



## **HOSPECO’s New SPHERGO™ Surface Cleaning System:** *Developed by Worksafe Technology Inc. to Minimize Ergonomic Issues Related to Cleaning*

Cleaning the desktop in the hotel room — it takes a moment and next to no effort. Cleaning all the desktops — all the surfaces, really — on the top three floors of the hotel takes hours, and now you have a musculoskeletal concern and an occupational issue in need of further analysis.

The Bureau of Labor Statistics indicates that upper extremity injuries are the highest cause of work-related injuries that cause days away from work.<sup>1</sup> This includes trunk and back injuries as well as hand injuries. Hand injuries can include musculoskeletal disorders (MSDs) like carpal tunnel syndrome, bursitis, and tendonitis. MSDs are “ergonomic injuries” or cumulative trauma disorders — injuries that develop or build up over time — that are dangerously common for workers in the cleaning and sanitation industry. In fact, BLS reports that MSDs accounted for 33 percent of all occupational injury and illness cases in 2013.<sup>2</sup> “Janitors and cleaners” have the fourth highest incident rate of reported MSDs.<sup>3</sup>

Workers who have sustained MSDs require a median of 11 days to recuperate before returning to work.<sup>4</sup> Injured workers also have lower productivity while on the job, as they are dealing with pain and can’t complete tasks as effectively. These types of injuries can even require surgery, meaning consequential lost time for recuperation and healing. Simply put, the negative impact MSDs have on businesses can be massive in both human and financial toll and should not be underestimated.

Knowing what specific events lead to ergonomic injuries can help employers and safety professionals identify changes that can limit these types of injuries. While manual cleaning with rags is effective, because the process requires the most wrist motion and physical bending for extended periods of time, using rags results in the highest rate of fatigue and potential for MSDs.

Myriad cleaning tools do exist to eliminate rag cleaning of vertical surfaces and floors — most notably, the common flat mop. However, even the most advanced flat mop operates under a limitation. The flat cleaning surface is adhered to a fixed pole or to a hinged base, allowing for more upright cleaning. The limitation here is the hinge. Like any hinge, it allows pivot in a singular direction or requires adjustment to allow for figure-eight application. When elevated to clean vertical surfaces, however, flat mops become floppy and offer poor results.

Worksafe Technology Inc., a leading developer of ergonomic products for the housekeeping industry, set out to address this ergonomic problem for manual surface cleaning, vertical cleaning, and floor care. They partnered with HOSPECO®, a leading manufacturer of products for cleaning and protecting both facilities and workers, to bring to market a device that could minimize MSD risk factors like repetition and assuming awkward postures, both common to professional cleaners. The solution would need to be more than ergonomics, however, since the two



companies agreed that any new tool or device that improved the worker experience would also have to satisfy intense productivity issues inherent in the janitorial and sanitation trades.

The end result of their extensive joint research and testing, with beta testing having been conducted in multiple institutions, is the new SPHERGO™ Surface Cleaning System. This revolutionary system of products is designed specifically to address ergonomic problems presented by using other cleaning and wiping systems.

The SPHERGO system consists of a specially designed surface-cleaning base tool to which the worker adheres one of HOSPECO's MicroWorks® microfiber cleaning pads, specifically made for a variety of cleaning applications. What makes the basic SPHERGO tool special is the patent-pending spherical roller-ball handle that helps minimize the musculoskeletal stresses common to manual cleaning processes. Janitorial and facility maintenance workers simply hold the ergonomically engineered ball handle and start cleaning; the ball allows for more productive cleaning while affording users the opportunity to keep the wrist in a more neutral position, thereby reducing stresses that can result in costly occupational injuries. The size of the SPHERGO ball has been engineered for optimal comfort. For hard-to-reach surfaces and floors, the worker simply "pops" the ball handle into an extension pole, and the tool will provide the same rotational movement for faster, less physically stressful cleaning. The extension pole and the longer extended reach pole reduce the temptation to kneel or stand on slippery countertops and window ledges to clean those hard-to-reach places. The socket at the end of both types of poles allows for rotation of the SPHERGO tool while limiting unhealthy muscle movement.

The SPHERGO system allows for continuous cleaning with a dramatically more neutral positioning of the wrist. This — the ability of employees to keep their hands, wrists, and bodies straighter while the flat cleaning surface revolves around the ball — was the ergonomic breakthrough HOSPECO sought. And the system's MicroWorks microfiber cleaning surface has already been proven to clean more effectively and hygienically than other materials.

Tested according to REBA (Rapid Entire Body Assessment) guidelines, SPHERGO tools were found to lessen flexion, extension, and radial/ulnar deviation when cleaning, compared to the results when using a standard rag or mopping system. Cleaning with the SPHERGO system also results in less bending and stooping, and at lesser angles, than is caused by other wiping and surface cleaning tools. The results showed that SPHERGO dramatically minimizes the wrist motions, repeated torso flexion, and straining movements that can lead to MSDs.

When test subjects used standard cleaning methods, the REBA score indicated "very high risk, implement change." When subjects used SPHERGO, the REBA score associated with the activities dropped to "medium risk."

Product testing showed that virtually every type of surface cleaning task was proven to be easier — and required less potentially damaging movement to complete the task — using the SPHERGO Surface Cleaning System.

In the end, the research was conclusive. The SPHERGO system's tools can save time, effort, and potential costs due to employee injury. The thoughtful ergonomic design makes cleaning safer



and easier, which means improved employee productivity and, more importantly, better employee health. This positively affects a company's bottom line in multiple ways, from employees requiring fewer doctor or hospital visits to taking less time off work because of an injury.

Ergonomic cleaning and mopping means matching the right tool to the task and person to the tool. SPHERGO helps that cause, whether for regular maintenance cleaning or in cleaning up spills. The new SPHERGO Surface Cleaning System is part of HOSPECO's MicroWorks product lineup, a complete system of microfiber environmental hygiene and cleaning products. The entire MicroWorks line can be found on the HOSPECO website at [www.hospeco.com](http://www.hospeco.com).

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<sup>1</sup>Bureau of Labor Statistics, U.S. Department of Labor, news release USDL-14-2246, December 14, 2014, "Nonfatal Occupational Injuries and Illnesses Requiring Days Away From Work, 2013."

<sup>2</sup> Ibid.

<sup>3</sup> Ibid.

<sup>4</sup> Ibid.