

Ergonomics and MSD Prevention for Custodians

Presented by:

Marny Mason, CK, CCPE

Canadian Certified Professional Ergonomist

Options Inc.

- ❖ Ergonomics & Human Factors Consulting Firm formed in 1999.
- ❖ Over 65 years of combined work and research experience in the field of ergonomics and human factors.
- ❖ Provide support to clients in the education, automotive, utilities, manufacturing, office, food processing, healthcare, technology and nuclear industries.
- ❖ Head Office located in Guelph, Ontario Canada with satellite locations across Canada and in select parts of the United States.

Introductions

- ❖ Marny Mason, CCPE, Ergonomic Consultant
 - Canadian Certified Professional Ergonomist (CCPE)
 - Member of Association of Canadian Ergonomists (ACE)
 - Consulting in areas of Ergonomics and Injury Prevention for the last 16 years
 - Specialize in Education and Utilities Sectors



ASSOCIATION OF CANADIAN ERGONOMISTS
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AGENDA

- ❖ MSD's-What are they?
- ❖ What Causes an MSD?
- ❖ MSD Prevention– It's the Law.
- ❖ An update on the “MSD Prevention Strategy for Ontario”.
- ❖ 5 Minute Stretch Break
- ❖ Workplace hazards that contribute to MSD's in Custodians.
- ❖ How to prevent MSD's
- ❖ Solutions for prevention (tools, work methods, administrative controls).

Types of Injuries

Two kinds of injuries:

- ❖ Acute – result immediately from a trauma or accident.
- ❖ Cumulative -develop over time as a result of micro-traumas to the soft tissues in the body



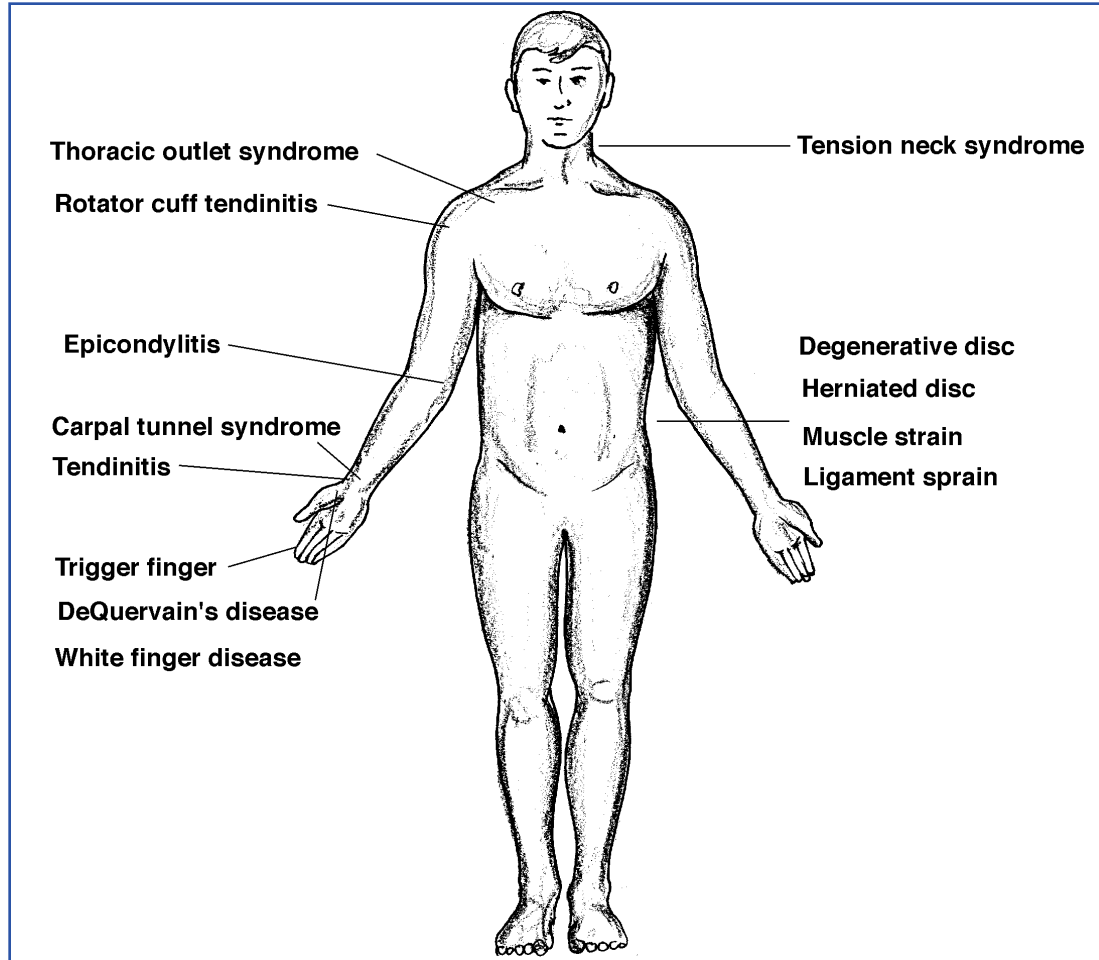
Musculoskeletal Disorders (MSD's)

