

Preventing and Enforcing Musculoskeletal Hazards in the Workplace

Anne Duffy, Provincial Ergonomist

Specialized Professional Services

Occupational Health and Safety Branch

Ministry of Labour



Canadian Centre for Occupational Health and Safety  Centre canadien d'hygiène et de sécurité au travail

www.ccohs.ca

Objectives

- Defining what is an MSD
- Determining how big is the MSD problem
- Ensuring prevention resources are available
- Enforcing compliance with health and safety legislation

MSDs

MSDs are injuries and disorders of the musculoskeletal system such as: muscles, tendons and tendon sheathes, nerves, bursa, blood vessels, joints/spinal discs, and ligaments.

MSDs may be caused or aggravated by various hazards or risk factors in the workplace.

MSDs do not include musculoskeletal injuries or disorders that are the direct result of a fall, struck by, or against, caught in or on, vehicle collision, violence, etc.

MSD Data Definition

Step 1: find all lost time claims based on CSA Z795-96 nature of injury codes (total of 16 codes)

e.g.:

- 021 sprain, strain, tear; 029 other injuries to muscles, tendons, ligaments; 082 sprains, bruises; 09720 nonspecific injuries/disorders back pain; etc.

MSD Data Definition – cont.

Step 2: find a subset of claims found in step 1 by selecting claims that are coded with the following type event code (type of accident) – (8 codes)

e.g.

- 20 bodily reaction and exertion; 22 overexertion; 23 repetitive motion; 25/26 static posture with and without force; etc.

Ontario MSD Data Overview

- From 2003-2007, it is estimated that MSDs resulted in direct claim costs of over \$640,000,000 and in over 6,000,000 days of lost time from work
- During this same time period, the total lost-time injury (LTI) rate decreased by 22%, while the MSD-related LTI rate decreased by 15%
- Despite the decrease in the MSD-related LTI rate, MSDs accounted for 43 per cent of all LTIs in Ontario in 2007, an increase from 40% in 2003
- 2007 MSD-related costs account for 43% of total LTI costs up from 41% in 2003

Preventing MSDs

A Priority for all Ontario Health and Safety System Partners

- Ministry of Labour (MOL)
- Workplace Safety and Insurance Board (WSIB)
- Health and Safety Associations (HSAs)
 - 12 sector-specific safe workplace associations
 - Workers' Health and Safety Centre
 - Occupational Health Clinics for Ontario Workers
- Institute for Work & Health (IWH)

Ergonomics Initiatives

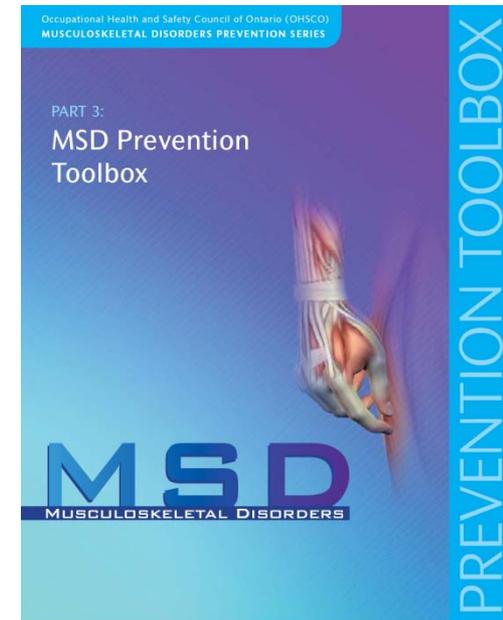
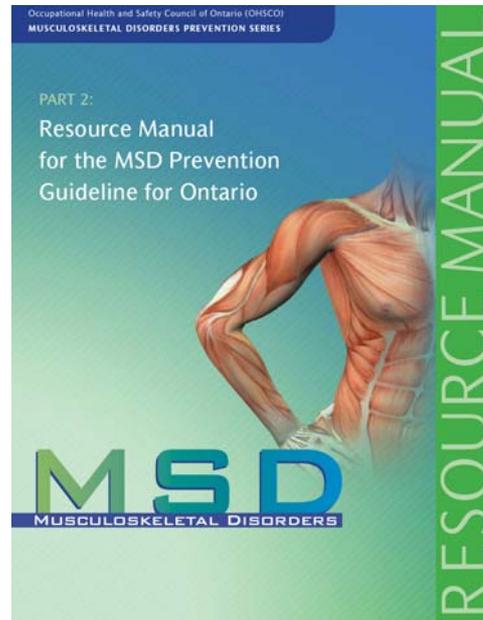
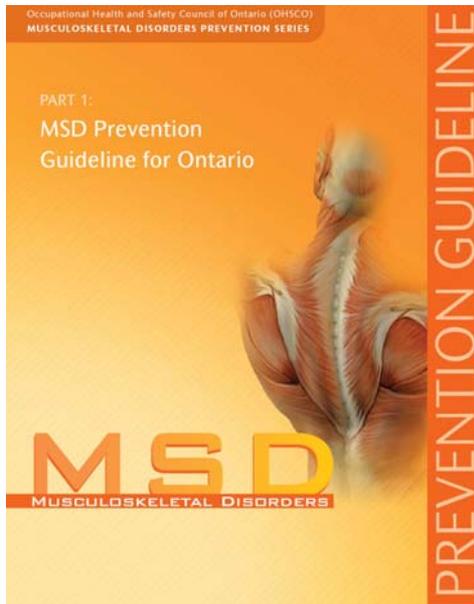
- MSD Prevention Strategy for Ontario
- MSD Prevention Guideline for Ontario, Resource Manual, Toolbox and website
- Research
 - IWH – research, systematic reviews, knowledge transfer
 - CRE-MSD – research, seed grants, sector conferences
- WSIB – Hot spots website, safety groups, fund projects (pictograms)
- Safety Associations – resources, training, consulting

