

Manual Material Handling—Ergonomics Required

BY JEAN FEINGOLD

Despite the introduction of robotic and other mechanical means of moving materials, manual material handling (MMH) is still an essential part of the supply chain process. To minimize the injuries from the repetitive motion involved in MMH means companies must introduce ergonomic interventions. Two major factors impact the need to improve MMH methods: the available pool of workers and market demands.

The pool of workers

The workforce is aging. In 1972, the average U.S. worker was 28; today that worker is 46. The number of workers 45 and older has doubled since 1950. AARP says those 55 and up in the labor force are projected to rise to 25 million this year and 32 million in 2025.

Why is this happening now? “People are living longer,” noted Jim Galante, chairman of MHI’s Ergonomic Assist Systems & Equipment (EASE) Council and director, Business Development, for MHI member Southworth Products Corp. “In 2009, when the recession hit, it took a lot of people’s retirement plans and threw them out the window. Many people are working longer today because they can’t afford to retire.” Others work by choice, in part because of a cultural trend suggesting people who stay active will live better, longer and healthier lives.

While the heavy lifting, bending, twisting and reaching of MMH seems more appropriate work for young people, many don’t want these jobs, preferring to sit at desks and use computers. Older people often lack the computer skills needed for office work but they can be easily trained for the many available warehouse jobs.

In addition, obesity is a problem for one-third of the U.S. population. The cost of workers’ compensation claims is 6.8 times higher for obese workers and they file twice as many such claims as healthy weight workers. Obese workers have 13 times more lost workdays and have indemnity costs 11 times higher

than thinner workers. Most of the injuries they experience are to the back, lower extremities, wrists and hands. The most common causes of these injuries are lifting, lowering and carrying objects which are directly attributable to MMH.

Market demands

Consumers now demand multiple versions of all sorts of products. For example, each battery manufacturer offers hundreds of different products. “These variations create issues in a warehouse and in order filling,” noted Galante. When placing their orders, stores seeking that variety can choose among the hundreds of SKUs on hand.

To fill each order, an order picker gets a pallet and moves through the warehouse to find and load the different products to build that order. When the mixed order is complete, the pallet load is wrapped and tagged before being put into the delivery truck. Depending on the mix of batteries, each order picker could lift more than 20,000 pounds during an 8-hour shift.

What companies can do

About 60 percent of all workers’ compensation claims for lost time injuries are associated with MMH. Material handling equipment interventions can dramatically reduce the risk of repetitive



Ergonomically correct (left) and incorrect (right) techniques.

motion and other injuries. “Employing these interventions is especially important, if not essential, for older and/or obese workers,” Galante said. “If we can put that worker into a position where he’s comfortable and doesn’t have to bend, reach, stoop and twist, he can be productive regardless of age or weight. This will make it less likely they will hurt themselves. Ergonomics is an absolute necessity.”

To create a safer workplace, companies need to look not only at the nature

of the work itself but also how many times a worker performs the same task during a shift. Companies must identify ways to get workers to operate in the safe zone which is mid-body with objects or materials to be moved squarely in front of them.

Depending on the range of tasks in the workplace, there can be simple ergonomic solutions. Some companies regularly rotate workers from one task to another or require them to take regular breaks, sometimes as often as every 30

minutes. The goal is to reduce the number of repetitions of the same movement in a set time period, either by cycling more people in and out of a certain task or by changing the task slightly so different muscle groups are used.

For an ergonomic program to be effective, top management must be committed to it and company culture must support it. When expert resources are not available in-house, it may be necessary to hire a consultant to analyze the various jobs and develop more ergonomic ways of doing them.

While the European Union, Canada and Australia require ergonomic workplaces by laws enforced with fines and penalties, this is not the case in the U.S. Here, the Occupational Safety and Health Administration (OSHA) can only cite the company under the 501 General Duty Clause for creating an unsafe work environment. This clause covers situations for which there are no specific published standards or regulations. This violation could come as a result of bad ergonomics for workers even though ergonomics is not “the law.”

“Ergonomics is no longer something nice to do, it is a necessity,” Galante stressed. “The cost of failing to do this is high. The indirect cost of a worker injury is usually four to five times more than the direct cost. U.S. companies are trying to compete with foreign competitors and trying to reshore jobs. They can’t do that unless they have a safe, productive, efficient workforce.”

Take a look at how your MMH workers do their jobs. Most importantly, look at the workers, their ages and the state of their health to determine how to help them do the work in a safer way. What they do every day could determine not only their future physical health but also the financial health of your company.

MHI’s EASE Council is the resource for trends, information, practices, equipment and organizations that focus on ergonomics and improving the working interface between people and the materials they must move and use to reduce injury, increase productivity while providing a significant return on investment. You can learn more at MHI.org/ease. ●

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