This booklet has been developed to introduce and summarise the major factors associated with manual handling. For more detailed information, refer to the *National Standard for Manual Handling and National Code of Practice for Manual Handling*, Australian Government Publishing Service, Canberra, 1990.

**In Brief...**

What is Manual Handling?

Preventing Manual Handling Injuries

Three Steps to Safe Manual Handling

Training

The Law

For Further Information

Manual Handling Checklist
What is Manual Handling?

Manual handling means lifting, lowering, pushing, pulling, carrying, moving, holding or restraining any object, animal or person.

Manual handling means more than just lifting or carrying an object. Manual handling can include a wide range of activities such as pulling a lever, restraining an animal or holding and operating a power tool.

Preventing Manual Handling Injuries

Workers’ compensation statistics show that one third of all occupational injuries in Australia happen during manual handling. This rate of injury has not been reduced by traditional approaches which concentrated on correct lifting techniques and saw the weight of an object as the only source of danger.

The most successful approach is a systematic one which aims to ‘design out’ the whole range of possible causes of injury during manual handling. Workers and their health and safety representatives are involved in this process.

Three Steps to Safe Manual Handling

Worksafe Australia’s National Standard for Manual Handling and National Code of Practice for Manual Handling is a systematic approach to removing all the hazards involved in manual handling.
The standard requires employers to identify, assess and control all the risks arising from manual handling. In particular, it requires employers to control the risk of manual handling injuries through good design of all plant, equipment, containers, work practices and the working environment.

Employers are required to involve the workers and their health and safety representatives in this process through consultation.

The code of practice gives advice on the best way for employers to achieve the requirements of the standard.

Step 1: Identify risks

Manual handling tasks likely to be a risk to workers’ health should be identified by employers in consultation with employees and their health and safety representatives. There are a number of ways to do this:

- **Check workplace injury records**
  Workplace injury records should be checked for problem tasks or work areas.

- **Talk to employees and their health and safety representatives**
  The people actually doing the job will be aware of many of the risks and will often have good suggestions.

- **Look at the workplace**
  A simple walk through the workplace is a good way to identify risks. A checklist, such as the one at the end of this booklet, may be useful and will help you to identify problem areas that can be eliminated or reduced to make the task safer.

Step 2: Assess risks

Once the risky tasks or workplaces have been identified, they should be assessed in detail to try to find what is causing the problem. To do this it is helpful to look at the following aspects of the job:

- **Actions and movements**
  The worker should not have to make any sudden, jerky or hard to control movements, or do anything which causes them discomfort or pain or to be in an awkward position.
Workplace and workstation layout
The work area should be arranged so that manual handling tasks can be either eliminated or done at waist level, without too much bending, reaching or twisting (see Figure 1).

Working posture and position
Work activities should be varied so that the worker does not spend a long time holding the same posture or position. The worker should not have to bend down a lot or twist around to do their job.

Duration and frequency of manual handling
The risk of injury increases as the task is done more often, faster or over a longer period of time.

Where the load is and how far it has to be moved
There is an increased risk whenever the load is below mid-thigh height or above shoulder level (see Figure 2). There is also an increased risk if a load has to be placed very accurately or carried over a long distance.
Weight

Usually the heavier the object the greater the risk of injury during manual handling. However, weight should not be considered separately from the other factors listed here. For example, a person is more at risk of injury from carrying a bulky object which can’t be carried close to the body than from carrying a smaller object of the same weight. They will also be at a greater risk of injury from moving an object from an awkward position, such as a high shelf, than from moving an object of the same weight located in an easy to reach position (see Figure 2).

![Figure 2](image)

- Frequent or sustained bending or reaching to shift heavy or frequently used objects should be limited as much as practicable.
- Store heavier and more frequently used objects at waist level.
**Force**
Many tasks in industry require the use of force to push, pull, hold or restrain an object and the greater the force the higher the risk of injury. It is important to realise that sometimes a large amount of force is needed to produce little or no movement, such as when restraining an animal, holding up a video camera or pulling a stiff lever.

**Characteristics of loads and equipment**
There are more risks involved in handling some loads. For example, a bulky parcel may be too wide and long to be held close to the body. Badly designed equipment for manual handling may also increase risks. For example, a four wheel trolley with wheels out of alignment may force the worker to make awkward push and pull movements.

**Work organisation**
Staff shortages, unrealistic deadlines and not enough rest breaks increase the risk of injury.

**Work environment**
Poor lighting, extremes of climate, not enough room to move and rough or slippery ground or floor surfaces will increase the risk of injury.

**Skills and experience**
Inexperienced, untrained and unskilled workers will be at greater risk of injury.

**Age**
In general, workers under 18 years are at greater risk because they are still developing physically.

**Clothing**
Some types of clothing increase risks. For example, loose sleeves may get caught on objects or a person wearing 'good' clothes without an apron or dust coat may be unwilling to grasp objects properly, close to the body.

**Special needs**
For example, employees returning from a long time away from work or illness may need time to build up their skills and abilities. It may be necessary to make changes to the job or equipment for someone with an injury or disability.
Step 3: Control risks

The best way to make manual handling safer is to redesign the task or workplace. There are a number of ways to do this:

- **Modify the object**
  For example, change the shape of bulky objects so that they are easier to hold, or pack products in smaller cartons.

- **Modify workplace and workstation layout**
  For example, use an adjustable platform to reduce stooping and reaching (see Figure 3), and provide work surfaces at the correct height (see Figure 4).

- **Change the way things are moved**
  Eliminate unnecessary handling (see Figure 5). Ensure that all heavy objects are at waist level where they can be handled comfortably.