- ❖ MSD, RSI, CTD, sprains & strains
- ❖ Injuries to the *soft tissues* of the musculoskeletal system
- ❖ Includes muscles & tendons, ligaments, nerves, blood vessels, joints and spinal discs
- ❖ **MSD's are strongly linked to hazards in the workplace**



MSD's

Common Types of MSD's



Signs and Symptoms of MSD's?

- ❖ Pain
- ❖ Tingling
- ❖ Numbness
- ❖ Muscle weakness
- ❖ Redness
- ❖ Swelling
- ❖ Loss of range of motion



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**Inflammation of
Tendontis/Bursitis**

MSD Statistics

- ❖ In Ontario MSDs account for 42% of all lost time claims and 50% of lost time days (averages for 1996-2004).
- ❖ These claims represent almost 27 million lost days from work
- ❖ Direct costs of more than 3 billion.
- ❖ Ontario employers are estimated to have paid more than 12 billion in direct and indirect costs related to MSD related lost time claims.

Legislation/Requirements Ergonomics and Injury Prevention

In Ontario,

- ❖ Occupational Health and Safety Act
- ❖ Workplace Safety and Insurance Act
- ❖ Many regulations made under Ontario's [Occupational Health and Safety Act](#) require compliance with standards published by the Canadian Standards Association (CSA)

Programs/Guidelines Include:

- Ministry of Labour Safe at Work (2008)
- MSD Prevention Guideline

Occupational Health and Safety Act

- **Section 45 (MMH) and 25 (General Duty) impact ergonomic issues**
- **The Employer & Due Diligence:**
 - Take every precaution reasonable in all circumstances to protect the safety of workers.
 - Hazards must be identified (including tools, equipment, work practices) **MSD HAZARDS included!**
 - Workers must be made aware of the hazards
 - Employer must control the hazards
- **The Employee:** has the right to refuse work which could endanger their health and safety

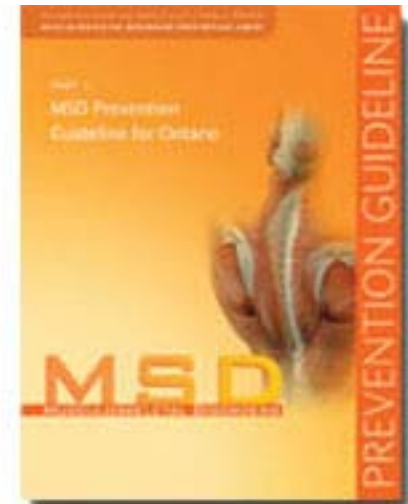
Legislative
Requirements

The “MSD Prevention Strategy for Ontario”

