

LOSS CONTROL DATA GUIDE

Manual Material Handling Control Methods

Manual Material Handling Operations can result in many types of employee injuries. Often, these injuries will be diagnosed as strains or overexertion and will frequently involve the lower back region. In addition, the total number of manual material handling-related injuries is usually underestimated. A large percentage of falls, “caught in” and “struck by” type injuries are directly related to material handling tasks. Material handling injuries can be effectively controlled in two ways, elimination and control.

Elimination of exposure

The most effective way is to eliminate the exposures that are causing injuries. Mechanization removes the human portion of the task and reduces employee injury probability. Elimination of redundant and unnecessary manual material handling tasks will not only reduce injury potential, but will also increase productivity.

Methods of exposure elimination include the following:

- Powered conveyors and related systems
- Powered cranes and hoists
- Powered trucks
- Powered lift tables
- Specialized machinery
- Robots

To prevent creating additional exposures when mechanizing material handling operations, proper safeguarding and controls of equipment must be assured.

Control of exposure

If the exposure cannot be eliminated entirely, it can be modified by one or more of the following control methods.

Mechanical assistance

- Conveyor systems (powered and unpowered)
- Mechanical lifts (powered and unpowered)

- Hand trucks
- Specialized equipment

All mechanical aids do not have to be powered. Tools and devices which use mechanical advantage to reduce the work load can also reduce the injury probability.

Modification of work station

- Raising/lowering the height of the work station to eliminate unnecessary bending and reduce lifting distances.
- Decreasing the distance between the worker and the materials being handled or lifted.
- Reducing and/or eliminating twisting at the waist movement by eliminating awkward and/or cramped work areas.

Modification of work practices/ procedures

- Reduce the weight of material lifted or carried.
- Decrease the force required to move material.
- Decrease the frequency of the task.
- Reduce and/or eliminate stressful body positions (bent or stooped position, extended reach position, etc.).

Employee selection

- Place the most physically able employees on the most physically stressful tasks (determine by isometric strength testing).
- Avoid placing female workers, especially those over 40 years of age, on tasks which are likely to produce repetitive motion-type injuries.
- Avoid placing very young workers, especially females, on tasks which require heavy lifting.
- Avoid placing workers who have had a history, or suffered previous back pain or injury, on tasks which involve heavy, repetitive lifting.

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