\*\*\*GUIDANCE NOTE ON USE OF THIS TEMPLATE\*\*\*

This document is intended to provide a template for retail organizations to structure their policy, process and procedures related to MSI Prevention and compliance with BC OHS Regulations 4.46-4.53 (Ergonomic MSI Requirements). The content within this template should be reviewed, modified to fit the specific business and structure of the company, and implemented as part of the company’s overall Health and Safety Program.

Items within [square brackets] require modification of the template to fit the structure of the company and intended implementation of the MSI Prevention Policy.

Related resources are available to support MSI Hazard Identification, Discomfort Surveys, MSI Awareness Education, MSI Assessor Training, and MSI Control Tracking.

Implementation of the MSI Prevention Policy and Procedures will require specification and allocation of resources to perform and track MSI occurrence, hazard identification, assessment, control and training. Resources may include health and safety personnel, health and safety committee members, management or supervisory staff, human resources staff, or external consultants. Implementing the MSI Prevention Program will require the allocation of work time for performance of MSI Prevention activities by personnel allocated to perform this activity.

# **Title**

Musculoskeletal Injury Prevention Policy and Process

# **Purpose**

To eliminate or minimize the risk of musculoskeletal injury to employees of [COMPANY] in accordance with BC Occupational Health & Safety Regulations, Sections 4.46 to 4.53, and towards maintaining a healthy, safe and productive workplace. [this section can be expanded to list other provincial OHS Regulations, OR as a more generic statement “...in accordance with all applicable federal and provincial Regulations”.]

# **Policy**

Work-related risk factors that may contribute to the development or aggravation of musculoskeletal injuries in employees of [COMPANY] will be systematically identified, assessed, and controlled; and all employees will be made aware of known MSI hazards and control measures in the work that they are expected to perform.

# **Definitions**

Musculoskeletal Injury (MSI): An injury or disorder of the muscles, tendons, ligaments, joints, nerves, blood vessels or related soft tissue including a sprain, strain and inflammation that may be caused or aggravated by work (BC OHS Regulation 4.46).

Ergonomics: The study of interactions between people and other elements of a system to optimize human well-being and overall system performance (Adapted from the International Ergonomics Association). The process of managing MSI risk in the workplace is an application of ergonomics.

# **Responsibilities**

All levels of the organization are responsible for aspects of MSI prevention.

## **Employer**

The employer is responsible for taking every reasonable precaution for the protection of its employees, and for delegating specific responsibilities within the organization to ensure that [BC OHS Regulations 4.46 through 4.53, OR all applicable federal and provincial OHS Regulations] are implemented effectively as part of the overall Health and Safety Program. The employer is responsible for ensuring that:

* A healthy and safe workplace is provided for employees;
* Resources (e.g., budget, time, labour) are allocated to the management of MSI risk;
* MSI occurrence (signs, symptoms, claims) and concerns are tracked and reviewed at least monthly;
* A Health and Safety Committee [or individuals responsible for health and safety] is maintained and meets monthly to review MSI occurrence and concerns, and to review MSI Prevention Process activities;
* MSI hazards are identified, assessed and controlled on an ongoing basis through the implementation of an MSI Prevention Process;
* Employees responsible for implementing the MSI Prevention Process are trained in the identification, assessment, and control of MSI hazards;
* All employees are trained to understand MSI hazards and controls in their work.

## **Managers and Supervisors**

Managers and supervisors are responsible for taking every reasonable precaution for the protection of employees that they supervise. Managers and supervisors have a responsibility to:

* Support a positive safety culture in the workplace by encouraging and supporting employees to report MSI signs, symptoms, incidents or concerns;
* Participate in and allow employees to participate in the MSI Prevention Process, including MSI investigations, inspections and prevention activities;
* Assist in the implementation of MSI risk controls;
* Ensure that employees are trained to understand and recognize MSI hazards and to implement controls in their work.

## **Employees**

Employees have a right to a safe and healthy workplace; however, employees share responsibility for health and safety in their job. Employees have a responsibility to:

* Report MSI signs, symptoms, incidents or concerns to their supervisor and/or safety representative;
* Participate in and understand MSI prevention activities, including the identification of MSI hazards and controls in their work;
* Participate in education regarding recognition of MSI hazards and implementation of planned risk controls;
* Perform work according to prescribed safe methods that are outlined by the employer for the prevention of MSI;
* Refuse unsafe work that presents imminent risk of injury.

