

MSD Prevention Guideline for Ontario

*Beta Release Update
Webinar, October 31st 2018*

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BACK. SHOULDERS. NECK. HANDS.

Happy and Healthy at Work



Store it off the floor

- Store heavy objects between knee and shoulder level. Waist level is best.
- Store items off the floor to minimize bending.
- Use tables, benches or stands to get work off the floor.
- Use carts or equipment to move heavy items.



Keep it close

- Perform tasks close to your body.
- Avoid leaning and stretching forward to reduce stress on your lower back.
- Avoid side reaches that twist the spine.
- Your smart workstation: keep common tasks close; less common tasks out of the way.



Hands below head

- Use a stool, platform, ladder or hoist so work is below head/shoulder height.
- Choose lighter tools and materials for overhead work.
- Use a bit extender for drills/screw guns.
- Find other tools/assists to limit overhead work.



Look straight ahead

- Position your work and equipment to keep your gaze straight ahead.
- Position your work below eye level to align your vision with the task.
- Arrange your workspace so common items are centred to your body.
- Remember to give your neck a break.



Get a (good) grip

- High force work: power grip (full hand). Low force, precision work: pinch grip.
- Choose a tool and grip that puts your wrist in a strong, natural posture.
- Choosing tools: good shape for the task, fits your hand, edges don't dig in.
- Power tools with low vibration and no "kickback" are best.



Change it up

- Include "micro breaks" in your tasks for body recovery and fatigue prevention.
- Fatigue can occur during long duration efforts and repetitive tasks.
- Rotate different tasks to provide "working rests".
- Tasks that have MSD hazards and little recovery time have a high priority for change.

Identify and control workplace hazards. **Work shouldn't hurt!**



For more info visit: cre-msd.uwaterloo.ca

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Context

- The Ontario MSD Prevention Guideline and Toolboxes developed by the Ontario Health and Safety system were originally developed under the auspices of the Occupational Safety and Health Council of Ontario (OSHCO) in 2005-6 and published in 2007/8.
- It was overdue for review
- Building on this previous work, CRE-MSD is leading a project to develop a new Ontario MSD Prevention Guideline in conjunction with Ergonomics Integrated Planning Advisory Committee (EIPAC) and multiple workplace stakeholders



The overall goals of this project are to:

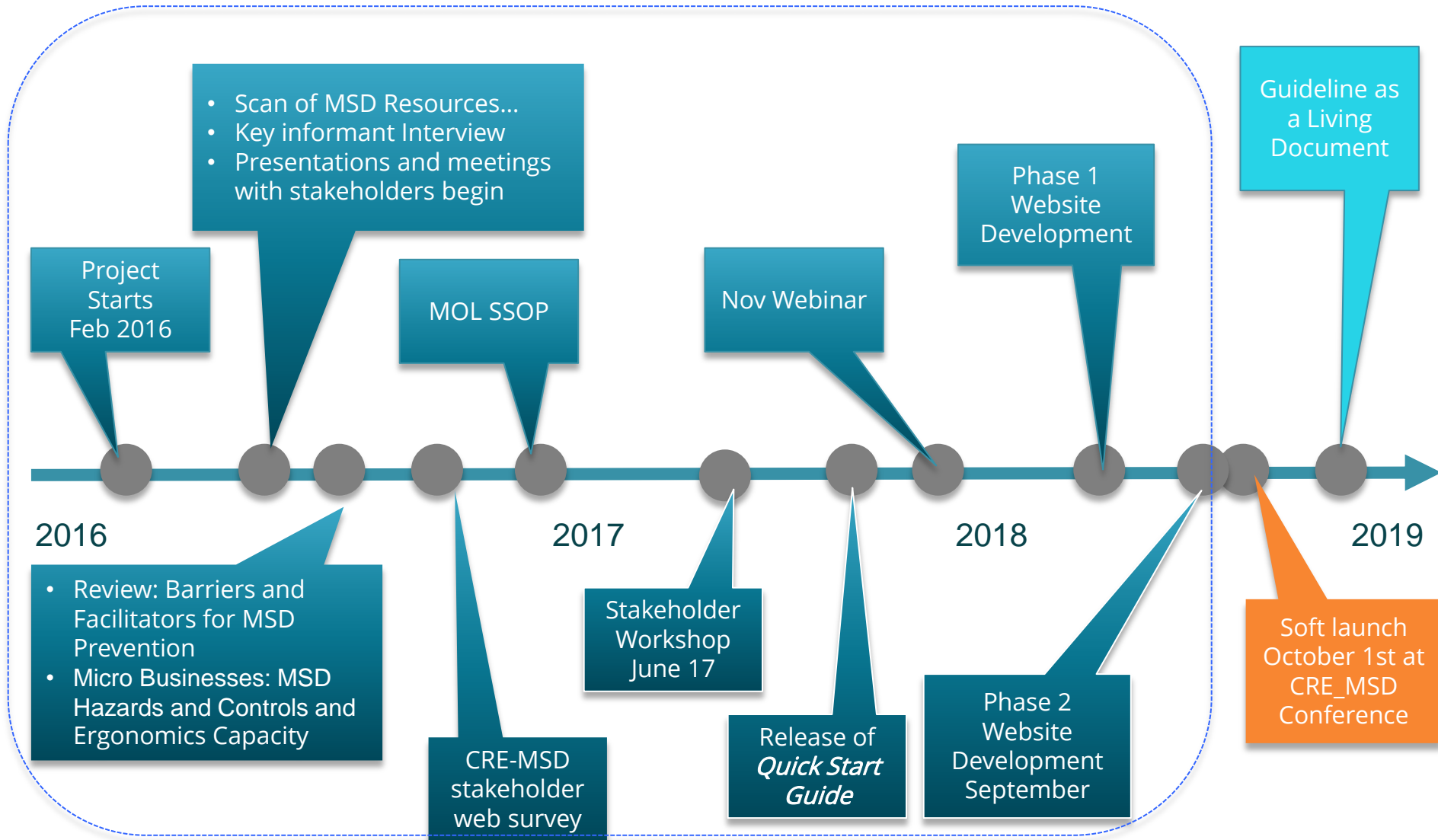
1. Evaluate the current Guideline, determine workplaces' needs for prevention and synthesize best practices with respect to MSD prevention;
2. Develop the new prevention guide content and selected draft materials;
3. Test the content of the new guide and materials with workplaces;
4. Prepare content for guideline and sample material;
5. Website Development Phase 1: Templates, navigation;
6. Website Development Phase 2: Development of graphic resources, population of the website with content developed and user testing.
7. Continue to develop the website

How we got and are getting input

1. Environmental scan
2. Multiple meetings with multiple stakeholders,
3. CRE-MSD web survey focussed on small and micro businesses¹
4. Interviews with small and micro businesses during SSOP
5. Interviews with key stakeholders
6. Feedback from a CRE-MSD workshop in June 2017
7. Reviews and original research:
“Participative Ergonomics and OHSMS”; “Barriers to Ergonomics Change”, “Low Back MSD Risk Factors”; “Micro and Small Businesses and MSD”; “Test of Messages for Low Back Pain in Small Businesses”

¹We also incorporated the findings of the web survey administered by the Health and Safety System (EIPAC) on the needs of business to make ergonomics changes.

Timeline of Activities



User input: Main findings and user needs

1. Small businesses are a major underserviced community.
2. There is a need for separate approaches for small/ micro, smaller and larger businesses.
3. MSD prevention should be better integrated into business processes using common language and processes.
4. Participation of workers is very important for OH&S, especially for MSD.
5. Current standards (CSA, ISO) are too complex. This makes them in-accessible to most organizations.
6. Be solutions oriented. Also don't assume familiarity with OH&S concepts and language

Needs 1 and 2:

To provide relevant information and resources to workplaces with different sizes and H&S capacity:

- Three versions of the Guideline were created.