MSD Prevention Strategy for Ontario

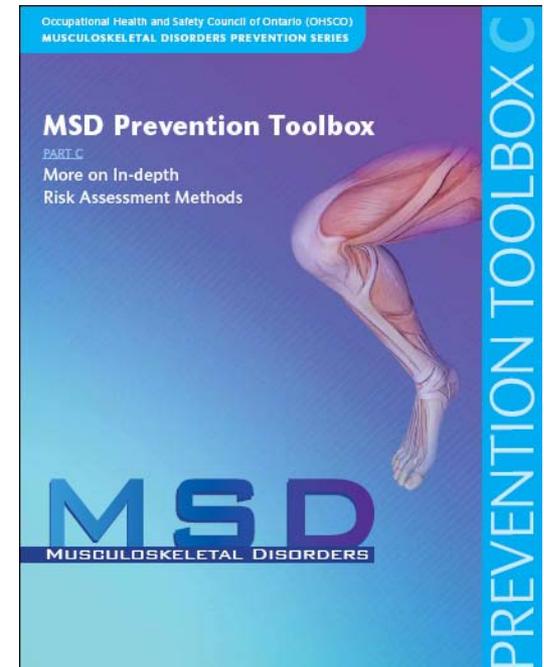
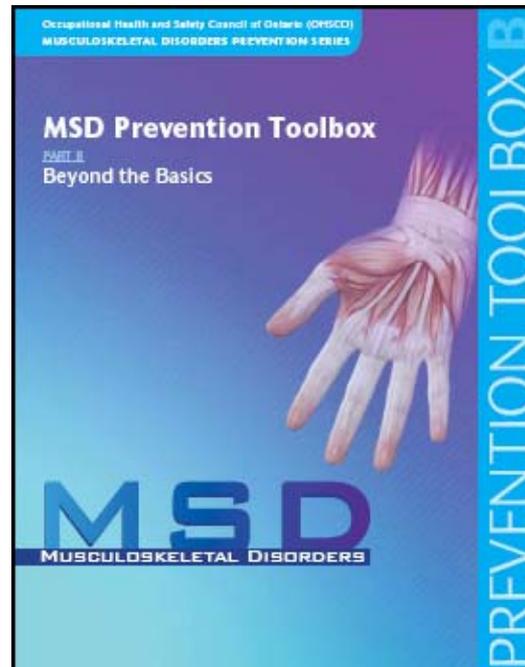
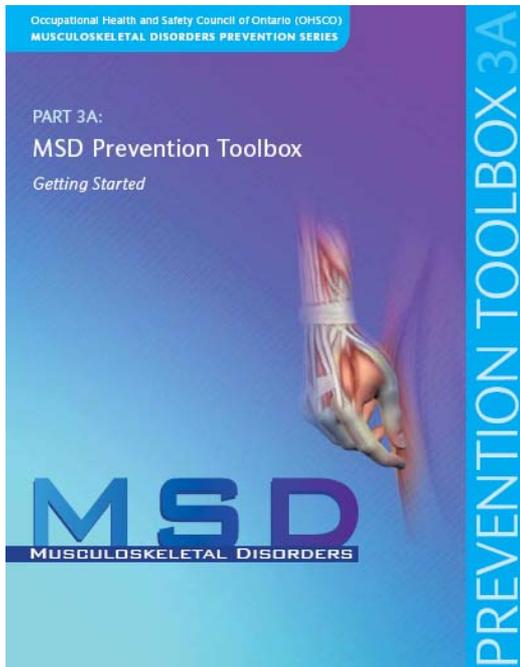
- MSD Prevention Guideline
- Sector specific prevention resources
- Enhance awareness and knowledge of MSDs for front line health and safety system staff
- Enhance awareness and knowledge of MSDs for employers/workers
- Integrate into existing systems/initiatives
- An MSD business case
- Safe Design
- Research