## **Health and Safety Committee**

The Health and Safety Committee [or individual responsible for health and safety] has responsibilities that include:

* Meet at least monthly and maintain records of monthly meetings;
* Review tracked MSI and activities related to the MSI Prevention Process at least monthly;
* Implement investigations to understand contributing factors to MSI or concerns;
* Implement regular inspections to proactively identify, assess and control MSI hazards;
* Involve employees familiar with the work, including employees with MSI signs or symptoms, in MSI investigations and inspections;
* Assign clear responsibility for the timely implementation of intended controls;
* Immediately implement interim solutions to minimize risk when intended controls will be delayed;
* Review the MSI Prevention Process at least annually;
* Ensure that current and incoming Health and Safety Committee members have adequate training and understanding to be competent in conducting MSI investigations and inspections, including an understanding of BC OHS Regulations 4.46-4.53, common MSI, MSI hazards, assessment of risk (understanding why hazards exist and likely outcomes), and the implementation of a hierarchy of controls to eliminate or minimize risk.

## **Support Services**

Support Services may include human resources, facility design, maintenance, purchasing, display and shelving design, information technology, security and others who have influence over the physical space, equipment, tools and pattern of work performed by other employees. Support Services have a responsibility to:

* Consider the impact of decisions on MSI hazards and controls for employees performing work;
* Involve Health and Safety Committee members in decisions that may impact exposure to MSI hazards or risk associated with exposure to MSI hazards;
* Be adequately trained in the recognition of MSI hazards to understand the impact of their decisions on MSI risk for employees;
* Participate in and support the MSI Prevention Process.

# **MSI Prevention Process**

The MSI Prevention Process describes activities and inputs to implement the MSI Prevention Policy.

Prioritization

Hazard Identification

Risk Assessment

Risk Control

Training

Evaluation

* Job and Task list
* Reported and tracked MSI Signs or Symptoms
* Perception of MSI risk, MSI concerns
* Change in process, job, or equipment
* Investigation or Inspection
* Worker interview/consultation
* Work observation
* Investigation or Inspection
* WorkSafeBC MSI Risk Assessment Guide
* Ergonomic Risk Assessment Tools
* Hierarchy of Controls
* Worker input
* Support Services input
* New or current workers (orientation/refresher)
* Health and Safety Committee members
* Changes to work, equipment, or new controls
* MSI Risk Control effectiveness
* Employee Training
* Annual MSI Prevention Process Review

The MSI Prevention Process will be applied with consideration of all areas of the business, including [\*modify list below for the store and retail environment]:

1. Offices
2. Cashiers/Checkout
3. Stock Handling/Receiving
4. Aisle or Stock Service
5. Floor Management
6. Maintenance/Cleaning
7. Displays

The MSI Prevention Process will be applied with consideration for variations at different store locations.

# **MSI Prevention Procedures**

The following procedures are intended to guide implementation of the MSI Prevention Process and can be implemented as a component of broader Health and Safety risk management activities.

## **MSI Prevention – Procedure for Work Performed Similarly at Multiple Locations**

When jobs or tasks are performed in a similar manner at multiple locations (stores), it is not necessary to repeat all aspects of the MSI Prevention Process at each individual location. The MSI Prevention Process may be implemented by selecting a small number of locations that are representative of those multiple locations (similar in size, product, store design, equipment, etc.) to perform hazard identification, risk assessment and development of risk controls for those jobs or tasks. To ensure regulatory compliance and successful MSI prevention for each individual location, documentation of the hazard identification, risk assessment and risk controls at representative locations must be verified or modified for each individual location. Verification of the representative MSI risk assessment and proposed controls at each location will review the representative MSI risk assessment and consider:

* whether hazard identification and risk assessment documented at representative locations accurately represents the work performed at the individual location; and
* whether there are any unique aspects of work (job, task, environment, store design, workstation design, equipment, etc.) at the individual location that were not considered for the representative locations.

If the representative risk assessment is verified as accurately representing MSI hazards and MSI risk at the individual location, then the same risk controls developed for representative locations shall be implemented at the individual location.

If there are unique aspects of work identified at the individual location that are not considered within the representative risk assessment, then the hazard identification and risk assessment will be modified or performed again for the individual location to ensure that those unique aspects are adequately considered in the risk assessment and development of controls for the individual location.

## **MSI Tracking**

MSI will be systematically tracked in claims, first aid or medical reports. Reported MSI will be reviewed at least monthly as part of the ongoing Health and Safety activities, and to inform prioritization of jobs or tasks requiring MSI risk management.

## **Job and Task List**

A list will be generated and maintained of all jobs and the tasks performed by employees who perform each of those jobs. The Job and Task List will be referenced when prioritizing efforts to manage MSI risk, and will be used to track which jobs and tasks have been assessed as part of MSI Prevention.

