

# Making the best use of lifting and handling aids



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Frequent and heavy lifting and handling can cause back injuries. But using lifting and handling aids can remove or reduce that risk and keep workers healthy and at work.

This guidance is intended for managers, employees and their representatives and others involved in the selection of lifting and handling aids.

## Why are back injuries an issue?

Back injuries from manual handling are a major cause of occupational ill health in the UK. But:

- they can often be prevented;
- preventative measures can be cost-effective;
- where back injuries occur, early reporting of symptoms, proper treatment and suitable rehabilitation is essential.

There are health and safety benefits for employers if they control manual handling risks by the use of lifting and handling aids such as:

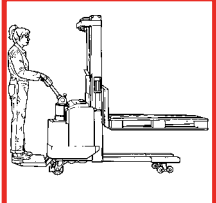
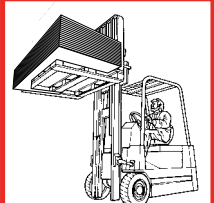
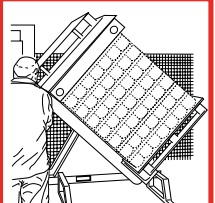
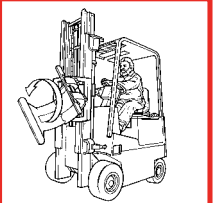
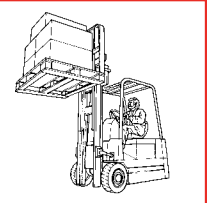


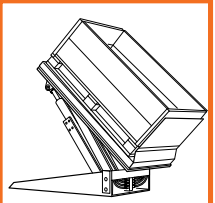


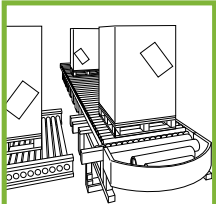
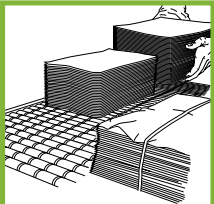
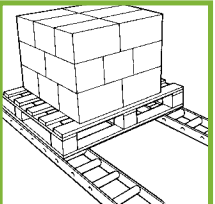
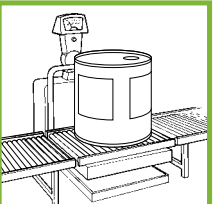
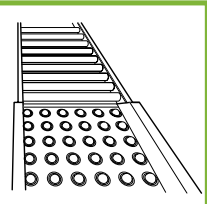
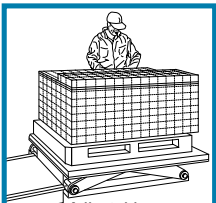

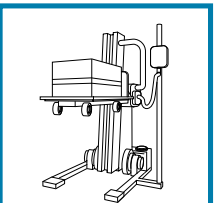
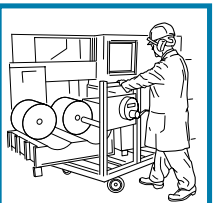
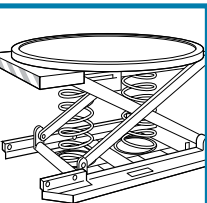



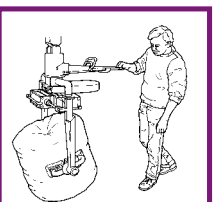
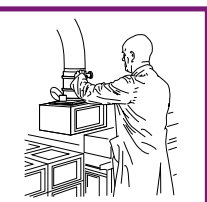
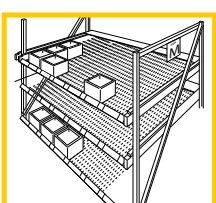
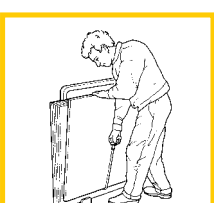

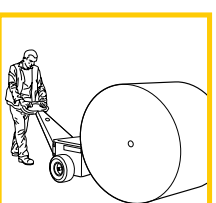
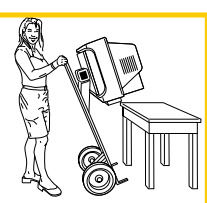
- improved/maintained productivity;
- reduction in retraining costs;
- limiting the options for liability;
- reduction of injury/ill health to employees.

