



# University of Otago

**TITLE: Manual Handling Guidelines**

## Manual Handling Guidelines

### Introduction

This document provides background information and advice on the completion of a risk assessment for manual handling tasks at work. Approximately 30% of all work-related harm can be attributed to musculoskeletal injuries. This related to 15,000 lost years of life in New Zealand. At the University of Otago (the University), many of our work-related ACC claims are due to work related musculoskeletal disorders (WRMSDs), caused by manual handling tasks. The Health and Safety at Work Act 2015 (HSWA) requires the University to keep workers and others healthy and safe. This means that the University must eliminate musculoskeletal risks from work, so far as is reasonably practicable. If risks can't be eliminated, they must be minimised.

The University, as a Person Conducting a Business or Undertaking (PCBU) is required to:

- Implement good work design principles and practices in the work environment, which eliminate musculoskeletal risks or minimise them, so far as is reasonably practicable.
- Engage with workers when identifying musculoskeletal risks and their controls, including when changing work processes.
- Monitor the health of workers and the conditions at work to prevent WRMSDs developing or being exacerbated.

### Definitions

#### Musculoskeletal disorders (MSDs)

MSDs are injuries and conditions affecting the muscles, ligaments, bones, tendons, blood vessels, and nerves. MSDs may also include inflammatory conditions (for example, rheumatoid arthritis, gout), degenerative conditions (for example, osteoarthritis), bone density conditions (for example, osteoporosis) and pain conditions (for example, fibromyalgia).

#### Work-Related Musculoskeletal Disorders (WRMSDs)

WRMSD are injuries and conditions that occur because of or are aggravated by work demands. WRMSD's include, but are not limited to injuries and conditions affecting:

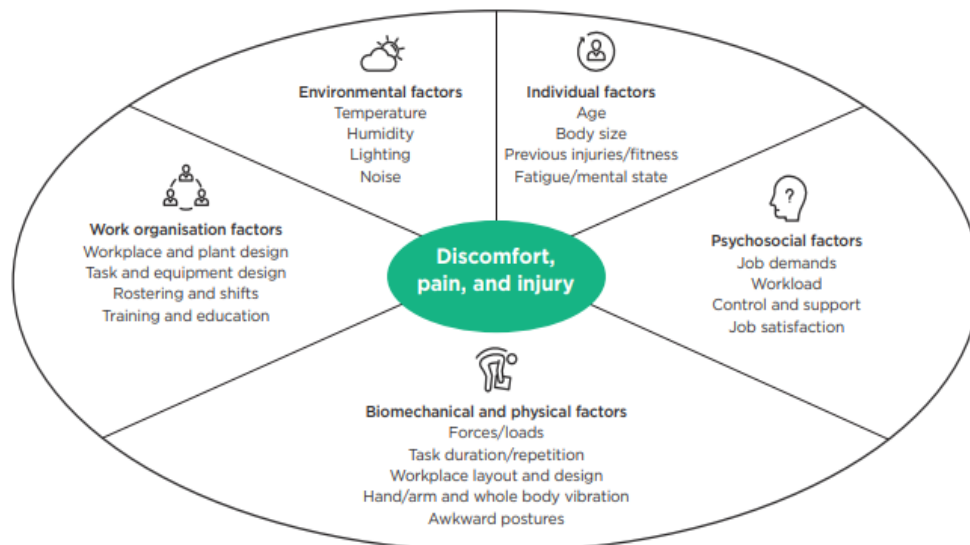
- Muscles
- Ligaments
- Bones
- Tendons
- Blood vessels
- Nerves

There are many factors that contribute to work-related discomfort, pain and injury, including physical, biomechanical, organisational, psychosocial, environmental, and individual factors.

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Both manual and sedentary work have risk factors that may lead to WRMSDs. Non-work factors may also contribute to injury risks (for example, mountain-biking after work might add to forearm muscle loading from the workday).

There are multiple risk factors influencing WRMSDs, generally divided into 5 categories:



**FIGURE 1:**  
Contributing factors for discomfort, pain, and injury/WRMSDs

Worksafe Work related musculoskeletal disorders and risk factors March 2023

WRMSDs may start as mild aches and pains and can develop into serious conditions. Examples of WRMSDs include:

- strains or sprains
- joint and bone injuries or degeneration
- nerve injuries
- muscular and vascular disorders resulting from vibration
- soft tissue injuries such as hernias
- chronic pain.

