Occupational Health and Safety Council of Ontario (OHSCO)
MUSCULOSKELETAL DISORDERS PREVENTION SERIES

PART 3B:

MSD Prevention Toolbox

Beyond the Basics

MSD
MUSCULOSKELETAL DISORDERS

PREVENTION TOOLBOX B

Disclaimer

The material contained in this Toolbox is for information and reference purposes only and not intended as legal or professional advice. The adoption and/or use of the tools, information, and/or practices described in this Toolbox may not meet the needs, requirements or obligations of individual workplaces.

The guidance in this Toolbox does not, in any way, limit or reduce the obligations that workplace parties have under the Occupational Health and Safety Act (R.S.O. 1990, Chapter O.1, as amended), or any of its regulations. The Occupational Health and Safety Act (OHSA) requires employers to provide information, instruction and supervision to workers and to take every precaution reasonable in the circumstances for the protection of workers. MSD hazards that are present in the workplace must be recognized and precautions put in place to fulfill requirements under the OHSA.

Workers also have duties under the OHSA, including the duty to use equipment and protective devices provided to them to reduce their MSD risk, and to report defects and hazards of which they are aware to their supervisor. The OHSA also gives workers the right to participate, the right to know, and the right to refuse work that they believe is dangerous to either their own health and safety or that of another worker.

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5159A (02/08)

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Beyond the Basics

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Acknowledgements

This document, *Part 3B: MSD Prevention Toolbox – Beyond the Basics*, is part of the Occupational Health and Safety Council of Ontario's Musculoskeletal Disorders (MSD) Prevention Series. It was developed in partnership with the members of the Occupational Health and Safety Council of Ontario (OHSCO), with the support of the Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD), and in consultation with representatives from Ontario's labour organizations, employer associations, and individual employers and workers.
Supporting organizations include:

- Construction Safety Association of Ontario
- Education Safety Association of Ontario
- Electrical & Utilities Safety Association
- Farm Safety Association
- Industrial Accident Prevention Association
- Institute for Work & Health
- Mines and Aggregates Safety and Health Association
- Municipal Health & Safety Association
- Occupational Health Clinics for Ontario Workers
- Ontario Forestry Safe Workplace Association
- Ontario Ministry of Labour
- Ontario Safety Association for Community & Healthcare
- Ontario Service Safety Alliance
- Pulp and Paper Health and Safety Association
- Transportation Health & Safety Association of Ontario
- Workers Health & Safety Centre
- Workplace Safety & Insurance Board (Ontario)

The support and participation of everyone who contributed to the development of the MSD Prevention Guideline for Ontario and its related documents is greatly appreciated.

Scope of the MSD Prevention Toolbox: Beyond the Basics

Part 3B: MSD Prevention Toolbox – Beyond the Basics has been made available through the partners of the Ontario Health and Safety system. It is the second document in the three-part toolbox, which also includes *Part 3A: MSD Prevention Toolbox - Getting Started* and *Part 3C: MSD Prevention Toolbox - More on In-depth Risk Assessment Methods.*

The primary purpose of this document is to provide Ontario workplace parties with additional information and tools that they can use to enhance their current MSD prevention process and, if required, move beyond a simple MSD risk assessment. If you are looking for some more basic information about MSD prevention and MSD hazards or for MSD hazard identification tools, please see *Part 3A: MSD Prevention Toolbox - Getting Started*.

This document is provided as a support document for the *MSD Prevention Guideline for Ontario* and the *Resource Manual for the MSD Prevention Guideline for Ontario.*

In this document you will find a tool to help you review your MSD prevention process, some information about the costs of MSDs, a sample MSD prevention policy/procedure, some additional MSD hazard recognition tools, an MSD risk assessment checklist, and a tool to help you communicate the results of an MSD prevention project.

The tools in this document are examples of tools that have been shown to be useful in the MSD prevention process. It is understood that this Toolbox only presents a small sample of the many different types of tools that may be used to inform the MSD prevention process.

There is no requirement for workplaces to use all or any of the tools presented in this Toolbox. Workplaces should select the tools, whether they are the ones in this Toolbox or others, which are best able to help them with their MSD prevention efforts.

If there are any questions about MSD Prevention, contact your Health and Safety Association.

Health and Safety Associations	**Phone**	**Website**
Construction Safety Association of Ontario	(800) 781-2726	www.csao.org
Education Safety Association of Ontario	(416) 250-8005	www.esao.on.ca
Electrical & Utilities Safety Association	(905) 625-0100	www.eusa.on.ca
Farm Safety Association	(800) 361-8855	www.farmsafety.ca
Industrial Accident Prevention Association	(800) 406-4272	www.iapa.ca
Mines and Aggregates Safety and Health Association	(705) 474-7233	www.masha.on.ca
Municipal Health & Safety Association	(905) 890-2040	www.mhsao.com
Occupational Health Clinics for Ontario Workers	(416) 510-8713	www.ohcow.on.ca
Ontario Forestry Safe Workplace Association	(705) 474-7233	www.ofswa.on.ca
Ontario Safety Association for Community & Healthcare	(416) 250-7444	www.osach.ca
Ontario Service Safety Alliance	(800) 525-2468	www.ossa.com
Pulp and Paper Health and Safety Association	(705) 474-7233	www.pphsa.on.ca
Transportation Health & Safety Association of Ontario	(800) 263-5016	www.thsao.on.ca
Workers Health & Safety Centre	(416) 441-1939	www.whsc.on.ca

More information, including sector specific materials, can be found online at:
www.PreventionPractices.com/msd.html

Strengthening your foundation for success

MSD Prevention Process Review Tool

The MSD Prevention Process Review Tool allows you to compare what you are currently doing against a set of suggested activities/steps for each of the elements in the MSD Prevention Framework, as described in the MSD Prevention Guideline for Ontario.

Cost-benefit of MSD prevention

This information sheet summarizes the types of costs often associated with MSD claims and the benefits of MSD Prevention.

Sample content for MSD Prevention - policy, procedure or program

This tool provides an example of the type of information that could be included in an MSD prevention policy, procedure or program.

MSD Prevention Process Review Tool

This tool includes a checklist for each of the elements in the MSD Prevention Framework, as described in the MSD Prevention Guideline for Ontario, and an additional table that considers whether the workplace parties understand MSD hazards (page 4). For each element in the table, determine whether the activities or steps have been considered, whether they are being discussed or developed, or whether they have been partially or fully implemented.

Workplaces can use this tool to identify possible areas of improvement for their MSD prevention efforts and establish an action plan that will, over time, result in all of the activities or steps being fully in place and always done.

The process activities and steps listed in this tool are suggestions only. Some workplaces may find that the activities or steps listed are not appropriate for their workplace. Other workplaces may find they require additional or different activities/steps for success.

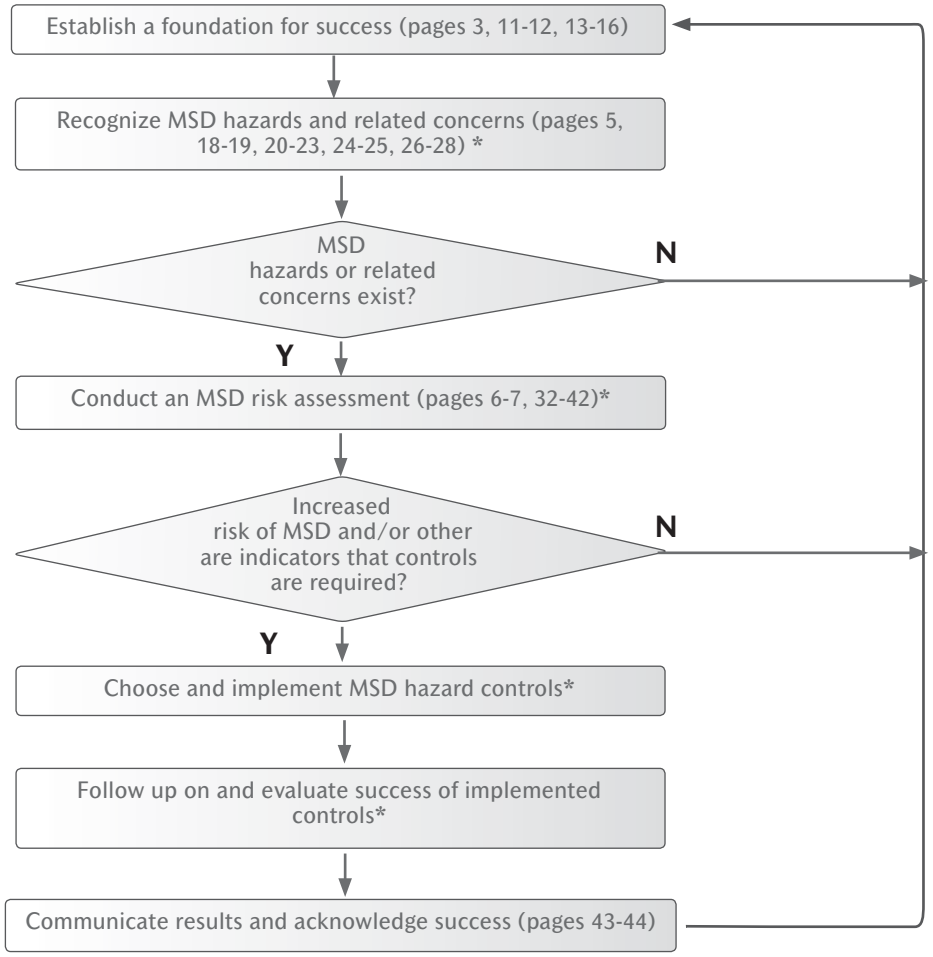


Figure 1: MSD Prevention Framework

* - *see Part 3A: MSD Prevention Toolbox – Getting Started* for more information/tools