<b>Costs to employers case studies</b>	
<b>Case study 1</b>	<b>Case study 2</b>
<p>Manual handling injury claims cost a company £150 000 over a 3-year period. This totalled 20% of their employers' liability claims.</p> <p>Musculoskeletal disorders affecting the back are a common work-related complaint reported through the Labour Force Survey (LFS) and the latest results show an estimated incidence figure of 51 000 cases for 2011/12.</p> <p>The LFS estimated that the main work activities causing or making back disorders worse (averaged over the period 2009/10–2011/12) were: manual handling (lifting/carrying/pushing/pulling); awkward or tiring positions and workplace accidents.</p>	<p>In one year a firm lost 373 working days because of manual handling injuries. This cost about £24 000 in wages paid to absent workers. There were additional overtime payments and other costs. The introduction of handling aids, manual handling training, and a rehabilitation programme reduced days lost to 74 and wage costs to about £5000.</p>

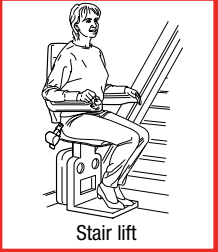

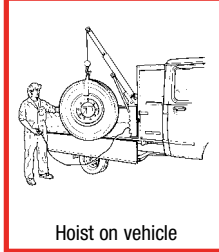
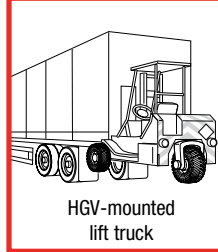
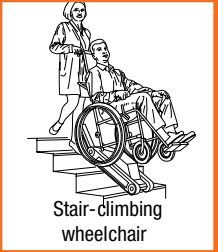

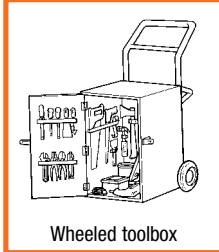

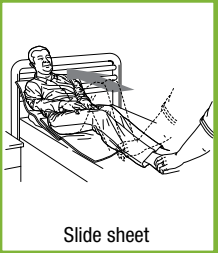
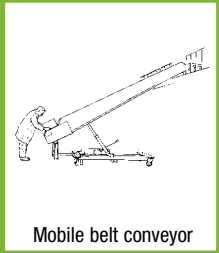
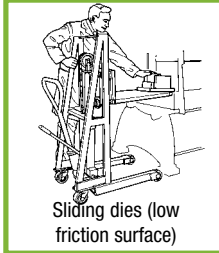
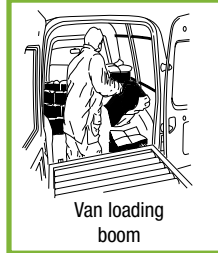
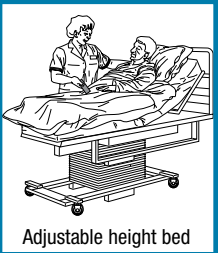


