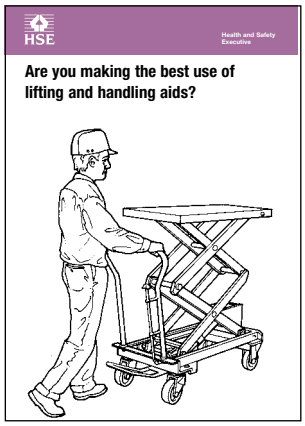
Are you making the best use of lifting and handling aids?



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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 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:	**If they are not properly controlled you may have:**
■ maintain production/contracts; ■ maintain quality of products; ■ maintain or reduce insurance costs.	■ retraining costs; ■ wage and overtime costs; ■ loss of reputation with customers; ■ adverse publicity/prosecution; ■ civil liability costs.

Employees	
Using lifting aids can:	**If you are injured it may affect your:**
■ avoid injury; ■ avoid pain, suffering and stress for you and your family; ■ prevent loss/reduction in earnings.	■ lifestyle; ■ leisure activities; ■ ability to sleep; ■ job prospects.

Costs to employers	
Case study 1	**Case study 2**
Manual handling injury claims cost a company £150 000 over a 3 year period. This totalled 20% of their employers' liability claims.	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	**Case study 2**
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.	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:

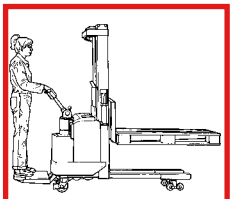
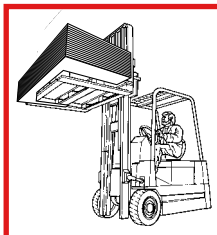
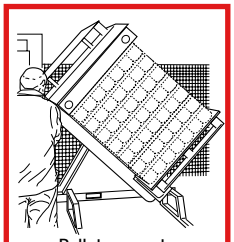
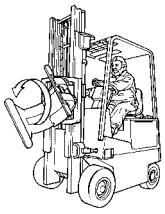
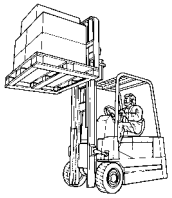
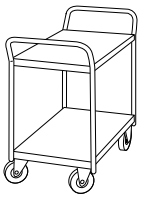
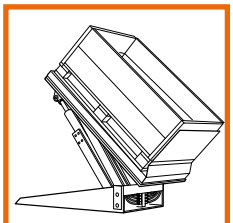
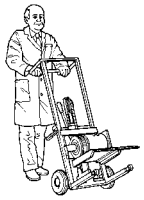
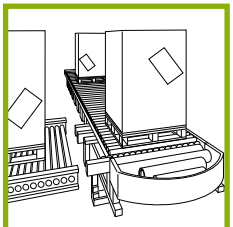
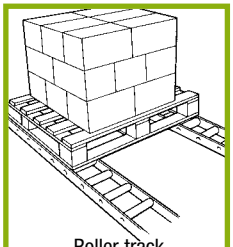
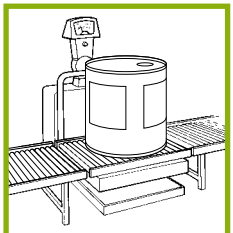
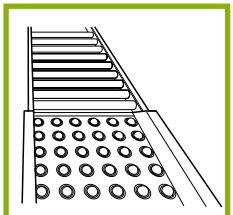
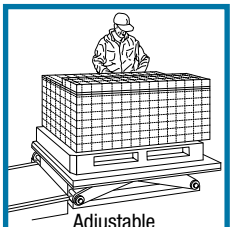
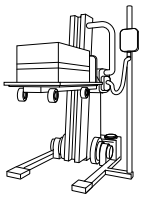
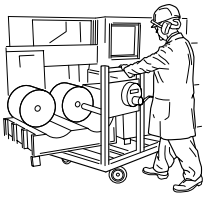
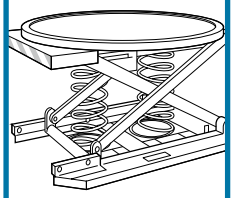
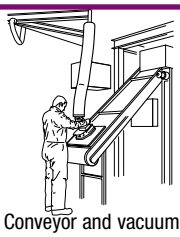
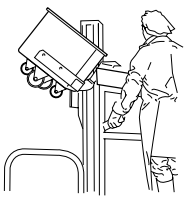
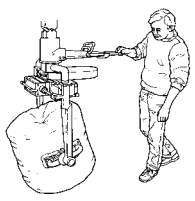
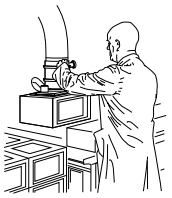
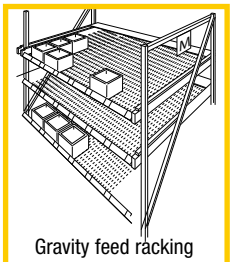
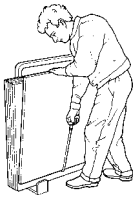
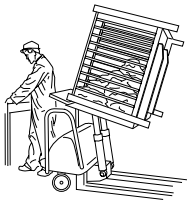
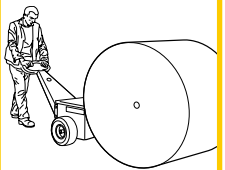
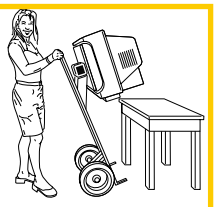
- kegs down a steep inclined skid using a looped rope; and
- cases down a plank alongside the skid also using a rope.