Review your foundation for a successful MSD prevention process

	NO	IN DISCUSSION/ DEVELOPMENT	YES, PARTIALLY/ SOMETIMES	YES, FULLY/ ALWAYS
1. Senior management has clearly stated their commitment to MSD prevention.	☐	☐	☐	☐
2. Senior management demonstrate their support for MSD prevention efforts by participating in training sessions, following the progress of MSD prevention efforts, and holding managers and supervisors accountable for taking steps to reduce exposure to MSD hazards.	☐	☐	☐	☐
3. Senior management considers MSD prevention to be vital for a competitive, profitable, and healthy workplace.	☐	☐	☐	☐
4. MSD prevention policies/procedures have been created and communicated.	☐	☐	☐	☐
5. MSD prevention issues have been incorporated into purchasing policies and engineering design standards.	☐	☐	☐	☐
6. MSD prevention roles and responsibilities have been defined for all employees (i.e. managers, supervisors, workers, purchasing, engineering).	☐	☐	☐	☐
7. Workers participate in MSD prevention efforts in a meaningful way.	☐	☐	☐	☐
8. Resources have been provided to train: - workers to recognize the signs and symptoms of MSDs. - managers, supervisors and workers how to recognize and respond to MSD hazards.	☐	☐	☐	☐
9. Supervisors and occupational health staff have been trained on how to respond appropriately to reports of MSD symptoms.	☐	☐	☐	☐
10. A commitment has been made to provide the resources for necessary modifications to equipment, tools, work stations, and work methods.	☐	☐	☐	☐
11. Managers, supervisors and workers understand that there is a legal requirement to address work-related MSD hazards.	☐	☐	☐	☐
Total number of check marks in each column				

Review your process for understanding MSD hazards

	NO	IN DISCUSSION/ DEVELOPMENT	YES, PARTIALLY/ SOMETIMES	YES, FULLY/ ALWAYS
1. Managers, supervisors, and workers (including JHSC/H&S Reps) have been trained/educated to understand what MSD hazards are.	☐	☐	☐	☐
2. Company newsletters, bulletin/information boards, crew meetings, tailgate talks and the like are used to reinforce and enhance understanding of MSD hazards.	☐	☐	☐	☐
3. Managers, supervisors and workers understand how and why exposure to MSD hazards can contribute to MSDs.	☐	☐	☐	☐
Total number of check marks in each column				

Review your process for recognizing MSD hazards

	NO	IN DISCUSSION/ DEVELOPMENT	YES, PARTIALLY/ SOMETIMES	YES, FULLY/ ALWAYS
1. Managers, supervisors and workers have been trained on how to recognize MSD hazards.	☐	☐	☐	☐
2. Incident/injury reports and data are reviewed to identify tasks or jobs that are causing MSDs.	☐	☐	☐	☐
3. There is a well-defined and documented process for recognizing MSD hazards.	☐	☐	☐	☐
4. Reports of MSDs are investigated in the same way as all other incidents, injuries or illnesses.	☐	☐	☐	☐
5. An MSD hazard identification tool/checklist is used to help recognize/identify MSD hazards.	☐	☐	☐	☐
6. MSD hazards are included in all workplace inspections.	☐	☐	☐	☐
7. Supervisors look for MSD hazards as part of their normal job duties.	☐	☐	☐	☐
8. Supervisors and workers look for indicators of MSD hazards (modified tools/work areas, workers rubbing or shaking limbs/joints, workers wearing braces and/or supports).	☐	☐	☐	☐
9. Workers are encouraged to report pain/discomfort.	☐	☐	☐	☐
10. There is a process for workers to report concerns related to MSD hazards.	☐	☐	☐	☐
11. Supervisors regularly talk to workers about job demands, difficult tasks, pain/discomfort, and other issues related to MSD hazards.	☐	☐	☐	☐
12. Surveys (e.g. feedback, discomfort, perceived exertion) are used to collect MSD related information from workers.	☐	☐	☐	☐
13. Other data (e.g. absenteeism, overtime, production, quality, suggestions for changes) is regularly reviewed to see if there are indicators that MSD hazards may be contributing to other problems.	☐	☐	☐	☐
Total number of check marks in each column				

Note: see *Part 3A: MSD Prevention Toolbox – Getting Started* for examples of MSD Hazard Identification Tools

Review your process for MSD risk assessments: simple or in-depth

	NO	IN DISCUSSION/ DEVELOPMENT	YES, PARTIALLY/ SOMETIMES	YES, FULLY/ ALWAYS
1. MSD risk assessments are done whenever there is a history of MSD claims and/or workers expressing concerns about pain/ discomfort **or** when workers express concerns that there is a need to address current job demands.	☐	☐	☐	☐
2. The JHSC/H&S Rep is made aware when a risk assessment is taking place.	☐	☐	☐	☐
3. Members of the JHSC/H&S Reps are involved in MSD risk assessments.	☐	☐	☐	☐
4. Workers who work at a job/task being assessed are informed that risk assessments are being conducted and the reasons why.	☐	☐	☐	☐
5. Appropriate workers, managers and supervisors are recruited to be involved in specific risk assessments.	☐	☐	☐	☐
6. Individuals involved in MSD risk assessments are provided with training on how to conduct a risk assessment.	☐	☐	☐	☐
7. The results of risk assessments are communicated to workers who perform the job/task, the JHSC/H&S Reps, and managers.	☐	☐	☐	☐
Total number of check marks in each column				

Review your process for simple MSD risk assessments

	NO	IN DISCUSSION/ DEVELOPMENT	YES, PARTIALLY/ SOMETIMES	YES, FULLY/ ALWAYS
1. Identified MSD hazards are reviewed with appropriate workers.	☐	☐	☐	☐
2. Job tasks are reviewed with appropriate workers to determine which tasks or activities are related to the identified MSD hazards.	☐	☐	☐	☐
3. Efforts are made to ensure that all individuals involved in a risk assessment agree on which MSD hazards are of concern and should be addressed.	☐	☐	☐	☐
4. Individuals involved in a risk assessment will brainstorm to identify different processes, equipment, materials, environment, or human elements that may be causing the MSD hazard(s).	☐	☐	☐	☐
5. Efforts are made to ensure that all individuals involved in a risk assessment agree on the cause(s) of the MSD hazard(s).	☐	☐	☐	☐
6. If there is agreement on the cause(s) of the MSD hazards(s), efforts are made to select and implement MSD hazard controls.	☐	☐	☐	☐
Total number of check marks in each column				

Note: If there is no agreement on which MSD hazards need to be addressed or the causes of the identified MSD hazards, a more specific, in-depth risk assessment may be required. See pages 32 – 44 in this document. You will also find more on in-depth risk assessment methods and an 'In-depth Risk Assessment Process Review Tool' in *Part 3C: MSD Prevention Toolbox – More on In-depth Risk Assessment Methods.*

Review your process for selecting and implementing MSD hazard controls

	NO	IN DISCUSSION/ DEVELOPMENT	YES, PARTIALLY/ SOMETIMES	YES, FULLY/ ALWAYS
1. All individuals involved in MSD prevention projects understand the different control approaches, and the pros and cons of each.	☐	☐	☐	☐
2. Appropriate people are involved in the selection and implementation of MSD hazard controls.	☐	☐	☐	☐
3. MSD hazards and priorities for controls are reviewed with those involved in the selection and implementation of MSD hazard controls.	☐	☐	☐	☐
4. A variety of MSD hazard control options are identified and considered.	☐	☐	☐	☐
5. Criteria have been established to help compare control ideas.	☐	☐	☐	☐
6. Further investigation is conducted and additional assistance is sought if there is no agreement on a preferred control option.	☐	☐	☐	☐
7. Before implementing a preferred control option all the workers who will be affected by the control are informed about: - what changes will be made and why - when changes will be made - what the changes will mean for them.	☐	☐	☐	☐
8. All workers who will be affected by a new MSD hazard control are trained how to use the control.	☐	☐	☐	☐
9. The steps for installing a hazard control are reviewed to ensure that the control is installed correctly and no new hazards are introduced.	☐	☐	☐	☐
10. Worker feedback is collected and documented after the control has been installed.	☐	☐	☐	☐
11. After installation, workers can demonstrate that they know how to use the control.	☐	☐	☐	☐
12. After installation, any concerns of maintenance workers are addressed immediately.	☐	☐	☐	☐
13. After installation, a review is done to make sure that no new hazards have been introduced: - at the job/task in question - at job/tasks that are 'downstream' - at job/tasks that are 'upstream'.	☐	☐	☐	☐
Total number of check marks in each column				

