Workplace Injuries Associated with Grocery Store Workers

Prevention and Reduction in Loss Time

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ABSTRACT

Many of the work related injuries and illnesses experienced by grocery store workers are musculoskeletal disorders (MSDs), such as back injuries and sprains or strains that may develop from various factors, including lifting, repetitive motion disorders such as carpal tunnel syndrome, or injuries resulting from overexertion. MSDs may also be caused partly or wholly by factors outside of work. According to OSHA, 33% of all work-related injuries and illnesses are a result of work-related musculoskeletal disorders (MSDs). In 1997, compensation for such injuries comprised $1 out of every $3 spent on workers' compensation. Costs of MSDs were expected to rise from $20 billion to $54 billion / year.

The BLS Survey of Occupational Injuries and Illnesses (SOII) ranked grocery stores as one of the nine industries having 100,000 or more injury and illness cases in 2000. These nine industries accounted for 29 percent of the 5.6 million cases reported for all private industry that year.

The grocery store industry's injury and illness rate for total recordable cases was 8.4 per 100 full-time workers in 2000, compared with rates of 5.9 for all retail trade and 6.1 for private industry as a whole. Approximately 187,400 total injury and illness cases were recorded for grocery stores during 2000, with more than half (54 percent) involving cases without lost workdays. Of the 86,000 cases that did involve lost workdays, 55,000 required workers to miss one or more days of work, while 31,000 required workers to be restricted to light duties or to work a shortened schedule. During this period, the rate for cases involving days away from work decreased while the rate for cases with days of restricted work increased. As with the injury and illness rates, similar trends occurred in both retail trade and private industry as a whole. This data may suggest that the type of injuries or illnesses that workers are incurring are becoming less severe, or that establishments are making more effort to reassign workers to other duties through either transitional work or modifying work environments in lieu of days off from work.

About 96 percent of the grocery store cases occurring in 2000 were classified as occupational injuries; the remaining 4 percent were illnesses. Repeated trauma cases accounted for 73 percent of the total number of illness cases in the industry, considerably higher than the proportion for all retail trade industries (50 percent). Repeated trauma includes carpal tunnel syndrome and other motion-related disorders and usually involves the hand, wrist, elbow, or shoulder. For the past 5 years, the grocery store industry has ranked among the industries with the highest number of repeated trauma cases.

The most prevalent nature of injury or illness was strain and sprain, which accounted for about 45 percent of the grocery store cases in 2000.

Although most studies reviewed are associated with cashiers and clerks for the grocery chains, the injuries span all employees in various departments from stock boys to meat packaging.

The characteristics of injuries and illnesses incurred by the occupations within the grocery store industry help identify the specific hazards encountered by these occupations such as grocery store managers, cashiers and sales workers, and stock handlers and baggers who experienced mostly sprains and strains, whereas kitchen workers and butchers and meat cutters were susceptible to cuts and lacerations as well as sprains and strains. Kitchen workers and butchers and meat cutters suffered finger injuries most frequently, while cashiers and sales workers, grocery store managers, stock handlers and baggers, and laborers incurred back injuries most frequently.

It is interesting that the grocery store managers who worked twenty-five percent of the hours only sustained less than ten percent of the injuries. In contrast, cashiers and sales workers worked less than twenty percent of the hours, but had close to thirty percent of the injuries. The share of hours worked and injuries incurred for kitchen workers, butchers and meat cutters, and stock handlers and baggers were about the same.

As noted above, the parts of the body that were most frequently injured were the trunk (particularly the back), the upper extremities, and the lower extremities. The major sources of injury were moving containers (boxes, crates, and cartons), which accounted for 27 percent of the cases; worker motion or position, which accounted for 17 percent; floor (ground surface), which also accounted for 17 percent; and machinery, which accounted for 11 percent.

The predominant events or exposures contributing to injuries and illnesses in grocery stores were overexertion (primarily in lifting), which accounted for 28 percent of the cases, fall on same level (14 percent), struck by object (14 percent), and struck against object (9 percent).

Some grocery store work can be physically demanding. Many grocery store workers handle thousands of items each day to stock shelves, check groceries, decorate bakery items, and prepare meat products. These tasks involve several ergonomic risk factors. The most important of these include force, repetition, awkward sustained postures, and static postures.

In the grocery store industry, the presence of these risk factors increases the potential for injuries and illnesses. In the OSHA guidelines, they to refer to a variety of injuries and illnesses, including:

- Muscle strains and back injuries that occur from repeated use or overexertion
- Tendinitis
- Carpal tunnel syndrome
- Rotator cuff injuries
- Epicondylitis (i.e. tennis elbow)
- Trigger finger that occurs from repeated use of a single finger

Some Risk Factors Associated with Working in a Grocery Store are as follows:

Food Preparation
These departments in a grocery store involve food preparation, which poses the risk of injury such as in the meat department, where butchers use knives and power saws to cut meat. Deli department employees use sharp slicers to slice cold cuts and cheese. In the bakery department, employees also use sharp knives and work around hot ovens. Produce workers use knives to trim products such as lettuce and use wrapping machines with sharp edges to package items for sale.

