

MSI PREVENTION BULLETIN 7

Floor-Cleaning Machines

Housekeepers, cleaners, and custodians often use machines such as vacuums, polishers/burnishers, and floor scrubbers to clean floors. This bulletin provides information regarding the typical musculoskeletal issues faced by workers performing these tasks and some possible risk controls to either eliminate or minimize the risk of musculoskeletal injury (MSI). This information is only a guideline, and the employer must still complete an MSI risk assessment to accurately determine the risks and appropriate controls measures applicable to their worksite.

MSI Issue: Using Any Floor-Cleaning Machine	Possible Risk Control Measures
<ul style="list-style-type: none"> • Worker lifts and carries the machine up or down stairs alone. • Worker lifts and moves furniture and other heavy items to clear the floor for cleaning, resulting in forceful lifting, pushing, pulling, and carrying. • Trailing cables pose a risk of slipping or tripping. 	<ul style="list-style-type: none"> • Leave a machine on each floor. • Have a second person help lift and carry the machine, where necessary. • Provide a mechanical lift assist.  <ul style="list-style-type: none"> • Have a second person help lift and carry furniture. • Provide machines with red or yellow cables for high visibility. • Mark the cord with coloured tape.



MSI Issue: Using a Vacuum Cleaner	Possible Risk Control Measures
<ul style="list-style-type: none"> • When the worker pushes an upright vacuum, the arm is positioned away from the body and the shoulder is in an awkward posture. The awkward position may be combined with excessive force to move the vacuum. • Worker bends forward with the vacuum or twists to the side when taking a wide sweep. • Worker stoops forward to change the bag or reaches forward excessively with the wand on the vacuum. 	<ul style="list-style-type: none"> • Train workers to keep their arm close to the body. • Provide lightweight vacuums. • Train worker to keep back upright and to take small steps when vacuuming rather than bending and twisting. • Provide vacuums with long wands. • Train workers to squat or to kneel with kneepads to avoid an awkward back position.
MSI Issue: Using a Polisher or Floor Scrubber	Possible Risk Control Measures
<ul style="list-style-type: none"> • Worker pushes or pulls machines with a handle that is too high, leading to working with the arms away from the side of the body. The flared elbow posture leads to upper back muscle fatigue when the machine is used for hours every day. • Worker lifts and carries the water bucket from the floor scrubber to the floor drain using a forward stooped posture. • Worker empties the water bucket into a high sink, increasing strain on the back and shoulders. 	<ul style="list-style-type: none"> • Adjust the handle lower, if possible, to allow for workers' arms to remain at the side of the body. • Provide floor drains in areas where the machine can be wheeled close to the drain. • Provide machines with handgrips on the buckets to be emptied. • Provide floor drains.
	 <ul style="list-style-type: none"> • Provide machines with automatic dispensers to eliminate the need to empty the bucket.



MSI Issue: Using a Polisher or Floor Scrubber (continued)

Possible Risk Control Measures

- Worker lowers the machine handle to change the disc. Machine may be heavy and unbalanced and may be difficult to grasp or hold onto when tipping it over.
- Worker pushes or pulls the machine around corners or over carpets using visible effort.
- Worker grips handle firmly with one hand only, either from habit or because the other hand is used for another job.

- Train workers not to stoop or twist when changing the disc.
- Train workers to use two hands to pull the machine and not to twist or bend the back.
- Train workers to use two hands for most of the work.
- Replace with a machine that performs all the functions required so that worker does not need to keep one hand free (for example, for using a spray bottle).



- The trigger presses into the worker's finger if only one or two fingers can be used on the trigger.

- Provide a machine with a trigger that allows all four fingers to wrap around it.
- Extend the trigger to allow four fingers to wrap around it.



MSI Issue: Using a Polisher or Floor Scrubber <i>(continued)</i>	Possible Risk Control Measures
<ul style="list-style-type: none"> Worker holds rotating handle grips with bent wrists.  <ul style="list-style-type: none"> The handle grips have ridges that dig into the worker's hands. Worker feels hand-arm vibrations when holding the handle, resulting in forceful gripping. 	<ul style="list-style-type: none"> When pushing or pulling the machine, reposition the hand so that the wrist is in a neutral (straight) position. Provide machines with fixed handle grips that workers can hold with straight wrists. <ul style="list-style-type: none"> Replace handle grips with grips without ridges. Choose machines with handle grips without ridges. Choose machines that have less vibration in the handle. Wrap handles with vibration-damping material. Be careful not to make the grip too wide.