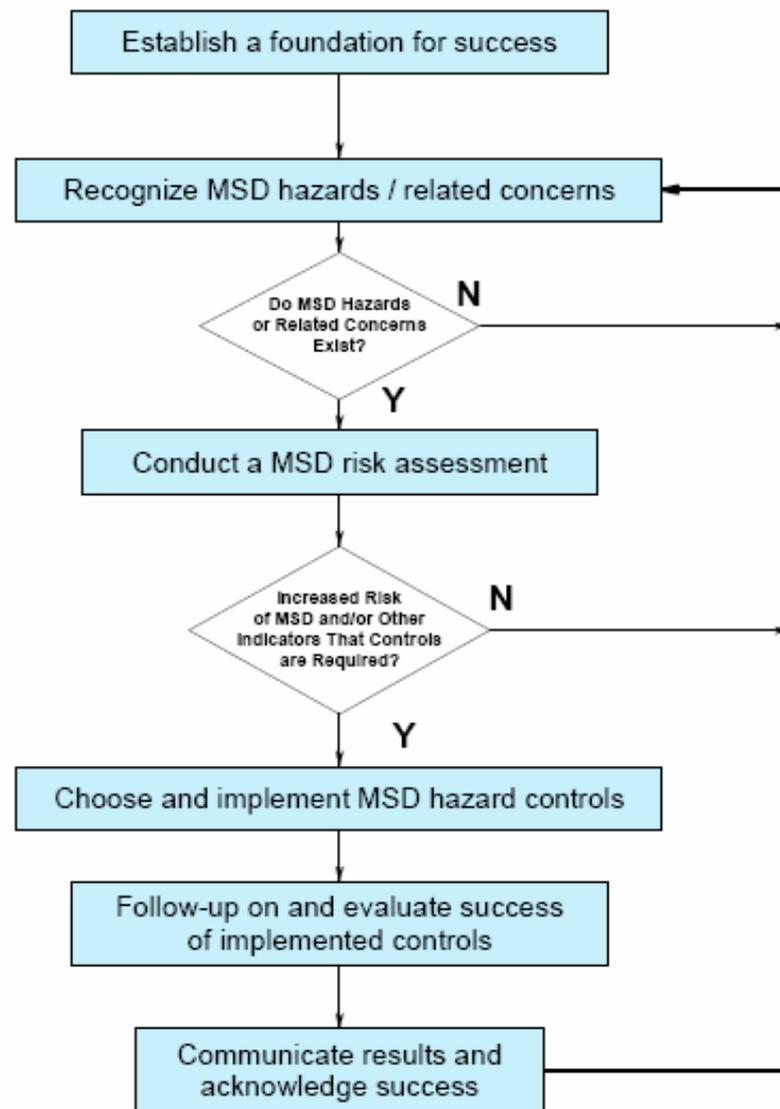
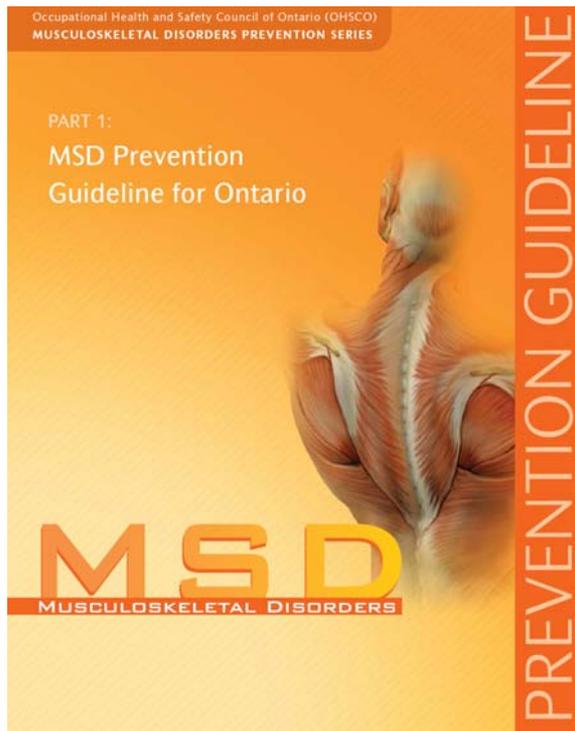
OHSCO MSD Prevention Guideline for Ontario

