MANUAL MATERIAL HANDLING INJURY PREVENTION PROGRAM

Supporting Department: Human Resources and Environment, Health and Safety
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1.0 Scope and Purpose

The Manual Material Handling Injury Prevention Program applies to all University employees, students, contractors, and volunteers, working on or within Brock University premises, and at other locations where Brock business is conducted in recognition of the fact that strains, sprains and impact injuries from Manual Material Handling can occur anywhere and that prevention begins with each individual.

Manual Material Handling (MMH) - the physical moving of material(s) by lifting, lowering, carrying, pushing, pulling, shoveling or stacking. It may involve devices such as dollies, carts, chains, pulleys or lifts. The material includes products, supplies or equipment, which needs to be moved during a work process, to/from storage, or for other reasons.

The MMH Program outlines a framework to prevent related injuries at Brock by defining roles, responsibilities, general risk management strategies, communication and training basics, and an evaluation and review process. Support documentation for the program includes MMH Guidelines, checklists and other tools for the Brock community to utilize as needed to address and manage MMH risks in their own area, work and tasks.

2.0 Introduction and Context

Brock University is committed to the prevention of illness and injury through the provision and maintenance of healthy and safe conditions throughout its premises and activities. The University endeavours to provide a hazard-free environment and minimize risks by adherence to all relevant legislation and, ***where appropriate, through the development and implementation of additional internal standards, programs and procedures****.*

Manual material handling (MMH) contributes to a large percentage of the employee injuries reported annually at Brock. These include musculoskeletal disorders like strains and sprains to the lower back, shoulders, and upper limbs plus impact injuries such as contusions, fractures or nerve damage. All can result in pain, disability, treatment, and financial stress for the individual, and disruption, costs and other losses for the organization.

Manual material handling tasks, especially those performed repeatedly or over long periods of time, can lead to fatigue and injury. The main risk factors, or conditions, associated with the development of injuries in MMH tasks include:

- Awkward posture (e.g. bending, twisting)
- Repetitive motion (e.g. frequent reaching, lifting, carrying)
- Forceful exertion (e.g. carrying or lifting heavy loads)
- Pressure points (e.g. grasping loads or contact from edges)
- Gravitational or centrifugal forces overcoming strength or balance causing loads or individuals to fall
- Static posture (e.g. maintaining fixed positions for a long time)

Environmental conditions, such as extreme heat, cold, or noise can raise physical stress, increasing a worker's chance of developing MSD's or other health problems. In addition, poor lighting can increase MMH fall risks.

Scientific evidence shows that effective ergonomic interventions can lower the physical demands of MMH work tasks, thereby lowering the incidence and severity of the injuries they can cause. Planning that applies these principles reduces costs, increases efficiency and results in creating a better workplace for all.

3.0 Roles and Responsibilities/Expectations

- All **employees, students, contractors and volunteers** are expected to:
  - Recognize the circumstances and practices that contribute to MMH hazards
  - Prevent the creation of MMH hazards and protect themselves by adhering to safe work practices, e.g. good housekeeping, safe storage and travel routes free from clutter
  - Communicate effectively with supervisors and peers to plan and implement safe material movement, and ask for help if needed
  - Participate in, and apply related training
  - Use equipment and clothing provided or required, e.g. personal protective and task facilitation equipment where warranted
  - Report all potential/actual MMH hazards beyond one's ability to resolve to a Supervisor
  - Report any injuries or close calls using the Brock University Injury/Incident form
  - Participate in Health Management strategies including early and safe return to work

Supervisors/Managers are expected to take all reasonable precautions to control MMH hazards and to:

- Recognize and prevent/address MMH hazards in the area and work they oversee
- Inform/educate/train employees to recognize and prevent MMH injuries
- Develop and implement written procedures, as warranted, to communicate safe work practices, e.g. equipment, apparel, behaviour and environmental expectations.
- Monitor for compliance
- Encourage requests for assistance plus reporting of all hazards and any incidents
- Provide employees with proper equipment in good condition to safely execute tasks
- Conduct hazard/incident investigation for root cause and prevention
- Facilitate timely Health Management strategies including early and safe return to work
- Review department/unit's success in MMH injury prevention annually, and change internal practices and procedures as warranted
- Keep and maintain records and/or documentation on operation or area safety, e.g. employee training, logs, incidents, and inspections