## **Prioritization**

Efforts to manage risk of MSI will be prioritized based on evidence, concern, and opportunity. Hazard identification, risk assessment and risk control will be initiated in response to:

1. Evidence of MSI in a job or task. The presence of MSI in claims, first aid or medical reports is evidence of MSI risk and will trigger an investigation to understand and control the hazards related to the known MSI for that job or task.
2. Concern for risk of MSI in a job or task. Awareness of MSI hazards may occur through employee expression of concern, through regular safety inspections, discomfort surveys, or any other means of determining that there are MSI risk factors of possible concern in a job or task. Where prior efforts to control risk of MSI have been evaluated and found to be deficient or ineffective, further effort to manage risk will be a priority.
3. Opportunity for MSI control in planned changes to a job, task, workplace, or personnel. Planned changes present opportunity for MSI control by anticipating potential MSI hazards that may result from planned changes, and by using these opportunities to control known MSI hazards as part of the planned change. Opportunities for MSI prevention exist when planning for: construction, renovation, seasonal reorganization, restocking, purchasing new equipment, hiring new or seasonal employees, and any other planned change.

## **Hazard Identification**

Hazard identification will occur in response to any of the reasons listed for prioritizing a job or task, or to evaluate the effectiveness of implemented MSI risk controls. Hazard identification will be performed by personnel trained in the recognition of MSI risk factors. Hazard identification will involve observation of work and consultation with a representative sample of employees who perform the work, including any employees who have MSI signs or symptoms.

An MSI Hazard Identification Checklist should be used to systematically document and describe any observed MSI hazards.

Hazard identification aims to identify and understand risk factors that increase the likelihood of causing or aggravating MSI. The risk of MSI is greatest when the magnitude or duration of exposure to a single risk factor is high, or when more than one risk factor occurs at the same time. Primary MSI risk factors include force, awkward posture, repetition, contact stress and duration. These risk factors are influenced by physical demands of the work, layout and condition of the workplace or workstation, characteristics of the objects handled, environmental conditions, and the organization or work. The MSI risk factors and related factors that contribute to MSI risk are described below.

**Force required.**   
Force is required when work involves lifting, lowering, pushing, pulling, carrying or gripping.

Factors that contribute to the level of forceful exertion required by the employee include:

* characteristics of the object being handled (size, shape, weight, load stability, load condition and type of handles),
* the type of grip used to handle the object (e.g., whole-hand power grip has more strength than fingertip pinch grip),
* the position of the load relative to the body (reaching and low/high height of the load increases the effort and muscle forces required),
* the duration (how long) or frequency (how often) of handling a load (muscle fatigue reduces strength); and
* work organization (work-recovery cycles, task variability and speed of work.

When force requirements are identified in work, it is helpful to describe when and why force is required, an estimation of typical and maximum force required, and any factors that contribute to the level of forceful exertion required of the employee (e.g., characteristics of the object, grip, position or posture, and duration or frequency).

Forceful exertion presents greater risk of MSI when:

* forces required are high;
* force is applied in an awkward posture;
* force is applied rapidly;
* forceful exertion is sustained for long duration without adequate recovery; or
* forceful exertion is repeated frequently.

**Working postures.**  
Neutral postures involve the least strain on tissues and the most strength in muscles. Non-neutral or awkward postures that increase strain on tissues and increase risk of MSI occur when work involves:

* reaching;
* working heights above chest level or below hip level;
* tools with straight handles (e.g., scissors, a screwdriver, pliers);
* sitting;
* viewing items that are to one side, above or below head level; or
* constrained or tight working spaces.

Identifying awkward working postures requires consideration for all joints in the body: neck, back, shoulders, elbows, wrists, fingers/thumb, hips, knees, ankles and toes.

Awkward postures present higher risk of MSI when:

* held for long durations with little recovery or rest (static postures);
* force is applied while in awkward posture (lifting with a bent back or gripping with bent wrist); or
* repetitive movements occur while in awkward postures.

**Repetition.**  
Repeating the same motions or exertions that use the same body parts results in fatigue of tissues and increased risk of MSI. Repetition does not have to be the same task. It can apply across multiple tasks that have similar use of the same body part. Understanding repetition as an MSI risk factor involves characterizing:

* rates of movement per minute or the duration per movement cycle (repetition or work rate);
* duration of movement versus rest (work-recovery cycle) to consider adequate tissue recovery; and
* whether force or awkward postures are also involved.

