



# Manual Handling Preventing Back Pain and Injury

Back injuries at work are the most frequent and some of the most severe injuries amongst workers in Australia. Occupational back injuries account for a large number of workers' compensation costs with more than 100,000 cases a year in Australia. Once an injury happens, it can cause the worker much suffering and might also lead to life long disability.

While back injuries can occur in any occupation in all industries, there are some industries where workers are at a higher risk. These include mining, construction and building sites where heavy building materials are used, health industries, where health care workers may have to lift patients, farms, factories, warehouses, manufacturing, transport and storage. However, manual handling is an important issue for **all** workers.

## What causes back pain and injuries?

Manual handling covers much more than lifting or lowering an object. It includes pushing, carrying, holding, lifting, and activities that involve awkward positions and repetitive actions. Back injury can generally happen if your work requires difficult postures such as bending, twisting or overextending the body. Other factors that contribute to back injuries and back pain include poor workplace conditions, improper handling technique, and lack of lifting equipment.

Studies indicate that there is a relation between musculoskeletal problems and physical workload during work. Stress can influence the mechanical load through changes in posture, movement, and exerted forces; for example, time pressures can result in hurried movements with high accelerations and poor posture. Mental strain and monotony are also associated with back trouble.

### High risk work practices

- Handling awkward shapes or big loads
- Handling weights that are beyond the worker's capacity
- Over-reaching position (lifting from below mid-

thigh or above shoulder height)

- Handling where the work surface is unstable
- Repetitive or long duration manual handling
- Carrying objects away from the body
- Awkward twisting of the body
- Obstructed pathways
- Insecure grip and poor lifting position with the feet too close together

## Posture and spine

The spine, or backbone, is the central support of the skeletal system, which supports body weight and allows flexibility in movement. A healthy spine is S-shaped with three natural curves and requires strong and flexible muscles in the back, leg and abdomen in order to maintain good alignment.

Standing is a natural posture for the spine and it is not suited to lifting loads when the upper body is acutely bent or twisted. When the back is bent, the mere weight of the upper body puts extra pressure, particularly on the lower discs in the spine. Back injuries can happen when soft tissue suffers severe strains or discs are ruptured.

## How much can a worker lift?

There is no legal limit now on how much a worker can lift in NSW. Risk of injury depends on a number of factors in the task not just the weight of the load. However, the following limits have been recommended to avoid injury:

When lifting from a **standing** position the load should be no more than **16-20kg**.

When lifting from a **seated** position the load should be no more than **4.5kg**

## Safe lifting

Prevention of manual handling problems is best achieved by good workplace design and the use of mechanical lifting aids. If manual lifting is unavoidable, follow these principals to avoid back injury:

- Consider your physical ability to handle the load. If in doubt, get assistance. Avoid lifting loads more than 16 – 20kg.
- Place your feet close to the object and keep a balanced position. Bend the knees in a semi squat to a comfortable degree and get a good handhold.
- Keep the natural curves in the spine while lifting.
- Use your leg muscles to lift the load and allow it to rest in fully extended arms (prevent sudden accelerations or jerky movements, and don't twist at the hips or shoulders during foot movement).
- Set the load down by using your leg muscles, lower the load by bending your knees in a semi squat to a comfortable degree.

## Assessing risk

Under the Occupational Health and Safety Act, the Manual Handling Regulations require risk assessment of all manual handling tasks to identify and control the risk of injury to workers.

### Risk identification involves:

- Analysis of injury records to find out the areas and tasks where injuries have occurred.
- Consultation with employees and OHS repre-

sentatives about their concerns.

- Identification of risk factors in particular tasks.
- Identification of the correct posture to be used when performing particular tasks.
- Duration and frequency of the task.
- Condition of the workplace, looking at factors such as adequate lighting, slippery floor and rough ground.
- Nature of the object handled, it's size, shape, structure and the weight of the load.
- The level of training and experience of the workers.

### Risk Control

- Redesign the task to eliminate or reduce the risk.
- Change workplace layout, for example provide tables with an adjustable work height.
- Prevent unnecessary handling and use smaller containers to package loads.
- Provide mechanical aids for lifting and moving heavy materials and loads.
- Provide the appropriate training and education to perform the task.
- Provide training for proper manual handling and the prevention of back injury.
- Reduce repetitive tasks by introducing variation in work patterns.

## What to do if you injure your back

If you suffer from symptoms of back injury, seek medical treatment immediately. Describe your work task to the doctor, inform your employer and also the health and safety representative at work. Early reporting allows the workplace to take action to prevent further complaints and can reduce the likelihood of long-term disability.

You can contact your union representative or the Workers Health Centre to get assistance to assess your job for manual handling risks.

**For further information and advice contact the Workers Health Centre**