- **Use different actions, movements and forces**
  Reducing body movements and forces, such as bending, lifting, twisting, reaching and holding, reduces risk.

![Figure 3](image-url)
Figure 4

X Poor workstation layout forces the worker into an awkward posture

✓ A redesigned workstation improves body posture

Figure 5

Using a hose avoids the need for lifting the bucket
Modify the task
Modify the task by using tools such as levers, hooks or crowbars (see Figure 6) or by using team lifting.
If none of these options can be used, then mechanical handling equipment like fork-lifts, cranes and hoists may be needed (see Figure 7).

Ongoing evaluation
Ongoing evaluation is an important part of the risk control process. Risk control measures should be checked for effectiveness and changed where necessary.
Training

Employers must provide adequate training in safe manual handling to employees.

Supervisors and managers, health and safety representatives and staff responsible for work organisation and job and task design should also receive training.

The training should encourage understanding of ways to avoid the risks in manual handling. Adequate training should also be provided in the use of mechanical aids, team lifting and personal protective equipment such as gloves and aprons.

The Law

In Australia the States and Territories have primary responsibility for occupational health and safety (OHS) legislation. Check with your local OHS authority for details of the relevant regulations and code of practice for your State or Territory. Commonwealth employees should contact COMCARE Australia.
FOR FURTHER INFORMATION

Phone (008) 02 0049 toll free

Other publications and information on manual handling are available from your State or Territory OHS authority and from union and employer organisations

New South Wales
Occupational Health and Safety Hotline
WorkCover Authority
Phone (02) 370 5301.
Phone (008) 45 1462 toll free

Victoria
Occupational Health and Safety Information and Advisory Network
Occupational Health and Safety Authority
Phone (03) 655 6531

Queensland
Division of Workplace Health and Safety
Department of Employment, Vocational Education, Training and Industrial Relations
Phone (07) 227 4725

South Australia
Contact your local Department of Labour Office. Phone numbers are in the State Government section of the White Pages.

Western Australia
Chief Ergonomist
Department of Occupational Health, Safety and Welfare
Phone (09) 327 8777

Tasmania
Industries Services Division
Department of Employment, Industrial Relations and Training
Phone (002) 337701

Northern Territory
Work Health Authority
Phone (089) 895140

Australian Capital Territory
Private Sector:
Occupational Health and Safety Office
Chief Minister's Department
Phone (06) 239 6455
Australian Capital Territory Government:
Occupational Health and Safety Unit
Chief Minister's Department
Phone (06) 2050338

Commonwealth
COMCARE Australia
Phone (06) 2750669
Phone (008) 020673 toll free

General
Worksafe Australia
Phone (02) 565 9555
Phone (008) 25 2226 toll free
The direct observation of work areas and of the task being performed will assist in identifying risk. Workplace inspections, audits and walk through surveys and the use of checklists such as this one can assist in the risk identification process.

If any of the questions in the checklist result in a YES answer, further assessment of that risk factor is required. Generally, the more YES answers that result for a particular task, then the higher the priority for risk assessment.


<table>
<thead>
<tr>
<th>Description of work location</th>
<th>Date</th>
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<tbody>
<tr>
<td>Task description</td>
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Assessed by

Employee representative(s)
### MOVEMENTS, POSTURE AND LAYOUT DURING MANUAL HANDLING

1. Is there frequent or prolonged bending down where the hands pass below mid-thigh height?  □ Yes □ No
2. Is there frequent or prolonged reaching above the shoulder?  □ Yes □ No
3. Is there frequent or prolonged bending due to extended reach forward?  □ Yes □ No
4. Is there frequent or prolonged twisting of the back?  □ Yes □ No
5. Are awkward postures assumed frequently or over prolonged periods, that is, postures that are not forward facing and upright?  □ Yes □ No

### TASK AND OBJECT

6. Is manual handling performed frequently or for long time periods by the employee(s)?  □ Yes □ No
7. Are loads moved or carried over long distances?  □ Yes □ No
8. Is the weight of the object:
   (a) more than 4.5 kg and handled from a seated position?  □ Yes □ No
   (b) more than 16 kg and handled in a working posture other than seated?  □ Yes □ No
   (c) more than 55 kg?  □ Yes □ No

   *Note: Weight is not used to prescribe absolute limits, but is one of the important factors to be considered when assessing and controlling risk.*

9. For pushing, pulling or other application of forces, are large pushing/pulling forces involved?  □ Yes □ No
10. Is the load difficult or awkward to handle, for example, due to its size, shape, temperature, instability or unpredictability?  □ Yes □ No
11. Is it difficult or unsafe to get adequate grip of the load?  □ Yes □ No
<table>
<thead>
<tr>
<th>WORK ENVIRONMENT</th>
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<tbody>
<tr>
<td>12. Is the task performed in a confined space?</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>13. Is the lighting inadequate for safe manual handling?</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>14. Is the work environment particularly cold or hot?</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>15. Are the floor working surfaces cluttered, uneven, slippery or otherwise unsafe?</td>
<td></td>
<td>Yes</td>
<td>No</td>
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<tr>
<th>INDIVIDUAL FACTORS</th>
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<tbody>
<tr>
<td>16. Is the employee new to the work or returning from an extended period away from work?</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>17. Are there age-related factors, disabilities or other special factors that may affect task performance?</td>
<td></td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>18. Does the employee’s clothing or personal protective equipment interfere with manual handling performance?</td>
<td></td>
<td>Yes</td>
<td>No</td>
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