Note: see *Part 3A: MSD Prevention Toolbox - Getting Started for examples of MSD hazard controls*

Review your process for following up on and evaluating the success of implemented MSD hazard controls

	NO	IN DISCUSSION/ DEVELOPMENT	YES, PARTIALLY/ SOMETIMES	YES, FULLY/ ALWAYS
1. People involved in MSD prevention projects are asked to provide comments on the overall process.	☐	☐	☐	☐
2. Positive aspects of the process are documented and communicated to those involved and to senior management.	☐	☐	☐	☐
3. Opportunities for improvement are documented and communicated to those involved and to senior management.	☐	☐	☐	☐
4. A process for evaluating MSD hazard controls has been developed and documented.	☐	☐	☐	☐
5. Jobs/tasks with new MSD hazard controls are re-evaluated to ensure that exposures to previously identified MSD hazards are effectively controlled.	☐	☐	☐	☐
6. Workers at a job with new MSD hazard controls are asked to provide detailed feedback about the control (after a period of time for stabilization and break-in).	☐	☐	☐	☐
7. A process is in place to investigate and address any concerns identified.	☐	☐	☐	☐
8. The results of the evaluation are communicated to: - those involved in the process - workers using the control - local and senior management .	☐	☐	☐	☐
Total number of check marks in each column				

Review your process for communicating results and acknowledging success

	NO	IN DISCUSSION/ DEVELOPMENT	YES, PARTIALLY/ SOMETIMES	YES, FULLY/ ALWAYS
1. A process is in place to keep everyone up-to-date on MSD prevention activities in the workplace: - workers and supervisors - local and/or senior management - JHSC.	☐	☐	☐	☐
2. Specific projects are discussed at crew/department meetings.	☐	☐	☐	☐
3. Updates on the progress of MSD prevention projects and results of these projects are posted on bulletin boards, reported in the workplace newsletter and posted on web pages.	☐	☐	☐	☐
4. Individuals involved in MSD prevention projects are acknowledged, and successful MSD prevention efforts are celebrated.	☐	☐	☐	☐
5. Support for continuing the MSD prevention efforts have been communicated by local and/or senior management.	☐	☐	☐	☐
6. Special celebrations are planned when significant reductions in MSD risk are achieved.	☐	☐	☐	☐
Total number of check marks in each column				

Note: See *Part 3A: MSD Prevention Toolbox - Getting Started* for an example of a tool for communicating results

MSD prevention process review results

	NO	IN DISCUSSION/ DEVELOPMENT	YES, PARTIALLY/ SOMETIMES	YES, FULLY/ ALWAYS
Total number of check marks in each column from all parts of the review:				

Develop an action plan to improve your MSD prevention process. What can be done to increase the number of checks in the 'Yes, fully/always' column?

Cost-benefit of MSD prevention

Musculoskeletal disorders (MSDs) are the most commonly reported type of work-related lost-time injury in Ontario. Lost-time MSD claims cost Ontario workplaces hundreds of millions of dollars in direct costs and consequently, billions of dollars in indirect costs. Implementing MSD prevention strategies can help to reduce the number of reported MSDs, which may help save Ontario workplaces tens, if not hundreds of thousands of dollars each year.

What are the costs of MSD claims?

In order to realize the benefits of an MSD strategy in your workplace, you must quantify the previous known costs of these injuries. When determining this information you should decide whether you are going to address the impact MSDs have on the organization as a whole or just with respect to WSIB claims. It is recommended you broaden your perspective to include the negative impact MSDs can have on such human resources issues such as absenteeism, disability, staff turnover, recruitment, and morale.

There are many factors that should be considered beyond the direct costs paid out to injured employees who lose time from work due to an MSD. The following are examples of all the direct and indirect costs you should consider when tallying up the impact these injuries have on your bottom line:

WSIB/MOL costs

- WSIB premium (fixed cost based on the experience of the rate group)
- WSIB surcharge
- Loss of potential NEER rebate
- Workwell Audit
- Ministry of Labour fines and appeals

Staff costs

- Wages paid to the employee on the day of the injury
- Wage supplements/continuation of benefits
- Wages of replacement employees
- Overtime attributed to loss of injured employees
- Absenteeism

Modified work

- Wages paid to staff on modified work
- Costs associated with modifying job
- Management time to follow up with an employee on modified work

Administrative

- WSIB claims management
- Rescheduling of employees

- Training/orienting employees
- Time to investigate root cause of injury
- Time to follow up with an employee off work

Production or service delivery

- Disruption in production/service delivery (number of people involved, length of interruption)
- Decrease in quality
- Work stoppages
- Ministry of Labour orders, complying with orders
- Modifications to work systems to accommodate workers with MSDs

Other insurance systems

- Sick time
- Short-term disability
- Long-term disability
- Liability – if others are impacted
- Legal
- Consultant

Other costs to the company

- Damage to reputation
- Compromised quality of service/product
- Management's time spent on managing MSD problems rather than on other productive tasks
- Negative impact on staff morale, trust in management

> **Note:** Indirect costs, which are all costs other than those directly resulting from an MSD, can conservatively be estimated to be four times the direct costs.

Benefits of MSD prevention

A comprehensive benefit assessment will include measures beyond those purely associated with financial gains. It will include money potentially saved due to the reduction in financial losses. In addition to the financial gains that may be recognized through WSIB rebates or enhanced productivity and service delivery, there may be other benefits impacting on production, service and quality, that will affect profitability/funding. Softer measures of benefits may include enhanced reputation, staff morale and quality of work/life.

In order to objectively quantify the financial benefits of any health and safety strategy, you need to have and use retrospective data for comparison purposes. An effective MSD intervention will mean that few or no work-related MSDs are reported. This may or may not be associated with a financial gain from the WSIB. Hence, a retrospective look at previous years' injury trends will help you to forecast costs which can now be realized as benefits.

Reference: Business Results Through Health & Safety, WSIB: product code 5031A.

Sample content for an MSD prevention policy, procedure, or program

Note: The following provides examples of the type of information that could be included in a health and safety program, or an MSD prevention program/policy. There are many different ways to describe/address the points listed below and each workplace will need to approach MSD prevention in the way that best suits the type of work performed, the employees, and the workplace culture.

Commitment statement

Name of organization is committed to providing a healthy and safe working environment for all staff. Recognizing that MSDs are a significant concern in our workplace, we *name of organization* will demonstrate our commitment to minimizing exposures to MSD hazards by providing financial, physical and human resources to ensure that MSD hazards are recognized and suitable control strategies are put in place.

The success of this program will rely on the full cooperation of all workplace parties (employer, supervisors and staff).

Goals

- To increase MSD awareness
- To decrease the risk of MSDs
- To adapt the job and workplace to the capabilities of the employees
- To identify MSD prevention strategies as a priority in cost containment, productivity and quality assurance
- To promote and support the health and safety of all employees
- To provide equipment, resources, record keeping and effective training

Objectives

- To ensure all staff are educated about MSD hazards and prevention
- To recognize MSD hazards proactively
- To assess and prioritize MSD hazards
- To control MSD hazards through application of engineering and/or administrative controls
- To evaluate the effectiveness of individual interventions as well as organizational initiatives
- To develop a process that promotes continuous improvement in the efficiency, comfort, and well-being of all employees through management and employee involvement

Scope

Applies and pertains to all *name of organization* departments

Roles and responsibilities of workplace parties

All staff are expected to comply with the outlined policy and procedures

Employer

- Consult with JHSC/H&S Rep(s) about MSD prevention policies and procedures
- Enforce the policy, procedures and program
- Provide equipment, necessary resources and initial and ongoing staff training
- Maintain the MSD Prevention Program and look for opportunities to enhance and improve it
- Annually evaluate and update the program
- Take every reasonable precaution for the protection of the worker

Managers/Supervisors

- Be involved in all stages of identifying, assessing, and controlling MSD hazards
- Make training in MSD awareness and safe work practices available to all employees. Keep documentation of training, including nature of training, employees' names and signatures, dates of training, length of training, and the instructor's name
- Ensure all staff receive general and site-specific orientation to the MSD policy and program
- Provide reasonable equipment that meets staff needs
- Enforce program through regular monitoring strategies (including auditing of worker practice in the planned and unplanned inspections and reporting findings to senior management and the JHSC/H & S Rep(s))
- Conduct accident/incident investigations associated with MSD incident/injury reports; report all investigation findings to senior management
- Encourage staff to report MSD symptoms early
- Respond promptly to staff reports of MSD symptoms
- Access assistance in implementing MSD controls when solutions are not immediately identified
- Maintain equipment assigned to their department
- Take every reasonable precaution to protect workers

Employees

- Comply with policy and procedures at all times
- Participate in regular education as established by the organization
- Report any hazards, equipment problems, or any other unsafe tasks immediately to the supervisor
- Report any concerns, incidents, and near misses to the supervisor immediately and co-operate in the investigation as required by management
- Be responsible for correct use of the equipment provided by the employer

Joint Health and Safety Committee

- Review incident/accident data related to MSDs
- Review incident/accident investigation reports
- Review policy and program annually
- Make recommendations in writing to management
- Assess the feasibility of an MSD sub-committee reporting to the JHSC that would focus solely on MSD prevention
- Look for MSD hazards during workplace inspections

Elements of the MSD program

1. Train all management, supervisors, and employees on MSD awareness, MSD hazards, and how to recognize and report MSD hazards
2. Train specialized staff (JHSC members and others involved directly in MSD prevention efforts) on MSD assessment methods and control approaches
3. Orientate all new staff on the MSD program
4. Establish an MSD hazard/incident reporting system
5. Provide an MSD hazard identification tool
6. Assess jobs/tasks where MSD hazards are present
7. Implement well-designed controls to reduce the risk of MSDs
8. Establish a safe purchasing policy for consideration of MSD prevention in all purchasing decisions
9. Track and report on MSDs, reports of pain/discomfort, and other MSD-related concerns
10. Proactively integrate MSD hazard controls into design

Procedures

Joint Health & Safety Committee - Will incorporate MSD hazard recognition in monthly workplace inspections, and make recommendations.