- The Musculoskeletal Disorder (MSD) Prevention Guideline was developed by the Occupational Health and Safety Council of Ontario.
 - Ontario Ministry of Labour
 - The Workplace Safety and Insurance Board
 - 12 industry-based Safe Workplace Associations
 - The Workers Health and Safety Centre
 - Occupational Health Clinics for Ontario Workers
 - The Institute for Work and Health

Ontario's MSD Prevention Guideline

- What is it?
 - A Guideline that outlines the recommended generic framework for preventing MSD's in the workplace.
- What does it mean?
 - An expectation for all industries in Ontario has now been set. The MOL is auditing and looking for this framework in all industries.



Ontario's MSD Prevention Guideline

Where can I get it?

MSD Guideline and Toolbox

- WSIB

www.wsib.on.com , <http://www.wsib.com/wsib/wsibsite.nsf/public/PreventMSD>

- Part 3A: Getting Started

[http://www.wsib.ca/wsib/wsibobj.nsf/LookupFiles/DownloadableFileMSDGettingStarted/\\$File/GettingStarted.pdf](http://www.wsib.ca/wsib/wsibobj.nsf/LookupFiles/DownloadableFileMSDGettingStarted/$File/GettingStarted.pdf)

- Part 3B: Beyond Basics

[http://www.wsib.ca/wsib/wsibobj.nsf/LookupFiles/DownloadableFileMSDBeyondtheBasics/\\$File/BeyondtheBasics.pdf](http://www.wsib.ca/wsib/wsibobj.nsf/LookupFiles/DownloadableFileMSDBeyondtheBasics/$File/BeyondtheBasics.pdf)

- Part 3C: More In-depth Risk Assessment Methods

[http://www.wsib.ca/wsib/wsibobj.nsf/LookupFiles/DownloadableFileMSDIn-depthRiskAssessment/\\$File/InDepthRiskAssessment.pdf](http://www.wsib.ca/wsib/wsibobj.nsf/LookupFiles/DownloadableFileMSDIn-depthRiskAssessment/$File/InDepthRiskAssessment.pdf)

Identifying MSD's Hazards in Custodial Work or, Hazards Related to Poor Ergonomics

Main Workplace Hazards

✦ Although a number of factors can increase MSD risk, the main hazards are:

- Force
- Awkward postures, and
- Repetition.



Force

- ❖ Force refers to the muscle effort required.
- ❖ When the level of force exceeds the muscles capability, it can damage the muscle and other soft tissues.

The MSD risk associated with force increases as:

- the amount of force required increases,
- the posture used gets more awkward,
- the more often it is repeated.



Repetition

- ❖ Using the same muscles, tendons, joints, etc. repeatedly, with few breaks or chances for rest.
- ❖ Repetitive movements can cause muscle fatigue, pain, discomfort and injury.

The MSD risk associated with repetition increases as:

- frequency increases,
- force is exerted,
- the posture is awkward
- the posture is held



Awkward Postures

- ❖ Postures become more awkward the further they move away from the “Neutral” position
- ❖ Why are awkward postures harmful?

— if the posture is held

The risk associated with awkward postures increases as:

- the further the joint is away from the neutral,
- force is exerted,
- when the posture is performed repeatedly.



Evaluating Range of Motion

Task should be designed and performed so they can be completed without having to move joints to “extreme postures” – end ranges

- The ROM of a joint has acceptable, cautionary and extreme zones.
 - 0 – Acceptable, close to neutral.
 - 1 – Cautionary, don't want to be in this area too often.
 - 2 – Extreme, joint or muscle is at risk.