Quick Start Guide

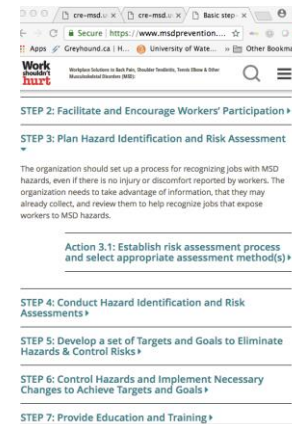


Basic Guideline

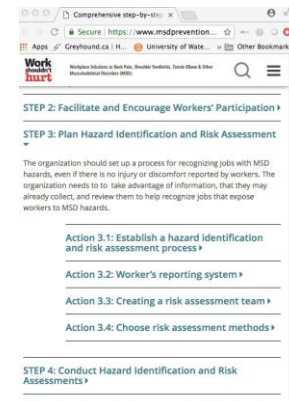
Comprehensive Guideline



Basic



Comprehensive



Needs 1 and 2: Three Guideline Versions

To provide relevant information and resources to workplaces of different sizes and OH&S capacity, three versions of the Guideline were created... scalability.

Quick Start Guide

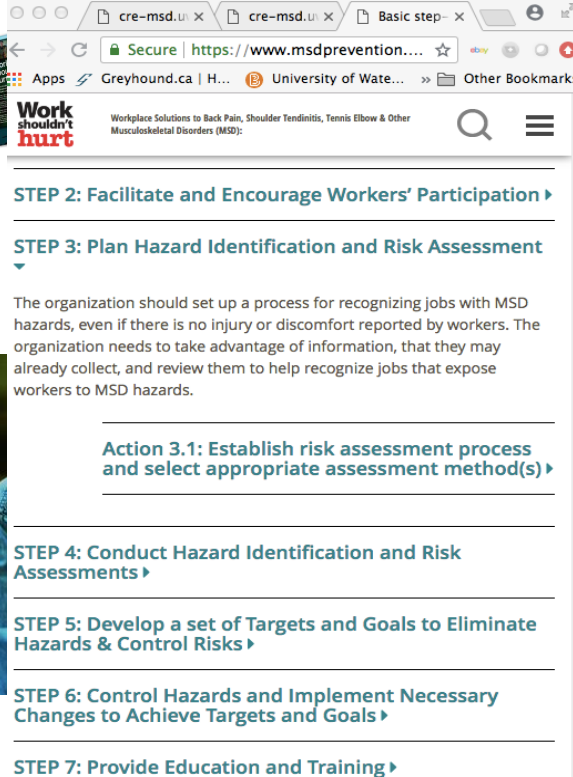


The Quick Start Guide webpage provides a concise overview of the MSD prevention process. It features a header with the 'Work shouldn't hurt' logo and a navigation menu. The main content area is titled 'MSD PREVENTION IN 10 STEPS' and lists the following steps:

1. MANAGEMENT COMMITMENT & LEADERSHIP
2. WORKERS' PARTICIPATION
- 3-4. FIND PROBLEMS
 - Add MSD related hazards to walkthrough inspection.
 - Use workers' reports of effort, pain and discomfort to help identify tasks with MSD hazards. Use previous injury reports.
 - For a worker who has reported pain or MSD, perform an incident investigation of their work tasks.
 - Get to the root or underlying cause of the MSD hazard.
5. PLAN TO FIX PROBLEMS
 - Talk to workers to identify solutions to reduce or eliminate MSD hazards.
 - Prioritize workplace changes over time.
 - Be prepared to try a few fixes to find the right one for your workplace.
 - Before making a permanent change, test the fix, e.g., get a foot on trial from a distributor.
- 6-7. FIX PROBLEMS
 - Make the change, but expect adjustment period and possible effects on other processes.
 - Give changes a fair trial by allowing workers to learn and become proficient with them before deciding on their effectiveness.
8. CHECK EFFECTIVENESS OF CONTROLS
 - Check whether the changes have removed the original hazards and improved the work.
 - Determine if the changes have introduced new hazards.
9. DOCUMENT LESSONS LEARNED
 - These steps are expanded upon in the Basic and Comprehensive Step-by-Step guidelines.
10. FOLLOW UP
 - If the changes are not working, return to the PLAN TO FIX PROBLEMS.
 - Consider asking for outside help if the problem or solution are unclear.

At the bottom, it states: 'SHOW YOUR COMMITMENT TO A SAFE WORKPLACE BY GETTING TOGETHER WITH WORKERS TO ELIMINATE MSD HAZARDS AND IMPROVE HEALTH'.

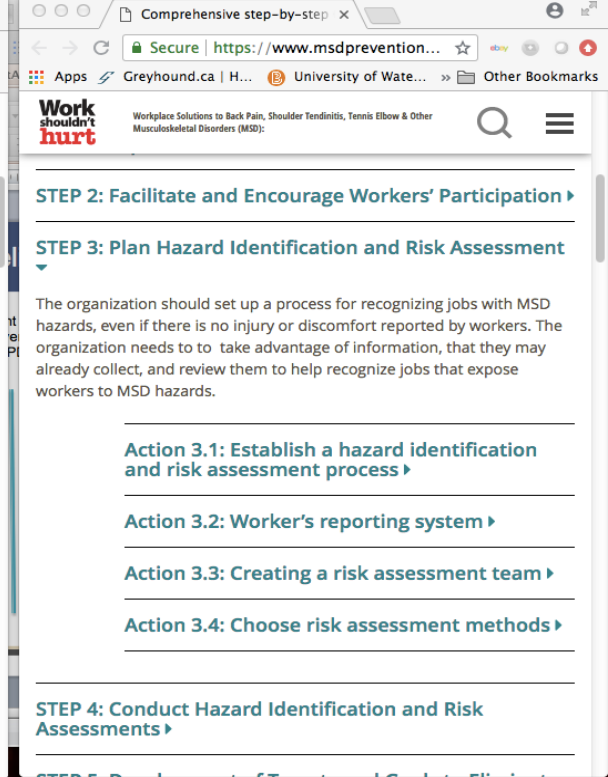
Basic Guideline



The Basic Guideline webpage provides a more detailed overview of the MSD prevention process. It features a header with the 'Work shouldn't hurt' logo and a navigation menu. The main content area is titled 'Workplace Solutions to Back Pain, Shoulder Tendinitis, Tennis Elbow & Other Musculoskeletal Disorders (MSD):' and lists the following steps:

- STEP 2: Facilitate and Encourage Workers' Participation
- STEP 3: Plan Hazard Identification and Risk Assessment
 - The organization should set up a process for recognizing jobs with MSD hazards, even if there is no injury or discomfort reported by workers. The organization needs to take advantage of information, that they may already collect, and review them to help recognize jobs that expose workers to MSD hazards.
 - Action 3.1: Establish risk assessment process and select appropriate assessment method(s)
- STEP 4: Conduct Hazard Identification and Risk Assessments
- STEP 5: Develop a set of Targets and Goals to Eliminate Hazards & Control Risks
- STEP 6: Control Hazards and Implement Necessary Changes to Achieve Targets and Goals
- STEP 7: Provide Education and Training