## Identifying WRMSD Risk Factors

Each of the 5 risk factor categories can affect a person in different ways. In many work situation, a worker is likely to be exposed to multiple risk factors. The more risk factors the worker is exposed to, the higher is the likelihood of harm.

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Where personal factors are present, such as pre-existing conditions or disease, an individual occupational health assessment may be required to assist the staff member to do work related task. Contact [ohn@otago.ac.nz](mailto:ohn@otago.ac.nz) if this applies to you, an assessment which may recommend addition controls in the workplace and support for the staff member.

Where workers are required to perform manual handling tasks, a risk assessment is required. The assessment is required to identify the possibility of injury, the potential severity of that injury, and the controls required to reduce that risk.

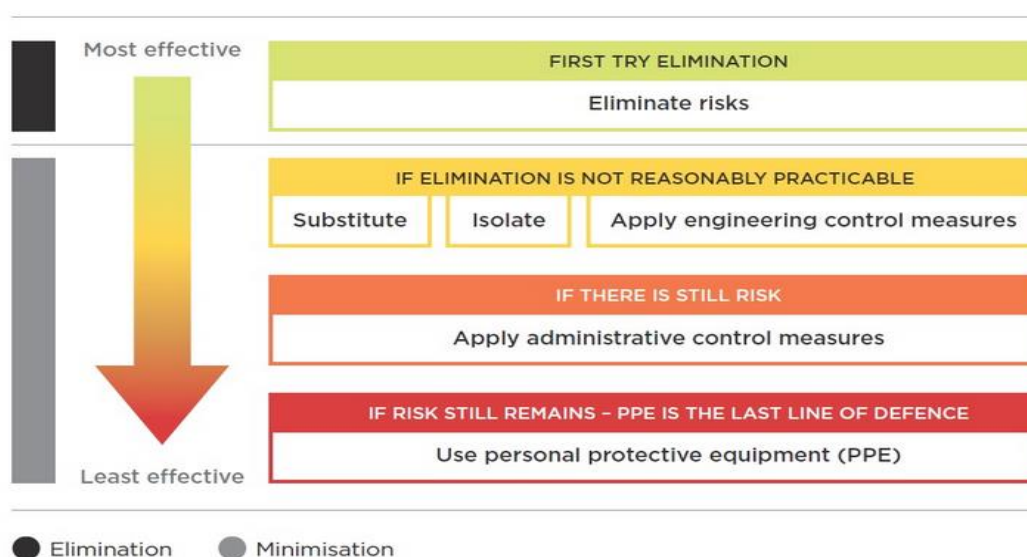


Figure 2: Hierarchy of controls

When a risk assessment identifies risk factors, controls must be applied consistent with the HASAW requirements through elimination, substitution, isolation and engineering controls. If there is still risk of injury, administration controls may be applied, and finally the lowest form of risk management, the provision of personal protective clothing and equipment (PPE).

**Elimination** – Do you need to do the task? Can the task be removed altogether?

For example:

- Does the item really need to be moved, or can the activity be done safely where it already is by redesigning the task?
- Can products or materials be delivered directly to where they will be used?
- Can the products be purchased in smaller packages reducing the weight? Talk to the supplier to investigate what is possible.

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**Substitute** – Is another way or another product or item, that is less heavy, awkward or can items be premixed?

**Engineering Controls** – Is there a tool or device that can do the job?

Consider whether the operations can be automated or mechanised to eliminate the manual part of the handling. The best time to make decisions about this is when plant or systems of work are being designed.

- Can you use materials handling equipment or mechanical aids to eliminate or reduce the risks you identify in your risk assessment? Can you use, for example, a conveyor, a chute, an electric-powered pallet truck, an electric or hand-powered hoist, or a lift truck to reduce the risk of injury?
- When introducing automation or mechanisation, make sure you avoid introducing new risks (for example, when maintaining equipment or when things break down).
- Make sure your workers are trained to use any equipment you introduce, such as lift trucks.