Orientation - Ensure MSD education for all workers. Education includes awareness, MSD definitions, and reporting of incidents and risks. Department specific orientation will include specific MSD hazards, proper use of ergonomic equipment, set-up of workstations and work organization strategies.

MSD hazard reporting - As per the Human Resources policy, employees are to report MSD hazards, and ensure MSD incident reporting is consistent.

MSD incident reporting - Ensure positive reinforcement of workers reporting MSD signs and symptoms.

Ongoing MSD inspections - Managers are to include MSD hazard identification in their routine inspections.

MSD investigation - Managers are expected to incorporate MSD prevention within the investigation process for MSD incidents.

Simple MSD risk assessment - When MSD hazards are identified, whether through investigations, inspections, or reports from workers, supervisors and workers, with the assistance of the JHSC/H&S rep as required, will conduct a simple MSD risk assessment and seek to identify and implement required MSD hazard controls.

Referral for MSD risk assessment - if a simple MSD risk assessment is not adequate for identifying specific MSD hazards or suitable hazard controls, an in-depth MSD risk assessment is to be requested in writing from the occupational health & safety manager.

Purchasing - As appropriate, worker input and ergonomic features are to be considered in all decisions about the purchase of new equipment or new furniture. Whenever possible, items should be trialed to ensure MSD hazards are identified and controlled. Visits to other sites where the equipment/items are in use can also provide valuable information about MSD risk prior to purchase.

Building design - Whenever the workplace is being redeveloped, ergonomic considerations are to be integrated into the design of the new work environment.

Equipment design - Whenever equipment, machines and tools, are modified, redesigned, installed or purchased. Ergonomic considerations are to be integrated into the design.

Maintenance of equipment - Equipment is to be kept in safe operating condition. Complete and accurate documentation of preventive maintenance is required.

Education

- **Orientation** – ensure MSD education for new workers
- **Ongoing** – Department-specific annual review of MSD hazards and controls are to be reviewed with staff. Education should include MSD awareness, anatomy, biomechanics, hazards, and signs and symptoms

Evaluation

The MSD program will be evaluated at least annually and will consider the following indicators:

- Incident reports
- Absenteeism reports
- JHSC minutes
- Physical demands analysis
- MSD hazard inspections
- MSD risk assessments
- MSD awareness questionnaire
- MSD hazard controls implemented
- MSD hazard control evaluation results

Any changes to the program will be documented and communicated immediately to all staff and management.

More ways to recognize MSD hazards

Sample questions for a Workplace Health and Safety Inspection Checklist

This tool provides sample questions that can be incorporated into an existing workplace inspection checklist to help ensure MSD prevention is included in regular health and safety activities and inspections. The tool is one method to help proactively recognize jobs with MSD hazards.

Surveys

Staff Feedback Survey

This is a proactive tool that can be used to help identify workers' perceptions of job-related difficulties or concerns they may have. The information gained from this survey will provide an indication of which jobs workers perceive as posing an MSD risk from excessive force, repetition and awkward posture and lighting, noise, and temperature extremes.

Perceived Exertion Survey

The perceived exertion survey is a proactive tool that can be used to estimate workers' perceptions of how physically difficult a job is. This survey asks workers about their perception of the physical demands for each of the job's tasks and for each major body part.

Worker Discomfort Survey

This tool can be used as part of the reactive process of recognizing jobs with existing MSDs and related concerns. Discomfort surveys are used to better identify and quantify musculoskeletal discomfort and pain.

> **Note:** if you are looking for examples of MSD Hazard Identification Tools, please see *Part 3A: MSD Prevention Toolbox – Getting Started.*

Sample questions for a Workplace Health and Safety Inspection Checklist

It is important for the JHSC to include MSD prevention in its regular activities and inspections. The JHSC should discuss MSD prevention issues and make recommendations to the employer. The following are sample questions to consider including in the Health and Safety Inspection Checklist:

Force:

Do workers on this job:

- lift, lower or carry objects that are, in their opinion, heavy
- have difficulties pushing or pulling objects
- perform tasks that require difficult and forceful gripping with their hands
- use tools that require a great deal of effort to hold, control or use
- use their hands to pound or hammer things

Fixed or awkward postures

Do workers on this job:

- work with their hands above their shoulders or held far away from the body
- do tasks with one or both arms behind the body
- bend or twist the back/trunk
- bend or twist the neck forward, back or to the side
- hold their neck to one side (e.g. holding phone between ear and shoulder)
- bend or twist the wrist
- pick up or hold things using difficult grips (pinch grips, wide-finger grips)
- have too little space or clearance in their work area
- stay in awkward postures for a long time without a change in posture
- sit or stand for long periods of time without a change in posture

Repetition

Do workers on this job repeatedly:

- lift, lower or carry objects
- push or pull things when doing their job
- grip or manipulate things with their hands or fingers
- use awkward arm, hand or wrist postures
- use awkward back or neck postures
- use poorly designed hand tools
- do tasks or use awkward postures that are not covered above
- use hand tools that vibrate

Indicators of MSD-related problems

Do workers on this job:

- make comments about the job being very demanding
- make their own modifications to tools or workstations
- wear splints or supports
- massage muscles or joints or shake their limbs because of discomfort
- avoid certain tasks or jobs because of task-related discomfort or pain
- make comments about discomfort or fatigue

Worker/Staff Surveys

Staff Feedback Survey

The Staff Feedback Survey is a proactive tool that can be used to help identify workers' perceptions of what is difficult in their job. This survey would be distributed to all workers on a particular job, rather than on an individual basis.

The information gained from this survey will provide an indication of which jobs have increased MSD risk due to excessive force, repetition, and awkward postures; as well as lighting, noise and temperature extremes.

Feedback surveys can also be used after implementing control measures to evaluate their effectiveness. Collect baseline information prior to implementing a control and then repeat the survey after the implementation to measure the difference in workers' perceptions about how difficult the job is to do. Make sure it is done on the same day of the week and at the same time of day – Monday morning results can be very different than Friday afternoon. Make sure enough time has elapsed between the before and after so that the impact of the change can be seen.

The detailed nature of this survey and the open-ended questions may make it difficult to analyze a large number of these surveys. Depending on the number of workers involved, the survey may be sent to a representative number of workers. The larger the representative sample, the more accurate the results will be. All shifts should be covered.

Workers should be informed about the purpose of the survey and given time to complete it at work.

As with each of the tools presented within the MSD Prevention Toolbox, this survey is just one means of collecting employee perceptions. Your organization may have other methods of collecting this information.

Staff Feedback Survey

Department: _____ Work area: _____

Job name: _____ Room no./machine no./location: _____

What is the most physically difficult task you do?

_____

How often do you perform this task?

_____

_____

What is the second most physically difficult task you do?

_____

How often do you perform this task?

_____

_____

Do any of your job tasks require you to:

repeat the same movements or actions more than a few times a minute for more than 30 minutes at a time? Y ☐ N ☐

If yes, list the three most "repetitive" tasks:

1) _____

2) _____

3) _____

lift, push, pull, or move heavy items? Y ☐ N ☐

If yes, list the three heaviest items you lift, push, pull, or move:

1) _____

2) _____

3) _____

Do any of your job tasks require you to:

work in awkward postures (working with arms above the shoulder, bending/twisting at the waist, lifting while bending or twisting, bending wrists up/down frequently, reaching behind the body)? Y ☐ N ☐

if yes, list the three most awkward or uncomfortable postures you must work in and the tasks where they are required:

1) _____

2) _____

3) _____

Is the lighting in your work area suitable? Y ☐ N ☐

If no, please indicate why not:

- Too much light/too bright/glare/reflections ☐
- Not enough light/dull/shadows ☐
- Lights in the wrong place ☐
- Sunlight causes problems (some or all of the day) ☐

Is the temperature in your work area suitable? Y ☐ N ☐

If no, please indicate why not:

- Too cold (in winter or due to air conditioning) ☐
- Too warm (in summer or thermostat too high) ☐
- Drafts or other issues ☐

Is the noise level in your work area satisfactory? Y ☐ N ☐

If no, please say why not:

- Too noisy due to equipment/machines ☐
- Too noisy due to co-worker conversations/music ☐

Please check any of the following that are a concern or problem in your work area and provide some detail.

