



Injuries and ill health caused by handling in the food and drink industries

Food Information Sheet No 23

Introduction

This guidance covers the following areas:

- acute physical injuries caused by manual handling; and
- chronic ill health from work-related upper limb disorders (WRULDs), also known as repetitive strain injury (RSI), and from back and lower limb disorders. These are known as 'musculoskeletal disorders'.

The guidance covers information specific to the food and drink industry on:

- industry priorities;
- the importance of controlling handling risks;
- managing handling risks;
- solutions which work in the industry; and
- references to guidance.

Industry priorities

After looking at studies, and following discussions between trade associations, trade unions and the Health and Safety Executive (HSE), the industry has agreed its priorities for manual handling. These will be relevant to most sites, although some may have other risks which are not included nationally.

The agreed priorities together with the agreed main remedies are:

- **stacking/destacking** (sacks, crates, boxes, etc) - use mechanical aids, eg vacuum lifters, pallet tables, conveyors, where possible. Failing this, reduce the weight of unit loads.
- **pushing wheeled racks** (eg oven racks, trolleys of produce) - maintain wheels and floors, consider job rotation.
- **cutting, boning, jointing, trussing and eviscerating** (eg meat and poultry) - consider job rotation.
- **packing** (eg cheese, confectionery, biscuits) - consider mechanical packaging options, job rotation and the rate of work.

- **handling drinks containers** (eg delivery) - use mechanical aids where possible and train in the correct handling procedures.

Importance of controlling handling risks

Handling activities are the single largest cause of injuries and ill health in the food and drinks industries. Musculoskeletal injuries account for around 40% of all reported ill health, and manual handling injuries cause 30-34% of all reported injuries.

Manual handling injuries

- 85% of all handling injuries happened while the load was being handled manually. This shows that using mechanical handling causes less injuries (note: 50% of these were back injuries).
- 60% of manual handling injuries were due to body overload from heavy loads, (compared to 6% from sharp edges and 7% for crushing).
- 48% of the injuries were caused by lifting and lowering loads (compared to 16% when carrying and 12% when pulling loads).

The commonest specific cause of injury was stacking/destacking containers. This accounted for 53% of manual handling injuries.

Studies show that 75% of manual handling injuries are preventable if you take reasonable precautions.

Most manual handling injuries (70%) happened to manual production workers. Other occupations at risk are drivers (6%), labourers (5%), maintenance workers (3%), cleaners (1.6%) and caterers (1%).

Manual handling injuries are usually caused by lack of information or training, or by unsafe working procedures. The most common situation is when someone loses control of a load. They might end up holding a heavy article too far from their body, or it might fall on someone.

Work-related upper limb disorders and other musculoskeletal disorders

There are about 64 cases of WRULD per 1000 people employed per year in the food and drink industries. In some sites, this can be as high as 875 cases. This compares to 2.6 for metal manufacture and 14 for construction.

Food and drink companies in another study had themselves recognised WRULD cases in around 10% of their employees.

WRULD problems are widespread in most sectors of the food industry. For example, in one study WRULD problems were present in three out of seven slaughter/deboning premises, two out of two meat pie producers, two out of four sausage makers, one out of two poultry processors, two out of eight dairies, two out of four vegetable processors, two out of five fish processors, two out of two fast food sites, one out of five bread bakeries and three out of five cake bakeries. The back, wrists and hands are most often affected. In this industry, repetitive movements, articulation of the joints, speed, force, posture and temperature can all cause injury.

Specific industry causes of illness were activities involving stacking (eg trays), cutting (eg meat), wrapping, packing and positioning (eg poultry industry).

Managing risks from handling

The Management of Health and Safety at Work Regulations 1992 places a duty on employers to ensure there are effective arrangements to plan, organise, control, monitor and review preventive and protective measures against risks assessed as significant. The following will help to do this:

- Identify which handling activities are a significant risk. Company experience (eg observing tasks, talking to employees, injury history) and the industry priorities in this publication can help decide which activities to focus upon. Pay particular attention to moving heavy objects, awkward loads, strenuous pulling or pushing, whether more than one person is required for a task, overreaching, repetitive handling, reaching above shoulder height, awkward postures, awkward places and carrying for long distances.
- Assess these activities in more detail to decide what factors lead to the risk. This could be a general assessment (eg for all loading/unloading operations) but you need to identify everything which might cause injury. This will help you to decide safeguards for every factor. There are lists in the publications given in the reference section and in industry guidance.
- Introduce suitable preventive and protective measures. Bear in mind that manual handling tasks which involve a risk of injury should be avoided as far as reasonably practicable. The industry is now using mechanical handling (eg powered trucks, conveyors, vacuum lifters, pneumatic systems) more often. Loads also tend to be lighter. These sort of measures should be phased in as part of an

overall risk reduction plan. There are specific solutions in the *Industry specific guidance* section.