**Administrative**- what are the policies, and the agreed limits and rules for the task being undertaken? The Health and Safety Executive UK has developed guidance on safe lifting weights based on heights and weights in use. These guidelines can be applied when assessing the risk involved (see Manual Handling Risk Assessment Tool).

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**Lifting and lowering risk filter**

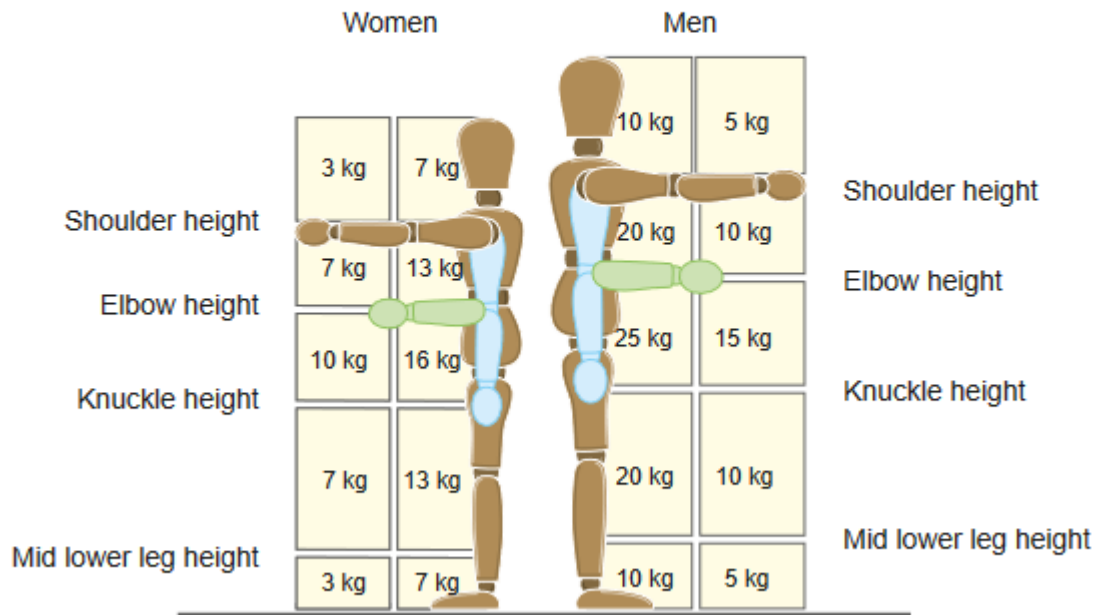


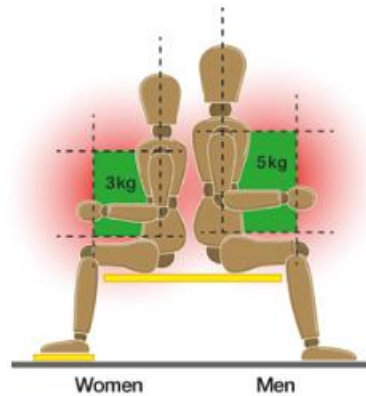
Figure 3: suggested weights for lowering and lifting items. HSE.gov.uk

The above lifting and lowering risk filter assumes that the load is easily grasped with both hands and is handled in reasonable working conditions, with the worker in a stable body position.

- See the filter value for lifting and lowering in that zone.
- The filter values in the boxes are reduced if handling is done with arms extended, or at high or low levels, as that is where injuries are most likely to happen.
- Observe the work activity you are assessing and compare it to the graphic above
- Decide which zone or zones the worker's hands pass through when moving the load. Then assess the maximum weight being handled. If it is less than the value given in the matching box, it is within the guidelines.
- If the worker's hands enter more than one zone during the operation, use the smallest weight. Use an in-between weight if the hands are close to a boundary between zones.

If the manual handling task is completed in a seated position, the HSE UK guidelines are applied:

## *Handling while seated*



**Figure 3** Handling while seated

The filter values for handling operations carried out while seated, as shown in Figure 3, are **Men: 5 kg** and **Women: 3 kg**. These values only apply for two-handed lifting and when the hands are within the green zone shown. If handling beyond the green zone is unavoidable, you should make a full assessment.