

Remembering the Past... to Imagine the Future

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for the Prevention of (Work-Related)
Musculoskeletal Disorders (CRE-MSD)*



Lunenburg, Nova Scotia

Home of the
Bluenose



The Great White
Shark Capital of
the World!



<https://www.cbc.ca/player/play/video/1.7093496>

Overview

- How we began
- How we set up the Centre
- What Should the Centre's Focus be?
- Creation of the Prevention Guidelines
- What's next for CRE-MSD?

How we began...

How we began

In 1998, the Workplace Safety and Insurance Board set up a new Research Grants program, “Solutions for Workplace Change”, overseen by the Research Advisory Council (RAC).

In 2003 the RAC, led by Dr. Bob Norman, Chair, requested proposals to form Centres of Research Expertise in key areas of workplace injury. This concept helped to alleviate potential drawbacks with some workplace Research Grant Programs.

Centres that were funded in 2004:

- . Centre for Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD)
- . Centre for Research Expertise in Occupational Disease (CREOD)
- . Occupational Cancer Research Centre (OCRC)
- . Centre for Research Expertise in Improved Disability Outcomes (CREIDO)

How we set up the Centre

How we set up the Centre



Mission

Goals

How we set up the Centre

Bringing researchers and workplaces together to identify the key questions, find the best research answers, and pass on the best knowledge that will lead to the prevention of musculoskeletal disorders in the workplace.

To support workplace-partnered, stakeholder-focused research into the primary prevention of musculoskeletal disorders

To generate transferrable knowledge on the primary prevention of musculoskeletal disorders at work.

Centre activities...

How we set up the Centre

Knowledge transfer and exchange

Host a conference every fall on October 1st

Make the Centre's findings and tools accessible

Create Guidelines and publish Position Papers

Keep the research "real"

Engage a Multi-Stakeholder Advisory Board

Involve stakeholders at all stages of the research process

Centre activities...continued

How we set up the Centre

Research approach

Award small Seed Grants to “kick start” new projects

Do research in the Workplace and Lab, where appropriate

Use a wide range of research methods

Develop the next generation of workplace focused researchers

Broad Centre Membership: by discipline and location

Recruit and mentor new researchers and graduate students

Hold a yearly Researcher Day

What Should the Centre's Focus be?

What should the Centre's focus be?



MSD Prevention: How to choose a research focus

Prevention of MSD: Where should our limited funds and expertise be directed?

- Studies of the effectiveness of ergonomic intervention
- Studies in the laboratory or in the workplace
- Knowledge transfer and exchange
- All the above, or some, or none of the above

How might we decide?

What should the Centre's focus be?

Six questions for MSD Prevention Research: A Visual Model

What should the Centre's focus be?

1. How well do we understand MSD, their diagnoses and burden in the workplace?
2. How good are our current MSD risk factors?
3. How effective and informative are current workplace MSD risk assessment methods?
4. How efficacious and effective are the recommended interventions in reducing risk factors and MSD in the workplace?
5. How intensely and widely implemented are workplace interventions to prevent MSD at a societal level?
6. How well are we improving disability outcomes for MSD?



<https://uwaterloo.ca/centre-of-research-expertise-for-the-prevention-of-musculoskeletal-disorders/research/research-program/why-have-we-not-solved-msd-problem>



Six Questions: Gaps and Barriers?

What should the Centre's focus be?

1. How well do we understand MSD, their diagnosis and burden in the workplace?



2. How good are current MSD risk factors?



3. How effective and informative are current workplace MSD risk assessment approaches?



4. How efficacious and effective are the recommended interventions in reducing risk factors and MSDs in the workplace?



5. How intensely and widely implemented are workplace interventions to prevent MSDs at a societal level



6. How well are we improving disability outcomes for MSDs?



Poor Good



MSD Prevention Challenge

What should the Centre's focus be?

1. How well do we understand MSD, their diagnosis and burden?

2. How well do we understand the risk factors for MSD?

3. How well do we understand the impact of MSD on individuals, groups, and organizations?

AND

4. How well do we understand the impact of MSD on individuals, groups, and organizations, and how to embed them in their programs, business processes and management systems - and in daily life.

5. How well do we understand the impact of MSD on our workplace and at a societal level?

6. How well are we improving disability outcomes for MSDs?

<https://uwaterloo.ca/centre-of-research-expertise-for-the-prevention-of-musculoskeletal-disorders/research/research-program/why-have-we-not-solved-msd-problem>

CRE-MSD Conference in 2019: Launch of Guideline

MSD Prevention Guideline



MSD Prevention Guideline for Ontario

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

Basic Guideline

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

This **BASIC** version of the Guideline is intended for medium to large companies with an existing Health and Safety program who wish to improve their problem-solving approach to prevent MSD. This **BASIC** version is one part of the MSD Prevention Guideline.

