

MAC Tool Assessment 1 – Lifting Operation



This is a common task in food factories. The blue container is commonly called a Dolav. This UK based factory produces ready meals for supermarkets. If this task was regularly performed by the same operative there would be a very high risk for lower back and neck musculoskeletal disorders including muscles spasms, ligament sprains and discs injuries. Osteoarthritis of the joints of the lower back and neck would be more likely also.

The task involved using the blue crate to scoop cut potatoes from the Dolav. The operative performed this task every 2 minutes for 2 hours of their 8 hour shift i.e. 1 lift every 2 minutes. The load weighed between 20-25kg. As the potatoes were contained within water, significant water was scooped as well. The crate was then carried (around 1 metre) to the left with water draining out of the crate. The crate was stacked onto a trolley from below knee level up to waist level.

The chart below is a MAC Tool assessment of the lifting task from the Dolav.

Risk Factors	Colour Band	Numerical Score	Comments/ Possible Control Measures to Reduce Risk
Load weight/ frequency	A	4	<p>To prevent perishing of the potatoes, it was essential to contain them in water. Reducing the load weight is of course achievable with smaller crates, however this is mass food production and will never happen. Reducing the frequency of the task is also not possible due to production/ machine demands. The only achievable way to reduce the risk is to job rotate. A maximum of 1 hour per day per employee would be better practice. Use of a lifting support belt could help also reduce the effects of the load weight on the spine.</p>
Hand distance from lower back	R	6	<p>As the side of the Dolav prevents squatting (bending of the hips and knees), a forward bend of the spine is enforced, with the arms angled away from the torso. The leverage effect of the load (when lifted with a stoop) places significant biomechanical strain on the lower lumbar spine (lower back) and cervical spine (neck). If the task had to be performed by an operative, a bespoke machine that tilts the Dolav would reduce the amount of forward bending and therefore reduce task risk. If the contents could be bulk delivered into the machine then a Dolav Tipper (shown below) would be best practice.</p>

			
Vertical lift zones	A	1	The potato contents are scooped at knee level to floor level. Risk reduction measures mentioned above.
Torso twisting & sideways bending	G	0	No torso twisting & sideways bending is performed.
Postural constraints	R	3	As the side of the Dolav prevents squatting, the posture is severely restricted.
Grip on the load	G	0	Fit-for-purpose handles/ handholds matched to the size and weight of the load.
Floor surface	R	2	Wet based food factory. Floor surfaces wet, especially next to this Dolav.
Environmental factors	G	0	No extremes of temperature; no strong air movements; no extreme lighting conditions.

Total Score 16

3 Reds

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If you have any comments you want to raise about this task please email me at garethmilner@osteopathicsolutions.co.uk



Gareth Milner BSc (Hons) Ost.
Director of Osteopathic Solutions Ltd

T. 0845 299 3513 | M. 07547 388 881

W. osteopathicsolutions-manualhandling.co.uk

W. manualhandlingdvd.co.uk | W. onlinemanualhandlingtraining.com