Stocking Shelves and Moving Inventory
Grocery store employees frequently move heavy products, which can result in lifting and specifically back injuries. Stocking shelves, for instance, requires the employee to lift cases of merchandise and place them on a cart or pallet for transportation to the sales floor. Workers who build displays may need to lift merchandise to reach an elevated location or bend their bodies awkwardly while stocking.

Standing
Grocery store employees are required to stand for long periods of time, often for the duration of their shift with the exception of break times. Cashiers must stand while ringing and bagging orders, and stock clerks are on their feet while filling shelves or helping customers locate products. Food preparation workers typically stand while readying products for sale or serving customers. Prolonged and sustained standing without a padded anti vibration mat or similar support, could lead to a variety of leg, back and foot injuries.

Falling
Grocery workers are susceptible to injuries caused by falling via wet floors are common due to spilled merchandise or simply tripping over discarded merchandise or packaging. Employees who climb ladders to retrieve or stock merchandise also face the risk of injury from falls.

Repetition
Grocery workers in the cashier, grocery bagging or inventory stocking position are exposed to significant repetition and therefore potential risk of repetitive strain injuries.

Identify areas of concern

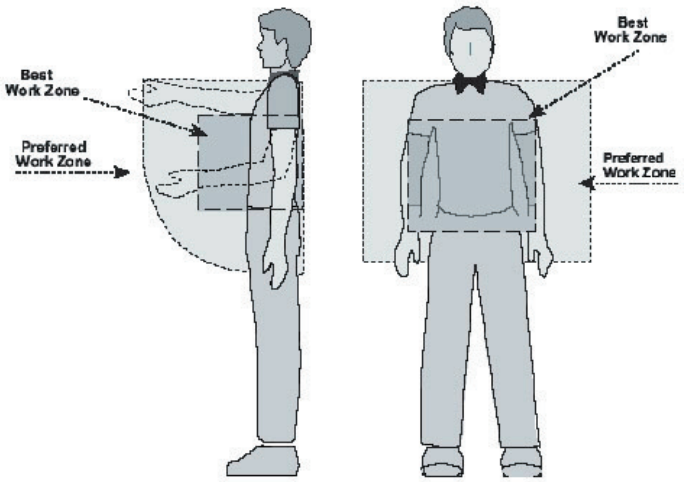
It is important to periodically review your job site and the activities of employees to identify possible high risk issues associated with (1) Force - the amount of physical effort required to perform a task (such as heavy lifting, pushing or pulling), handle merchandise, or maintain control of equipment or tools; (2) Repetition - performing the same motion or series of motions continually or frequently for an extended period of time; (3) Awkward and static postures - assuming positions that place stress on the body, such as prolonged or repetitive reaching above shoulder height, kneeling, squatting, leaning over a counter, using a knife with wrists bent, or twisting the torso while lifting; and (4) Contact stress - pressing the body or part of the body (such as the hand) against hard or sharp edges, or using the hand as a hammer.

When there are several risk factors in a job, there can be a greater risk of injury. However, the presence of risk factors in a job does not necessarily mean that employees will develop an MSD. Whether certain work activities put an employee at risk of injury depends on the duration (how long), frequency (how often), and magnitude (how intense) of the employee's exposure to the risk factors in the activity. For example, performing cashier work for an extended period of time without a break has been associated with increased hand and wrist problems and could contribute to back and lower limb problems.

How can we protect our employees from injury?

A number of basic work site adjustments can lead to an immediate reduction in stress and potential of injury:

1. Rotate stocking tasks to avoid prolonged kneeling, squatting, and overhead reaching.
2. Arrange shelves so that heavy items and fast-moving items are stored within easy reach. This reduces the stress on the body caused by bending or reaching overhead.
3. Use thermal gloves when stocking frozen foods. Cold temperatures can reduce circulation, causing stress on the hands. If pricing, use a glove with textured fingertips to wipe frost from frozen foods.
4. Use a powered in-feed conveyor to help cashiers bring the items to their best work zone, rather than leaning and reaching to get items farther up the conveyor – this reduces the overall force required to perform the task at hand.
5. Locate commonly used items such as the cash drawer and printer within easy horizontal reach.
6. Adjust the check stand height to match the cashier's waist height, or use a platform.
7. Set scanners and conveyors at the same height so that cashiers can slide items across rather than lift them.
8. Use bags with handles. Handles make the bags easier and less stressful to carry.
9. Educate employees on proper handling techniques
10. Eliminate or adjust static or awkward postures
11. Reduce contact stress from sharp items or furniture
12. Power Grips: A power grip uses the muscles of the hand and forearm effectively, and is less stressful than a pinch grasp. Consequently, a one- or two-handed power grip should be used whenever possible.
13. Power Lifts: When the item to be grasped is too heavy or bulky to lift with a one-hand power grip, use the two-hand power grip.
14. Power Grasps: A pinch grasp should never be used when a power grip can be used instead. However, a pinch grasp is acceptable for small, light items (e.g., a pack of gum, etc.)
15. Lifting Safety: Most grocery store jobs involve some lifting. It is important that employers provide employees with help to lift heavy or bulky items. Whether a particular lift will require assistance depends on several factors, including the weight and size of the object, how frequently the object is lifted, how close the object is to the ground, how high it must be lifted, how far it must be carried and whether it has handles. Assistance can include a dolly or cart, or help from a co-worker. Employees should be trained in the use of appropriate lifting techniques for different sizes of objects as well as to when it is appropriate to seek assistance.
16. Best and Preferred Work Zone: Performing work within the best and preferred work zones shown in the figures facilitates productivity and comfort. Work is safest when lifting and reaching is performed in these zones. Working outside these work zones results in non-neutral postures that may increase the risk of injury. It is particularly important to perform heavy lifting tasks within the best work zone.



Industry groups such as the Grocery Manufactures of America and Food Marketing Institute encourage the use of containers or packages weighing 40 pounds or less, whereas, the International Mass Retail Association, suggests 50 pounds as a maximum weight for lifting.

Further to changes in the environment and education of the employee, a series of job specific evaluations are available to monitor the well being of the employee and to ensure a safe and sustained return to work post injury:

Six steps to Success:

1. **Develop a properly constructed Job Demands Analysis (JDA)**
   The first step in any risk management program is to have a properly designed JDA that incorporates the essential duties of the job taking into account the critical demands. This is required to ensure we are hiring and returning the employee back to the correct demands.
2. **Post Offer Pre-Employment Screening (POS)**
   Create a baseline for the employee, weed out potential pre-existing physical concerns and establish a basis for a proper job match.
3. **Preventative Maintenance Checks for the Aging Workforce**
   Monitor patterns of degradation with the aging workforce and create action plans to keep your employee base fit and able to perform their work tasks.
4. **Fit for Duties Examination**
   Ensure that you are bringing back individuals post injury that are able to handle the loads of the job and that the test protocol clearly follows the demands of the job.
5. **Job Specific Rehabilitation**
   The physical therapy provided needs to include job specific conditioning that mimics the essential duties of the job including aspects such as repetitive functions and sustained posture activities.
6. **Industrial Athlete Approach**
   Fitness training for those employees that are not conditioned or are displaying poor range of motion, strength or endurance is an excellent way to create an Industrial Athlete "game ready" approach towards work. However, ensure a trained clinician develops the training protocol or you may end up with more injuries than before.

Conclusion:

Considerable progress has been made over the last decade in reducing the rate of injuries and illnesses in grocery stores. Employment in this industry is expected to increase about 6 percent from 2000 to 2010, as the population increases and as more grocery stores offer a wider array of goods and services. Safety and health training will continue to be a priority in reducing workplace injuries and illnesses in the grocery store industry.

Grocery stores that have implemented injury prevention efforts focusing on musculoskeletal and ergonomic concerns have reported reduced work-related injuries and associated workers' compensation costs. Fewer injuries can also improve morale, reduce employee turnover, encourage employees to stay longer and discourage senior employees from retiring early.

Workplace changes based on standard ergonomic principles will lead to **increased productivity** by eliminating unneeded motions, reducing fatigue and **increasing worker efficiency**. Healthier workers, better morale, and higher productivity can also contribute to **better customer service**.

The information noted above is a summary of one of the components of Fit2WRK by USPh. This integrated model is available through USPh in close to 400 facilities and 44 states nationally. For additional information on how the Fit2WRK Model could help your organization, visit; www.Fit2WRK.com or call 1-877-Fit-2WRK.

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On-Line Resources:

1. Grocery Cashiers – Serving Customers Shouldn't Hurt You; http://www.cdph.ca.gov/programs/hesis/Documents/cashiers.pdf
2. Grocery Store Clerk Injury Prevention Program; http://www.selfcare4rsi.com/grocery-store-clerk.html
3. Guidelines for Retail Grocery Stores: Ergonomics for the Prevention of Musculoskeletal Disorders; http://www.osha.gov/ergonomics/guidelines/retailgrocery/retailgrocery.html