

Manual Materials Handling (MMH)

MMH - Introduction

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What is manual materials handling?

Manual materials handling (MMH) means moving or handling things by lifting, lowering, pushing, pulling, carrying, holding, or restraining. MMH is also the most common cause of occupational fatigue, lower back pain, and lower back injuries.

What makes manual materials handling hazardous?

MMH is always hazardous but the level of risk depends on what you are handling, what the task is, and what the conditions are at the workplace or work site.

For example, the material or load that you are handling may be:

- Too heavy for the task that you are doing.
- Located too high or too low for a safe lift.
- Too big or may have a shape that makes it hard to handle.
- Wet, slippery, or have sharp edges that make it hard to grasp.
- Unstable or can shift its centre of gravity because it contains material that can flow (e.g., water, sand, a partially filled drum, or concrete in a wheelbarrow, or many objects within a container that are unbalanced or can shift).
- Too big to let you see where you are putting your feet.

The task can make MMH hazardous if a worker:

- Uses poor lifting techniques (lifting too fast, too often or too long; lifting with back bent or while twisting or reaching too far; lifting while sitting or kneeling, etc.).

- Has to move material over long distances.
- Lifts or handles more than they can control safely.
- Does not take appropriate rest breaks; or has insufficient recovery time.
- Has a combination of handling tasks (e.g. lifting, carrying and lowering).
- Wears clothing that restricts movement or reduces grip strength.

The working conditions can also contribute to MMH hazards and result in injuries, for example:

- Walking surfaces that are uneven, sloping, wet, icy, slippery, unsteady, etc.
- Differences in floor levels or walking surfaces.
- Poor housekeeping that can lead to slip, trip and fall hazards.
- Inadequate lighting.
- Cold or very hot and humid working conditions.
- Strong wind or gusty conditions.
- Working at a high pace.
- Movement is restricted because of clothing or personal protective equipment.
- Space is small or posture is constrained, or both.

Does CCOHS have other information on manual materials handling?

Our OSH Answers have information on various topics related to manual materials handling, such as:

- MMH and [health hazards](#).
- [Back injury prevention](#).
- [Back belts](#).
- [Pushing and Pulling - General](#).
- [Pushing and Pulling - Handcarts](#).
- [Shovelling](#).
- [Revised NIOSH Lifting Equation](#).
- Handholds on load and gripping aids ([I](#) and [II](#)).
- [General safe lifting and MMH practices](#).

- Safe MMH practices for specific kinds of loads ([compact loads](#), [small bags](#), [large sacks](#), [drums](#), [barrels](#), [cylinders](#), [sheet materials](#) (e.g., metal, glass)).
 - Layouts for [working](#) and [storing](#) materials.
 - [Materials flow](#).
 - [Team handling](#).
 - Mechanical aids for handling and transporting materials ([I](#), [II](#), [Levers](#)).
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