**Contact stress.**Force applied to a small area of the body that compresses nerves, blood vessels and other tissues increases risk of MSI. Contact stress is usually related to work that involves:

* leaning against edges or hard surfaces;
* carrying items that have narrow handles (e.g., wire handle on a bucket);
* using tools that have finger ridges on the handles;
* kneeling on hard surfaces; or
* using body parts to strike hard objects (e.g., using the hand as a hammer).

MSI risk is increased when contact stress involves:

* higher forces and smaller contact area on the body;
* long duration of contact pressure without rest to restore tissues; or
* harder objects with sharp surfaces or edges.

**Duration of exposure**   
The longer the duration of exposure to MSI risk factors, the greater the risk. Short duration tasks with adequate recovery time present lower risk than long duration tasks with little recovery time. Characterizing duration of exposure to risk factors involves consideration of:

* sustained duration of forceful exertion, awkward posture, repetition, or contact stress;
* total hours per shift that a task with risk factors is performed (e.g., stocking shelves); and
* total hours per shift that different tasks with similar MSI risk factors are performed (e.g., stocking aisle shelves and depalletizing a delivery).

**Environmental Conditions**MSI risk is increased in work environments that are:

* cold (reduced blood flow to the extremities);
* hot (dehydration and thermal stress);
* poorly lit (awkward postures required to see objects); or
* wet or slippery (increased force to grip objects; greater chance of losing balance).

## **Risk Assessment**

Risk assessment aims to determine the severity of risk to employees from MSI hazards that are identified in the job or task. Severity of risk will be assessed as low, moderate, or high by using MSI risk assessment tools to assess the level of risk associated with specific tasks or work scenarios. The risk assessment must be performed by personnel who are familiar with the work and who are trained in the appropriate selection and use of MSI risk assessment tools.

**MSI Risk Assessment Tools**

Validated or best practice MSI risk assessment tools must be applied to determine low, moderate or high MSI risk for a task. Ergonomic risk assessment tools will be used by individuals who are trained in the proper use and interpretation of the tool. Employees who are assigned to performing MSI risk assessments will receive MSI Risk Assessor Training prior to performing risk assessments.

MSI risk assessment tools that may be used to inform risk assessment, include:

* WorkSafeBC MSI Risk Assessment Checklist (July 2022).
  + Useful for assessing a range of general MSI hazards and combinations of MSI hazards, including a lift/lower calculator.
* RULA – Rapid Upper Limb Assessment (McAtamney and Corlett, 1993).
  + Useful for assessing tasks that involve awkward postures of the upper extremity using “snapshot” postures representing the most frequently used and the most extreme body positions.
* Lifting/Lowering Risk Calculator
  + Useful for assessing tasks that involve lifting and/or lowering.
* Push/Pull/Carry Risk Calculator
  + Useful for assessing tasks that involve pushing, pulling or carrying.

## **Risk Control**

Risk controls aim to eliminate or minimize MSI risk factors. Risk control efforts will consider engineering and administrative strategies to eliminate or minimize MSI risk factors, within limits of what is reasonable and practical to achieve. Personal protective equipment (PPE) will be used where appropriate but will not be considered an alternative to engineering or administrative controls.

A Risk Control Plan will be generated in response to MSI hazards that are assessed as presenting moderate or high MSI risk. The Risk Control Plan will document controls that were implemented immediately (during inspection for MSI Hazard Identification and Risk Assessment), those that require further resources or planning, and any interim controls that are implemented while awaiting more permanent controls. The Risk Control Plan will document the name of the person(s) assigned responsibility for implementing the control, the date that planning of the control was initiated by that person, and the date that the control was implemented.

Engineering controls are physical changes to the equipment, workstation or work area that eliminate or minimize MSI risk factors. Examples of engineering controls include:

* Mechanical lifting assists and equipment to help with heavy lifting.
* Wheeled carts, dollies, hand-trucks, or powered pallet jacks to move items.
* Height adjustable workstations and touchscreens at checkout.
* Changing workstation heights to better fit employees and the work.
* Planned storage with heavier items on middle shelves between knee and chest level, and lighter items on the lowest and highest shelves.
* Height adjustable carts to minimize bending when stocking shelves.

Administrative controls are behavioural or organizational changes to work technique, work patterning, or personnel assignment to work. Examples of administrative controls include:

* Training in manual lifting techniques.
* Task rotation to reduce exposure duration to repetitive or forceful tasks.
* Designating heavier lifting and larger awkward items as a two-person lift.
* Scheduling extra rest breaks for physically demanding work.
* Temporary modification of duties in response to reporting early signs and symptoms of MSI.

When there is a delay in the provision of permanent engineering or administrative controls, interim control measures will be implemented immediately.