Comprehensive Guideline



The Comprehensive Guideline webpage provides a detailed overview of the MSD prevention process. It features a header with the 'Work shouldn't hurt' logo and a navigation menu. The main content area is titled 'Workplace Solutions to Back Pain, Shoulder Tendinitis, Tennis Elbow & Other Musculoskeletal Disorders (MSD):' and lists the following steps:

- STEP 2: Facilitate and Encourage Workers' Participation
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 - The organization should set up a process for recognizing jobs with MSD hazards, even if there is no injury or discomfort reported by workers. The organization needs to take advantage of information, that they may already collect, and review them to help recognize jobs that expose workers to MSD hazards.
 - Action 3.1: Establish a hazard identification and risk assessment process
 - Action 3.2: Worker's reporting system
 - Action 3.3: Creating a risk assessment team
 - Action 3.4: Choose risk assessment methods
- STEP 4: Conduct Hazard Identification and Risk Assessments

Need 3: Better integration into business processes

Plan/Do/Check/Act

- Matches current [best] practice
- Matches recent Provincial national and international approaches and CSA Standards
- Consistent with Participatory Ergonomics



CSA Z1000 | CSA Z1004 | OHSAS 18001 | ISO 45001:2016

CORE ELEMENTS OF THE SAFETY AND HEALTH PROGRAM RECOMMENDED PRACTICES

| | |
|--|---|
| MANAGEMENT LEADERSHIP | <ul style="list-style-type: none"> Top management demonstrates its commitment to control health, communicates that commitment to workers, and responsibilities. Managers at all levels make safety and health a core organizational goal and objectives, provide adequate resources and a good example. |
| WORKER PARTICIPATION | <ul style="list-style-type: none"> Workers and their representatives are involved in all aspects of goals, identifying and reporting hazards, investigating incidents. All workers, including contractors and temporary workers, have responsibilities under the program and what they need to do. Workers are encouraged and have means to communicate safety and health concerns without fear of retaliation. Any potential barriers or obstacles to worker participation (language, lack of information, or disincentives) are removed. |
| HAZARD IDENTIFICATION & ASSESSMENT | <ul style="list-style-type: none"> Procedures are put in place to continually identify workplace hazards and assess them. An initial assessment of existing hazards, exposures, and control measures is followed by periodic inspections and reassessments. Any incidents are investigated with workers. Identified hazards are prioritized for control. |
| HAZARD PREVENTION & CONTROL | <ul style="list-style-type: none"> Employers and workers cooperate to identify and control workplace hazards. Controls are selected according to a hierarchy of controls, administrative controls, and PPE. A plan is developed to ensure that progress is tracked, and the effectiveness of controls is monitored. |
| EDUCATION & TRAINING | <ul style="list-style-type: none"> All workers are trained to understand their responsibilities assigned to them under the program. Employers, managers, and supervisors are trained to understand their responsibilities for protecting workers. All workers are trained to recognize and report hazards that have been implemented. |
| PROGRAM EVALUATION & IMPROVEMENT | <ul style="list-style-type: none"> Control measures are periodically evaluated for effectiveness. Processes are established to monitor and identify program shortcomings. Necessary actions are taken to improve the program. |
| COMMUNICATION AND COORDINATION FOR HOST EMPLOYERS, CONTRACTORS, AND STAFFING AGENCIES | <ul style="list-style-type: none"> Host employers, contractors, and staffing agencies coordinate on work planning and scheduling to identify and resolve any conflicts that could affect safety or health. Host employers, contractors, and staffing agencies coordinate on work planning and scheduling to identify and resolve any conflicts that could affect safety or health. Host employers establish specifications and qualifications for contractors and staffing agencies. Before beginning work, host employers, contractors, and staffing agencies coordinate on work planning and scheduling to identify and resolve any conflicts that could affect safety or health. |



MSD Prevention for Small Businesses

| | |
|--------------|---|
| PLAN | Identify high loads on the body and determine remedies |
| DO | Implement necessary control actions to reduce identified loading |
| CHECK | Ensure that you addressed issues effectively and monitor your health and safety |
| ACT | Review your program and identify opportunities for improvement |

Need 3: Guideline based upon 10 Step PDCA


PDCA

CORE ELEMENTS OF THE SAFETY AND HEALTH PROGRAM RECOMMENDED PRACTICES



Need 4: Importance of Workers' Participation

Importance of workers' participation for MSD prevention stressed throughout the Guideline with specific forms of participation described.



Work shouldn't hurt

About MSD

Prevent MSD

Deal with an MSD


Stakeholders

MSD Risk Assessment

Resource Library


Work Shouldn't Hurt >> Why Worker Participation Matters

Why is workers' participation especially critical in the prevention of musculoskeletal disorders?



Meaningful employee participation is emphasized as being critical for an organization's success. The participation of workers in health and safety activities is likewise regarded as critical for successful prevention of injury and illness. In the prevention of


Musculoskeletal Disorders (MSD) this participation is highlighted with terms like "participatory ergonomics". Why is the word "participation" so prominent in MSD prevention?



Introduction Factsheet

Download the factsheet introducing the new MSD Prevention Guideline for Ontario.

GO



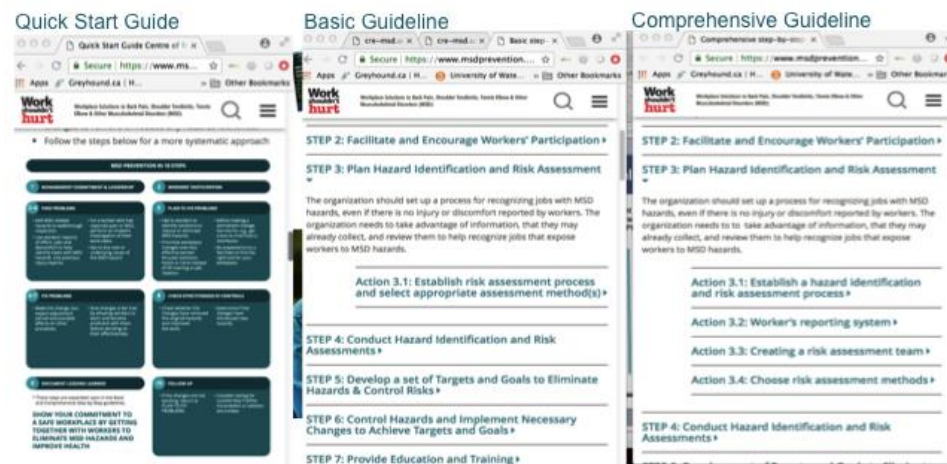
Success Stories

Read success stories and case studies about preventing MSD. These stories may apply to your workplace and help you make the right decision.