www.wsib.on.ca/wsib/wsibsite.nsf/Public/PreventMSD



OHSCO MSD Prevention Toolbox

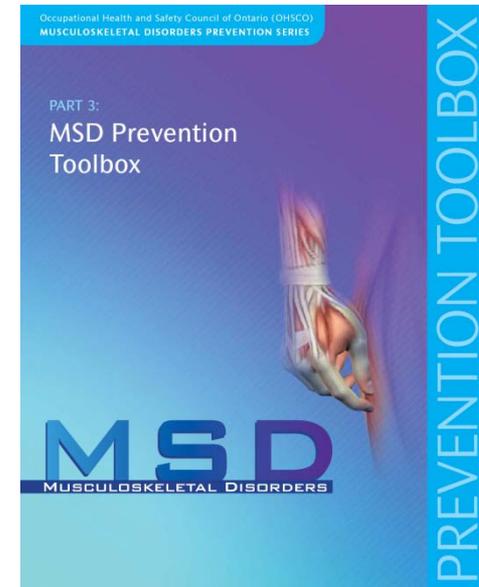




MSD Prevention Toolbox

Structure of toolbox – 3 parts

- Getting Started (19 tools)
 - MSD hazard awareness
 - MSD hazard identification tools
 - Control strategies
- Beyond the Basics (10 tools)
 - Hazard recognition surveys
 - Risk assessment
 - MSD program elements
- More on In-Depth Risk Assessment (22 information sheets)



MSD Hazard Identification Tool: Option 1

Job/Task Information		
Job title or task:		
Date completed:		
General observations:		
MSD HAZARDS - GRIPPING		Check <input type="checkbox"/> if required
Pinch Gripping 	• unsupported object(s)	<input type="checkbox"/>
	• difficult/tiring holding or manipulating	<input type="checkbox"/>
	• difficult/tiring squeezing to open/close	<input type="checkbox"/>
Power Gripping 	• unsupported heavy object(s)	<input type="checkbox"/>
	• difficult/tiring holding and manipulating	<input type="checkbox"/>
	• difficult/tiring squeezing to open/close	<input type="checkbox"/>
Notes:		
MSD HAZARDS - FORCE		Check <input type="checkbox"/> if required
Lifting/Lowering (consider both one and two handed lifting/lowering)	• object is heavy/difficult to lift/lower	<input type="checkbox"/>
	• object is lifted/lowered repeatedly	<input type="checkbox"/>
	• object is above the shoulders	<input type="checkbox"/>
	• object is below the knees	<input type="checkbox"/>
	• object is far away from the belly button	<input type="checkbox"/>
	• loads are unstable, unbalanced, uncooperative, or unpredictable	<input type="checkbox"/>
	• lifting/lowering postures are awkward (bend, twist, kneel, reach, sit)	<input type="checkbox"/>
Notes:		
Pushing/Pulling (consider one and two handed pushing/pulling. Also, consider whole body & arms/upper body only pushing/pulling)	• object is hard/difficult to push/pull	<input type="checkbox"/>
	• object is pushed/pulled repeatedly	<input type="checkbox"/>
	• object is pushed with hands above the shoulders	<input type="checkbox"/>
	• object is pushed with hands below the waist	<input type="checkbox"/>
	• pushing/pulling postures are awkward (bend, twist, kneel, reach, sit)	<input type="checkbox"/>
Notes:		

Prioritizing Jobs and Tasks for Risk Assessment

MSDs REPORTED ¹		WORKER DISCOMFORT/OTHER CONCERNS		MSD HAZARD(S) IDENTIFIED		PRIORITY LEVEL
YES	NO	YES	NO	YES	NO	
✓		✓		✓		Very high priority
✓			✓	✓		
✓		✓			✓	Very high priority ²
✓			✓		✓	High priority ²
	✓	✓		✓		High priority
	✓	✓			✓	Moderate ²
	✓		✓	✓		Low priority
	✓		✓		✓	No risk assessment required – continue to monitor. Consider a proactive risk assessment to prevent future MSDs

Sample questions for a Workplace 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

WSIB

- Road to Zero
- MSDs identified as one of four top priority hazards
- Generate firm risk assessment data

Research Partners

- Research – MSD prevention
- Systematic Reviews
- Sharing Best Evidence
- Workshops – MSDs in Transportation, Manual Handling, Job rotation
- Position papers
- Bring researchers and workplace parties together

