



By: Peter W. Schuchardt, BSME

ERGONOMICS

In the Laundry/Linen Industry

Ergonomics is a key topic of discussion throughout industry today. With multiple changes announced, anticipated, and then withdrawn the Occupational Safety and Health Administration (OSHA), at this point, requires employers to continue reporting ergonomics-related injuries just like they do other injuries. Initially it was thought that ergonomic-related injuries would be reported in a separate column (on the OSHA form 300 log) but not at this time.

While the precise cost of occupational musculoskeletal disorders is not known, estimates vary from \$13 billion to \$20 billion annually.

IDENTIFYING THE PROBLEM

On March 13, 2003, OSHA released the first in a series of industry-specific guidelines for the prevention of musculoskeletal disorders (MSD) in the workplace. These guidelines focus on practical recommendations for Nursing Homes. Nursing Homes were a high priority for OSHA given that the Bureau of Labor Statistics reports indicated nursing and personal care facilities ranked number one with the highest incidence rate of injury and illness from overexertion resulting in days away from work in 1994 (most recent data) for private sector industries.

Breakdown of 705,800 cases (32% of injuries reported) attributed to overexertion or repetitive motion ¹		
Reported injuries	Resulting from	% affecting the back
367,424	Lifting	65%
93,325	Pushing or pulling objects	52%
68,992	Holding, carrying, or turning objects	58%

Bureau of Labor Statistics reports the above incidents resulted in median time away from work as 6 days for lifting; 7 days for pushing/pulling; and 6 days for holding/carrying/turning.

Facilities throughout the U.S. are currently struggling to address the high incidence of work-related MSDs, cumulative trauma disorders (CTDs), and repetitive motion injuries in their work population. Back injuries alone account for nearly 50% of all workers compensation claims within the healthcare and hospitality industries. Similar issues are also found in industrial environments. Ergonomic issues relating to lifting and moving patients, heavy equipment and material are currently receiving the greatest attention from safety and health professionals, insurance carriers, and research and government organizations.

Tasks involving manual handling activities are performed by workers in housekeeping, laundry, food service, and facility maintenance. These tasks require repetitive or sustained use of poorly designed hand held tools and equipment. Adding to the problem is that most facilities are not designed to produce an easy and efficient method to deliver these services.

A LOOK AT THE COST

While the precise cost of occupational MSD is not known, estimates vary from \$13 billion annually [NIOSH 1996] to \$20 billion annually [AFL-CIO 1997]. Regardless, the problem is large both in health and economic terms.²

At Citizens Memorial Health Care Facility in Bolivar, Missouri, establishment of an ergonomics component in the existing safety and health program was reportedly followed by a reduction in the number of OSHA-recordable lifting-related injuries of at least 45% during each of the next four years, when compared to the level of injuries prior to the ergonomics efforts. The number of lost workdays associated with lifting-related injuries was reported to be at least 55% lower than levels during each of the previous four years. Citizens Memorial reported that these reductions contributed to a direct savings of approximately \$150,000 in workers compensation costs over a five-year period.³

A LOOK TOWARD SOLUTIONS

Eliminating the cause of the problem is the key to both treatment and prevention. For example, proper ergonomics while handling any laundry/linen cart is both beneficial and cost saving to a facility. Injured employees do not have to be replaced; medical cost and workers compensations rates go down.

The logical place to start would be with the proper equipment. Most linen carts are big, square, and heavy. All these factors make moving them difficult for anybody, whether they are short, average or tall. Pushing a cart can lead to back and neck problems, especially on people of short or average stature. Tall individuals also suffer low back pain due to improper techniques used to accomplish the job. Any sustained posture is not good for the spine, and pushing a laundry cart demands just that. Proper movement is the key to a healthy pain free back, and pushing or pulling a laundry cart involves the worst body mechanics possible. Turning corners and pushing a load often requires spinal rotation to see what's in the way and to keep pushing the cart. Rotation of the spine can lead to bulging disc or herniated disc, requiring discectomy surgery. Sudden stops can involve pulling or jerking the cart leading to more strain on the body, especially the spine.