- Consult trade union safety representatives or employee representatives on any changes. If they are involved early on, you can learn from their experience.
- Health surveillance is important if you cannot eliminate risks and have to rely on protective measures. Health surveillance should help to match the individual and the task, to identify possible health problems early on and to monitor the overall effectiveness of what you have done.
- A 'cradle to grave' approach can help control handling risks throughout the supply chain, which might include supplying raw materials, production, distribution and delivery. If suppliers and employers agree on how a product is supplied, handled and distributed, they can use purpose-made handling solutions at every stage. Each supplier in the chain has a legal duty to co-operate with others.
- Employees' training and information should cover what sort of injuries are likely and what causes them, safe use of mechanical aids and safe manual handling methods - especially posture, lifting techniques and methods of carrying.
- Finally, check that your measures have made improvements. You can do this by monitoring records of sickness absence and ill health, monitoring the use of mechanical aids, etc.

Solutions which work in the food and drink industries

Manual handling risks

Risk assessment

Carrying out and acting on a risk assessment makes a noticeable difference in the amount of injuries. Companies with no manual handling assessments have a higher proportion of manual handling injuries. Those with reasonable assessments have much fewer.

Unit weight of sacks, boxes, etc

Traditionally, sack weights up to 50 kg and over have been used, although sack weights are now generally decreasing. A safe weight for most people to lift is 25 kg or lower, when held close to the trunk. The norm is now 25 kg for many ingredient suppliers, although ergonomic assessment is still needed for these loads. If the load is heavier than 25 kg, or held away from the trunk, the employer's assessment needs to be more detailed. A commonly used 32 kg weight of sack can be safely handled with proper training by a normal, fit, healthy

adult male without aid. But the employer needs to make sure there are no adverse factors anywhere in the supply chain (awkward delivery access, stairs, etc). Heavier unit loads should only be considered if mechanical aids can always be available (or two people for a combined lift). Where there may be problems, lighter sacks or containers should be specified. It helps if the shape of containers is optimised for easier lifting and handles are provided where this is possible.

Pallet stacking/destacking

Food products are often imported into this country stacked onto pallets (eg fruit in boxes, coffee in sacks). This enables mechanical handling of the whole pallet load. Pallet tables can be useful to present the pallet at the correct height for manual loading and unloading. But there can be problems when pallet loads have to be broken down inside freight containers. This means the operator has to handle the load over large vertical distances. One solution is to specify lighter unit loads or to transport them in a way which makes sure mechanical handling can always be used.

Reduced weight of unit loads versus increased lifting frequency

In general, it is better to reduce unit load weights even if this means a greater frequency of lifts. For example, it is better to lift 100 x 25 kg containers than 50 x 50 kg ones. But the frequency should not be increased too far as the benefits are diminished by fatigue - general or localised (eg shoulders). When unit weights are decreased it is important that stack heights are not increased to above shoulder height. Rests should still be provided where they are needed. Bad practices (such as carrying two loads instead of one) should not be allowed. And you should still consider task design and job rotation.

Work-related upper limb disorders

A management approach to controlling WRULD risks is described in HSE's *A recipe for safety* (see *References*). This includes a case study which shows a reduction from 875 absences per 1000 employees during one year, to just 85 absences per year three years later.

Most companies find that job rotation, training, education, pre-employment selection, medical surveillance and job transfer largely manage any problem. Extra rest periods make little difference.

One company found limiting shift lengths (eg 4.5 hours) with health surveillance to detect early signs of WRULD and immediate job transfers was successful while they worked through ergonomic improvements.

Providing early physiotherapy or other treatment for people removed from a problematic job help them return to work earlier.

References

Moving food and drink: One hundred manual handling case studies for the food and drink industries HSG196 HSE Books 2000 ISBN 0 7176 1731 9

Manual handling - Guidance on regulations L23 HSE Books 1998 ISBN 0 7176 2415 3

Work related upper limb disorders: A guide to prevention HSG60 HSE Books 1990 ISBN 0 7176 0810 7

Manual handling - Solutions you can handle HSG115 HSE Books 1994 ISBN 0 7176 0693 7

A pain in your workplace? Ergonomic problems and solutions HSG121 HSE Books 1994 ISBN 0 7176 0668 6

Upper limb disorders - Assessing the risks INDG171L HSE Books 1994 Free Leaflet

Health risk management HSG137 HSE Books 1995 ISBN 0 7176 0905 7

A recipe for safety TOP05(rev1) HSE Books 1999 Free publication

Industry specific guidance

Meat:

Work related upper limb disorders in the meat industry (BMMA Guidance Note 06)

Manual handling (BMMA Guidance Note 43)

Available from The British Meat Manufacturing Association, 112 Buckingham Gate, London SW1E 6LB

Poultry:

Work related upper limb disorders - Guidance for the poultry industry

Available from British Poultry Meat Federation, Imperial House, 15 -19 Kingsway, London WC2B 6UA

Bakeries:

Manual handling guidelines for employers in the bakery industry

Available from The National Association of Master Bakers, 21 Baldock Street, Ware, Herts SG12 9DH

Outline assessment of handling bread baskets

Available from Federation of Bakers, 6 Catherine Street, London.

Flour Milling:

The Manual Handling Operations Regulations 1992 - Guidelines for employers in the flour milling industry.

Available from National Association of British and Irish Millers, 21 Arlington Street, London SW1A 1RN

Drinks:

Manual handling in drinks delivery HSG119 HSE Books 1994 ISBN 0 7176 0731 3

Manual handling in the brewing and licensed retail industry

Available from the Brewers and Licensed Retailers Association, 42 Portman Square, London W1H 0BB

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