Concern/Problem	**Details of the concern/problem**
☐ Seating	_____
☐ Workstation adjustability	_____
☐ Working reaches	_____
☐ Repetitive motions	_____
☐ Heavy lifting	_____
☐ Awkward postures	_____
☐ Mental strain	_____
☐ Too much work variety	_____
☐ Too little work variety	_____

Please check any of the following that are a concern or problem in your work area and provide some detail.

Concern/Problem	Details of the concern/problem
☐ Poor hand tools	_____
☐ Noise	_____
☐ Lighting	_____
☐ Temperature	_____
☐ Stress	_____
☐ Poor control design/layout	_____
☐ Poor display design/layout	_____
☐ Standing/walking	_____
☐ Lack of control over process	_____

Do you ever feel any pain or discomfort while at work or when leaving at the end of your shift? Y ☐ N ☐

If yes, please indicate of the types of discomfort you feel:

1) _____

2) _____

3) _____

List five things you would most like to see changed in the design, set-up or organization of your work.

1) _____

2) _____

3) _____

4) _____

5) _____

Do you have any suggestions to fix or eliminate some of the concerns you have with your job or ideas to make the job better? If so, write them down on the back of this page or talk them over with your supervisor.

NOTE: Your ideas can be simple or complex. All ideas will be evaluated and discussed. It is very likely that you will be asked to participate in these discussions. Any decision regarding your suggestion will be made known to you and you will be advised as to why your idea or suggestion will or will not be implemented.

Perceived Exertion Survey

The Perceived Exertion Survey is a proactive tool that can be used to estimate workers' perceptions of a job's physical difficulty. This survey can be used before MSD concerns have been raised, as a way to identify potential areas for improvement. It can also be used to measure the difference in workers' perceptions before and after a control is implemented.

Research has shown a relationship between an individual's ability to rate the level or difficulty of job related exertions and how much effort they are actually exerting, as a percentage of the individual's maximum capability.

This survey focuses on the specific tasks that make up a job. It asks the workers about their perception of the physical demands for each of the job's tasks and for each major body part. The questions begin by asking how difficult each task is. They then break down the body into major segments to try to identify the body part most affected.

Before using this survey it is important to identify the main tasks performed by the workers doing the job by completing a task analysis.

The survey as presented is designed to collect information about four different tasks performed at a specific job. If the job has more than four main tasks you may consider adding more pages to the survey or asking workers about the job tasks that past experience or comments suggest are the most difficult or demanding.

The worker is asked to rank the effort required to complete each task using "Scale A". It provides a ranking from 0 to 10 that workers use to judge how hard or tiring the work is.

The final part of the survey asks workers how much wrist, hand and finger activity there is in each task. "Scale B" ranks perceptions of wrist, hand, and finger activity.

If using the survey before and after implementing a control, make sure the survey is handed out on the same day of the week and at the same time of the day – Monday morning results can be very different than Friday afternoon. Make sure enough time has elapsed between the before and after survey so that the impact of the change can be seen.

Analysis of the survey is carried out by totaling the score from Scale A and B for each task.

Workers should be informed about the purpose of the survey and its confidentiality. They should be given time to complete it at work.

As with each of the tools presented in the MSD Prevention Toolbox, this survey is one means of collecting worker perceptions about how difficult a job is. Your organization may have other methods of collecting this information.

Perceived Exertion Survey

Date: _____

Please rate the physical demands required to perform each job/task.

Job Name:	Task 1	Task 2	Task 3	Task 4
Department:	Write name of task in box below			
Location:				
Have you worked at this job and performed this task	☐ (check)	☐ (check)	☐ (check)	☐ (check)
What is your overall rating of exertion or effort at this Job? (Scale A)				
For each task, how hard or tiring is the work on your shoulders? (Scale A)				
For each task, how hard or tiring is the work on your neck? (Scale A)				
For each task, how hard or tiring is the work on your back? (Scale A)				
For each task, how hard or tiring is the work on your legs and feet? (Scale A)				
For each task, how hard or tiring is the work on your fingers, wrist and forearm? (Scale A)				
For each task, how hard must you grip parts or tools with your hand and fingers? (Scale A)				
For each task, how would you rate the movements of your wrist, hand and fingers? (Scale B)				
TOTAL				

Scale A:
Use to indicate how hard or tiring your job is:

0 Nothing at all
.5 Extremely weak effort
1 Very weak effort
2 Weak effort
3 Moderate effort
5 Strong effort
7 Very strong effort
10 Extremely strong effort

Scale B:
Use for rating wrist, hand and finger activity

0 Hands idle most of the time, no regular exertions
2 Consistent, obvious, long pauses; OR very slow motions
4 Slow steady motions/exertions; frequent brief pauses
6 Steady motions/exertions; no regular pauses
8 Rapid steady motions/exertions; no regular pauses
10 Rapid continuous motions/exertions; difficulty keeping up

Modified version of tool that appears in Research at Work: Ergonomics Program Implementation Blueprint
Richard Wells, Robert Norman, Mardon Frazer and Andrew Laing
University of Waterloo. Used with permission

Worker Discomfort Survey

Discomfort surveys have been widely used to further identify and "quantify" workers' musculoskeletal discomfort and pain. The concept of the survey is simple. Workers are presented with a figure of a body. This figure is broken down into areas representing the major regions, limbs and joints of the body. Workers are asked to rate their level of discomfort for each body region by checking the appropriate box on a scale from 0 – 10. A score of 0 indicates no discomfort while a score of 10 indicates the most discomfort.

The survey asks about other jobs that have been done in the past year in order to capture whether alternate work may have contributed to or been the cause of a worker's discomfort. At the end of the survey, the workers are given the opportunity to identify what they think caused the problem. This enhances the workplace's commitment to worker participation in the MSD prevention initiatives.

To have just one worker fill in the survey is not enough. This survey is best suited for use on jobs with 10 or more workers. Ideally, all workers who perform a job should take part in the survey. The suggested method for use of a discomfort survey is:

- Meet with management, supervisors and all workers to be surveyed to discuss the survey, why it is being done, how it is filled out and the methodology used to conduct the survey. Stress that the survey is anonymous and voluntary.
- Workers should be asked to fill in the survey during work hours and, ideally, without assistance. Assistance should be provided, however, on request.
- Data from the surveys can be used to identify the body area, regions and joints in which workers experience discomfort or pain. This information can then be related back to what is known about the job demands in order to identify the tasks or activities that may be contributing to worker discomfort.
- Look for common areas of discomfort between workers. If a number of workers are reporting discomfort in the same body part(s) then an effort should be made to determine if any job tasks are contributing to this discomfort.
- Survey results can also be used to prioritize jobs for further action. Those jobs with the highest number of discomfort areas or the highest ratings of discomfort severity would become primary candidates for hazard identification, risk assessment and determining the need for controls.
- Data from surveys taken before a modification to the job, production levels or work method can be compared to data from surveys taken after the change to see if the levels of discomfort have increased or decreased.
- If using the survey before and after implementing a control, make sure the survey is given out on the same day of the week and at the same time of the day – Monday morning results can be very different than Friday afternoon. Make sure enough time has elapsed between the before and after so that the impact of the change can be seen.

As with each of the tools presented within the MSD Prevention Toolbox, this survey is provided as one means of collecting worker perception about how difficult the job is. Your organization may have other methods or surveys you use to collect this type of information.

Worker Discomfort Survey

Date ____/____/_____ Job Name_____ Department _____

_____ Shift _____ Hours worked _____ Years _____ Months Time on THIS job

Other jobs you have done in the last year (for more than two weeks)