Although back injuries are more common, the knee joints should not be overlooked. Pushing and pulling a heavy load (up to several hundred pounds) can be damaging to knee cartilage as well. Manually pulling a laundry cart is just as bad, due to the stress on the shoulder joint. Any time a shoulder is in external rotation the strain on the shoulder joint can result in small tears of the muscle or

capsule, leading to major tears requiring reconstructive surgery. Recovery is slow and painful. The wrist and fingers can also be damaged from constantly gripping a cart to maintain control of it. Arthritis is a primary factor when an employee has to constantly be holding, pulling or pushing an object as heavy as laundry carts.

Integris Health, Oklahoma's largest not-for-profit health care system has an ergonomic program which utilizes workstation analysis to reduce stressors that cause MSDs. Management provides patient care floors with lift equipment and continual training, to prevent serious lifting and transferring injuries of their employees.

The linen department at Integris Health handles 2,500,000 pounds of clean laundry and an additional 2,750,000 pounds of soiled linen annually. The linen is loaded onto carts that weigh up to 700 pounds each and their department was pushing and pulling 60 carts per day manually. The annual total weight for linen distribution is 5,615,625 pounds, which is divided by five full-time employees, giving each employee 1,123,125 pounds to move throughout the hospital each year.

Integris Health's Risk Management team worked closely with ERGOtech (www.ergotug.com), a company dedicated to making employees jobs safer and more productive, by providing ergonomically friendly products, such as the ERGOtug. And ERGOtug Transporter. A revolution in cart pull and moving design and capabilities, each can move up to 2000 pounds without breaking a sweat.

At Integris, the use of the ERGOtug has eliminated the pulling/pushing aspects and allows the employee to accomplish more work in a shorter period of time. Linen carts are now moved with little effort. Workers are requiring less time off due to injuries, therefore lowering the workers compensation rate. Any time an employee stays on a job, the facility saves money by not replacing staff frequently.

EVALUATING YOUR ORGANIZATION

There is growing evidence that demonstrates the effectiveness of ergonomic programs and interventions in all industries. Successful implementations of such plans depend on how well they are designed to link to and compliment goals of other facility programs, such as risk management and employee safety.

Ergonomics programs are systematic methods of preventing, evaluating, and managing work-related musculoskeletal disorders. The most successful ergonomics programs have the following four elements:

1. Worksite analysis
2. Injury prevention and control
3. Medical Management
4. Training and education⁴

Worksite analysis is a safety and health audit that identifies those jobs and workstations that are potential work-related musculoskeletal hazards, the risk factors that pose the hazards, and the causes of the identified risk factors.

Injury prevention and control is eliminating or minimizing those identified risk factors that pose hazards determined in the worksite analysis. These adaptations can be performed by changing the jobs, workstations, tools or environment to fit the worker.

Medical management is the effective utilization of health-care resources to prevent or manage work-related musculoskeletal disorders.

Training and education is providing necessary information to give both workers and managers and understanding of the potential risk of injuries, their causes, symptoms, prevention and treatment.

Before commencing implementation of any plan, it is a good idea to meet with senior management to gain final approval for the plan and to assure budgets and resources have been secured.

INDUSTRY'S RESPONSIBILITY

The guidelines provided to the nursing home industry 03/13/03, and the draft guidelines for retail grocery stores (draft for comment released 05/09/03), and draft guidelines for the poultry industry (draft for comment released 06/04/03) are advisory in nature and informational in content. They are not new standards or regulations and do not create any new OSHA duties. Under the OSHA Act, the extent of an employer's obligation to address ergonomic hazards is governed by the general duty clause 29 U.S.C. 654(a)(1). An employer's failure to implement the guidelines is not a violation, or evidence of a violation, and may not be used as evidence of a violation, of the general duty clause.⁵

ELEMENTS OF AN ERGONOMICS PROGRAM

The National Institute for Occupational Safety and Health (NIOSH) operates a toll-free number to provide workers, employers, and organizations information about various workplace safety and health concerns. Over the

past several years, the volume of calls concerning work-related musculoskeletal disorders has grown. They are now second only to questions about chemical hazards.