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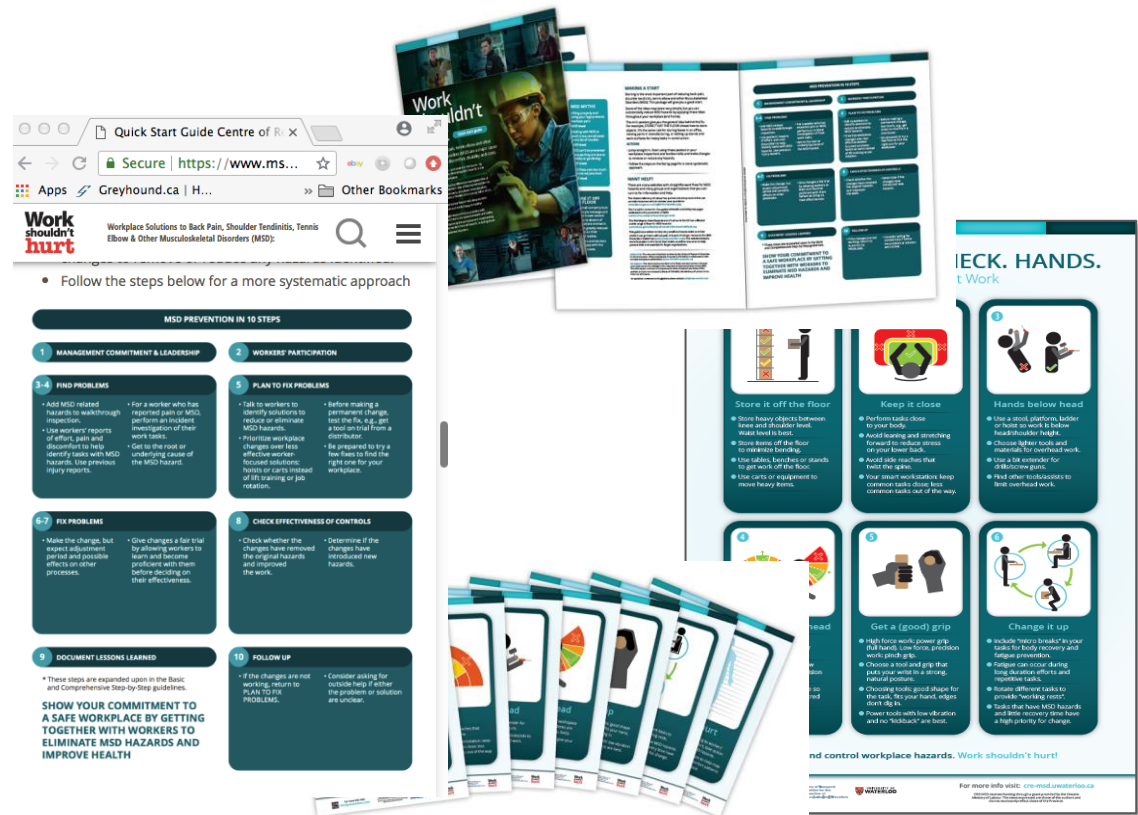
Need 5: Standards “too complex”

- Implementation oriented resources added to those of the current Guideline and linked to process steps
- Creation of three guideline versions allows user to select desired level of detail BUT
- Processes are scalable to allow for the level of maturity in prevention practices of an organization
- Language and process of all versions comparable and compatible with current Standards and practices



Need 6. Don't assume familiarity with OH&S and Ergonomics concepts and language

The Quick Start Guide



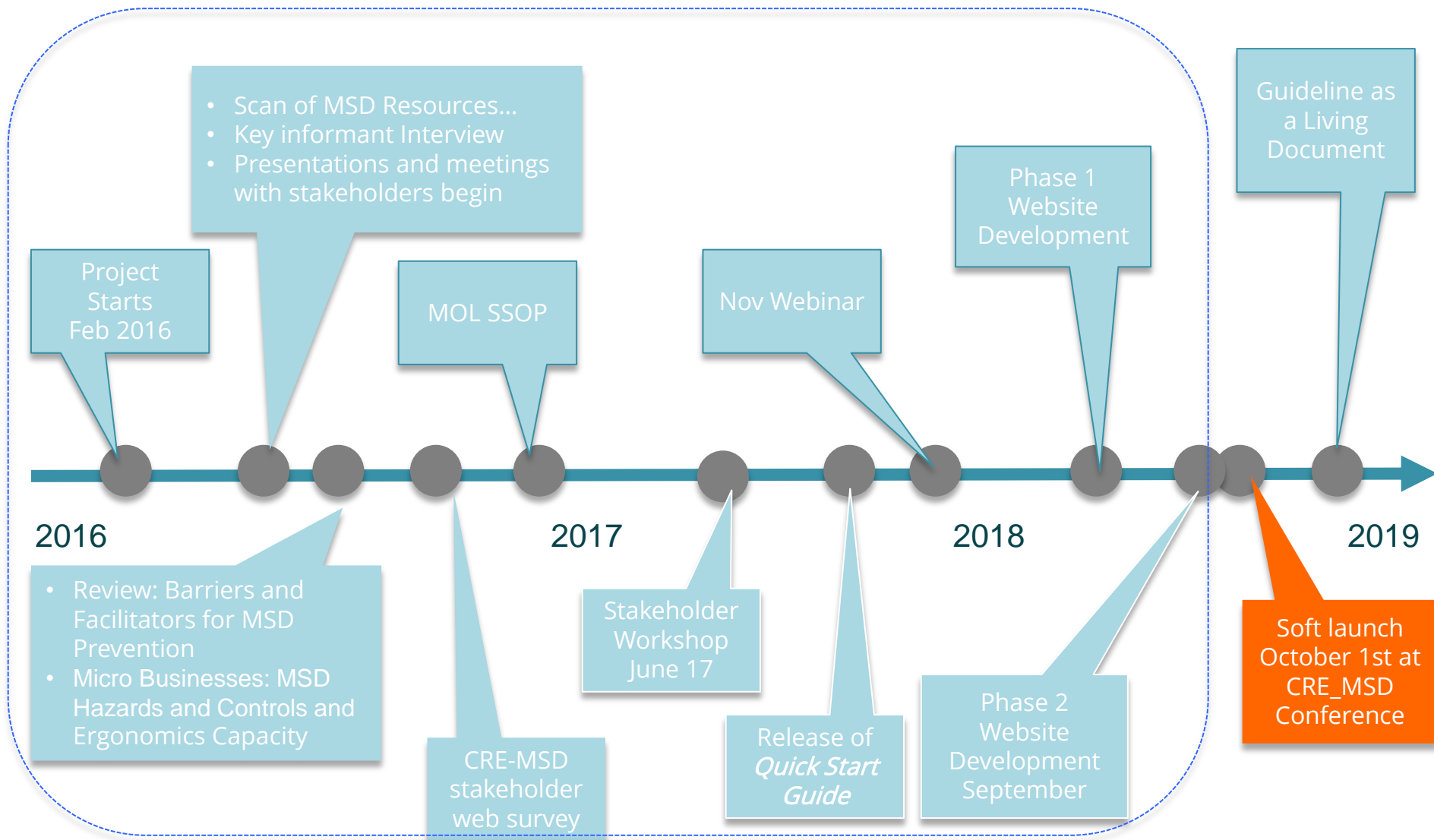
Web Site Phase 1

To satisfy users' needs we designed the website to give:

1. Multiple ways for users to find relevant resources and information
 - Multiple **entry** points: By stakeholder; By level of detail; By process or risk assessment
 - *Video on home page*
 - Searchable resources
 - Help in selection of MSD assessment tools
2. Incorporation of current Guideline resources
3. *Video/graphics of hazards*
4. AODA¹ and WCAG 2.0² compliant
5. Responsive

¹ Accessibility for Ontarians with Disabilities Act (AODA) and ²Web Content Accessibility Guidelines (WCAG) 2.0
Italics: Phase 2

Timeline of Activities





What's New?

Welcome to the *BETA* site for the new MSD Prevention Guideline. We are working hard to develop it further. Look out for videos of MSD Hazards, sections on MSD Controls and for case studies.

GO

BACK. SHOULDERS. NECK. HANDS.

The new MSD Prevention Guideline for Ontario provides workplace solutions to prevent musculoskeletal disorders (MSD).

Help with preventing musculoskeletal disorders at your workplace, because work shouldn't hurt.

