

Training Workers in Safe Lifting and Material Handling



Many companies establish training programs to teach workers the proper lifting techniques to control manual handling injuries. Low back pain is usually the most predominant and costly type of worker injury, and incorrect lifting procedures can be a factor in some back injuries. Research has identified these low back pain risk factors, which may be involved in lifting and other manual handling tasks:

- Excessive exertion or force,
- Bending the trunk,
- Twisting the trunk, and
- Reaching out.

The Liberty Mutual Research Center for Safety, in Hopkinton, Massachusetts, has conducted ergonomic studies of manual lifting for more than 40 years.

Our studies have concluded that the concepts of safe lifting are good, but that this type of training is generally ineffective if used alone. Training depends on workers consistently following the rules of safe handling, which is not always easy in a busy work environment.

Control Programs

Effective control programs require a multidisciplinary approach to prevention and treatment. For controlling manual handling injuries, the first course of action should always be to minimize the need for workers to lift or carry objects manually. This is accomplished by evaluating each manual handling task and redesigning it to follow ergonomic principles.

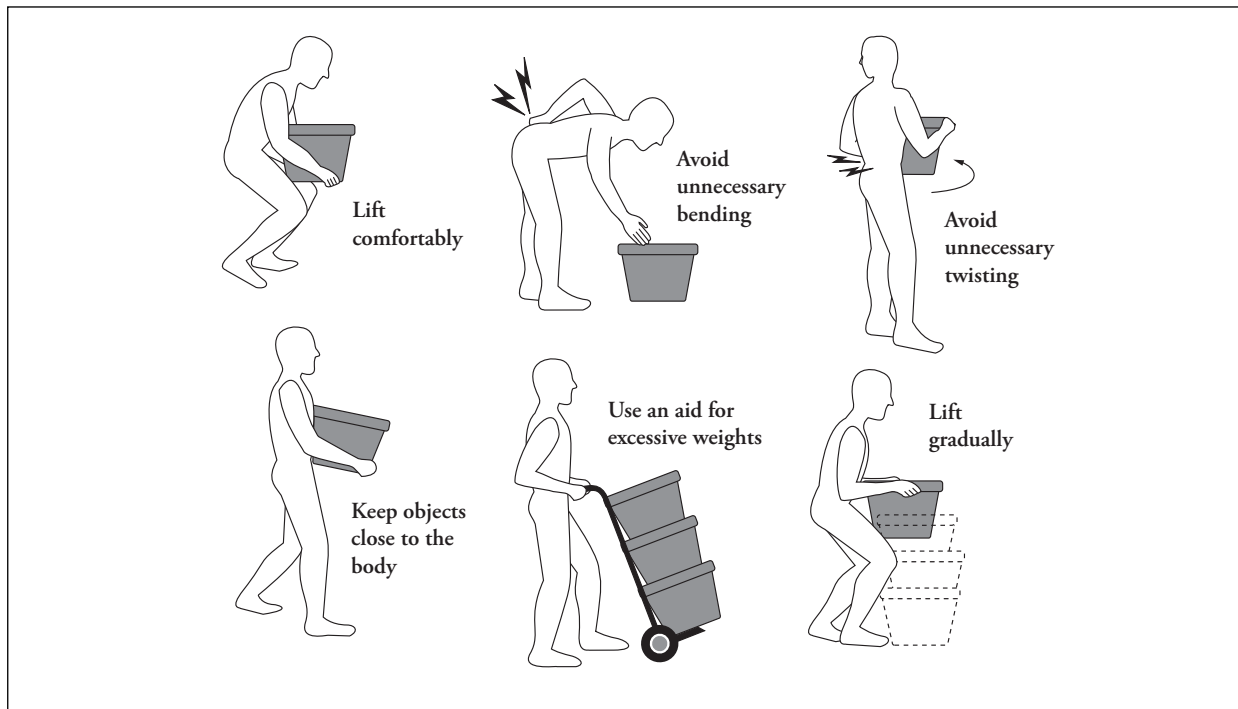
Task redesign will control one-third of low back pain cases overall, and two-thirds of cases among workers performing excessively difficult tasks. It is better to redesign a task so that workers have no need to bend or twist, than to try to teach them to bend or twist “safely.” Task redesign not only helps reduce the occurrence of low back pain, it also allows injured workers to return to work sooner. Excessively demanding tasks can still injure, even if the task is performed correctly.

Training

Once you have controlled or eliminated as many of the manual handling hazards as possible, it is appropriate to follow up with worker training. Training programs should provide an overview of the potential risk of injuries, their causes and symptoms, the means of prevention and treatment protocols.

The figures on page 2 show some of the techniques, developed through Liberty Mutual’s ergonomics research, that can help workers lower the risk of manual handling injuries. Worker training should incorporate these concepts:

- 1) Choose the position that feels best, preferably maintaining natural back curvature.
- 2) Do not place objects on the floor if they must be picked up later. Use a table, a platform, or a hoist device.
- 3) Leave enough room to be able to turn your feet, instead of your hips or shoulders. Never twist and bend at the same time!
- 4) Handle objects close to the body. Don’t reach out to pick up an object. Get help with bulky loads.



- 5) If the load is too heavy to lift comfortably, don't lift it! Get help or use a mechanical aid.
- 6) Get a good grip on the object and lift smoothly and slowly. Avoid jerking to lift or pull the load.

In addition, physical condition can sometimes be a factor in a worker's susceptibility to injury. Encourage workers to get proper exercise and to maintain a well-balanced diet.

The training should combine a general program with job-specific orientation and instruction that emphasizes the preferred and most efficient techniques. Most training programs that teach workers such techniques do produce some immediate, positive results. However, these results are generally temporary, with no long-term improvement in the accident rate. There is evidence that training programs directed toward high-risk workers (those with a history of low back pain) are more effective than general training.

Training is equally important for management and supervisors. Programs to implement task redesign and worker training require a continuing commitment. Managers and supervisors need to understand the nature of low back pain and the importance of task redesign in controlling of this type of injury.

Coordinated efforts that combine ergonomic principles, training, return to work programs, treatment, and rehabilitation are the most successful means to long-term low back injury prevention and cost control.

Related Materials

- LP 155, *Principles of Task Redesign*
- LP 180, *Manual Task Evaluation Concepts*
- LP 397, *Manual Task Evaluation Worksheet*

The illustrations, instructions and principles contained in the material are general in scope and, to the best of our knowledge, current at the time of publication. No attempt has been made to interpret any referenced codes, standards or regulations.

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