Health and Safety Guidance - Drinking water bottles; generic manual handling risk assessment and safe system for changing bottles

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1. Risk assessment

One of the main hazards associated with the use of bottled water dispensers relates to the manual handling of the bottles themselves. Historically the Health and Safety Executive (HSE) have highlighted the number of over three-day injuries contributed to by the water bottle changing activity. This task often being one left to those with little or no training in safe lifting techniques.

Typically a standard bottle used in a water cooler weighs approximately 18.5 kg. They may require to be lifted from the floor to above waist height in order to affix to the dispenser, and often have to be turned through 180^{o} in the process, thus there is a significant risk of musculoskeletal injury linked to this activity. Therefore, a risk assessment is required to be undertaken in order to comply with the requirements of the Manual Handling Operations Regulations 1992. Where the risk assessment shows it is necessary, action should be taken to reduce the risk of injury. An example of a manual handling risk assessment for handling drinking water bottles is attached as **Appendix A.** This is intended as guidance only and can be used as a model risk assessment. It can be added to or amended as Schools / Departments see fit. Alternatively, Departments can use the risk assessment checklist and aide memoir appended to the University Manual Handling policy and guidance. Go to www.lboro.ac.uk/admin/hse/policies/specific-policies.html and click on "Manual Handling Policy and Guidance".

Detailed information on musculoskeletal disorders, manual handling risk assessment etc can be found at www.hse.gov.uk/msd/index.htm

2. Safe system

2.1 Remove the empty water bottle and set aside.

2.2 Clean the top of the new water bottle as it may be dusty from being stored. (Bottles should be stored at waist height, if possible, in a cool dark area away from direct sunlight and sources of heat, and they should be used in strict "best before" date rotation),

2.3 Remove the plastic cap from the top of the bottle

2.4 Hold the bottle neck in your dominant hand while cradling the bottom of the bottle across the other forearm, or grasp the moulded handle on the side of the bottle with the

non dominant hand. If cradling the bottom of the bottle across the forearm, hold the edge of the bottle with your non dominant hand.

2.5 Slowly tip the bottle until it starts to pour into the cooler. Once it starts to fill the cooler quickly stand the bottle up from the bottom directly onto the cooler. Arrange the bottle to sit evenly in the middle of the cooler opening.

2.6 Clean up any spillage on floors around or near to the cooler.

Appendix A : Generic risk assessment of manual handling of changing drinking water bottles

Hazards to consider:	Risk present	Who might be harmed and how	Notes on problems arising from the task
TASK -Does the task involve; • holding loads away from the trunk?	Yes	Employee(s) changing the bottle. Back injuries including; strained muscles, overstretched or torn ligaments, trapped compressed or impinged nerves, disc damage.	The handler has to stoop and twist to pick the bottle up. During the process of fitting the new bottle, the full bottle, weighing approximately 18.5kg, is held away from the trunk.
• twisting?	Yes	"	The combination of lifting and twisting is particularly stressful on the back. If the handler twists through 45 degrees the maximum guideline weight to be lifted should be reduced by 10%. If the handler twists through 90 degrees the maximum guideline weight is reduced by 20%. The handler has to stoop and twist to pick the bottle up. During the process of fitting the new bottle, the full bottle is held away from the trunk.
• stooping?	Yes	"	The combination of stooping and lifting is also stressful on the back, therefore, ensure that all bottles are stored where practicable, at a suitable height, to prevent the handler from bending to lift from the floor.
• strenuous pushing or pulling	Yes	"	Handlers may encounter difficulties transporting bottles from their storage location to the cooler.
• Unpredictable movement of the load	Yes	"	The contents of the bottles may move unstable whilst being moved and/or lifted

Hazards to consider	Risk present	Who might be harmed and how	Notes on problems arising from the task
LOAD – Is the load: • heavy?	Yes	Employee(s) changing the bottle. Back injuries including; strained muscles, overstretched or torn ligaments, trapped compressed or impinged nerves, disc damage.	A full bottle weighs approximately 18.5kg. this weight exceeds the maximum guideline weight recommended for females. If the bottles are lifted from the floor, they also, as stated in the Manual Handling Operations Regulations 1992 ("the Regs") exceed the guideline maximum weight for a reasonably fit male.
• bulky/unwieldy?	Yes	"	The bottles are large and difficult to manage.
• difficult to grasp?	Yes	"	The large bottles are smooth sided and bulky and are therefore difficult to hold. But even more so if hands or the container is wet.

Hazards to consider:	Risk present	Who might be harmed and how	Notes on problems arising from the task
ENVIRONMENT - are there: • space constraints preventing good posture?	Yes	Employee(s) changing the bottle. Back injuries including; strained muscles, overstretched or torn ligaments, trapped compressed or impinged nerves, disc damage.	Obstruction in the environment must be assessed and items of furniture and equipment etc must be moved
• uneven slippery floors?	Yes	"	Floors may be contaminated with spillages, be uneven or have holes, loose surfaces, rucked up carpets etc
INDIVIDUAL CAPABILITY - does the job: • require unusual strength or height?	Yes	"	The bottles exceed a number of maximum guideline weights as specified in the Regulations.
• pose a risk to those with a health problem or those who are pregnant?	Yes	"	Health issues affecting individuals capabilities such as, disabilities, pre-existing medical conditions etc which may place a person "at risk", need consideration
• require special knowledge / training to ensure its done safely	Yes	"	

Risk rating

Likelihood			Severity		
5	Very likely – risk will occur repeatedly		5	Fatality	
4	Likely – will occur several times		4	Major injury – permanent disability	
3	Possible – may occur sometimes	**Yes**	3	Over 7 day injury – employee is unavailable for normal work for more than 7 days	**Yes**
2	Unlikely – but may occur		2	Minor injury – less than 7 days lost time	
1	Very unlikely – extremely unlikely		1	No injury	

Likelihood 4 x Severity 3 = Risk Assessment score 12

Risk assessment

LOW 1 – 8 **MEDIUM 9 – 15** **HIGH 16 – 25**

RISK ASSESSED "MEDIUM"

Current control measures	
1	Manual handling training provided to all staff who change bottles. Only those trained should change water bottles
2	Access to the drinking water cooler kept free from anything which may cause someone to slip, trip and fall
3	Ensure deliveries are taken to the storage area by the delivery company
4	Store bottles safely, close to the cooler without causing other hazards e.g. tripping
5	Use a lifting aid to move the bottles nearer to the cooler
Additional recommended control measures	
1	Investigate the feasibility of ordering smaller bottles weighing less, which will fall within the guideline weight for males and females
2	Written instructions to be issued on safe handling of water bottles to staff and posted near to the water cooler.
3	Investigate alternative sources of drinking water e.g. plumbing the mains water supply directly into a water cooler/filter device which will avoid the manual handling operation completely.

Reviewed by Deputy Health & Safety Manager, University Health and safety Service; 3 March 2014

Next Review 3 March 2015