



Manual task solutions – mops and vacuums

The information below is based on information provided by peak bodies and industries and is provided only as a guide

Musculoskeletal injuries such as sprains and strains are the most common injuries to employees who undertake cleaning duties. The tasks associated with mopping and vacuuming floors can increase the risk of musculoskeletal injury from awkward postures, repetitive actions and excessive force required to use, retrieve and move equipment. The equipment used in the workplace must suit;

- The layout of the workspace
- The type and size of surface being cleaned
- The frequency and timing of cleaning and
- The physical characteristics of the person using the equipment

What you will need to consider prior to purchasing

Consultation with employees

The most effective risk controls allow workers to trial solutions before they are implemented. Where possible, mops or vacuum cleaners should be trialled by the workers who will be using the equipment. During this period workers should be consulted on the suitability of the equipment for the task and consideration given to where the equipment will be stored and how it will be accessed. Cleaning equipment suppliers may also assist in establishing whether the equipment is suitable for the workplace.

Spills and cleaning products

In selecting cleaning equipment, employers should consider the type of contaminant being cleaned from the floor and the floor surface. Certain spills, for example will require the use of chemicals which could be hazardous to employees through skin contact or breathing; and therefore employers will need to provide personal protective equipment, training and information on safely using the cleaning product.

Training

Employers must ensure that training is provided to workers to provide the skills necessary to safely use the cleaning equipment in the workplace. Training is most effective when it involves hands-on practice with the equipment in the workplace. The training must also include reporting problems with the mopping or vacuuming equipment and other manual task hazards.

Mopping





Selecting mopping equipment

The mopping equipment should suit the workplace layout and size, frequency of cleaning required, type of contaminant being mopped and workers using the equipment, otherwise workers can be exposed to hazardous manual tasks.

Factors to consider when selecting mopping equipment

Factors such as the wringing action required to remove excess water, how the bucket is moved (e.g. if a cleaning trolley is used), how the bucket is filled and emptied and the size and type of floor surface being cleaned can directly affect exposure to awkward postures, repetitive actions and forceful exertion. The table below outlines some of the key considerations when selecting equipment for mopping floors.








Table 1: Type of Equipment for Mopping

Cleaning Method	Strengths	Weaknesses
 <p>Wet mopping</p>	<ul style="list-style-type: none"> • Quiet, minimising disturbance to people at the workplace • Cost-effective 	<ul style="list-style-type: none"> • Wringing out water can require repetitive, awkward postures and force • Filling, emptying and moving buckets with water increases risk of sprain/strain injury due to force & awkward postures
 <p>micro-fibre mopping</p>	<ul style="list-style-type: none"> • Eliminates need to dip and wring mop, reducing risk of injury from awkward postures and repetitive actions • Weighs less than a conventional mop • Uses less water than standard cotton mop, reducing force required to move bucket • reduced risk of slips from water residue 	<ul style="list-style-type: none"> • Cost of investment in micro-fibre cleaning systems and ongoing cost of laundering kit • Repetitive movements still required to clean floor
 <p>Steam mops</p>	<ul style="list-style-type: none"> • Eliminates need to dip and wring mop, reducing risk of injury from awkward postures and repetitive actions • Eliminates force required to fill and move bucket of water • reduced risk of slips from water residue 	<ul style="list-style-type: none"> • Repetitive movements through arms still required to clean floor • Repetitive ending to plug / unplug cord over large areas or trip risk over extension cord
 <p>Machine cleaning</p>	<ul style="list-style-type: none"> • Suitable for cleaning large areas with limited force required to move self-propelling machines • Automated cleaning eliminates risk of sprain/strain injuries from repetitive movements and awkward postures 	<ul style="list-style-type: none"> • Risk of injury from vibration & the force required to rotate or pivot the machine (torque)

(Adapted from WorkCover Queensland: <https://www.worksafe.qld.gov.au/injury-prevention-safety/workplace-hazards/slips-trips-and-falls/cleaning>)

If wet mopping is the only practical solution for your workplace, the mop handle should be of sufficient length to minimise workers bending to use, and consideration should be given to the following design features of buckets:

