



# Health & Safety

# Fact sheet

## number 09

Issue 07/08

# Manual Handling

## CONTENTS

- WHAT IS MANUAL HANDLING?
- INJURIES CAUSED BY MANUAL HANDLING
- MANUAL HANDLING REGULATIONS
- MANUAL HANDLING RISK ASSESSMENTS
- HOW MUCH CAN PEOPLE LIFT SAFELY?
- HANDLING TECHNIQUES

## WHAT IS MANUAL HANDLING?

Manual handling is defined as any handling operation that requires the transporting or supporting of a load (including the lifting, putting down, pushing, pulling, carrying thereof) by hand or by bodily force. A "Load" includes an object such as a box or any person or animal.

## INJURIES CAUSED BY MANUAL HANDLING

More than a third of all "over three-day" reportable (see Citation Fact Sheet on RIDDOR, accident reporting investigation and records) injuries, reported each year to the health and safety enforcing authorities, are caused by manual handling.

Types of injuries caused by manual handling include: -

- Musculoskeletal Disorders (MSD's).
- Broken bones (by falling loads).
- Hernias.
- Cuts or bruising (e.g. from sharp objects or trapping).
- Spinal disc degeneration.

MSDs are the most common workplace illnesses in the United Kingdom affecting 1 million people each year. They include problems such as lower back pain, injuries to the joints, wrists, knees etc. and repetitive strain injuries, RSI (caused by doing the same movement on a regular basis). These

are commonly recognised as cumulative injuries, i.e. injuries that are built up over a period of time without the person necessarily being aware that damage is being caused.

Common causes of MSD injuries include: -

- Lifting heavy loads.
- Repetitive lifting or movements.
- Handling loads for long periods.
- Handling loads whilst seated (especially after sitting for long periods).
- Handling loads whilst in poor health.
- Sudden rapid movements.
- Adopting awkward postures.
- Environmental factors, e.g. cold temperature.

Over 12 million working days are lost each year due to work related MSDs.

### **Pushing and pulling**

Although it is preferential in many circumstances to use equipment such as trolleys or pallet trucks rather than carrying objects, this equipment is not without its problems, potentially causing MSDs and other injuries. Pushing and pulling of loads also extends to using manual force to move objects, e.g. manually pushing boxes along the floor.

### **Sitting and lifting**

Sitting down at workstations can cause long term health problems to the back and upper limbs particularly if the lifting operations are being performed whilst stretching, twisting or over-reaching. The risk is increased if the workstation is not correctly arranged or adjusted to fit the person.

## **MANUAL HANDLING REGULATIONS**

The Manual Handling Operations Regulations require employers to: -

- **Avoid** the need for hazardous manual handling, so far as is reasonably practicable.
- **Assess** the risk of injury from any hazardous manual handling operations that cannot be avoided.
- **Reduce** the risk of injury from hazardous manual handling operations, so far as is reasonably practicable.

Employees also have duties under the Regulations to: -

- Follow appropriate systems of work laid down for their safety.
- Make proper use of equipment provided for their safety.
- Co-operate with their employer on matters of health and safety.
- Inform the employer if they identify any hazardous manual handling operations.
- Take care to ensure that their activities do not put others at risk.

## **MANUAL HANDLING RISK ASSESSMENTS**

### **Who undertakes the risk assessment?**

Employers have a duty to ensure that manual handling risk assessments are carried out by competent people. This should be done through consultation with those who actually do the work and by observing their handling activities.

## **Risk assessment steps**

It will help to initially list all the activities applicable to the employer's business that involve manual handling and then assess the risks for each of these activities. Priority should be given to the highest risk activities. These may be based on those tasks most commonly undertaken or that have previously caused absence or injury due to manual handling. Professional associations may be able to provide useful information in determining priorities by detailing common causes of manual handling accidents within their applicable industry.

Citation plc clients have a manual handling risk assessment template, in their health and safety management system. This template is also available on the Citation plc website under Citnet.

Generic risk assessments can be used in situations where the activity is regularly repeated or where there are no individual factors to be considered. A specific assessment may be required for situations where the activities, loads, individuals and the location's environment require it, e.g. the competence of the workers differ or where a particular task has not previously been undertaken.

The risk assessment methodology uses the following four main ergonomic hazard factors: -

- **Task.**
- **Individual's capability.**
- **Load.**
- **Environment.**

### **Consider the hazards: -**

*The tasks, do they involve: -*

- Holding loads away from the body?
- Twisting, stooping or reaching upwards?
- Large vertical movement?
- Long carrying distances (i.e. greater than 10m without breaks)?
- Strenuous pushing or pulling?
- Repetitive handling?
- Insufficient rest or recovery time?
- A work rate imposed by a process?
- Team lifting?

