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Updated: June 3rd, 2005 01:14 PM EDT

Finding Ergonomic Ways to Reduce Cleaning Injuries

Dawn Shoemaker

In 2001, the U.S. Bureau of Labor reported that 38,628 janitors and professional cleaners had job-related illnesses or injuries -- the fifth highest of all occupations -- and it is believed this number is growing. In addition, the number is probably low because many injuries are never reported (source: OSHA).

A number of factors lead to underreporting. So much of the cleaning industry is populated with "mom-and-pop"-sized

businesses whose injured workers often continue to work simply because they must to keep the business going. Other cleaning workers with larger companies do not report an injury for fear of possibly losing a job or income if they do not work, and still others believe they should "work through" an injury, assuming it will get better on its own, whether they work or stay home.

According to the Robens Centre for Health Ergonomics, Surrey, England, which has done several studies involving cleaning workers, there are four primary areas of risk when performing cleaning tasks:

1. **Posture.** The main risk factor for aches and pains is postural -- rather than the actual job tasks -- because cleaning workers have to assume a variety of awkward positions to perform their duties.
2. **Tasks.** Manual lifting of such things as water-filled buckets or heavy trash bags or containers is the primary cause of musculoskeletal disorders among cleaners.
3. **Equipment.** Using equipment that is heavy, is hard to maneuver, or requires force to operate such as wringing a mop or operating a traditional floor buffer is dangerous to a variety of body parts.
4. **Work routine.** The cleaning staff's speed and intensity of work, along with infrequent breaks, are also major contributors to injuries.

Many injuries are the result of inadequate training on how to properly use cleaning equipment and perform cleaning tasks. "It is estimated that there are more than five million cleaning workers in the United States, but probably fewer than ten percent are adequately trained," says Paul South, Manager of Valley Supply, a distributor located in Hamilton, Ohio. "And probably fewer than five percent of these workers have received accreditation or certification in the science of cleaning," he says.

Another major cause of work-related injuries for cleaning professionals is the lack of ergonomically designed equipment. Ergonomics is an applied science concerned with, among other things, the design of tools and equipment so that the people who use the equipment can do so most efficiently and safely.

An ergonomically designed vacuum cleaner or floor machine, for instance, is designed to work *with* the cleaning worker and is contoured to the user's hands, arms, and movements to avoid injuries. And, researchers have found that when worker training is provided and cleaning equipment is more ergonomically designed, the number of job-related injuries in our industry can be slashed (source: Robens Centre for Health Ergonomics, Surrey, England).

Worker Training

It should be emphasized that worker training is important but will not overcome risk if the cleaning equipment is used incorrectly or is not ergonomically designed. However, there are still a number of things cleaning workers can be taught to help minimize injuries. Some may appear relatively simple, but because cleaning work involves so much repetition, these simple steps can prove beneficial.

- Lifting trash receptacles, hauling and emptying trash, and relining trashcans are tasks where injuries frequently occur. Many times, the cans are too large or deep, creating awkward and extra-heavy lifts. Limiting the size and weight of trash bags reduces lifting hazards, and placing receptacles along the side of a desk -- instead of underneath -- allows for easier access and trash removal. Also, transporting garbage on a rolling cart or other wheeled equipment minimizes lifting.
- Cleaning crews often carry their supplies with them as they work. Placing them in rolling carts minimizes injury. These carts should have large, low-resistance wheels to better maneuver over a variety of floor types, doorsills, and elevator gaps.
- When mopping, body movements should be changed frequently and the mop should be pushed with the entire body, not just arms or shoulders, to help prevent muscle fatigue.
- Scrubbing of walls, floors, bathtubs, sinks, and other fixtures or surfaces is one of the most physically intensive cleaning tasks. Cleaning workers should be instructed to alternate hands when scrubbing to help prevent repetitive strain injuries; varying tasks can help give the small muscles of the hands and forearms a break.

Ergonomic Cleaning Equipment

In recent years, many innovative and ergonomically designed cleaning tools have been introduced by Jan/San manufacturers, says South. For instance, some commercial vacuum cleaners now have adjustable-height handles so that the equipment can fit more than one worker and better conform to each worker. Additionally, the grip handle is often designed to better conform to the user's hand, making it more comfortable to use.

"Caring for floors is the most injury-prone of all cleaning tasks," says South. "This is because the traditional equipment used to clean, mop, and polish floors is often heavy and awkward, requiring lots of effort."

To avoid injury, South recommends selecting floor buffers that are lightweight to help minimize arm and shoulder stress. He also encourages purchasing mopping equipment that reduces the need for unhealthy postures -- like stooping, bending, lifting, and maintaining extreme hand and arm angles.

Mops and buckets, says South, should have adjustable-length handles, just like vacuum cleaners, to fit more workers. They should also have rubber grips, a braking system on buckets, smaller mop heads (if they fit the task) because they are easier to wring, and spigots at the bottom of buckets to empty rinse water and solution without lifting.

Eliminating Mopping

"Because mopping floors causes the most work-related injuries, some facilities are eliminating the task entirely," says South. "Many are switching to no-touch or spray-and-blow-dry cleaning systems in its place."

The no-touch system involves using a machine to apply cleaning solution to surface areas. After allowing sufficient dwell time, the machine is then used to pressure rinse these areas, blasting soil and contaminants to the floor. The final step involves using the built-in vacuum system to remove the water and soils. This step leaves the floors completely dry, eliminating the risk of slip/fall accidents.

"There is no bending or heavy lifting with this system," says South, "and some manufacturers have sized and balanced their machines so they are easier to transport and maneuver. Plus, because the system leaves the floor dry, injuries caused by slipping on wet floors are eliminated."

Along with the ergonomic benefits no-touch cleaning systems provide, advantages also include reduction to worker exposure of disease transfer points. This can eliminate any further risks to workers.

Involving All Stakeholders

Ultimately, reducing job-related injuries in the cleaning profession involves all stakeholders: managers, supervisors, trainers, and those who select cleaning equipment. Using ergonomically designed cleaning tools is important, so ergonomics should be a consideration in all equipment purchases. Training workers on the most efficient -- and safe -- ways to perform their duties is also necessary.

Cleaning tasks should all be evaluated to find ways to minimize their stress on the body. And, replacing certain tasks with equipment and cleaning systems that eliminate strain will reduce injuries and translate into greater worker productivity, less absenteeism, and increased savings for facilities.

Dawn Shoemaker is an editor working for AlturaSolutions Communications, a Jan/San marketing and communications firm.

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