Work Methods and Habits

Your Work Methods Contribute to MSD Hazards,

- ❖ How you choose to do the job vs. how the job should be performed
- ❖ How you schedule your work tasks (task rotation)
- ❖ Tools and equipment you use (cart, dolly, handles, size of mop heads, maintenance of equipment)
- ❖ Rest and stretch breaks



Understanding Ergonomic Hazards

1. The more hazards present in a task, the greater the possibility of developing an MSD
2. Some hazards will be more significant than others
3. Hazards on their own are generally not a problem
4. Hazards in combinations are more harmful
5. Not all people exposed to hazards will be effected



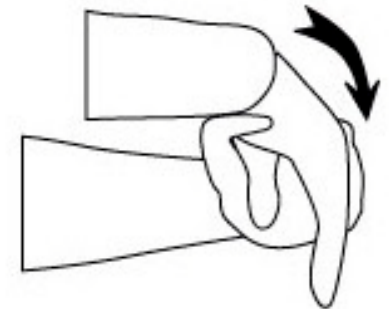
5 MINUTE STRETCH BREAK

Benefits of Stretching

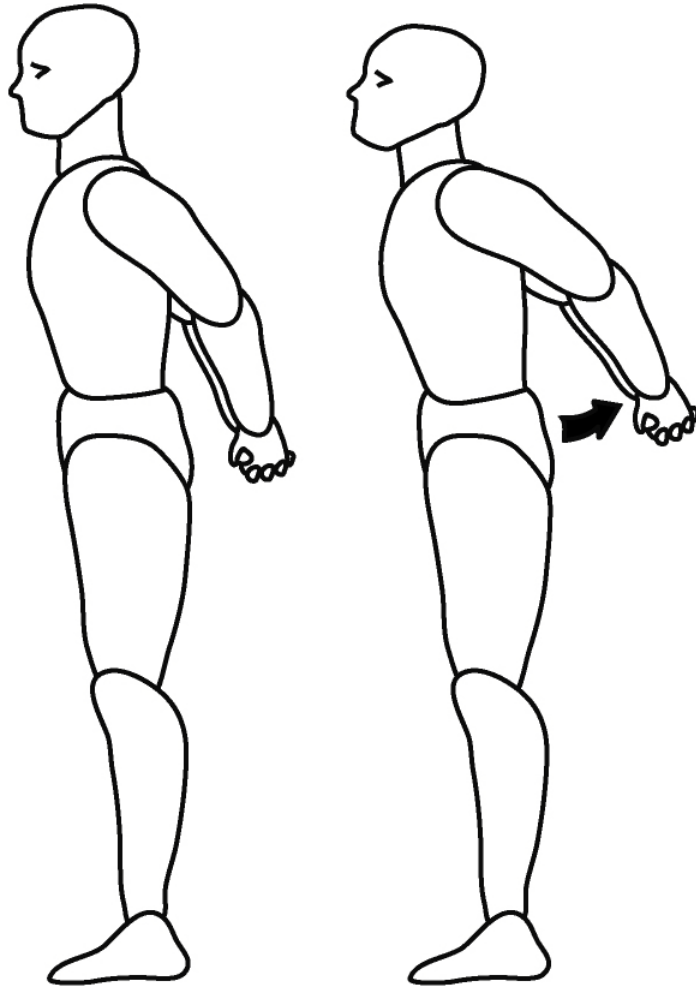
- Reduce Injury- 50% reduction of injury rates (Ross, 2001 Canadian Occupational H&S Magazine)
- Minimize Discomfort & Pain
- Improve Muscular Performance
- Increase Muscular Flexibility
- Improve Joint Mobility