PREVENTING PAINFUL, COSTLY DISORDERS MAKES BUSINESS SENSE. THE NEW GUIDELINE INCLUDES:

- An introductory video
- Newly developed hazard identification and control approaches
- Animated graphics
- Downloadable templates and documents to help organizations prevent MSD

NO MATTER THE SIZE OF THE ORGANIZATION, THE GUIDELINE CAN HELP PREVENT MSD:

- Quick Start Guide for small and micro businesses
- Basic Guideline for medium-sized organizations
- Comprehensive Guideline for larger organizations

NO MATTER THE SIZE OF THE ORGANIZATION, THE GUIDELINE CAN HELP PREVENT THESE DISORDERS



Everything is available at:
msdprevention.com

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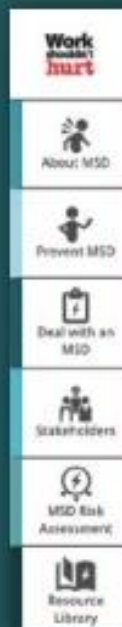


Centre of Research
Expertise for the
Prevention of
Musculoskeletal Disorders

**Work
shouldn't
hurt**

No matter what you call them—
pains and strains, low back pain, sore
shoulders, carpal tunnel syndrome,
musculoskeletal disorders or MSD—
all the tools and resources you need
to prevent them... in one place:

www.msdpreservation.com



MSD Prevention Guideline for Ontario

Workplace solutions for back pain, tennis elbow and
other musculoskeletal disorders (MSD), because work
shouldn't hurt

Watch Video



MSD Quick Start Guide

A simple and useful
guide for busy people
in small businesses.

Roadmap to Success

Overview of
the Ontario MSD
Prevention Guideline
for larger
organizations.

Animations & Videos

Introducing MSD,
website feature
highlights,
demonstrations,
and more...

MSD Resource Filters

Search for Prevention
Resources based on
your needs.

Centralized MSD Risk Assessment Resources

Not sure what method to use? The
Tool Picker will help you find a
method best suited to your work.

Employer? Worker? JHSC member?

The Stakeholder tab gives
quick access to information
of use to you!



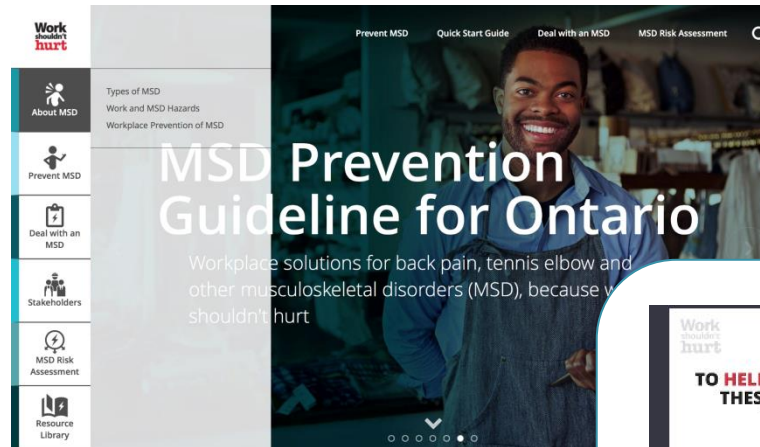
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Centre of Research
Expertise for the
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Watch Video

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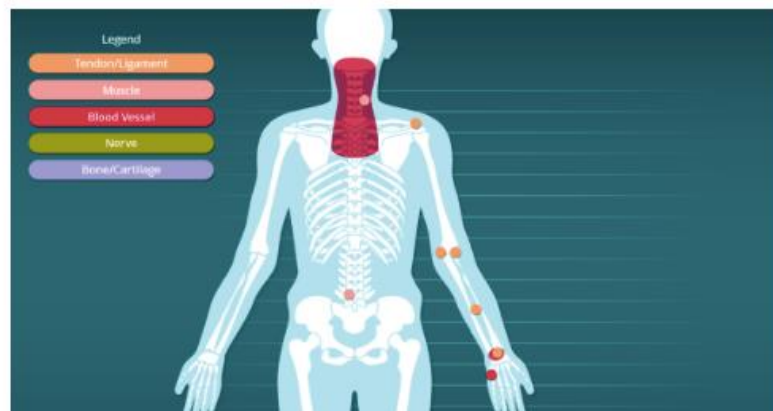
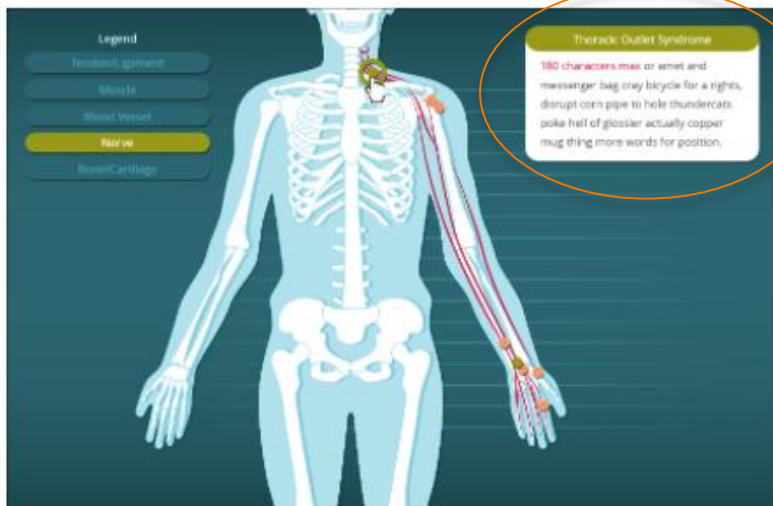
MSD Risk Assessment

Resource Library

About MSD Types of MSD Work and MSD Hazards Workplace Prevention of MSD

Types of MSD

Many tissues of the body can be affected, including muscles, tendons, ligaments, bone and nerves. Also, many body areas can be affected.



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Success Stories
Read success stories and case studies about preventing MSD. These stories may apply to your workplace and help you make the right decision.

GO >

Frequently Asked Questions
There are lots of myths about preventing MSD at work. With good information and actions, MSD can be prevented.

GO >

Prevent MSD Quick Start Guideline Basic Guideline Comprehensive Guideline

Quick Start Guideline

Back and shoulder pain, tennis elbow and other Musculoskeletal Disorders (MSD) are a major cause of workplace pain, discomfort, disability and costs.

Help workers in pain now – and avoid it in the future – by improving your workplace. Eliminating MSD hazards is one part of creating a safe workplace.

Small changes can make a big difference! A workplace free of MSD hazards protects workers now, allows injured workers to return to their jobs more easily, and allows more people to perform those jobs: male or female; old or young; tall or short.

Three parts of the Quick Start Guideline

1. Quick Start Guideline: folder ▾

The PDF creates a folder that can hold the mini-posters and gives information about MSD and Prevention and how to use the mini-posters. The folder and mini-posters together are a self-contained resource.



Quick Start Guideline folder (PDF)

2. Quick Start Guideline: mini-posters ▸

3. Quick Start Guideline: 11" x 17" poster ▾

Use the 11" x 17" poster in the lunchroom or on the Health & Safety board to alert workers to potential MSD hazards in their work and their relationship to pain and discomfort.



Quick Start Guideline 11" x 17" poster (PDF)



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Prevent MSD Quick Start Guide Deal with an MSD MSD Risk Assessment

Work Shouldn't Hurt >> Prevent MSD >> Comprehensive step-by-step

Prevent MSD Quick Start Guideline Basic Guideline Comprehensive Guideline

Comprehensive Guideline

Is this the right version of the Guideline for your organization?