- **Human Resources & Environment Health & Safety** will develop, support and coordinate the Manual Material Handling Injury Prevention Program and will:
  - Communicate the Program and any applicable general MMH guidelines and tools
  - Raise awareness of individual and environmental MMH injury prevention strategies throughout the Brock community
  - Organize, deliver and/or support employee and supervisor training for general and individual application of the Program
  - Guide, facilitate and/or support University departments in their MMH Injury Prevention and other OHS responsibilities, e.g. assist with procedure development
  - Coordinate MMH critical injury or significant incident investigation for root cause
  - Collect and analyze injury/incident/hazard data to identify trends
  - Review root causes and trends with stakeholders to develop prevention strategies **and** support continuous program improvement
  - Organize timely Health Management strategies including early and safe return to work
  - Facilitate and support the Joint Health and Safety Committee in MMH Injury prevention including data/trend, inspection, training and program review

4.0 General Control Strategies for MMH Hazards

1. At the Source: Load and Equipment Changes

Rearrange, modify, redesign, provide or replace tools, equipment, workstations, packaging, parts, processes, products, or materials to work more easily

E.g. find ways to:

- Reduce reaching and bending.
- Reduce stress on back and shoulders.
- Reduce effort and force needed to perform work tasks

In order to lift, lower, fill, or empty a container, product or item

Or:

- Improve grip
- Shorten reach
- Reduce contact pressure on shoulders, hands or body
- Reduce the effort and force needed to perform work tasks
- Change the container configuration or size
- Use an assistive powered or non-powered tool or device

In order to carry containers or objects

2. Along the Path -- *Administrative Improvements*

- Adjust work schedules, pace, or practices to eliminate or reduce repetition
- Organize work within power zone: above knees, below shoulders, and close to the body
- Provide recovery time (e.g., short rest breaks).
- Rotate tasks to use different muscles, body parts, or postures
- Identify and mitigate "problem" tasks
- Minimize environmental effects

3. At the Worker:

- Alternate heavy tasks with light tasks
- Work within power zone
- Adjust pace to exertion
- Make subtle grip/angle changes to mitigate repetition
- Take recovery time
- Communicate to solve "problem" tasks

5.0 Communication

- HR/EHS will develop and implement employee awareness campaigns on recognizing and communicating about MMH hazards, and on the MMH Program in general
- Individuals are to communicate with their Supervisors about hazards they encounter in their work, as well as any associated injuries or incidents
- Supervisors will communicate with employees or others working in an area they oversee about MMH hazards, the Program and any related procedures as needed and warranted

6.0 Training and Education

- HR/EHS will develop and implement education on recognizing, assessing and controlling MMH or ergonomic hazards and Supervisor training on Effective investigation strategies
- Supervisors will provide training and hands-on practice with tools, equipment, or procedures to develop the skills necessary to work safely
- Employees will participate in training and apply the skills and knowledge so acquired

7.0 Evaluation & Continuous Improvements

- HR/EHS will review reported incidents, analyze for trends and facilitate affected stakeholders with targeted actions to prevent the reoccurrence of incidents
- Supervisors/Managers will monitor any increase in absenteeism, worker turnover rates, decrease in service quality or employee morale that could be attributable to MMH concerns
- JHSC will review incident trends on a routine basis during their regularly scheduled meetings.
- During inspections; supervisors (and the JHSC) will observe work activities, talk to workers, and look for warning signs, such as:
    - Risk factors in work tasks (e.g. awkward postures, repetitive motions, forceful exertions, pressure points, balance risks or static loading)
    - Worker fatigue, discomfort, or reports of related problems
    - Workers exhibiting "pain behaviors" (e.g. not moving body parts, self-restricting their movements, or massaging hands, arms, legs, necks, or backs)
    - Workers modifying tools, equipment, or workstations on their own

8.0 Applicable Legislation

R.R.O. 1990, Reg. 851, s. 45.

45. Material, articles or things,

(a) Required to be lifted, carried or moved, shall be lifted, carried or moved in such a way and with such precautions and safeguards, including protective clothing, guards or other precautions as will ensure that the lifting, carrying or moving of the material, articles or things does not endanger the safety of any worker;

(b) Shall be transported, placed or stored so that the material, articles or things,

(i) Will not tip, collapse or fall, and

(ii) Can be removed or withdrawn without endangering the safety of any worker; and

(c) To be removed from a storage area, pile or rack, shall be removed in a manner that will not endanger the safety of any worker.

9.0 Supporting Documents/References

- Brock University Occupational Health and Safety Policy
- Brock University Guidelines for Manual Material Handling
- Brock University Injury/Incident Report Form

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