Material Lifting Injuries

Across Canada, back injuries remain one of the leading causes of lost-time claims in construction, manufacturing, warehousing, healthcare, retail, transportation, utilities, municipal services, and agriculture. Any sector that involves lifting, carrying, pushing, pulling, or repositioning materials is at risk. For occupational health and safety (OHS) managers, preventing back injuries in material handling requires a cross-sector approach that addresses when and where injuries occur, how to identify hazards, and how to implement effective controls aligned with provincial OHS requirements.

Why Material Handling Is a Universal Risk

Manual material handling is embedded in daily operations across industries. Construction workers move lumber and drywall. Warehouse staff load pallets. Healthcare workers reposition patients. Retail employees unload stock. Municipal crews handle equipment and supplies. Manufacturing employees lift components on production lines.

Back injuries typically occur when:

- Loads are too heavy, bulky, or unstable.
- Tasks involve repetitive lifting without adequate recovery time.
- Workers lift in awkward postures (bending, twisting,

reaching).
- Mechanical aids are unavailable or impractical.
- Work pace or staffing levels encourage rushing.

Under provincial OHS legislation, such as WorkSafeBC regulations, Ontario's Occupational Health and Safety Act, and Alberta's OHS Code, employers must identify and control ergonomic hazards, including risks related to manual material handling.

Where and When Back Injuries Occur

Back injuries commonly arise:

- During shipping and receiving operations.
- While unloading delivery trucks.
- In healthcare settings during patient transfers.
- On production lines with repetitive lifting tasks.
- In retail stockrooms with limited space.
- On farms during feed handling or equipment maintenance.
- In office environments when moving furniture or supplies.

Environmental conditions can compound risk. Slippery winter surfaces, uneven ground, confined spaces, or poorly designed storage systems increase strain on the lower back.

How to Spot Material Handling Hazards

OHS managers should conduct regular ergonomic hazard assessments and observe tasks in real time. Warning signs include:

- Workers manually lifting items over recommended weight limits without assistance.
- Repeated bending, twisting, or overhead reaching.

- Carrying loads long distances.
- Lifting from floor level or above shoulder height.
- Employees reporting soreness or fatigue at the end of shifts.

Reviewing incident reports, first aid logs, and workers' compensation claims can reveal patterns across departments or job roles.

Worker consultation is essential. Employees often know which tasks create the most strain but may not report concerns unless prompted.

Applying the Hierarchy of Controls

Back injury prevention should prioritize systemic solutions rather than relying solely on individual lifting technique.

1. **Elimination and Substitution**

Where possible, eliminate or reduce manual lifting requirements. Examples across sectors include:

- Automating palletizing in warehouses.
- Installing conveyor systems in manufacturing.
- Using pre-packaged or smaller units in retail.
- Implementing powered patient lifts in healthcare.
- Ordering bulk materials delivered directly to point-of-use locations.

Reducing load size or frequency of lifts can significantly lower injury risk.

2. **Engineering Controls**

Engineering solutions are among the most effective interventions. Depending on the sector, these may include:

- Forklifts, pallet jacks, and powered carts.
- Adjustable-height workstations.

- Lift tables and hydraulic platforms.
- Overhead hoists or ceiling-mounted lift systems.
- Conveyor belts or gravity-fed rollers.

Workplace layout also plays a major role. Frequently used materials should be stored between knee and shoulder height to minimize extreme bending or reaching.

Regular maintenance of mechanical aids ensures they remain safe and accessible, increasing the likelihood that workers will use them.

3. **Administrative Controls**

Administrative strategies help reduce cumulative strain. These include:

- Job rotation to vary physical demands.
- Team lifting procedures for heavy or awkward loads.
- Scheduled rest breaks for repetitive tasks.
- Realistic productivity targets.
- Clear housekeeping policies to maintain unobstructed pathways.

Pre-task planning and hazard assessments should identify high-risk manual handling activities before work begins.

Training programs should cover hazard recognition, safe lifting strategies, and the proper use of mechanical aids. However, OHS managers must reinforce that training alone cannot offset poor work design.

Safe Manual Handling Practices

When lifting cannot be avoided, workers should be trained to:

- Assess the load and path of travel before lifting.
- Keep loads close to the body.
- Bend at the hips and knees rather than the waist.
- Avoid twisting while carrying.

- Use smooth, controlled movements.

Encouraging workers to ask for assistance when loads exceed their capacity is critical to injury prevention.

Early Reporting and Disability Prevention

A proactive reporting culture reduces the severity of back injuries. Workers should be encouraged to report early signs of discomfort, not just acute injuries.

Supervisors should respond by:

- Adjusting duties temporarily.
- Reviewing task design.
- Providing alternative equipment.
- Initiating early intervention programs where available.

Prompt action can prevent minor strains from becoming chronic musculoskeletal disorders.

Multi-Site and Multi-Employer Considerations

Organizations operating across multiple locations, or those working within shared facilities, must ensure consistent standards. Coordination is particularly important in logistics hubs, healthcare campuses, manufacturing plants, and construction projects where responsibilities overlap.

Clear procedures should define:

- Who supplies lifting equipment.
- Safe material storage practices.
- Weight limits and labeling expectations.
- Responsibilities for training and supervision.

Monitoring and Continuous Improvement

Back injury prevention should be embedded within broader occupational health and safety management systems. OHS managers should:

- Analyze injury and near-miss data.
- Conduct periodic ergonomic reviews.
- Evaluate new equipment before purchase.
- Engage joint health and safety committees in hazard identification.

Documenting assessments and controls demonstrates due diligence under Canadian OHS legislation.

Building Safer Material Handling Practices Across Sectors

Back injuries are preventable in every industry. By identifying high-risk tasks, redesigning workflows, investing in mechanical assistance, and fostering early reporting, Canadian employers can significantly reduce musculoskeletal disorders related to material handling.

Whether in a warehouse, hospital, retail store, manufacturing plant, farm, municipal facility, or construction site, a prevention-focused approach protects workers' health while supporting productivity and regulatory compliance.