This COMPREHENSIVE version of the Guideline is intended for medium to large companies with an existing Health and Safety Management program who wish to improve their management approach to prevent MSD at the organizational level. This COMPREHENSIVE version is one part of the MSD Prevention Guideline.

The three versions use similar structure and language so organizations may use any of the versions without having to change their approach if they wish to use another version.

STEP 1: Demonstrate Management Commitment and Leadership >

STEP 2: Facilitate and Encourage Workers' Participation >


Workers should play an active role in OHS in general, and MSD prevention in particular, by participating in designing the workplace and workstations, training and awareness, recognizing hazards, planning control actions, and using controls to eliminate hazards or reducing exposures to hazards including those related to MSD.

Action 2.1: Workers' Participation >

Workers' participation in multiple aspects of the OHS and MSD prevention program is an essential component of effective prevention activities. Worker participation needs to be incorporated throughout the OHS program design and implementation including prevention of MSD. Workers should have access to the information they need to participate effectively in the prevention of MSD. Workers are encouraged to participate in any OHS related activities and the organization should ensure that workers feel comfortable and welcomed to share their concerns and suggestions.

How to do it?


- The organization should take advantage of workers' experience and knowledge to recognize and assess MSD hazards and to suggest effective solutions to eliminate them or reduce exposure to them.
- The organization should facilitate workers' participation by training them to recognize the symptoms of MSD and the work-related hazards that might contribute to the development of those symptoms.
- The organization should organize training sessions for workers to train them on the use of controls that have been implemented to reduce exposure to MSD hazards.
- The organization should involve workers in the identification of MSD hazards, reporting pain and discomfort, and planning and implementing changes to work tasks or jobs
- Supervisors and managers should assure workers that their participation will only be used to improve their working conditions.



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[GO >](#)

Work Shouldn't Hurt >> Stakeholders >> Employer/Manager

Employer/Manager Workers Small Business Supervisor JHSC Member Health and Safety
Ergonomist Healthcare Professional Engineering Professional

Employer/Manager

Rights and responsibilities

In Ontario, the employer, typically represented by senior management, has the greatest responsibilities with respect to health and safety in the workplace and is responsible for taking every precaution reasonable in the circumstances for the protection of a worker. MSD hazards that are present in the workplace must be recognized and precautions put in place to fulfill requirements under the Occupational Health and Safety Act (OHSA). The Act also requires employers to provide information, instruction and supervision to workers.



In Ontario, "The employer is responsible for ensuring that the IRS [internal responsibility system] is established, promoted, and that it functions successfully. A strong IRS [internal responsibility system] is an important element of a strong health and safety culture in a workplace. A strong health and safety culture shows respect for the people in the workplace."

Five Fast Facts for Employers

FACT 1: >

FACT 2: >

FACT 3: >

FACT 4: >

FACT 5: >

Employers may find the following sections of the Guideline of interest:

- The Quick Start Guide
 - This resource is written in non-technical language and may be useful recognizing some key aspects of workplaces that are important for the development of MSD. Employers may also be useful during safety training or "tail-gate" talks.
- Guideline Processes Based on Management System
 - Management processes such as Plan, Do, Check, Act (PDCA), Occupational Health and Safety Management Systems (OHSMS) such as CSA Z1000, CSA Z1004, ISO 45001, are receiving more interest in Ontario. It has recently been argued that for maximum effectiveness and sustainability, MSD prevention should be integrated into the organization's management system. The Guideline is written using the structure and language of management systems. The specific resources to prevent MSD within the



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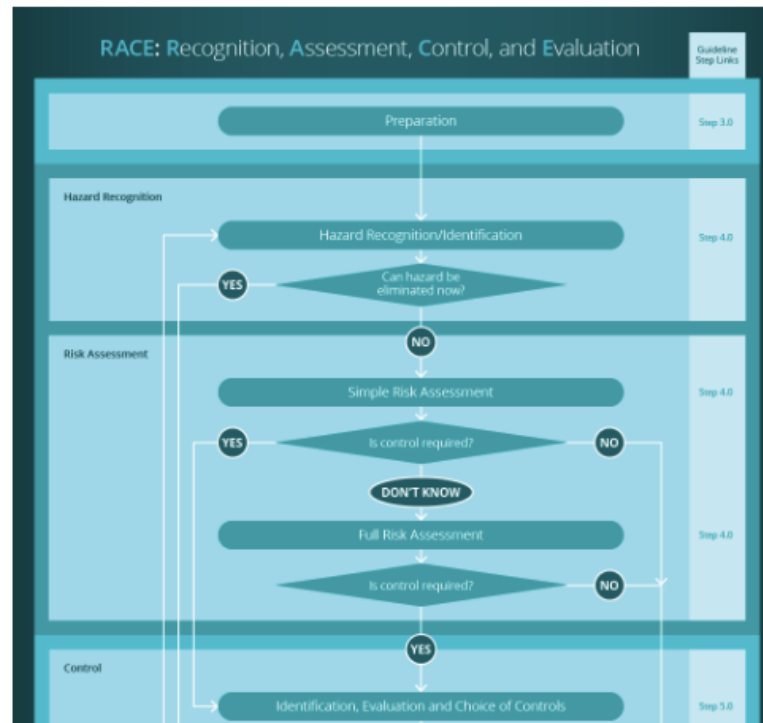
Work Shouldn't Hurt >> MSD Risk Assessment >> Recognize-Assess-Control-Evaluate (RACE)

MSD Risk Assessment RACE MSD Hazards Tool Picker

Recognize-Assess-Control-Evaluate (RACE)

The Quick Start, Basic and Comprehensive Guidelines provide a step-by-step process to help employers prevent MSD using specific risk assessment process, methods and approaches.

The Recognize, Assess, Control, Evaluate (RACE) process may be useful to some employers. The process is compatible with the risk assessment process in the basic and comprehensive guidelines.



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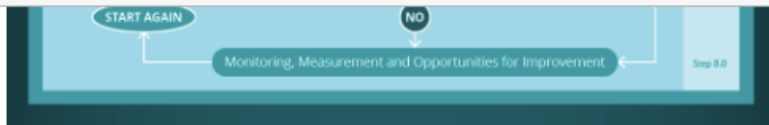
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Prepare for Hazard Identification and Risk Assessment

Organizations need to set up a process for recognizing jobs with hazards, including MSD hazards even if no MSD, worker concerns, or reports of discomfort have been recorded. Workplaces need to plan to take advantage of information that they may already collect and review to help recognize jobs that expose workers to MSD hazards.

Risk Assessment is the process of identifying hazards, performing preliminary risk assessment, eliminating hazards if possible, performing further assessments as necessary, choosing and implementing controls. A goal is to decide if hazard elimination or a control is required. If an MSD hazard is not clearly identified or understood and a root cause cannot be determined, then more study is needed.

The progression from Preliminary Risk Assessment to Simple Risk Assessment to Full Risk Assessment minimizes the resources required for a decision on an MSD hazard.

If control of MSD Hazard is later needed, then in order to control it an in-depth [Root Cause Analysis](#) will be essential in eliminating hazards and controlling risks in a sustainable way.

Establish a team

Choose risk assessment methods

Risk Assessment and Inspection Team, choose the appropriate method(s) for MSD hazard identification and risk assessment. The team should:

- Select **MSD Hazard ID** and Risk Assessment methods and checklists appropriate for the workplace.
- Use the **MSD Tool Picker** to identify checklists and tools for Hazard Identification and MSD Assessment
- Select the **Risk Criteria** for the Assessment Methods chosen
- Develop procedures to assess jobs, including **participation of workers**, task analysis, **what to monitor**, **who to monitor**, **when to monitor** and **what data to collect** that is appropriate for the methods chosen.