## **Evaluation**

The effectiveness of the MSI Prevention Process will be evaluated on an ongoing basis in the following ways:

1. MSI rates will be tracked to enable comparisons over time (trends) monthly and annually. This may include an analysis of number of MSI (number of claims, number of medical or first aid reports), and/or severity of MSI (time loss). A trend of lower MSI rates and/or lower MSI severity will demonstrate effectiveness in MSI prevention. This may be supplemented by tracking trends in discomfort through a discomfort survey of employees.
2. MSI hazard identification and MSI hazard assessment will be repeated after controls have been implemented. The elimination or minimization of risk factors, and/or a lower MSI risk rating within MSI risk assessment tools will demonstrate effectiveness in MSI prevention.
3. Training of employees in MSI awareness will be tracked, with an objective of 100% of employees receiving MSI Awareness Training.
4. Training of risk assessors (health and safety committee, safety personnel, managers) in the MSI Prevention Process will be tracked, with an objective of 100% of employees responsible for conducting MSI risk assessment receiving MSI Risk Assessor Training.
5. An annual review of the MSI Prevention Process will be conducted to document what has been accomplished, to establish improvements to the process, and to prioritize focus for the following year.

Deficiencies or outcomes that were evaluated as not effective will be addressed without delay.

## **Training**

Training will be provided to all employees, management and human resources personnel on MSI Awareness. Training will be provided to all members of a Health and Safety Committee to provide the skills and knowledge necessary to implement the MSI Prevention Process. Training completion will be tracked for all employees and management to ensure that it is current.

### **MSI Awareness Education**

All employees, management and human resources personnel will receive MSI Awareness Education. Orientation for all new employees, whether full-time, part-time or seasonal, will include MSI Awareness Education prior to commencement of work.

MSI Awareness Education will include the following components:

* Rights and responsibilities of the employee and of the company (management);
* Early recognition of MSI signs and symptoms;
* What to do if you have MSI signs or symptoms, or if you have concerns about MSI risk;
* Recognition of MSI hazards;
* Understanding of existing controls or standard practices to minimize MSI risk.

### **Periodic MSI Awareness Education for Employees**

Employees will be provided ongoing MSI prevention awareness education to keep MSI prevention in the forefront, to refresh previous MSI Awareness Education received as a new employee, and to provide information regarding any new MSI hazards or controls in their work. This will involve an annual completion of the orientation training on MSI Awareness Education and [monthly or bimonthly? Specify frequency] brief safety discussions on specific components of MSI Prevention, or education on MSI hazards and controls associated with specific tasks. When new controls are implemented to reduce MSI risk in a task, education will be provided to the employees who perform that task to ensure that they understand the hazards and the controls.

Employee MSI Awareness Education may include:

* MSI Awareness Education (full session)
* Short modules for discussion in work teams may include topics such as:
  + Changes to work – new or interim MSI risk controls.
  + Early recognition of MSI signs and symptoms, and what to do if you have them.
  + Team discussion of MSI hazards and controls in the work to be performed that day.
  + Lifting techniques and/or use of lift assists.
  + [select ideas on specific topics from store site visits. Stocking shelves, adjusting workstation height, etc. – a generic set of modules will be developed]

### **MSI Risk Assessor Training**

Personnel assigned to the Health and Safety Committee or who are designated as responsible for conducting MSI Prevention Procedures (hazard identification, risk assessment, control) will be provided training on the knowledge and methods required to effectively perform MSI Prevention Procedures.

MSI Risk Assessor Training will include:

* Regulatory and Policy requirements for MSI Prevention;
* Common MSI and why they occur (MSI risk factors);
* Prioritization and MSI Tracking
* MSI Hazard Identification:
  + MSI Hazard Checklists in inspections and investigations;
  + Basic evaluation of posture, force, repetition to describe MSI risk factors;
* MSI Risk Assessment:
  + MSI Risk Assessment tools – use and interpretation
* MSI Risk Controls
  + Engineering and Administrative Strategies
  + Guidance for working height, reach, visual field
  + Computer workstations (office ergonomics)
  + Manual materials handling strategies and controls

## **Resources**

ACGIH TLVs and BEIs (2020)

BC OHS Regulation 4.46-4.53 (Ergonomic MSI Requirements)

OSHA Guidelines for Retail Grocery Stores (2004)

RULA (Ergo-Plus worksheet)

Sample MSI Hazard Identification Checklist for Inspection/Investigation (REI)

Sample Discomfort Survey (REI)

[Washington State Physical Job Evaluation Checklist]

WorkSafeBC MSI Assessment Worksheet (July 2022)

[WorkSafeBC Practice Directive C4-2]