

# Are you making the best use of lifting and handling aids?



## **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 are cost-effective;
- where back injuries cannot be prevented, early reporting of symptoms, proper treatment and suitable rehabilitation is essential.

### Employers

**Controlling manual handling risks in your business will:**

- maintain production/contracts;
- maintain quality of products;
- maintain or reduce insurance costs.

**If they are not properly controlled you may have:**

- retraining costs;
- wage and overtime costs;
- loss of reputation with customers;
- adverse publicity/prosecution;
- civil liability costs.

### Employees

**Using lifting aids can:**

- avoid injury;
- avoid pain, suffering and stress for you and your family;
- prevent loss/reduction in earnings.

**If you are injured it may affect your:**

- lifestyle;
- leisure activities;
- ability to sleep;
- job prospects.

### Costs to employers

#### Case study 1

Manual handling injury claims cost a company £150 000 over a 3 year period. This totalled 20% of their employers' liability claims.

#### Case study 2

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 also 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.

### Costs to employees

#### Case study 1

A worker suffered back pain resulting from repetitive heavy lifting. He was off work for 8 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.

#### Case study 2

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.

## Lifting and handling aids case studies

### Big bags

Employees manually feeding 25kg 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:

- avoided the manual handling;
- reduced dust exposure;
- reduced raw material costs;
- reduced loading times from an hour to 15 minutes, improving production.

The trials were so successful the use of mechanically handled bags has been extended to all areas.

### Handling kegs and cases of beer

Large containers and crates of beer were frequently delivered into a deep public house cellar by lowering:

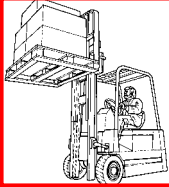

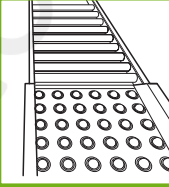
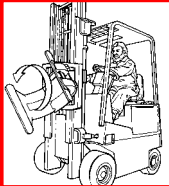

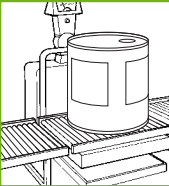
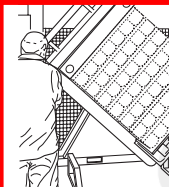

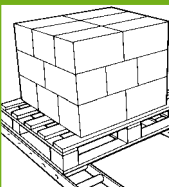
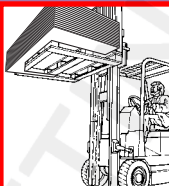

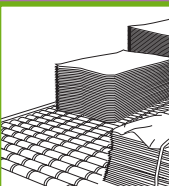
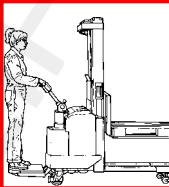


- kegs down a steep inclined skid using a looped rope; and
- cases down a plank alongside the skid also using a rope.

The kegs were sometimes damaged and were difficult to return up to street level.

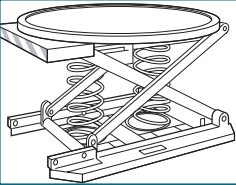
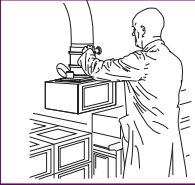
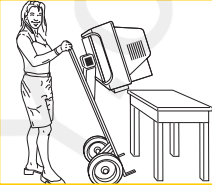
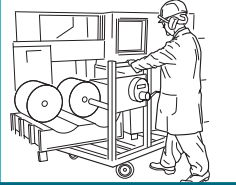
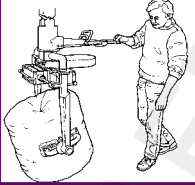
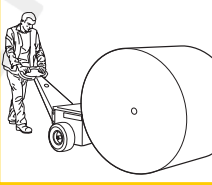
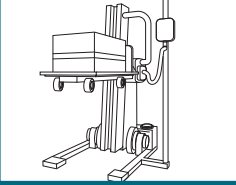





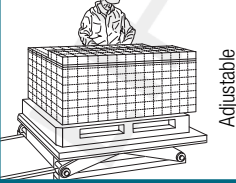

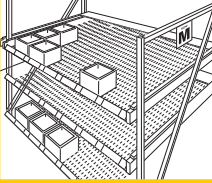
A powered cellar lift was installed which lowered/raised kegs and crates between street level and the cellar floor. This avoided much of the strenuous manual handling and resulted in less damage to containers.


