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

### Employers

<table>
<thead>
<tr>
<th>Controlling manual handling risks in your business will:</th>
<th>If they are not properly controlled you may have:</th>
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<tbody>
<tr>
<td>■ maintain production/contracts;</td>
<td>■ retraining costs;</td>
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<tr>
<td>■ maintain quality of products;</td>
<td>■ wage and overtime costs;</td>
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<tr>
<td>■ maintain or reduce insurance costs.</td>
<td>■ loss of reputation with customers;</td>
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<td></td>
<td>■ adverse publicity/prosecution;</td>
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<td>■ civil liability costs.</td>
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### Employees

<table>
<thead>
<tr>
<th>Using lifting aids can:</th>
<th>If you are injured it may affect your:</th>
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<tbody>
<tr>
<td>■ avoid injury;</td>
<td>■ lifestyle;</td>
</tr>
<tr>
<td>■ avoid pain, suffering and stress for you and your family;</td>
<td>■ leisure activities;</td>
</tr>
<tr>
<td>■ prevent loss/reduction in earnings.</td>
<td>■ ability to sleep;</td>
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<td></td>
<td>■ job prospects.</td>
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### Costs to employers

<table>
<thead>
<tr>
<th>Case study 1</th>
<th>Case study 2</th>
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<tr>
<td>Manual handling injury claims cost a company £150,000 over a 3 year period. This totalled 20% of their employers’ liability claims.</td>
<td>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.</td>
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### Costs to employees

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<td>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.</td>
<td>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.</td>
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</table>
Are you making the best use of lifting and handling aids?

Lifting and handling aids case studies

<table>
<thead>
<tr>
<th>Big bags</th>
<th>Handling kegs and cases of beer</th>
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<tbody>
<tr>
<td>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:</td>
<td>Large containers and crates of beer were frequently delivered into a deep public house cellar by lowering:</td>
</tr>
<tr>
<td>■ avoided the manual handling;</td>
<td>■ kegs down a steep inclined skid using a looped rope; and</td>
</tr>
<tr>
<td>■ reduced dust exposure;</td>
<td>■ cases down a plank alongside the skid also using a rope.</td>
</tr>
<tr>
<td>■ reduced raw material costs;</td>
<td>The kegs were sometimes damaged and were difficult to return up to street level.</td>
</tr>
<tr>
<td>■ reduced loading times from an hour to 15 minutes, improving production.</td>
<td>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.</td>
</tr>
</tbody>
</table>

The trials were so successful the use of mechanically handled bags has been extended to all areas. 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**
  - Bag, sack, box etc handling
  - Bales, reel, barrel, drum, keg handling
  - Packing and unpacking pallets, stillages and containers
  - Moving sheet materials
  - Storing, warehousing/order picking

- **Non-powered trucks, trolleys and aids**
  - Fork truck
  - Drum/reel rotator
  - Pallet converter
  - Pallet tilter
  - Pallet truck
  - Battery operated truck

- **Tracks, conveyors, slides/chutes/roller balls**
  - Truck with hydraulic lift
  - Keg truck
  - Pallet tilter
  - Shelf trolley
  - Gravity rollers

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- **Tracks, conveyors, slides/chutes/roller balls**
  - Ball table and rollers
  - In-line weighing
  - Roller track
  - Conveyor with turntable
Are you making the best use of lifting and handling aids?

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

**Adjustable height devices, rotary and tilt tables**
- Rotary table
- Reel trolley
- Auto-leveler
- Sheet/trolley table
- Adjustable height turntable

**Mechanical hoists and vacuum lifting devices**
- Vacuum hoist
- Reel lifting head
- Tub hoist
- Vacuum hoist
- Conveyor and vacuum hoist

**Other**
- TV trolley with suction cups
- Battery powered tug
- Bin tilter
- Lifting hook
- Gravity feed racking
Are you making the best use of lifting and handling aids?

**Powered trucks and trolleys, vehicles etc**
- HGV mounted fork lift truck
- Star wheeled truck
- Van loading boom

**Non-powered trucks, trolleys and aids**
- Hoist on vehicle
- Wheeled tool box
- Sliding dies (low friction surface)

**Tracks, conveyors, slides/chutes/roller balls**
- Powered tug
- Cylinder trolley
- Mobile belt conveyor

**Goods dispatch/delivery to site/domestic premises**

**Setting and maintenance tasks**

**Portering, cleaning and waste**

**Handling clients**
- Stair lift
- Stair climbing wheelchair
- Slide sheet

* Care should be taken in the selection of handling aids which takes into account clients’ condition, rights to autonomy, privacy and dignity
Are you making the best use of lifting and handling aids?

- **Adjustable height devices, rotary and tilt tables**
  - Mobile conveyor
  - Platform truck
  - Spring-loaded laundry trolley
  - Adjustable height bed

- **Mechanical hoists and vacuum lifting devices**
  - Tail lift
  - Valve lifting jig
  - Shelf trolley
  - Stand-aid hoist

- **Other**
  - Roll cage
  - Hand protection
  - Mop bucket on wheels
  - Hand rails
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| **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. | **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. |
| **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. | **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. |
| **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. | **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?


- 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, 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.

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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.

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