Risk Assessment is the process of identifying hazards, performing preliminary risk assessment, eliminating hazards if possible, performing further assessments as necessary, choosing and implementing controls.

A goal is to decide if hazard elimination or a control is required. If an MSD hazard is not clearly identified or understood and a root cause cannot be determined the more study is needed.

The progression from Preliminary Risk Assessment to Simple Risk Assessment to Full Risk Assessment minimizes the resources required for a decision on an MSD hazard.

If control of MSD Hazard is later needed, then in order to control it an in-depth [Root Cause Analysis](#) will be essential

Work shouldn't hurt

About MSD

Prevent MSD

Deal with an MSD

Stakeholders

MSD Risk Assessment

Resource Library

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Preliminary risk assessment ▸

Risk Assessment ▸

Identification and Implementation of Control ▾

This refers to as "Control" in RACE. The organization should have a process for identifying, and implementation of appropriate controls to address MSD hazards. This is the most critical step in prevention of MSD. These control actions then need to be prioritize as a set of targets and goal. (Note: employers have the obligation to control all recognized hazards, including those related to the development of MSD). For more information refer to Step 5.0 of basic or comprehensive guideline.

Identification of controls ▾

Before proceeding to identification if controls, check if:

- MSD hazards have been identified (recognized) and preliminary or further risk assessment has determined that control of the hazard is needed.
- An in-depth **Root Cause Analysis** has identified the underlying cause(s) of the hazard.
- The overall work processes are well understood – not just one workstation.
- Participation of workers and other knowledgeable persons including technical specialists or supervisors has been secured.

If not, obtain the required information and participation

Hierarchy of Controls

Although attractive to some, worker focused actions such as "lift training" have NOT been shown to be effective for prevention of MSD. An in-depth **Root Cause Analysis** and the guidance of the Hierarchy of Controls below is essential in eliminating hazards and controlling risks in a sustainable way.

The organization need to identify training and education needs for successful prevention of MSD.

| Level in Hierarchy | Description | Strengths | Limitations | Examples |
|--------------------|--|---|--|---|
| Eliminate hazard | After MSD hazard is identified, the best solution is to eliminate it. | <ul style="list-style-type: none"> Effective and no further action is required | <ul style="list-style-type: none"> May not be possible | <ul style="list-style-type: none"> Powered roller conveyor instead of carrying boxes |
| Substitute hazard | The hazard can be substituted with another approach that creates smaller MSD risks | <ul style="list-style-type: none"> Can be almost as effective as elimination | <ul style="list-style-type: none"> Substitution may still have risks of MSD | <ul style="list-style-type: none"> Ceiling lift for patients in hospital instead of manual transfer BUT high loading on shoulders to push lift with the patient in it. |
| | | <ul style="list-style-type: none"> Effective long-term | | |

Video/ pdf of MSD Hazards

MSD Hazards Centre of Research (1) Hands and Wrists Postures UOW-17009v2 Wrist Posture

Secure | <https://www.msdpredvention.com/MSD-Hazards.htm>

Greyhound.ca | H... WSPS - Pictogram... Netflix Facebook - Log In... Gmail Outlook

The basic MSD hazards are described below. Remember that they occur together in different combinations with people are at work. This makes it difficult to know their combined risk of developing MSD by watching unless the basic hazards is very large. Observational and comprehensive assessment tools use scoring systems or equations to account for the combined effect of the basic hazards.

Workplace MSD hazards:

High Force ▶

Posture ▶

Posture is the position of the body and its joints - an elbow is bent (flexed) or straight (extended). Some positions are stronger and healthier than others. These are sometimes called neutral postures. An awkward position is one where the joint is weaker and where it does not function as well as in neutral posture. These awkward positions over time, can lead to fatigue and increased risk of developing MSD.

Hand and Wrist Posture ▶

The hand is wonderfully versatile and can use a wide range of grips at work. Also, the wrist joint works together with the fingers to create strong natural grips. MSD posture hazards are seen when tools, equipment, products or the workspace require a worker to use poor grips and awkward postures. These grips are also weaker in this case.

Videos and graphics show the hand at work. What the colours mean (info bubble)

- Proper hand and wrist postures (PDF)
- Power grip (PDF), power grip (Video)
- Power grip with a hand tool (PDF); power grip with hand tool (Video)
- Pinch grip (PDF), pinch grip (Video)
- Keying on a computer keyboard (PDF)
 - Keying on a computer keyboard above elbow height (Video)
 - Keying on a computer keyboard at elbow height (Video)
 - Keying on a computer keyboard below elbow height (Video)

To find tools that help identify Hand and Wrist hazards and to assess work using hands go to the Tool Picker. Use these videos and graphics to help use the tools.

Shoulder Posture ▶

Back (Spine) Posture ▶

High Repetition ▶

Vibration ▶

Local Contact Stress ▶



<https://youtu.be/t62qVhYbycM>

<https://youtu.be/lhYYE889dWo>

<https://youtu.be/TFZLPH-wdxk>

Work Shouldn't Hurt >> MSD Risk Assessment

MSD Risk Assessment RACE MSD Hazards Tool Picker

Hazard Identification and Risk Assessment Methods

Methods for identifying MSD hazards and assessing the risk associated with them have been classified into one of four categories. These categories are intended to guide a user to the best method based on their purpose, experience and their type of work and workplace.

A key function of a Hazard Identification tool is to promote discussion amongst workers, supervisors and managers and others with knowledge about the work. Therefore they may usually be used with minimal training or prior experience. The Detailed Screening tools require some familiarity. The Observational Evaluation methods usually require background knowledge and skill in order to use them in a repeatable and interpretable way. The Comprehensive Analysis tools require substantial knowledge and experience to use and to interpret their outputs and only ergonomists or others with the specialized knowledge and experience will use these tools.

We suggest using our Tool Picker as a starting point to select appropriate methods

Tool Classifications

Hazard Identification >

Detailed Screening >

Observational Evaluation >

Comprehensive Analysis >

Make Your Choices

TYPE OF TASK

Hover over or tap the icon next to each type of task for information about each option.

- ☐ Lifting
- ☐ Push | Pull | Carry
- ☐ Hand Work
- ☐ Arm Work | Posture
- ☐ Office Workstation
- ☐ Vibration
- ☐ Patient Handling
- ☐ Overhead Work
- ☐ Home Office
- ☐ Mobile Devices
- ☐ In-Vehicle Computing

LEVEL OF DETAIL REQUIRED

- ☒ Hazard Identification
- ☐ Advanced Screening
- ☐ Observational Evaluation
- ☐ Comprehensive Task Analysis

RECOMMENDED ERGONOMICS ASSESSMENT TOOLS



What's New?

Welcome to the BETA site for the new MSD Prevention Guideline. We are working hard to develop it further. Look out for videos of MSD Hazards, sections on MSD Controls and for case studies.

GO >



Introduction Factsheet

Download the factsheet introducing the new MSD Prevention Guideline for Ontario.

GO >



Success Stories

Read success stories and case studies about preventing MSD. These stories may apply to your workplace and help you make the right decision.

GO >



Frequently Asked Questions

There are lots of myths about preventing MSD at work. With good information and actions, MSD can be prevented

GO >

Work Shouldn't Hurt >> Resource Library

MSD Resources

Enter search terms...

Make Your Choices



Risk Assessment Tool Picker

Use the Risk Assessment Tool Picker to help us guide you toward the appropriate MSD resource(s) for you from our extensive (and growing!) Resource Library. A few simple clicks will narrow down your search.

