

**Loss Control Bulletin #25**

Workplace injuries are common for manufacturing employees who routinely perform manual material handling tasks. The most common causes of such injuries are strains and overexertion involving the lower back. The annual incidence of manual material handling injuries is largely under-reported due to misclassification. A high percentage of injuries reported as falls, "caught in", and "struck by" type injuries are actually related to manual material handling tasks.

Manufacturing employees typically perform repetitive material handling tasks throughout the workday. Manual tasks performed with high frequency and for extended periods of time can cause **Repetitive Motion Injuries (RMIs)**.

The principle means of preventing RMIs involves applying Engineering and Administrative controls to manual material handling tasks. Often a combination of **Engineering and Administrative Controls** can be applied to tasks requiring repetitious bending, grasping, lifting, and twisting of various body parts. Engineering Controls or combinations of Engineering Controls and Administrative Controls are preferable and more effective than using Administrative Controls alone.

**Engineering Controls**

**Automation** is the ultimate and most effective means of reducing employee exposure to **RMIs**. Automation of redundant manual material handling tasks significantly eliminates material handling exposure while also increasing productivity.

Short of automation, many of the following simple to moderately priced engineer-

ing controls, used alone or in combination, can significantly reduce **RMIs**:

- Vertical and horizontal conveyor systems (powered and non-powered)
- Pallet jacks (powered and non-powered)
- Hand trucks
- Forklift trucks
- Hydraulic tailgates
- Self-leveling palletizers to eliminate unnecessary bending and reduce lifting distances
- Tools and devices that reduce the effort required for operation
- Reducing the weight of bundled material that must be lifted or carried
- Adjustable height workstations
- Redesigning work areas to eliminate the necessity for twisting at the waist, bending and stooping, extended reaching, particularly above shoulder height, and other stressful body positions.

**Administrative Controls**

When engineering controls are impractical, consider the following modified **Work Practices and Procedures** that can limit exposure:

- Provide additional assistance when needed to lift heavy objects.
- Decrease the frequency of the task.
- Use job rotation.
- Provide frequent rest periods.

It is important to remember that administrative controls can reduce RMI only when they are consistently enforced and carefully supervised.

**Employee Placement** also plays a significant role in minimizing worker injuries

when manual material handling tasks are physically demanding or require sustained repetitive motions. Some guidelines to consider include:

- 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 or who are pregnant, on tasks that are likely to produce repetitive motion type injuries.
- Avoid placing very young workers, especially females, on tasks that require heavy lifting.
- Avoid placing workers who have had a history, or suffered previous back pain or injury, on tasks that involve heavy, repetitive lifting.

To a lesser extent, the use of **personal protective equipment** such as a back support belt, may also help to prevent injuries. It is important that users of back support belts receive training on proper selection, adjustment, and limitations of these devices.

If you require additional assistance, please contact Republic Indemnity's loss control department.

The guidelines provided in this bulletin are only intended to provide an overview of some of the more important steps that can be taken by management to establish a safe workplace. The guidelines are not considered exhaustive of all measures and controls that can be implemented by management to address all potential loss or injury producing causes. Ultimately it is the responsibility of management to take the necessary steps to provide for employee and customer safety.