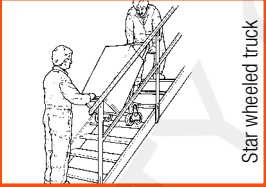

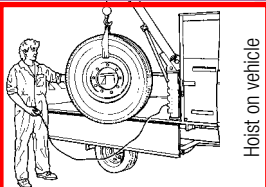
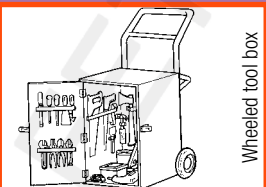
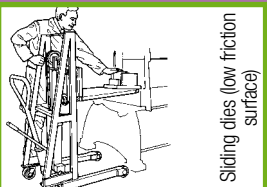
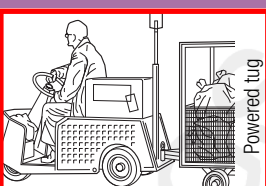

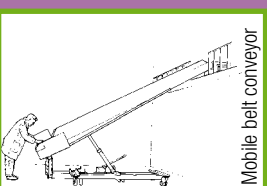

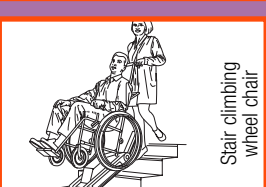
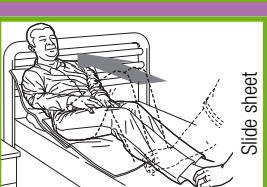
Another problem is pushing empty beer kegs up skids from the pavement onto the brewery vehicle. This can be avoided by the provision of swing-lift hoists or side/tail lifts on the vehicle.

# How do I avoid or reduce the risk from frequent and heavy lifting?

	Powered trucks and trolleys, vehicles etc	Non-powered trucks, trolleys and aids	Tracks, conveyors, slides/chutes/roller balls
Bag, sack, box etc handling	 <p>Fork truck</p>	 <p>Truck with hydraulic lift</p>	 <p>Ball table and rollers</p>
Bales, reels, barrel, drum, keg handling	 <p>Drum/reel rotator</p>	 <p>Keg truck</p>	 <p>In-line weighing</p>
Packing and unpacking pallets, stillages and containers	 <p>Pallet converter</p>	 <p>Pallet tilter</p>	 <p>Roller track</p>
Moving sheet materials	 <p>Fork truck</p>	 <p>Pallet truck</p>	 <p>Gravity rollers</p>
Storing, warehousing/order picking	 <p>Battery operated truck</p>	 <p>Shelf trolley</p>	 <p>Conveyor with turntable</p>

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

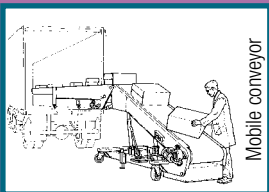
Adjustable height devices, rotary and tilt tables	Mechanical hoists and vacuum lifting devices	Other
 <p>Rotary table</p>	 <p>Vacuum hoist</p>	 <p>TV trolley with suction cups</p>
 <p>Reel trolley</p>	 <p>Reel lifting head</p>	 <p>Battery powered tug</p>
 <p>Auto-leveller</p>	 <p>Tub hoist</p>	 <p>Bin tilter</p>
 <p>Sheet/trolley table</p>	 <p>Vacuum hoist</p>	 <p>Lifting hook</p>
 <p>Adjustable height turntable</p>	 <p>Conveyor and vacuum hoist</p>	 <p>Gravity feed racking</p>

	Powered trucks and trolleys, vehicles etc	Non-powered trucks, trolleys and aids	Tracks, conveyors, slides/chutes/roller balls
Goods dispatch/delivery to site/domestic premises	 <p>HGV mounted forklift truck</p>	 <p>Star wheeled truck</p>	 <p>Van loading boom</p>
Setting and maintenance tasks	 <p>Hoist on vehicle</p>	 <p>Wheeled tool box</p>	 <p>Sliding dies (low friction surface)</p>
Portering, cleaning and waste	 <p>Powered tug</p>	 <p>Cylinder trolley</p>	 <p>Mobile belt conveyor</p>
Handling clients*	 <p>Stair lift</p>	 <p>Stair climbing wheel chair</p>	 <p>Slide sheet</p>