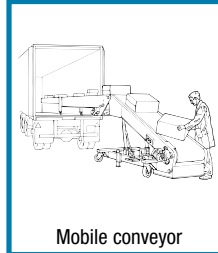

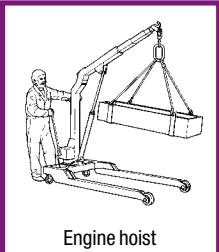

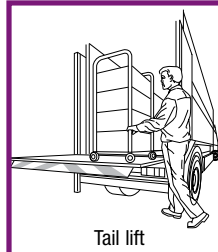




<b>Costs to employees case studies</b>	
<b>Case study 1</b>	<b>Case study 2</b>
<p>A worker suffered back pain resulting from repetitive heavy lifting. He was off work for eight weeks on reduced earnings (sickness benefit). He was unable to enjoy his usual leisure activities and was worried that he would not be able to return to his normal job. To prevent a recurrence, the company installed a hoist which removed the need for manual handling.</p>	<p>A worker was placing a heavy length of timber on a stack when it slipped. He tried to catch it and suffered an injury to his lower back. He took bed rest and stayed inactive for several weeks. He was not advised to keep active and the pain continued. Some months later he received physiotherapy, but by this time the injury had become chronic and the treatment did little to help. He is still in daily pain and can't stay sitting or standing for long. He is still unemployed several years later.</p>

<b>Lifting and handling aids case studies</b>	
<b>Big bags</b>	<b>Handling kegs and cases of beer</b>
<p>Employees manually feeding 25 kg sacks of material into a mixer had back pain. Managers and employee representatives worked together to solve the problem. They started using bigger bags handled by lift truck and redesigned feed chutes, dust extraction etc to allow use of big bags. This:</p> <ul style="list-style-type: none"> <li>■ avoided the manual handling;</li> <li>■ reduced dust exposure;</li> <li>■ reduced raw material costs;</li> <li>■ reduced loading times from an hour to 15 minutes, improving production.</li> </ul> <p>The trials were so successful the use of mechanically handled bags has been extended to all areas.</p>	<p>Large containers and crates of beer were frequently delivered into a deep public house cellar by lowering:</p> <ul style="list-style-type: none"> <li>■ kegs down a steep inclined skid using a looped rope; and</li> <li>■ cases down a plank alongside the skid also using a rope.</li> </ul> <p>The kegs were sometimes damaged and were difficult to return up to street level.</p> <p>A powered cellar lift was installed which lowered/raised kegs and crates between street level and the cellar floor. This avoided much of the strenuous manual handling and resulted in less damage to containers.</p> <p>Another problem is pushing empty beer kegs up skids from the pavement onto the brewery vehicle. This can be avoided by the provision of swing-lift hoists or side/tail lifts on the vehicle.</p>

## How can you avoid or reduce the risk from frequent and heavy lifting?

	Storing, warehousing/order picking	Moving sheet materials	Packing and unpacking pallets, stillages and containers	Bales, reels, barrel, drum, keg handling	Bag, sack, box etc handling
<b>Powered trucks and trolleys, vehicles etc</b>	 Battery-operated truck	 Lift truck	 Pallet converter	 Drum/reel rotator	 Lift truck
<b>Non-powered trucks, trolleys and aids</b>	 Shelf trolley	 Pallet truck	 Pallet tilter	 Keg truck	 Truck with hydraulic lift
<b>Tracks, conveyors, slides/chutes/roller balls</b>	 Conveyor with turntable	 Gravity rollers	 Roller track	 In-line weighing	 Ball table and rollers
<b>Adjustable height devices, rotary and tilt tables</b>	 Adjustable height turntable	 Sheet/trolley table	 Auto-leveller	 Reel trolley	 Rotary table
<b>Mechanical hoists and vacuum lifting devices</b>	 Conveyor and vacuum hoist	 Vacuum hoist	 Tub hoist	 Reel lifting head	 Vacuum hoist
<b>Other</b>	 Gravity feed racking	 Lifting hook	 Bin tilter	 Battery-powered tug	 TV trolley with suction cups

Some examples of solutions using lifting/handling aids. Consider avoiding handling or reducing the unit weight too.