Health & Safety Associations

- Sector specific expertise – 12 sectors plus Workers Centre and Occupational Health Clinics for Ontario Workers
- Consulting, training, publications
- 100's resources on MSD prevention

www.preventionbestpractices.org/msd.html

Prevention Practices Database

Home | About Us | Find | Share | Resources | What's new | Feedback | FAQs | Contact us

WSIB
ONTARIO
Workplace Safety & Insurance Board

Musculoskeletal Disorders (MSD) Prevention Database

Browse Database

Use this section to find information and links to MSD prevention and ergonomics resources available from Ontario's Health and Safety System Partners, including:

OHSCO's* MSD Prevention Series

Part 1: MSD Prevention Guideline for Ontario ([English](#)) ([français](#)) 

Part 2: Resource Manual for the MSD Prevention Guideline for Ontario ([English](#)) ([français](#)) 

Part 3: MSD Prevention Toolbox 

- Part 3A: Getting Started ([English](#)) ([français](#))
- Part 3B: Beyond the Basics ([English](#)) ([français](#))
- Part 3C: More on In-depth Risk Assessment Methods ([English](#)) ([français](#))

*OHSCO: Occupational Health and Safety Council of Ontario

The resources listed in this database are for information and reference purposes only and not intended as legal or professional advice. Users acknowledge that it cannot be assumed that all acceptable safety measures are contained in this material or that other or additional measures may not be required in particular conditions or circumstances.



Home | About Us | Find | Share | Resources | What's new | Feedback | FAQs | Contact us

© 2008, Workplace Safety and Insurance Board of Ontario and/or other rights holder. All right reserved.
Use of this site is governed by the [Terms and Conditions](#).

Enforcing Ergonomics

Minister's Ergonomics Sub-Committee



Pains and Strains Campaign



High Risk Initiative



Safe at Work Ontario

Ergonomics Sub-committee

Six key recommendations:

- Increase education and awareness of MSDs
- Focus on MSD prevention in MOL targeting initiative
- Enhance training for inspectors on MSD prevention
- Improve access to resource materials
- Improve tracking of ergonomic-related inspections
- Increase ergonomic expertise

Pains and Strains Campaign

- Enhanced training of MOL inspectors
- Better tracking of ergonomics activity
- Increase awareness of ergonomics-related hazards
- Availability of resources
- Promote prevention
- Progressive enforcement

Safe at Work Ontario

Includes a proactive component to Regional Ergonomists field work

2008/09

- Firms with an MSD frequency rate over 8.0 and more than 50 employees
- Participate in general blitzes

2009/10

- Firms with high MSD claim count
- Firms within rate groups with history of high MSD frequency rates
- MSD Provincial blitz

MSD Blitz

- Cross-Program blitz, Month of April 2009, carried out by Inspectors
- Highly focused on specific types of **workplaces** and **tasks**
 - o Industrial – Retail grocery food sales
 - Transporting goods on carts
 - Handling products at heights
 - Cashier workstations

MSD Blitz – cont.

- o Healthcare – Nursing and Retirement homes
 - Resident lifting, transferring and repositioning
- o Construction – Homebuilding, Low Rise Forming
 - Access/Egress to sites
 - Installation of work platforms
 - Moving forms from interior to exterior of poured foundation
 - Transporting forms from one site to next
- o Mining – Handling of drills

Enforcing Ergonomics

- Occupational Health and Safety Act
 - o Training of workers on hazards
 - o General duty clause – take every precaution reasonable
 - o Maintenance of equipment
 - o Risk Assessment
- Industrial Regulation
- Construction Regulation
- Mining Regulation
- Healthcare Regulation

How is your company addressing MSD prevention?

- Is MSD prevention an element of your written health and safety policy/ procedures?
- Is there evidence of an MSD hazard identification process?
- Do you know which jobs are causing musculoskeletal discomfort?
- Have workers, supervisors, JHSC members received any training on MSD prevention?
- Are workers encouraged to report signs and symptoms early?
- Are MSD reports investigated?

Concluding Comments

- MSD prevention requires ongoing enthusiasm and commitment
- MSD hazards need to be identified and controlled with the same diligence of other safety hazards
- Worker involvement is key – participatory ergonomics
- Often the beneficial results are not immediately apparent due to the cumulative nature of these hazards

Work Should Not Hurt!

Thank you

Any comments or questions?

Contact

Anne Duffy
Provincial Ergonomist
Specialized Professional Services
Occupational Health and Safety Branch
Ministry of Labour

416-326-1410

Anne.Duffy@ontario.ca



CCOHS

Canadian Centre for Occupational Health and Safety

www.ccohs.ca