*Individual capacity, does the job: -*

- Require unusual capability, e.g. above-average strength or agility?
- Endanger those with a health problem or learning/physical disability?
- Endanger pregnant women?
- Call for special information or training?

*The loads, are they: -*

- Heavy, bulky or unwieldy?
- Difficult to grasp?
- Unstable or likely to move unpredictably (like animals)?
- Harmful, e.g. sharp or hot?
- Awkwardly stacked?
- Too large for the handler to see over?

*The working environment, are there: -*

- Constraints on posture?
- Bumpy, obstructed (doors, people, objects) or slippery floors?
- Variations in levels?

- Hot/cold/humid conditions?
- Gusts of wind or other strong air movements?
- Poor lighting conditions?
- Restrictions on movements or posture from clothes or personal protective equipment (PPE)?
- Noise (causing distractions)?

### **Eliminating or controlling the risks**

Once the hazards are identified, eliminate the risks by considering whether the loads need to be moved at all or if mechanical lifting equipment can be used, e.g. fork lift trucks, electric powered hoists (including vacuum hoists) or conveyor belts. If the risks cannot be eliminated, implement control measures to reduce the risks to the lowest reasonably practicable level. Examples of controls could include: -

- Break loads down to more manageable, lighter ones.
- Ask suppliers to provide handles on packaging or provide smaller packages.
- Improve lighting.
- Provide more space to handle loads.
- Provide training to staff.
- Undertake health screening.
- Avoid steps and steep ramps or improve the condition of flooring.
- Provide sack trolleys, pallet trucks, and ensure equipment is well maintained.
- Store heavy items at lower levels.
- Re-organise work layout to reduce distance loads are carried.
- Display weight of loads.
- Provide suitable PPE.

### **Recording the assessment**

If there are 5 or more employees, risk assessments need to be documented. Regular monitoring of the manual handling activities should also be undertaken to ensure that the control measures are continually being followed and remain relevant. Employers should encourage early reporting of injuries in order that proper treatment and advice can be provided.

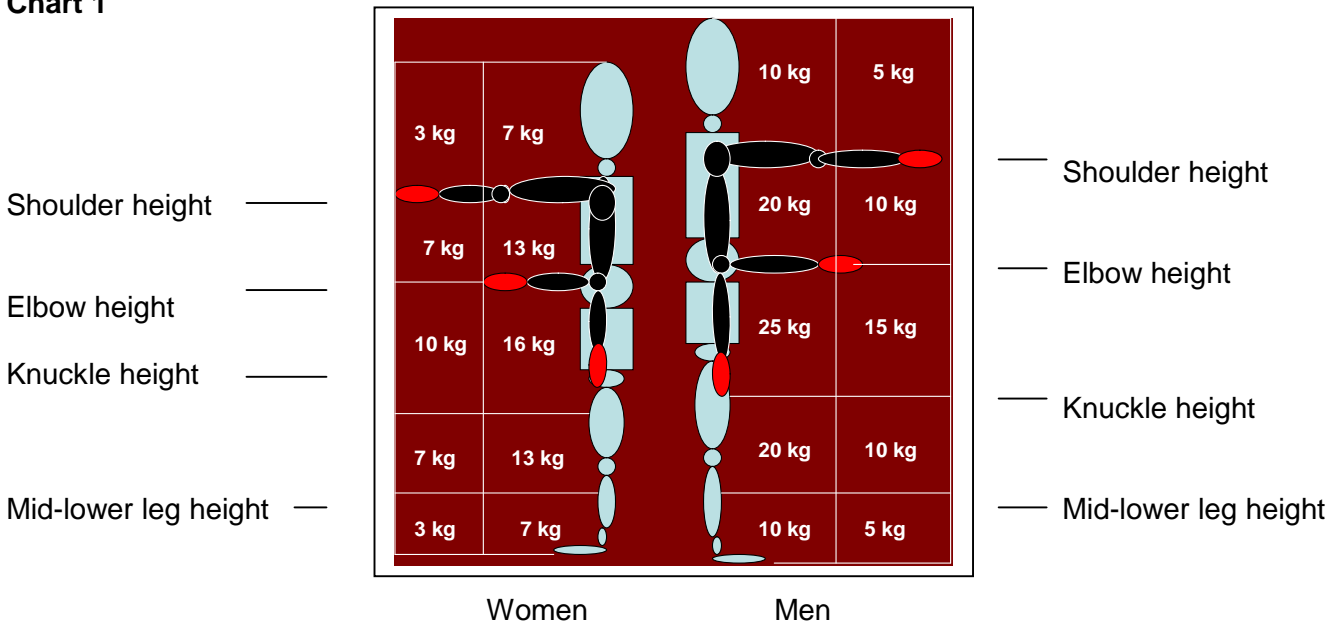
### **HOW MUCH CAN PEOPLE LIFT SAFELY?**

There is no legal maximum weight a person can lift. Chart 1 below provides guidance on how much an average (e.g. height, weight, age, fitness etc.) female and male can lift or carry. The chart shows for example that an average man can lift 25kg (16kg for a female) at waist height where the load is close to the body and can be clasped with both hands. The physical layout including sloping floors and weather conditions, e.g. when it is windy, can also have an impact on this guidance.