The three versions of the Guideline 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.

For more info visit: msdprevention.com

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 Centre of Research Expertise for the Prevention of Musculoskeletal Disorders





Quick Start Guidelines

POSTERS

- 1 STORE IT OFF THE FLOOR:** Store – and work on – objects between hip and chest height.
- 2 KEEP IT CLOSE:** Store objects or work close to the belly button.
- 3 HANDS BELOW HEAD:** Work with hands below the head.
- 4 LOOK STRAIGHT AHEAD:** Work with the head straight and level.
- 5 GET A (GOOD) GRIP:** Objects, tools and gloves should fit hands, keep hands and wrists strong, and not vibrate.
- 6 CHANGE IT UP:** A well-organized job has variety and pauses that give the body time to recover.
- 7 WORK SHOULDN'T HURT:** Find jobs that may have MSD hazards.

Look straight ahead

Get a (good) grip

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Quick Start Guide: Folder, Mini-posters & Poster

BACK, SHOULDERS, NECK, HANDS.
Identify and control workplace hazards. Work shouldn't hurt!

The package is designed to be self-contained and used in hard copy format. Available as downloadable pdfs.

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Quick Start Guide...What the colours mean

GREEN	No action required if tasks are not held or repeated for long periods and no MSD symptoms are reported. Continue to monitor for MSD symptoms and check after workplace or process changes.
YELLOW	Investigations and improvement needed in the longer term. Further assessments and improvement needed immediately if MSD symptoms present.
ORANGE	Further assessments and improvement needed immediately

Store it off the floor

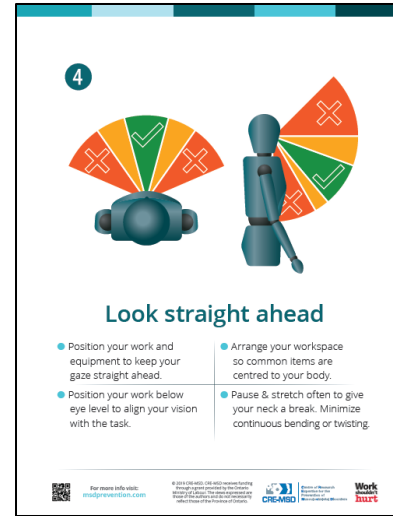
- Store objects between knee and shoulder level. Waist level is best.
- Store items off the floor to minimize bending.
- Use tables, benches or stands to get work off the floor.
- Store infrequently used objects on the floor, and use carts or equipment to move heavy items.

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Checklists, Videos and Resources

MSD Prevention Guideline



Animations and PDF Downloads	Min	#	PDF Downloads	#
Hand functional postures	-	1	Types of MSD	15
Power grip	1:10	1	Risk assessment (RACE)	1
Pinch grip	0:50	1	MSD & Work Organization	1
Choosing tool grips	1:44	-	Quick Start Guide: General	12
Keyboard height and rake	2:30	3	*Folder, Mini-posters, Poster	
Hand Activity Level (HAL)	7:37	2	Quick Start Guide: Office	11
6 Factors affecting lifting (NIOSH)	6:10	3	Folder, Mini-posters, Poster	
Recommended weight limit (NIOSH)	~6:00	4		
Factors affecting lifting (ACGIH)	5:40	4		
Orange/Yellow/Green	1:00	1		
Welcome to MSDPrevention.com	2:48	2		

Work Shouldn't Hurt >> Resource Library

Quick Exposure Checklist (QEC)

 [Quick Exposure Checklist \(QEC\) \(PDF\)](#)

Description

Uses a combination of observer assessment and worker responses about posture, frequency, effort and shift length to generate whole body and specific region risk assessment scores.

Navigation!

6

Change it up

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

For more info visit: msdprevention.com

NATURAL POSITIONS

Hands and Wrists

The natural position of the hand at rest... fingers curled with the wrist slightly bent back

The natural position of the hand when in a power grip... fingers tightly curled and the wrist bent back

The natural position of the hand when in a keyboarding posture... fingers slightly curled and the wrist slightly bent back

The natural position of the hand when in a pinch grip... fingers slightly curled and the wrist bent slightly back

This is not a position often used at work.