Note: If more than two jobs, only include those you worked on the most

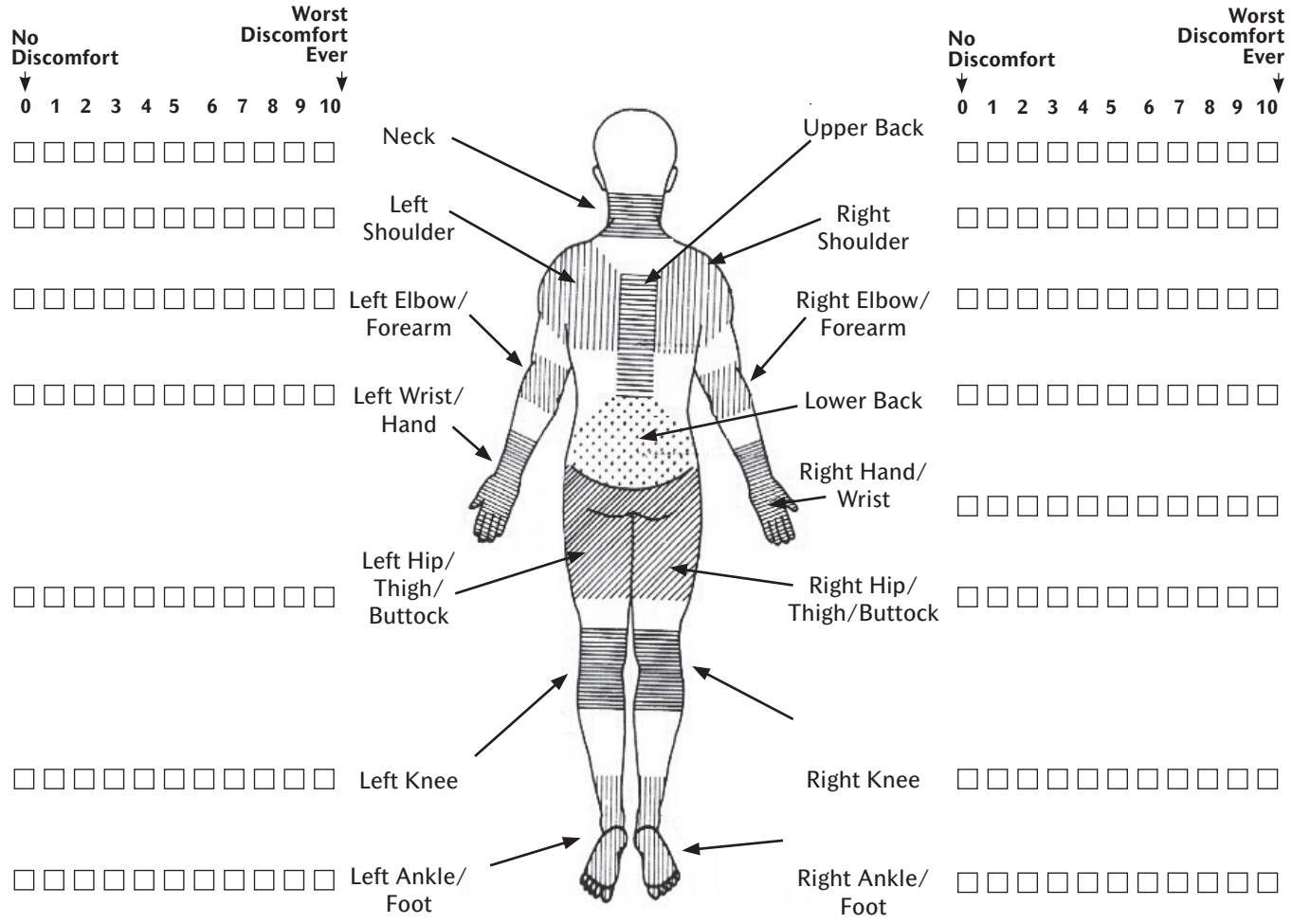
_____ Plant _____ Dept _____ Job Name _____ Months _____ Weeks Time on THIS job

_____ Plant _____ Dept _____ Job Name _____ Months _____ Weeks Time on THIS job

1. Have you had pain or discomfort during the last year that you feel is job-related?

☐ Yes ☐ No (if NO, Stop here)

2. If YES, please rate the level of discomfort over the last MONTH by checking off the appropriate box using the scale of 0 to 10, with 0 being no discomfort and 10 being the worst discomfort experienced.



Worker Discomfort Survey

Date: _____/_____/_____

3. When did you first notice your discomfort? _____(month) _____(year)

4. What do you think caused the discomfort?

5. Please comment on what you think would help to reduce your level of discomfort.

6. Do you consider your discomfort to be a problem?

☐ Yes ☐ No

7. Have you received medical treatment (doctor, chiropractor, physiotherapist, massage therapist or other health care practitioner) for your discomfort?

☐ Yes ☐ No

8. Have you taken time off work as a result of your discomfort (vacation, sick days, lost time claim, medical aid)?

☐ Yes ☐ No

One approach to an in-depth MSD risk assessment

The *Resource Manual for the MSD Prevention Guideline for Ontario* describes the simple risk assessment process, which you should work through before attempting an in-depth risk assessment. If you have not already done so, you might want to look at *Part 3A: MSD Prevention Toolbox – Getting Started*, where you will find examples of MSD hazard identification tools, a tool to help you determine the root cause of MSD hazards, and information about selecting, implementing and evaluating MSD hazard controls.

If you have gone through the steps in a simple risk assessment and the people working to solve MSD issues at a specific job/task are unable to identify what is causing the MSDs, or are unable to agree on how MSD hazards should be controlled, you may need to use a more in-depth risk assessment method. These next few pages provide you with one example of a more in-depth approach to MSD risk assessment.

You will find more information on specific, in-depth risk assessment methods and an 'In-depth Risk Assessment Process Review Tool' in *Part 3C: MSD Prevention Toolbox – More on In-depth Risk Assessment Methods.*

MSD Risk Assessment Checklist

The checklist helps you to look for and identify specific job/task demands that research suggests can lead to an increased risk of developing MSDs. The checklist was modified from the Caution Zone Checklist developed by Washington State's (USA) Department of Labor and Industries. As with any checklist, this checklist has some limitations. It only looks at a specific set of MSD hazards and job/task demands, so some of the less common hazards that may be contributing to MSDs may not be captured with this checklist.

It also does not identify how MSD hazards interact with each other to increase the risk of MSDs. In addition, as with all checklists of this type, the values on checklist are indicators that there is an increased risk of injury, but that does not mean that all workers performing jobs at or above these levels will develop an MSD. Finally, this checklist may not be suitable for assessing MSD risk in all types of jobs; namely jobs with a great deal of variability during the day, or jobs that involve moving people or animals.

It is strongly recommended that this checklist be used as part of a participative approach to MSD prevention. Workers who perform the job/task being assessed should be involved in the risk assessment process. They should be told why the assessment is being carried out and what will be done with the results. Also, while filling out the checklist, workers should be observed performing the job/task, asked for their opinions about the different hazards being considered, asked about workload levels (typical, peak demands, breakdown, maintenance, start up and shut down), and be involved in collecting the required measurements and information.

Worksheet to Prioritize Jobs or Tasks for MSD Hazard Controls

This tool will help you determine which jobs should be a priority for MSD hazard controls. Two priority tables are presented, one for jobs/tasks that have a history of MSD claims, and one for jobs/tasks where there is no history of MSD claims.

MSD Risk Assessment Checklist

Purpose

This MSD Risk Assessment Checklist is designed to provide you with a relatively quick and easy way to more formally assess the risk associated with exposures to some common MSD hazards. This checklist will tell you, for the MSD hazards included on the checklist, if the workers performing the task have an increased risk of developing an MSD.

Note: this checklist identifies tasks that have at least a **moderate** level of risk, where research suggests that the number of MSD claims begin to increase when job demands are at or above the levels provided on this checklist. Generally, the more demands exceed levels on the checklist, the greater the MSD risk.

IMPORTANT – PLEASE READ BEFORE USING THIS CHECKLIST

This checklist can be used as part of an in-depth risk assessment process, as described in the Resource Manual for the MSD Prevention Guideline for Ontario.

If this checklist indicates that workers are exposed to MSD hazards at or above the levels provided, then the workplace should consider if controls to reduce the workers' exposure to MSD hazards are required and the priority level for any required controls.

The levels given on this checklist are not designed or intended to represent maximum acceptable or legal limits and should not be interpreted as such.

A job or task that does not expose workers to MSD hazards at or above the levels on the checklist is **not necessarily free from significant MSD risk.** If workers are reporting MSDs, pain or discomfort, it may be necessary to use a different, more specific in-depth risk assessment method, or to review job and task demands to identify other work-related factors that may be contributing to the MSDs, pain or discomfort.

It is recommended that this method **NOT** be used for:

- Return to work assessment and evaluations
- Job placement and worker selection
- Assessing the work relatedness of an injury or disorder
- Identifying MSD hazards when handling people or animals

Instructions

Note: More detailed instructions on how to use this checklist, "How to use the MSD Risk Assessment Checklist," can be found in the *Part 3C: MSD Prevention Toolbox – More on In-depth Risk Assessment Methods*.

1. Document the job title or task, date and name of person(s) completing the worksheet.
2. Observe a sample of workers performing regular work activities.
3. Read the risk level criteria listed for each hazard.
4. For lift/lower and push/pull tasks consider if the job is always performed by male workers only, males and females, or females only.

5. Check the box if workers are exposed to hazards that meet or exceed the risk levels. Ask workers about specific items on the risk assessment checklist if you are unsure.
6. Write notes when the risk levels are met or exceeded to clarify the task or duty where the increased risk is present.

Note: The risks associated with some MSD hazards, (e.g. hot and cold temperatures, handling of people or animals, contact stress, whole body vibration, lighting, and aspects of work organization) are not addressed in this checklist. If these or other MSD hazards exist, make note of them and use other risk assessment methods to determine if they contribute the MSD risk for workers.

Things to consider when using the MSD Risk Assessment Checklist

1. If the physical demands vary from day to day, due to different products or services being produced or provided, ask workers if the activity being observed is more or less demanding than on a typical day.
   - **i.** If less demanding, plan to come back when the demands are more typical.
   - **ii.** If more demanding, complete the checklist. It may be that the risk of MSDs is only increased when working with certain products or performing certain services. You should also reuse the checklist when the demands are more typical.
   - **iii.** If typical, but there are times when the demands are higher, reuse the checklist when the demands are higher, especially if an increased risk is not indicated by the checklist when observing typical demands.
2. **For non-repetitive activities,** add up the total time spent performing the specific activity/demand over the day. Observe on the days when the duration is longest when using the risk assessment checklist.
3. **For repetitive activities** (e.g. the same motion is done more than once every 6 – 30 seconds), add up the total time that the repetitive activity is performed per day. Observe on the days when the duration is longest when using the risk assessment checklist.