	Handling*	Portering, cleaning and waste	Setting and maintenance tasks	Goods dispatch/delivery to site/domestic premises
Powered trucks and trolleys, vehicles etc	 <p>Stair lift</p>	 <p>Powered tug</p>	 <p>Hoist on vehicle</p>	 <p>HGV-mounted lift truck</p>
Non-powered trucks, trolleys and aids	 <p>Stair-climbing wheelchair</p>	 <p>Cylinder trolley</p>	 <p>Wheeled toolbox</p>	 <p>Star-wheeled truck</p>
Tracks, conveyors, slides/chutes/roller balls	 <p>Slide sheet</p>	 <p>Mobile belt conveyor</p>	 <p>Sliding dies (low friction surface)</p>	 <p>Van loading boom</p>
Adjustable height devices, rotary and tilt tables	 <p>Adjustable height bed</p>	 <p>Spring-loaded laundry trolley</p>	 <p>Platform truck</p>	 <p>Mobile conveyor</p>
Mechanical hoists and vacuum lifting devices	 <p>Stand-aid hoist</p>	 <p>Engine hoist</p>	 <p>Valve lifting jig</p>	 <p>Tail lift</p>
Other	 <p>Hand rails</p>	 <p>Mop bucket on wheels</p>	 <p>Hand protection</p>	 <p>Roll cage</p>

\* Take care to select aids which take clients' condition into account

<b>Lifting and handling aids case studies</b>	
<b>Order picking</b>	<b>Stacking packaged items</b>
<p>Staff selecting items for customer orders from storage racking suffered sore backs, necks and shoulders through repetitively stooping and reaching to pick up the items. Installation of gravity feed racking for many products prevented the need to reach to the back of the shelves. Heavier items were stored at waist height where they could be slid onto the collection trolleys. Turntables were provided, enabling pallets to be rotated once items had been picked from the front, eliminating most of the reaching.</p>	<p>A firm identified production and health and safety problems during the manual stacking of packaged items. These were placed into trays on a wheeled dolly at the end of each production line. The tray stacking height varied as more packages were added. An auto-leveller was provided to solve this problem. This improves the operator posture. The installation increased productivity by 45% and controlled the risks. The capital payback time was five months.</p>
<b>Unpacking fruit</b>	<b>Loading pallets</b>
<p>Staff in a supermarket were experiencing back problems from stooping to empty fruit boxes from flat bed trolleys. The company introduced a foot-operated hydraulic platform truck, so the boxes could be emptied at the same height as the display fixtures, which eliminated stooping.</p>	<p>Employees loading small packs of product from a conveyor onto pallets frequently reported backache and had time off work. The work involved repetitive bending and reaching across the pallet. The problem was solved by installing a scissor lift with turntable. Other solutions for heavy items include the use of vacuum hoists or automatic palletisers.</p>

### Factors to consider when selecting lifting and handling aids

- Involve employees and safety representatives during assessment and when considering possible solutions, so that you can be sure what you propose will work in practice and won't introduce any new hazards.
- Seek advice from suppliers on the suitability of new lifting and handling aid equipment for your business.
- Check equipment is CE-marked and within the safe working load.
- Consider what maintenance will be required.
- Consider whether the equipment will suit the area it will be used in, eg is there enough room to manoeuvre or enough headroom?
- Check that the equipment is suitable for the floor area in terms of stability and ground surface.
- Consider other factors associated with introducing lifting and handling aids, eg site safety, training, information and support.

### Where can you get more information about manual handling controls?

- Manual handling: Solutions you can handle HSG115 HSE Books 1994 ISBN 978 0 7176 0693 1 [www.hse.gov.uk/pubns/books/hsg115.htm](http://www.hse.gov.uk/pubns/books/hsg115.htm)
- The HSE website, [www.hse.gov.uk/msd](http://www.hse.gov.uk/msd), contains:
  - case study material about manual handling assessment and controls;
  - references for sector-specific manual handling guidance;
  - online training in the use of MAC, the Manual Handling Assessment Charts.
- Assessment of repetitive tasks: ART tool INDG438 HSE Books 2010 [www.hse.gov.uk/pubns/indg438.htm](http://www.hse.gov.uk/pubns/indg438.htm)

### Further information

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit [www.hse.gov.uk/](http://www.hse.gov.uk/). You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.

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This leaflet is available at: [www.hse.gov.uk/pubns/indg398.htm](http://www.hse.gov.uk/pubns/indg398.htm).

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