Table 2: Design Features of Wet Mopping to Consider

Feature	Type of mechanism	Risk factors	Considerations	
 <p>Standard bucket</p>	<ul style="list-style-type: none"> No wringing mechanism in bucket 	<ul style="list-style-type: none"> Excessive force on one side of the body to move Forceful grip and awkward posture to hand-wring mop slip risk from excessive water 	<ul style="list-style-type: none"> unless wring mechanism is available on mop, these buckets should not be used for mopping tasks 	High risk
 <p>Standard roller wringer buckets</p>	<ul style="list-style-type: none"> Mop head is wrung by exerting force through a foot pedal while pulling mop upwards between 2 rollers. The other foot holds the bucket down 	<ul style="list-style-type: none"> Pulling mop up against gravity requires force through arms Uneven force through legs combined with counterforce through arms increases risk of unilateral strain and falling Small castors allow bucket to be pushed using foot, however bending from waist and force is required to lift / move bucket over distances. 	<ul style="list-style-type: none"> These buckets should be avoided due to the risks associated with asymmetrical, unbalanced posture to wring mop. If bucket used (for emergency or infrequent use), look for large pedals with grip, comfortable handles and well-maintained castors 	High risk -emergency spills
 <p>Quick press mop bucket</p>	<ul style="list-style-type: none"> Mop head is wrung by stepping down on large foot press 	<ul style="list-style-type: none"> Buckets have no castors, therefore force required to lift and move bucket 	<ul style="list-style-type: none"> These buckets are cost-effective and light-weight, however they are not suitable for regular cleaning over large surfaces due to repetitive mopping action and force required to move bucket 	medium-high risk (designed for domestic)
 <p>Strainer mop bucket</p>	<ul style="list-style-type: none"> Water is removed by twisting and pressing down mop into strainer 	<ul style="list-style-type: none"> Buckets have no castors, therefore unilateral force required to lift and move bucket Less force required to wring mop head, however twisting mop head requires force through shoulders 	<ul style="list-style-type: none"> Cost effective but designed for domestic rather than commercial use Some amount of water left on floor increases the risk of slip injury in workplaces. 	medium-high risk (designed for domestic)
 <p>microfiber mopping</p>	<ul style="list-style-type: none"> Pre-moistened mop heads attached to mop, this is pressed onto strainer to remove excess water used mop heads removed and new mop head attached to mop with Velcro 	<ul style="list-style-type: none"> Swivel head and adjustable length handle on mop minimises awkward postures, but repetitive actions from mopping still exists minimal force through arms required to remove excess water reduced force required to move mop as it weighs less than traditional mops 	<ul style="list-style-type: none"> Contaminated mop heads require laundering Less chemicals required Training required to ensure employees safely remove old mop heads and attach new mop heads leaves less water residue on the floor, which reduces slip and fall injuries 	Medium -Low risk (designed for commercial use)
 <p>Dual press wringer bucket</p>	<ul style="list-style-type: none"> Mop head is wrung by pulling on handle to press out excess water Separates clean water from soiled water Extra handle to push / manoeuvre bucket 	<ul style="list-style-type: none"> Less bending from hips required to wring mop Minimal force required to move due to large castors and handle Reduced force required to empty soiled water bucket Unilateral force through one arm required to activate press wringer 	<ul style="list-style-type: none"> Can be used with most types of mop head Large castors to allow use on large floor areas Separating soiled from clean water improves hygiene as well as reduces weight of buckets to be emptied 	Medium -Low risk (designed for commercial use)
 <p>Tall press wringer bucket</p>	<ul style="list-style-type: none"> Mop is wrung pulling on handle to press out excess water Same handle to push / manoeuvre bucket 	<ul style="list-style-type: none"> Taller bucket reduces amount of bending at hip to empty bucket High walls prevent splashing water, reducing the risk of slipping on floor surface 	<ul style="list-style-type: none"> Can be used with most types of mop head Large castors to allow use on large floor areas 	Medium -Low risk (designed for commercial use)




Vacuuming

Vacuuming tasks are associated with repetitive or sustained awkward postures, such as bending and twisting the back, and reaching forwards and sideways.