Estimating grip and push/pull forces:

The following method can be used to estimate grip, push and pull forces if you don't have a hand grip or push/pull force gauge.

- **a.** Observe the workers performing the task (pinch or power gripping, pushing or pulling).
- **b.** Ask the workers to stop doing the task.
- **c.** Tell the workers that you want them to rank, on a scale from 0 to 10, how much force they need to exert when performing the gripping, pushing or pulling activity. Tell them that a 0 on this scale means no effort and a 10 means 'as hard as you can, using as much force as you can generate'.
- **d.** Have the workers do the task again for a few more minutes or cycles.
- **e.** Ask the workers to stop doing the task.
- **f.** If looking at pinch or power gripping, have the workers pinch or power grip something solid as hard as they can for 3 to 4 seconds.*
- **g.** If looking at pushing or pulling, have them push or pull as hard as they can for 3 to 4 seconds on something that won't move.*
- **h.** Ask the worker to perform the gripping, pushing or pulling just once. As soon as they have done this, ask them to compare the amount of effort needed to do the task to how hard they gripped, pushed or pulled a few minutes ago when you asked them to grip, push, pull as hard as they could.* **Ask them**, "If the hardest you can grip, push or pull is a 10, how much effort is needed, from 0 to 10, to perform the task?"

i. For pinch and power gripping, if one or more workers tell you that the effort required to perform the task is 5 or higher, and gripping is done for more than two hours total per day, then place a check mark in the appropriate box.

j. For pushing or pulling, if one or more workers tell you that the effort required to perform the push or pull is 5 or higher, place a check mark in the appropriate box.

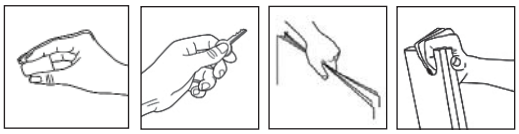
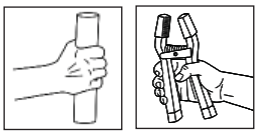
* **Caution required:** There is a very small risk of injury from a one-time, short-duration high-level force exertion, in an awkward posture. If workers are experiencing any pain or discomfort then do not ask the worker to grip, push or pull something as hard as they can.

MSD Hazard Risk Assessment Checklist

Job Title or Task: _____ **Date:** _____

Completed By: _____

Space for notes/comments is provided on the back page of this checklist

GRIP FORCE		CHECK (☑) HERE IF REQUIRED AT THIS JOB/ TASK	NOTES
PINCH GRIP	• Pinch gripping unsupported objects weighing 1 kg or more per hand for more than 2 hours total per day **OR** • Pinch gripping with a force of 2 kg or more per hand for more than 2 hours total per day 	☐	
POWER GRIP	• Power gripping unsupported object weighing 5 kg or more per hand for more than 2 hours total per day **OR** • Power gripping with a force of 5 kg or more for more than 2 hours total per day 	☐	

Pinch grip: force is primarily between the fingers and thumb.
Power grip: force is primarily between the fingers and the palm.

MANUAL MATERIAL HANDLING TASKS		CHECK (☑) HERE IF REQUIRED AT THIS JOB/ TASK	NOTES
BACK / SHOULDER	• Lifting/lowering is required for this job/task? - If checked do weights exceed levels in tables 1 or 2?	☐	
	• Pushing/pulling is required for this job/task? - If checked do initial push forces exceed levels in tables 3 or 4?	☐	

If lifting/lowering is required for this job/task, does weight of the object exceed value in the appropriate table?

Step 1: Choose the right table to use: If the task is performed by males only, **use table 1.** If the task is done by females only, or both males and females, **use table 2.**

Step 2: Determine whether the lift/lower is close or far
Close – hands are 17 cm or less from body at all times during the lift/lower
Far – hands are more than 17 cm from the body at any time during the lift/lower

Step 3: Determine if the lift/lower is short or long
Short – the object moves up/down no more than 25 cm
Long – the object moves up/down more than 25 cm

Step 4: Determine where the worker's hands end up at the end of the lift/lower
Below knuckle height, between knuckle and shoulder height, or above shoulder height

Step 5: Determine how often the object is lifted/lowered – once every 15 sec., 1 min., 2 min., 5 min., 30 min., or 8 hours

Step 6: Compare the weight from the table to the actual weight of the object being lifted/lowered

Example: Only males do the job being assessed. The hands are more than 17 cm from the body, the item is moved up more than 25 cm, the worker's hands at the end of the lift are at just below shoulder height and the item is lifted once every 5 min. The value from table 1 for this example is 19 kg. To get this number:

1. Look at numbers in table 1
2. Look at the numbers in the far-long row
3. Find the numbers in the far-long row, under the heading "Hands end between knuckle and shoulder height" and
4. Find the number for objects lifted once every 5 min. – 19 kg

TABLE 1: Lift/lower weights (kg) – use when task performed by males only

Type of Lift/ Lower	Hands and below knuckle height once every...						Hands end between knuckle and shoulder height once every...						Hands end above shoulder height once every...					
	15 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.	15 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.	15 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.
Far – long	13	16	19	20	21	24	16	18	18	19	21	23	12	14	14	14	16	17
Far – short	15	19	22	24	24	28	20	23	24	25	27	30	15	18	18	19	21	23
Close – long	17	22	25	28	28	33	17	20	20	21	23	25	16	18	19	19	24	24
Close – short	21	26	30	32	33	38	21	26	27	28	31	34	20	24	25	26	29	31

TABLE 2: Lift/lower weights (kg) – use when task performed by females only OR both males and females

Type of Lift/ Lower	Hands and below knuckle height once every...						Hands end between knuckle and shoulder height once every...						Hands end above shoulder height once every...					
	15 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.	15 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.	15 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.
Far – long	9	9	10	10	11	14	8	10	11	11	12	14	6	7	8	8	8	10
Far – short	11	11	12	12	13	18	9	12	13	13	14	17	8	9	9	9	10	12
Close – long	11	12	13	13	14	19	9	11	12	12	13	15	8	9	10	10	11	13
Close – short	13	14	15	15	17	23	11	13	14	14	16	18	9	12	12	12	14	16

If pushing/pulling is required for this job/task, does initial push force to move the object exceed value in the appropriate table?

Step 1: Choose the right table to use: If the task performed by males only, use **table 3.** If the task is done by females only, or both males and females, use **table 4.**

Step 2: Determine where the worker's hands are on the object while it is being pushed/pulled – at or below knuckle height, between knuckle and chest height, at chest height or higher

Step 3: Determine how far the object is pushed/pulled – up to 2 meters, 2 - 7.5 meters, more than 7.5 meters

Step 4: Determine how often the object is pushed/pulled – once every 15/20/30 sec., 1 min., 2 min., 5 min., 30 min., or 8 hours

Step 5: Compare the force level from the table to the actual amount of force required for the push/pull to the object

Example: Both females and males do the job being assessed. The hands are below the worker's knuckle height on the object when it is being pulled, the item is pulled 1.5 metres, once a minute. The value from table 4 for this example is 17 kg. **To get this number:**

1. Look at numbers in table 4
2. Look at the numbers in the "At or below knuckle height" row
3. Find the numbers in the "At or below knuckle height" row that are under the heading for "Up to 2 metres"
4. Find the number for an object that is pulled up to 2 metres, once per min. - 17 kg

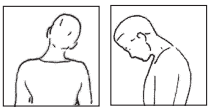
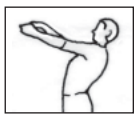
TABLE 3: Initial push/pull forces (kg) – use when task performed by males only (e.g. carts, trolleys, rolls, cables, wheelbarrows)

Height of hands on object being pushed/pulled	Up to 2 metres once every …						2 – 7.5 metres once every …						More than 7.5 metres once every …					
	15 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.	20 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.	30 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.
Chest height or higher	19	22	22	23	24	28	15	20	20	21	21	26	18	19	19	20	20	24
Between chest and knuckle	27	31	31	32	33	39	21	28	28	29	30	36	25	26	26	28	28	33
At or below knuckle height	30	34	34	37	37	44	24	31	31	33	34	40	28	29	29	31	32	38

TABLE 4: Initial push/pull forces (kg) – Use when task performed by females only OR both males & females (e.g. carts, trolleys, rolls, cables, wheelbarrows)

Height of hands on object being pushed/pulled	Up to 2 metres once every …						2 – 7.5 metres once every …						More than 7.5 metres once every …					
	15 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.	20 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.	30 sec.	1 min.	2 min.	5 min.	30 min.	8 hr.
Chest height or higher	18	21	22	24	25	27	19	19	20	22	23	24	17	17	17	19	20	21
Between chest and knuckle	18	21	22	24	25	27	18	20	20	22	23	25	16	17	17	19	20	21
At or below knuckle height	15	17	17	19	20	21	15	17	17	19	20	21	13	14	15	16	17	18

Values in tables 1-4 are adapted from Snook SH and Ciriello VM, (1991), The design of manual handling tasks: Revised tables of maximum acceptable weights and forces, Ergonomics 34, 1197-1213.

