carried as close to the body as possible. When the load is not carried closely, the body is positioned out of alignment and more strain is put on the lower back.



This may require bringing the object to the edge of the shelf or pallet in preparation for the lift. Do not reach over other objects.

- Plan the placement/delivery. Once the object reaches its final destination, be sure to set it down in the same manner of lifting it: do not bend at the waist, keep the object close to body, and maintain a wide stance.

To prevent overuse injuries, pay attention to pain, numbness and/or tingling and take action to prevent further strain or injury. Have a co-worker observe the lifting technique to see if there are position changes that can be made. Change the routine: do not repeat the same activity over and over, but alternate it with other activities. In some situations, equipment or tools are available that will reduce physical stress.

### **Reducing Push/Pull Forces**

Pushing and pulling are common material handling tasks performed in just about any work environment, from factory floors to offices to field installations. Below are three simple approaches to reducing the force required to push or pull when using a wheeled device:

- **Lighten the load.** This seems obvious, but sometimes making more trips with a lighter load makes sense, particularly when pushing and pulling up an incline, such as when loading a trailer.
- **Maintain your casters (wheels).** Wear and tear on the casters can greatly increase push/pull force. Periodically check casters to ensure that they are moving and turning freely.
- **Select different casters.** There are numerous sizes and materials available for casters. Selecting the right type can have a huge effect on the force required to push or pull equipment.