Factors to consider when selecting vacuum cleaners



The size and layout of the area being vacuumed (including the amount of furniture, number of stairs, etc.), floor surface and contaminants, accessibility to storage and frequency / duration of vacuuming tasks will determine the type of equipment which is appropriate for your workplace.



Table 3: Type of Equipment for Vacuuming

Cleaning method	Strengths	Weaknesses
Dry vacuum cleaners 	<ul style="list-style-type: none"> Lightweight, most cost-efficient 	<ul style="list-style-type: none"> Wand vacuums not as powerful as powerhead or automatic vacuums, requiring more repetitive action
Wet/dry vacuum cleaners 	<ul style="list-style-type: none"> Can clean liquid spills as well as dry, reducing need for mopping tasks 	<ul style="list-style-type: none"> Heavier, requires more room to store Extra tasks associated with filling/ emptying tanks
Scrubbers & automatic carpet cleaning machines 	<ul style="list-style-type: none"> Less force required to move, reduced time spent on cleaning task 	<ul style="list-style-type: none"> requires more room to store Requires extra products (e.g. chemicals) Not suitable for tight areas with furniture Exposure to hand-arm vibration with prolonged use

The table below outlines risk factors associated with different types of vacuum cleaner. As the choice of vacuum cleaner is dependent on the work area, a risk guide (for low-medium-high risk) is not applied.

Table 4: Design Features of vacuum cleaners to consider

Type	Feature	Risk factors	Considerations
Backpack vacuum cleaner 	<ul style="list-style-type: none"> 5-7kg canister with adjustable wand Designed to be worn with adjustable straps over shoulders and around waist 	<ul style="list-style-type: none"> Load carried on shoulders and hips increases risk of injury, especially if combined with awkward postures / bending forward Repetitive arm movement to vacuum surfaces Trip risk from cord 	<ul style="list-style-type: none"> Suitable for small tight areas with furniture and/or stairs Not suitable for use with multiple cleaning tasks at the same time (eg moving furniture, wiping surfaces or picking up items)
Pull-along vacuum cleaner 	<ul style="list-style-type: none"> Canister or barrel on castors with adjustable wand 	<ul style="list-style-type: none"> Lifting and bending required to retrieve or move up/down stairs Repetitive arm movement to vacuum surfaces 	<ul style="list-style-type: none"> Suitable for single surface areas (to avoid lifting up or down stairs) and for cleaning furniture these vacuum cleaners are less powerful than power head or automatic vacuum cleaners, so may not be suitable for large areas

<p>Upright vacuum cleaner</p> 	<ul style="list-style-type: none"> • Brush roll mechanism on floor surface allows vacuum to move carpet pile (cleaning ground-in stains or sand) • Hinge at base to allow vacuum head motor to reach under furniture 	<ul style="list-style-type: none"> • Awkward postures commonly adopted when cleaning under furniture; equipment specific training recommended • Less repetitive arm movement and force due to vacuum head motor 	<ul style="list-style-type: none"> • Workplaces with minimal storage surface area • Suitable for multiple cleaning tasks (i.e. where worker stops to move furniture or retrieve objects) • Not suitable for areas with stairs or steps
<p>Wide area vacuum cleaner</p> 	<ul style="list-style-type: none"> • Upright vacuum cleaner with low, flat canister • 66-76cm width covers greater surface area than other upright vacuum cleaners 	<ul style="list-style-type: none"> • Difficult to manoeuvre around tight corners or areas with furniture • Force required to move over uneven surfaces or unload / retrieve from storage 	<ul style="list-style-type: none"> • Suitable for larger surface areas with minimal furniture or obstacles (e.g. wide corridors) • Requires more room to store

Further information on preventing injuries associated with hazardous manual tasks can be found at the WorkSafe WA website at <https://www.commerce.wa.gov.au/worksafe/preventing-manual-task-injuries>

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