During risk assessment, the handling activity should be observed and if the lifter's hands enter more than one box in chart 1 then the lightest weight should be used.

It is possible that a person can lift more than the guidance levels especially if they are fit and strong but this should be decided by risk assessment for the individual concerned.

**Chart 1**



If a manual handling task cannot be eliminated and mechanical means of lifting are not available, then good manual handling techniques will need to be adopted. Once the procedures for handling the loads have been agreed, staff should be provided with information, instruction and training to perform the tasks correctly. Correct lifting techniques must be provided to staff and the risk assessment will determine the level of instruction, e.g. training by a competent instructor.

Training should include: -

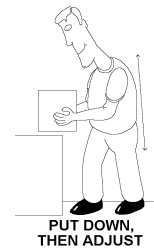
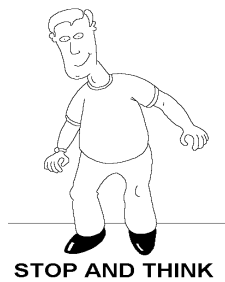
- Details of risks associated with manual handling, as identified in the risk assessments and how injuries occur.
- Good manual handling techniques.
- Practical demonstrations and practice of real situations in the workplace.
- Use of mechanical aids.

## **HANDLING TECHNIQUES**

### **Lifting**

Good handling techniques alone cannot guarantee injury free workers but will help to minimise the risk of harm. The following technique can be used and applied to all lifting tasks.

Prior to lifting, the task needs to be planned, e.g. where the load has to be placed, whether there are any obstructions and should consider the aspects discussed above including how good postures can be achieved and maintained. Competent help in performing the task should be obtained where needed.



**Adopt a stable and comfortable position.** The feet should be about shoulder width apart with one leg slightly forward to maintain balance (alongside the load, if it is on the ground). The feet may need to be moved during the lift in order to maintain stability. Suitable clothing and footwear or personal protective equipment (as determined by the risk assessment) should be worn to protect the person. Clothing or equipment should not prohibit a good lifting technique.

**Get a good hold of the load and keep it close to the body.** Where possible the load should be hugged as close as possible to the body with the heaviest side of the load next to the body. Avoid lifting loads using only hands and arms.

**Adopt a good posture.** With a slight bend of the back, hips and knees the load should start to be lifted using the main force of the powerful leg muscles. The back should maintain this posture during the lift. The back should not be fully bent (stooping) and squatting should be avoided. Twisting the back or leaning sideways should also be avoided and shoulders should be kept level and facing the same direction as the hips. The feet should be moved during any turning operation.

**Keep the head up when handling the loads.**

**Move smoothly.** The load should not be jerked or snatched.

**Put down the load and then adjust it.** Preferably set loads down at waist and then slide the load into the desired position.

## Team Lifting

Using two or more people may be considered a good method for reducing the risk of injury when handling heavy loads. There are several important points to remember when team lifting, in general, a two team lift will have two thirds the capacity of their individual capabilities (see chart 1 above) and a three team lift will have half the capacity of their individual strength.

It will also be necessary to consider matching height, weight and lifting capabilities of the team members and ensuring that the actual lift is co-ordinated, e.g. one person takes command and issues instructions to the other team members.

## **Handling whilst seated**

When handling loads in a seated position, the operative no longer has the use of their powerful leg muscles to aid lifting and act as a counterbalance. Instead he/she has to rely on their abdominal and arm muscles to do the extra work, which may lead to cumulative strain or fatigue. It is recommended that the weight of the load does not exceed around 5kg for an average man and 3kg for an average woman and is handled in a zone that does not require reaching, stretching, or stooping.

## **Pushing and pulling**

Use of mechanical aids such as trolleys, pallet trucks etc. can in many situations reduce the risk from lifting and carrying but can also be a cause of injury. Advice for pushing and pulling equipment includes: -

- Position equipment at a height between the shoulders and the waist.
- Regularly check and maintain any equipment used.
- Avoid pushing or pulling for long distances.
- Avoid manoeuvring heavy loads up or down slopes where possible.
- Ensure that surfaces are even and in good condition.
- Ensure good visibility when pushing.
- Use trolleys which can be easily controlled, e.g. use larger wheels, or wheels that can maintain a direction.

***This Fact Sheet is only intended as a general statement and no action should be taken in reliance on it without specific Helpline advice.***