

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 and other strain injuries, use correct procedures for lifting and moving object and loads, as described in this SOP.

Getting Ready

Like any task or job, taking a bit of time prior to lifting or moving objects/loads to think about a few key factors can greatly reduce the potential for injury. Things to consider:

- Is a co-worker available to assist, if needed? If not and assistance will greatly reduce the risk of injury, put the task off until someone is available to help. When working as a team, pre-plan and discuss your roles and how you will maintain effective communication throughout the load moving process so that your actions remain in sync and are anticipated by the other.
- Consider ways to make the load lighter and less awkward. For example, can the load be disassembled, carried in pieces, and reassembled at the desired location? Can the items be broken into several loads? It is always best to carry light loads that are not awkward in shape, size, or unevenly weighted, when possible.
- How far will you have to move the load? A cart, hand truck, or similar mechanical aid should be used even for light loads if they have to be moved more than a short distance. Heavy or awkward loads should always be moved with a mechanical aid. The mechanical aid should be appropriate to the task (not re-purposing of a tool or device). See EHS SOP, **Cart and Hand Truck Safety**.
- What kind of surface will you be traveling over? Are there inclines, slopes, slick spots, holes, thresholds, cords running across the floor, stairs, clutter, or other conditions that may cause difficulty in moving the load (e.g., loose footing, cause wheels to jam or stop on carts, etc.)? Is an alternate route safer? If using a cart or other mechanical means, is the equipment suitable for the surface/area? Are there closed doors, and if so, how will you secure your load while opening/closing the doors that you need to go through? Walk the route right before engaging in the move to be sure that you have identified hazards and verified that your equipment is suitable.
- Know your limits. No one should attempt to manually lift anything heavier than 50 pounds, and this amount should be reduced if the load is not ideally shaped and in a position to allow for ideal lifting conditions or the travel surface conditions are less than ideal. Many people can not safely lift anywhere near 50 pounds, even if the load is ideal. Pay attention to your personal limits.

Recognize that your personal limit should be reduced for multiple lifts or when fatigued.

Maximum Comfort Zone

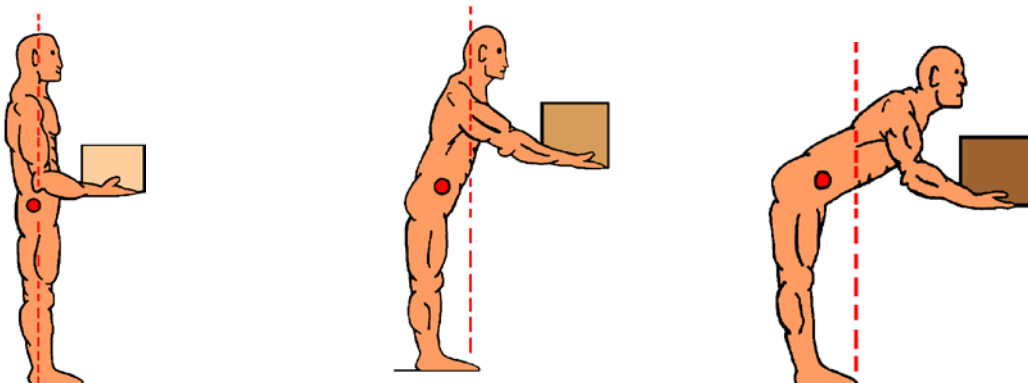
Handle boxes and materials within the maximum comfort zone, which is roughly the area just below the shoulders and just above the knees. Repeatedly lifting or carrying objects above shoulder height can put unnecessary strain on the neck and shoulders. Moving objects that are low to the ground (such as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

- Balance the load when possible. For example, if carrying handled containers (paint cans, etc.), carry one in each hand. If carrying or lifting a box, try to distribute the weight of the items evenly over the whole box (don't allow one side to be noticeably heavier than the other). Avoid carrying stacked items that can slip off and/or unbalance the load.
- Ensure that the load does not obstruct your vision and that it is secure so that it will not shift during transport.
- Test the weight of the load by tipping or moving it slightly before you pick it up.
- Face the load squarely, keep back straight, and use legs to lift. Feet should be about shoulder width apart to provide a stable stance. Avoid awkward body positions in picking up/carrying/setting down items.
- Avoid stretching/bending while lifting.
- Never lift and twist. This action is hard on the back. Move your feet to reposition your direction.
- Avoid awkward body positions in picking up/carrying/setting down items
- 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.



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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.

- If you become tired, put the load down and rest briefly. If the load begins to shift, put the load down, reposition and secure contents, resume.
- 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.