In response to the widespread concern about work-related MSDs and with the knowledge that many workplaces have begun successful programs to control them, a wide variety of organizations have published ergonomics program manuals and primers. NIOSH publication No. 97-117 (a link to this publication is provided on the NAILM website www.nlmnet.org in the .Industry Issues & Updates. area) can be an excellent guideline for company.s concerned with ergonomic issues.

The primer is based on the extensive practical experience accumulated by NIOSH in conducting investigations in actual workplace settings. The seven elements of an effective program comprise a seven-step .pathway. for evaluating and addressing musculoskeletal concerns in an individual workplace. A brief summary of the steps are as follows:

1. Looking for signs of a potential musculoskeletal problem in the workplace, such as frequent worker reports of aches and pains, or job tasks that require repetitive, forceful exertions.
2. Showing management commitment in addressing possible problems and encouraging worker involvement in problem-solving activities.
3. Offering training to expand management and worker ability to evaluate potential musculoskeletal problems.
4. Gathering data to identify jobs or work conditions that are most problematic, using sources such as injury and illness logs, medical records, and job analyses.
5. Identifying effective controls for tasks that pose a risk of musculoskeletal injury and evaluating these approaches once they have been instituted to see if they have reduced or eliminated the problem.

6. Establishing health care management to emphasize the importance of early detection and treatment of musculoskeletal disorders for preventing impairment and disability.
7. Minimizing risk factors for musculoskeletal disorders when planning new work processes and operations by building good design into the workplace is less costly than redesign or retrofit later.⁶

The National Institute for Occupational Safety and Health (NIOSH) was established by the Occupational Safety and Health Act of 1970 which also established the Occupational Safety and Health Administration (OSHA). Although NIOSH and OSHA were created by the same Act of Congress, they are two distinct agencies with separate responsibilities. NIOSH is in the U.S. Department of Health and Human Services and is a research agency. OSHA is in the U.S. Department of Labor and is responsible for creating and enforcing workplace safety and health regulations. NIOSH and OSHA often work together toward the common goal of protecting worker safety and health.

¹ National Institute for Occupational Safety and Health (NIOSH) Musculoskeletal Disorders (MSDs) and Workplace Factors, Chapter 1, pg. 2, July 1997.

² National Institute for Occupational Safety and Health (NIOSH) Musculoskeletal Disorders (MSDs) and Workplace Factors, Chapter 1, pg. 6, July 1997

³ Occupational Safety and Health Administration Guidelines for Nursing Homes Ergonomics for the Prevention of Musculoskeletal Disorders, March 13, 2003, pg.5 as reported by Citizens Memorial in documents to OSHA (Ex. 3-25)

⁴ ALLC Presentation Occupational Ergonomics: Establishing a Company Ergonomic Program, Baron P. Johnson, P.T., Appalachian Therapy Center, 09/10/2001

⁵ Occupational Safety and Health Administration Guidelines for Nursing Homes Ergonomics for the Prevention of Musculoskeletal Disorders, March 13, 2003, pg.2

⁶ NIOSH, Elements of Ergonomics Programs, A Primer Based on Workplace Evaluations of Musculoskeletal Disorders, publication No. 97-117 internet summary

1LL

Ergonomics in the Laundry and Linen Industry

Earn one *Laundry/Linen* credit hour by completing the [quiz over the material](#) from this educational offering. To maintain ALM credentials, individuals must submit proof of continuing education in laundry & linen specific programs every three years. Access to contact hour quizzes are a benefit of membership in ALM.