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

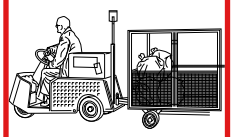
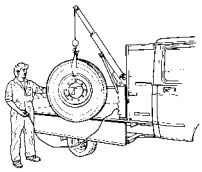
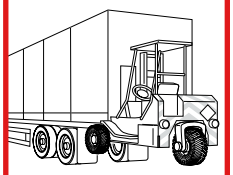
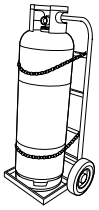
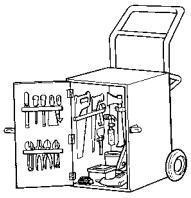
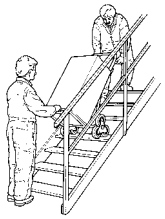
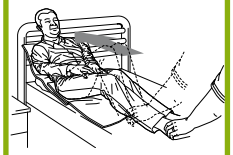
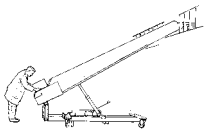
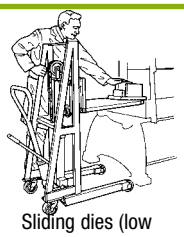
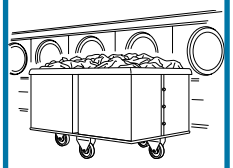
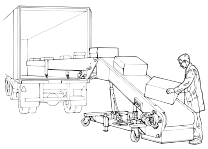
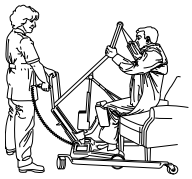
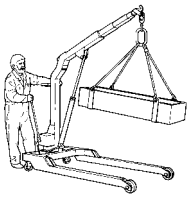
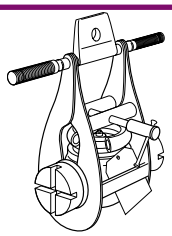
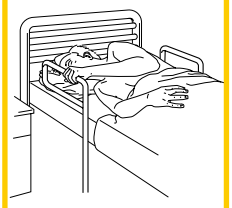
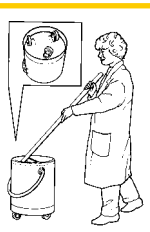
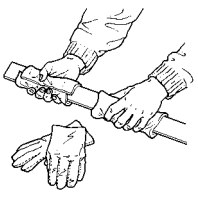
A powered cellar lift was installed which lowered/raised kegs and crates between street level and the cellar floor. This avoided much of the strenuous manual handling and resulted in less damage to containers.

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?

	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
Powered trucks and trolleys, vehicles etc	 Battery operated truck	 Fork truck	 Pallet converter	 Drum/reel rotator	 Fork truck
Non-powered trucks, trolleys and aids	 Shelf trolley	 Pallet truck	 Pallet tilter	 Keg truck	 Truck with hydraulic lift
Tracks, conveyors, slides/chutes/roller balls	 Conveyor with turntable	 Gravity rollers	 Roller track	 In-line weighing	 Ball table and rollers
Adjustable height devices, rotary and tilt tables	 Adjustable height turntable	 Sheet/trolley table	 Auto-leveller	 Reel trolley	 Rotary table
Mechanical hoists and vacuum lifting devices	 Conveyor and vacuum hoist	 Vacuum hoist	 Tub hoist	 Reel lifting head	 Vacuum hoist
Other	 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 clients*	Portering, cleaning and waste	Setting and maintenance tasks	Goods dispatch/delivery to site/domestic premises
Powered trucks and trolleys, vehicles etc	 Stair lift	 Powered tug	 Hoist on vehicle	 HGV mounted fork lift truck
Non-powered trucks, trolleys and aids	 Stair climbing wheel chair	 Cylinder trolley	 Wheeled tool box	 Star wheeled truck
Tracks, conveyors, slides/chutes/roller balls	 Slide sheet	 Mobile belt conveyor	 Sliding dies (low friction surface)	 Van loading boom
Adjustable height devices, rotary and tilt tables	 Adjustable height bed	 Spring-loaded laundry trolley	 Platform truck	 Mobile conveyor
Mechanical hoists and vacuum lifting devices	 Stand-aid hoist	 Shelf trolley	 Valve lifting jig	 Tail lift
Other	 Hand rails	 Mop bucket on wheels	 Hand protection	 Roll cage

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

Lifting and handling aids case studies

Order picking	Equipment assembly
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.	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.
Unpacking fruit	**Patient handling**
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.	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.
Stacking packaged items	**Loading pallets**
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.	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 978 0 7176 0693 1 www.hse.gov.uk/pubns/books/hsg115.htm
- The HSE website, 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.

For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit 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.

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 from HSE Books, ISBN 978 0 7176 2900 8. A web version can be found at: www.hse.gov.uk/pubns/indg398.pdf.