AWKWARD POSTURES		CHECK (☑) HERE IF REQUIRED AT THIS JOB/ TASK	NOTES
NECK	• Working with the neck bent forward or to the side more than 30° for more than two hours total per day  **SIDE** **FORWARD** (circle the appropriate movements)	☐	
	• Working with the neck rotated more than 45° in either direction for more than two hours total per day 	☐	
	• Working with the neck bent back/up more than 20° for more than two hours total per day 	☐	
SHOULDER	• Working with the hand(s) at or above the head for more than two hours total per day 	☐	
	• Working with the elbow(s) at or above the shoulder for more than two hours total per day 	☐	
BACK	• Working while sitting or standing with the back bent forward, sideways, or twisted more than 30° for more than two hours total per day  **FORWARD** **SIDE** **TWISTED** (circle the appropriate movements)	☐	
	• Working while sitting or standing with the back bent back more than 20°, and with no support for the back, for more than two hours total per day  **BACKWARD**	☐	
KNEES	• Worker squats/ kneels for more than two hours total per day  **SQUAT** **KNEEL** (circle the appropriate movements)	☐	

STATIC WHOLE BODY POSTURES		CHECK (☑) HERE IF REQUIRED AT THIS JOB/ TASK	NOTES
PROLONGED SITTING	• Worker sits for more than six hours total per day	☐	
PROLONGED STANDING	• Worker stands on a hard surface for more than four hours total per day (standing in one location without taking more than two steps in any direction)	☐	

REPETITION		CHECK (☑) HERE IF REQUIRED AT THIS JOB/ TASK	NOTES
NECK, SHOULDERS, ELBOWS, WRISTS, OR HANDS	• Worker repeats the same motion with the neck, shoulders, elbows, wrists, or hands every few seconds with little or no variation for more than two hours total per day (excluding keying activities). Check body parts that apply: ☐ Neck ☐ Shoulder(s) ☐ Elbow(s) ☐ Wrist(s) ☐ Hands	☐	
KEYBOARDING	• Worker performs intensive keying more than four hours total per day	☐	

REPEATED IMPACTS		CHECK (☑) HERE IF REQUIRED AT THIS JOB/ TASK	NOTES
HANDS/ KNEES	• Employee uses one of the following as a hammer more than 10 times per hour and for more than two hours total per day. (Check the body part(s) that apply) ☐ Hand (heel/base of palm) ☐ Knee	☐	

HAND-ARM VIBRATION		CHECK (☑) HERE IF REQUIRED AT THIS JOB/ TASK	NOTES
HANDS/ WRISTS	• Use high vibration tools (impact wrenches, carpet strippers, chainsaws, jackhammers, scalers, riveting hammers) for more than 30 minutes total per day	☐	
	• Use hand tools that typically have moderate vibration levels (grinders, sanders, jig saws) for more than two hours total per day	☐	

Notes:

Prioritizing jobs and tasks for MSD hazard controls

This tool is designed to help you determine a priority level for implementing MSD hazard controls.

The two tables show how you can prioritize jobs and tasks for MSD hazard controls by considering whether MSD claims have been reported for the job/task, if workers performing the job/task are reporting musculoskeletal discomfort or other concerns, and whether or not the levels on the MSD Risk Assessment Checklist have been exceeded.

Prioritizing jobs/tasks for MSD hazard controls if MSDs have been reported (reactive risk assessment):

MSDs[1] Reported		Reports of Discomfort/ Worker concerns		Levels on Risk Assessment Checklist Exceeded		Recommended Priority for MSD Hazard Controls
Yes	No	Yes	No	Yes	No	
✔		✔		✔		**Very High** [2]
✔			✔	✔		
✔		✔			✔	**High** [3]
✔			✔		✔	

[1] MSDs reported should include lost time and non-lost time (medical and first aid) claims

[2] If you have more than one job/task where checklist levels are exceeded:
- consider how much the job/task demands exceed the levels on the checklist. Those jobs/tasks with the highest demands would be the highest priority for change, and/or
- look at how many checkmarks there are on the checklist, e.g. hazards where job/task demands exceed exposure levels. Jobs/tasks with the most number of checkmarks would be the highest priority for change.

[3] These situations are a high priority for hazard controls since there is a history of MSDs for the job/task.

In the third row of the table, the levels on the risk assessment checklist have not been exceeded, but there is both a history of MSD claims and workers are reporting pain, discomfort or other MSD-related concerns. With this situation, it is recommended that you use a different, more specific in-depth risk assessment method. The MSD Risk Assessment Checklist is a general checklist that may not identify a specific MSD risk associated with a job/task or adequately assess how different hazards interact to increase the risk of injury to workers. Before using an alternative in-depth risk assessment method it is suggested that you seek help from someone who is qualified to assist you with your MSD prevention efforts. See page iii of this document for contact information for your Health and Safety Association, or see pages 48-50 of *Part 3A: MSD Prevention Toolbox – Getting Started*.

In the last row of the table, the levels on the risk assessment checklist have not been exceeded and workers are not currently reporting discomfort, but there is a history of MSDs at the job. There are two things to consider in this situation. First, current workers may be new to the task and may not yet be experiencing discomfort. Or they may have become used to the task so they can, for now, do it without any pain or discomfort. Second, as noted above, it is recommended that

you use a different, more specific in-depth risk assessment method. The MSD Risk Assessment Checklist is a general checklist that may not identify a specific MSD risk associated with a job or task or adequately assess how different hazards interact to increase the risk of injury to workers.

See the following table for more on prioritizing jobs or tasks for MSD hazard controls and for definitions of priority levels.

Prioritizing jobs or tasks for MSD hazards if MSDs have not been reported (proactive risk assessment):

MSDs[1] Reported		Reports of Discomfort/ Worker concerns		Levels on Risk Assessment Checklist Exceeded		Recommended Priority for MSD Hazard Controls
Yes	No	Yes	No	Yes	No	
	✔	✔		✔		**Moderate** [4]
	✔		✔	✔		**Low** [5]
	✔	✔			✔	**Low** [6]
	✔		✔		✔	No controls currently required - continue to monitor

[4] Even though no MSD claims have been reported, the fact that workers have reported pain or discomfort and/or other MSD-related concerns should prompt some action in your workplace. And since the levels on the MSD Risk Assessment Checklist are exceeded, there is very likely a need to implement some type of MSD hazard control.

[5] With no reported MSD claims or reports of pain, discomfort or MSD-related concerns, it is tempting to think that these jobs do not need MSD hazard controls. If, however, the levels on the MSD Risk Assessment Checklist are exceeded, this suggests that workers performing this job or task are at an increased risk for developing MSDs in the future. It is recommended that MSD hazard controls be considered and implemented to reduce the risk to workers.

[6] No history of MSD claims does not necessarily mean that MSD hazard controls are not required. Since workers are reporting pain or discomfort or MSD-related concerns, and because the levels on the MSD Risk Assessment Checklist are not being exceeded, it recommended that you use a different, more specific in-depth risk assessment method. The MSD Risk Assessment Checklist is a general checklist that may not identify a specific MSD risk associated with a job or task or adequately assess how different hazards interact to increase the risk of injury to workers. Before using an alternative in-depth risk assessment method, it is suggested that you seek help from someone who is qualified to assist you with your MSD prevention efforts. See page iii of this document for contact information for your health and safety association, or see pages 48-50 of *Part 3A: MSD Prevention Toolbox – Getting Started.*

Definitions for priority levels

Very high: investigate and identify MSD hazard control options and implement in a timely fashion

High: investigate and identify MSD hazard control options and implement after very high priority jobs and tasks have been addressed

Moderate: to reduce likelihood of workers developing MSDs in the future, investigate and identify MSD hazard control options and implement after high priority jobs and tasks have been addressed.

Low: to reduce likelihood of workers developing MSDs in the future, investigate and identify MSD hazard control options and implement after moderate priority jobs and tasks have been addressed.

Worksheet to prioritize jobs or tasks for MSD hazard controls

Task/Job	MSDs Reported		Worker Discomfort/ Other concerns		Levels on Risk Assessment Checklist Exceeded		Priority Level
	Yes	No	Yes	No	Yes	No	

Communicate results of MSD prevention projects

Communicating the results of the intervention

This tool is a template your workplace can use to summarize an MSD prevention project so results can be communicated to the rest of the workplace. The template includes space to identify those involved in the project, the MSD concern that was identified, the results of the assessment, the controls implemented, and the results of the evaluation. Room is also available for before and after pictures.

Note: see the One Minute Employee Feedback Survey, in *Part 3A: MSD Prevention Toolbox – Getting Started* to help you evaluate the effectiveness of MSD hazard controls.

MSD prevention project summary

Name of project: _____

Project participants: _____

_____

Date issue raised: _____

Date issue assessed: _____

Date of follow-up: _____

Date closed: _____

Issue: (state the problem that was identified)

_____

_____

_____

_____

_____

Description of the MSD hazard control/improvement

- Before (summarize MSD hazards identified and root causes)

_____

_____

_____

_____

- After (summarize MSD hazard controls implemented, and results from the evaluation)

_____

_____

_____

_____

Before Picture
(Insert here)

After Picture
(Insert here)

Describe: _____

Describe: _____

PREVENTION TOOLBOX B