GO >

Filter

Select a category to narrow down the list.

General Assessment

Risk Assessment

Clear Filters

Documents, Videos and External Links

Resource Types:



Downloadable PDF



Video



Link to External Resource

Click the resource's icon to download, watch or follow.

Pinch Grip



Natural Positions



Pistol Grip



Keyboard Slopes



Power Grip



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GO >

Centre of Research Expertise | x

YouTube

x

Secure

https://www.msdprevention.com/resource-library/

Search

Star

ebay

Apps

Greyhound.ca | H...

WSPS - Pictogram...

Netflix

Facebook - Log In...

Gmail

Outlook

Weather

Wireless Mac Scre...

Other Bookmarks

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Robust static posture analysis software. User-positioned 3D manikin with loads applied at hands (typical) or other joints. Software gives outputs of joint loads, percent capable, COP, local fatigue, and more.

ISO 20646-1: Ergonomic procedures for the improvement of local muscular workloads (Part 1: Guidelines for reducing local muscular workloads)

Technical specification standard/guidelines for reducing local muscular workloads.

ISO 11226: Ergonomics - Evaluation of static working postures

Static posture limits for trunk, neck and upper limb. Gives threshold limits for postures and associated maximum hold times (via a lookup table).

ISO 11228-2: Ergonomics - Manual handling (Part 2: Pushing and pulling)

Mobile Device Ergonomics Checklist

In-Vehicle Computing Ergonomics Checklist

The checklist is a detailed screening method for workers performing in-car computing such as police officers in cruisers. It also provides the user with simple recommendations on ways to improve the work environment.

Click to view page content references

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DISCLAIMER: CRE-MSD receives funding through a grant provided by the Ontario Ministry of Labour. The views expressed are those of the authors and do not necessarily reflect those of the Province.

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Next?

Phase 2 Website Development

- Developing “Control Picker”, prevention resources and search function
- Develop Risk Assessment and other prevention resources in video, PDF and html formats
- Develop Quick Start Guide: Office
- Collect Stories and Case Studies

Case Studies and Stories

Stories of successes in MSD Prevention really help others: even if your activities were not completely successful, a lot can be learned from your experiences.

The website needs your stories

- Describe your experiences with MSD. Max 500 words. No template.

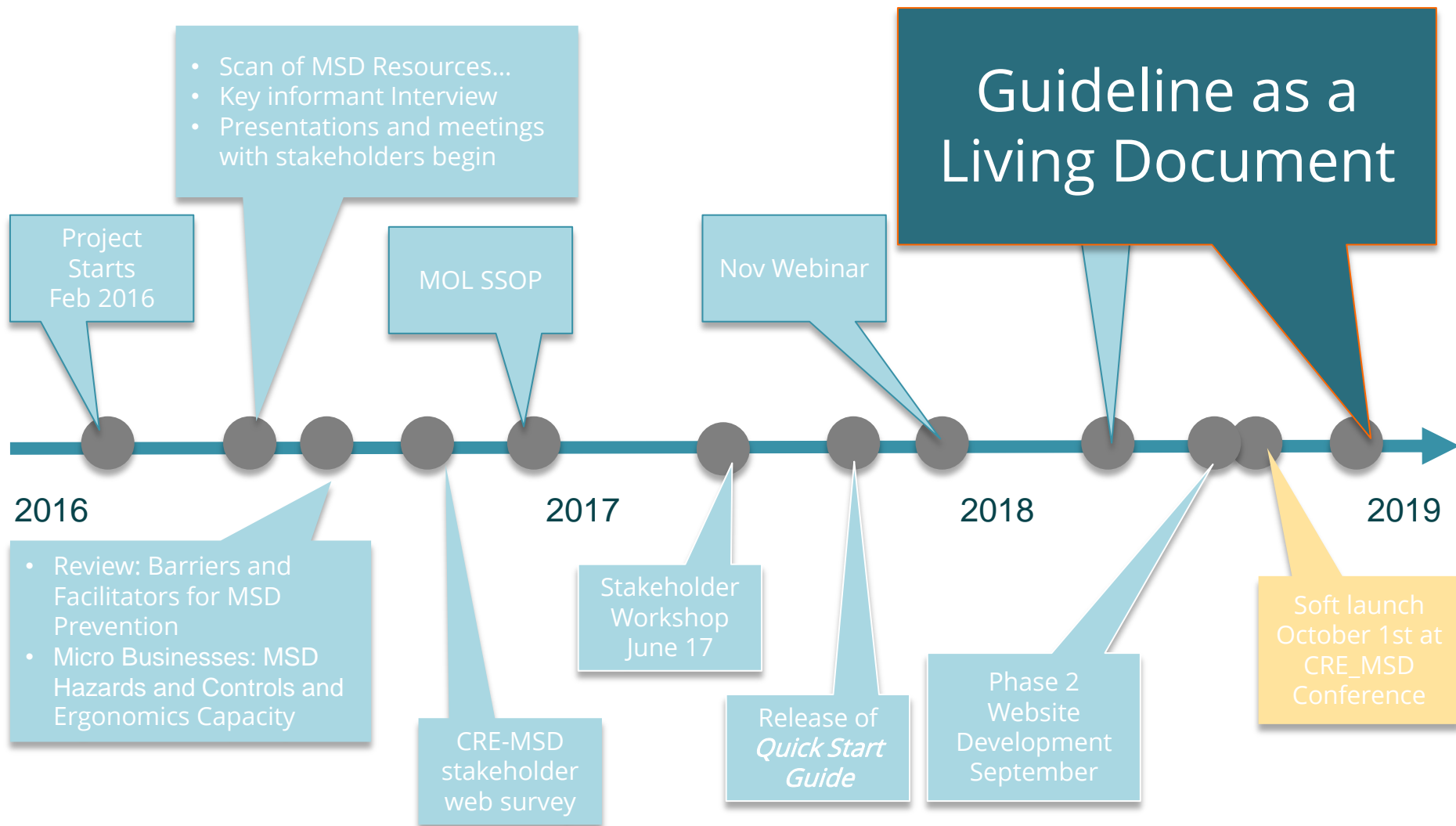
The website needs your case studies

- Use our case study template

Please contact info@msdprevention.com or Betina Butler at CRE-MSD bbutler@uwaterloo.ca if you want to work with us to put your case study on the website

The screenshot displays a web browser window with the URL <https://www.msdprevention.com/Stories-OFF-THE-BACK.htm>. The page features a sidebar on the left with icons and labels: 'Work shouldn't hurt', 'About MSD', 'Prevent MSD', 'Deal with an MSD', 'Stakeholders', 'MSD Risk Assessment', and 'Resource'. The main content area is titled 'Off the Back: Construction | Small' and contains a form for a 'Case Study of Musculoskeletal Disorders (MSD) Prevention'. The form includes sections for 'Title:', 'Keywords:', '1. Organizations Involved:', '2. Case Study' (with sub-sections '2.1 Introduction/Background' and '2.2 Goal'), and '2.3 What was done and how?'. Each section has a brief description of what to write.

Timeline of Activities



Next?

Continued Website Development

- Respond to user feedback on Beta Release via web survey etc.
- Continue to convert resources to be AODA compliant
- Continue to add supporting information and literature

Ongoing

- Continuing marketing supported by EIPAC Roll-out Committee and other collaborators
- Guideline webinars Oct. 31st; Nov. 6th; Dec. 4th
- Presentations – ongoing marketing

Guideline Conference

Implementation highlights October 2019

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