\* Care should be taken in the selection of handling aids which takes into account clients' condition, rights to autonomy, privacy and dignity



**Adjustable height devices,  
rotary and tilt tables**



Mobile conveyor

**Mechanical hoists and  
vacuum lifting devices**



Tail lift

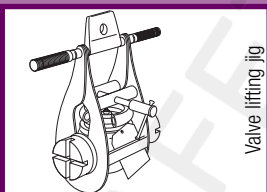
**Other**



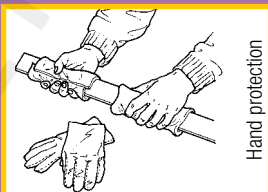
Roll cage



Platform truck



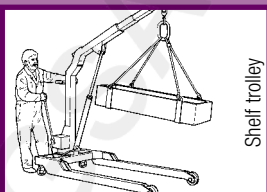
Valve lifting jig



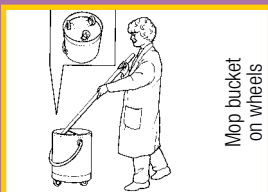
Hand protection



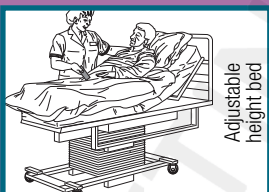
Spring-loaded laundry trolley



Shelf trolley



Mop bucket on wheels



Adjustable height bed



Stand-aid hoist



Hand rails

## Lifting and handling aids case studies

### Order picking

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.

### Unpacking fruit

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.

### Stacking packaged items

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 5 months.

### Equipment assembly

The fitting of chiller units into vending machines was identified as a handling risk. Initially a lifting machine was purchased but it was slow and prevented operators seeing the work area properly. As a result, staff did not use this device. Help was sought from an ergonomist and workers were involved in finding a solution. Trolleys were selected which:

- could be set at the right height to slide the chiller into the vending machine; and
- were faced with a friction-free surface enabling the chillers to be slid into position.

### Patient handling

Patients often slip down in bed and require help. Use of slide sheets can greatly reduce the manual handling required to help them back into a comfortable position.

### Loading pallets

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.

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

- Consult employees and safety representatives during assessment and when considering possible solutions.
- Seek advice on suitability from suppliers/hirers.
- Request equipment on trial basis, if possible, to check it solves the problem, again involve employees who will be expected to use it.
- Ask suppliers about other customers so you can see it in use.
- Check lifting equipment is CE-marked.
- Consider what maintenance will be required.
- Check the proposed use will be within the safe working load.
- Does it suit the area it will be used in? Is there enough room to manoeuvre, enough headroom etc?
- Does it suit the terrain in terms of stability and ground surface?
- Consider other risks associated with introducing the lifting aid, eg site safety and driver training, concerning use of a fork lift truck.

## Where can I get further information about manual handling controls?

- *Manual handling: Solutions you can handle* HSG115 HSE Books 1994  
ISBN 0 7176 0693 7
- *Roll cages and wheeled racks in the food and drink industries: Reducing manual handling injuries* Food Information Sheet FIS33 HSE Books 2003
- 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;
  - on-line training in the use of MAC, the Manual Handling Assessment Charts.

HSE priced and free publications are available by mail order from HSE Books, PO Box 1999, Sudbury, Suffolk CO10 2WA Tel: 01787 881165 Fax: 01787 313995 Website: [www.hsebooks.co.uk](http://www.hsebooks.co.uk) (HSE priced publications are also available from bookshops and free leaflets can be downloaded from HSE's website: [www.hse.gov.uk](http://www.hse.gov.uk).)

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This leaflet contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.

This leaflet is available in priced packs of 15 from HSE Books, ISBN 0 7176 2900 7. Single free copies are also available from HSE Books.

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