For more info visit: msdprevention.com

Stakeholders: Employers

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

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

About MSD

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 fulfil 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: ~

- MSD hazards are still covered by the "General Duty Clause" (in Ontario, Part III of the OHS Act, 25 (2)(b)). It remains the employer's responsibility to identify and control these hazards.

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Stakeholders: Workers

Work Shouldn't Hurt >> Stakeholders >> Workers and Workers Representatives

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

About MSD

Prevent MSD

Deal with an MSD

Stakeholders

Risk Assessment & Controls

Resource Library

Workers and Workers' Representatives

Rights and responsibilities

In Ontario, workers have the right to information, knowledge of hazards and to refuse unsafe work. The Occupational Health and Safety Act (OHSA) 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.

In Ontario, "Worker responsibilities include: reporting hazards in the workplace; working safely and following safe work practices; using the required personal protective equipment for the job at hand; participating in health and safety programs established for the workplace." Please refer to the Internal Responsibility System (IRS).

Five Fast MSD Facts for Workers and Workers' Representatives

FACT 1: ~

- There is strong evidence that physical factors in the workplace greatly increase a person's chance of developing an MSD and make worse an existing MSD on return to work. Despite this evidence, it is common to ignore... if the workplace

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Infrequent Lifting: Intermediate Reach

Maximum Weight	0kg 0lbs	5kg 10lbs	14kg 30lbs	11kg 25lbs	0kg 0lbs
Overhead Reach	Diagram	Diagram	Diagram	Diagram	Diagram
Shoulder Area	Diagram	Diagram	Diagram	Diagram	Diagram
Torso Area	Diagram	Diagram	Diagram	Diagram	Diagram
Knee Area	Diagram	Diagram	Diagram	Diagram	Diagram
Ankle/Floor Area	Diagram	Diagram	Diagram	Diagram	Diagram

Infrequent Lifting: Extended Reach

Maximum Weight	0kg 0lbs	0kg 0lbs	5kg 10lbs	2kg 5lbs	0kg 0lbs
Overhead Reach	Diagram	Diagram	Diagram	Diagram	Diagram
Shoulder Area	Diagram	Diagram	Diagram	Diagram	Diagram
Torso Area	Diagram	Diagram	Diagram	Diagram	Diagram
Knee Area	Diagram	Diagram	Diagram	Diagram	Diagram
Ankle/Floor Area	Diagram	Diagram	Diagram	Diagram	Diagram

Lifting from the floor requires further assessment. Remember: "Store it off the floor!"



Updated MSD Prevention Guideline

MSD Prevention Guideline

Updated site based upon user focus groups



New branding

Stakeholder focused navigation headings

Added CRE-MSD resources

Ontario Cost-Benefit-Calculator

New content vetting committee

More Stuff

AODA compliance

Enhanced search engine

Safety Talks

What's New Understanding MSD MSD Prevention Guidelines About this Guide Search

I perform work I supervise workers I represent workers I manage workers I evaluate and/or design work I support and/or care for workers

Resource Library



What's next for CRE-MSD?

What's next for CRE-MSD?



Imagine the future...

What's next for CRE-MSD?

I invite you all to identify knowledge (and practice gaps) which may be acting as barriers to our success in Prevention of Musculoskeletal Disorders.

Discuss your ideas with others, then attend the last session of today, “Future Direction of MSD Prevention”.

As a small Centre, how can we best contribute to the Ontario health and safety system, and workers in general, by partnering with research and other organizations to prevent MSD?

Acknowledgements

I am very pleased that the Centre is celebrating its 20th Anniversary. This would not have happened without the knowledge, skills and hard work of so many people and organizations.

It is always difficult to thank everyone who contributed to the Centre but I want to acknowledge (not in order of importance) Bob Norman, Desre Kramer, Betina Butler, Catherine Brookman, my colleagues; Jack Callaghan, Amin Yazdani, the researcher network, and the many graduate students who have added their knowledge and enthusiasm.

I want to acknowledge the important contributions of the CRE-MSD Advisory Committee members - past and present - and the many organizations and people who have willingly taken the time and effort to make workplace research a reality.

The University of Waterloo, The Ontario Workplace Safety and Insurance Board (WSIB) and the Ontario Ministry of Labour, Immigration, Training and Skills Development (MLITSD) have supported the Centre since 2004.

Thanks to all of you, and to those I didn't mention, thank you too!

The views expressed are those of the author and do not necessarily reflect those of the Province of Ontario nor the WSIB.

Imagine the Future