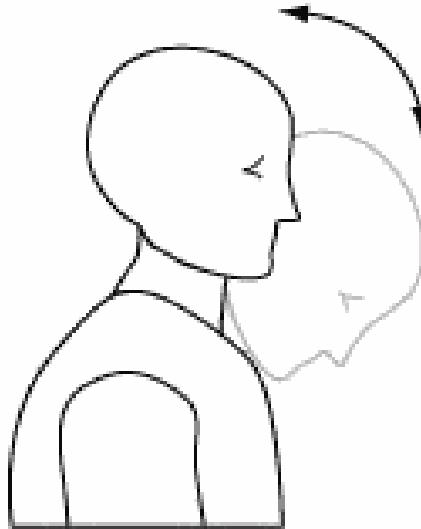
How to Stretch

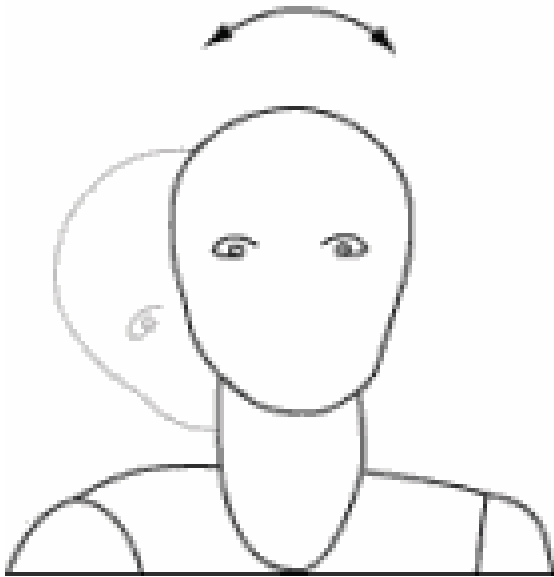
- ❖ Slowly move a joint towards it's end-range of motion.
- ❖ Do not stretch to the point of pain but to where you feel a gentle "pulling" sensation.
- ❖ Do not bounce since this may cause injury to the muscle.
- ❖ Hold for 15 - 20 seconds and repeat 3 to 5 times.

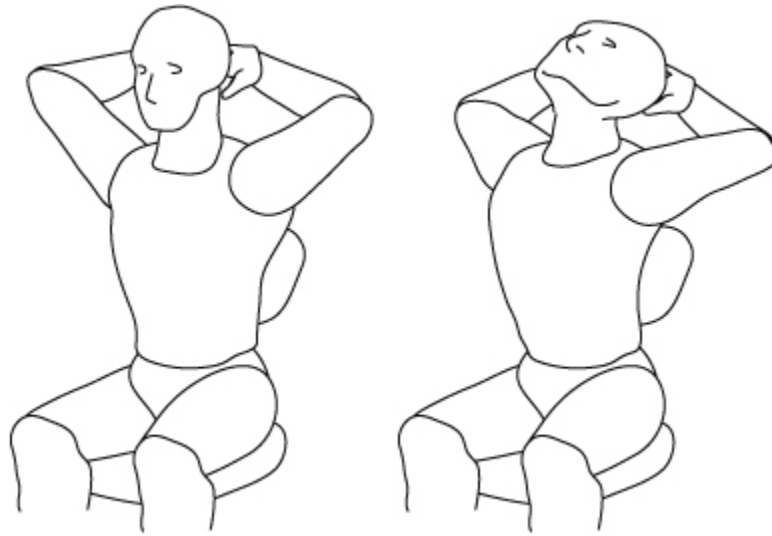


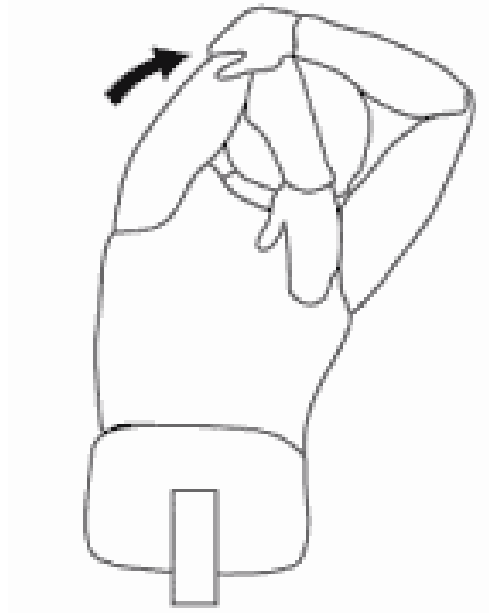


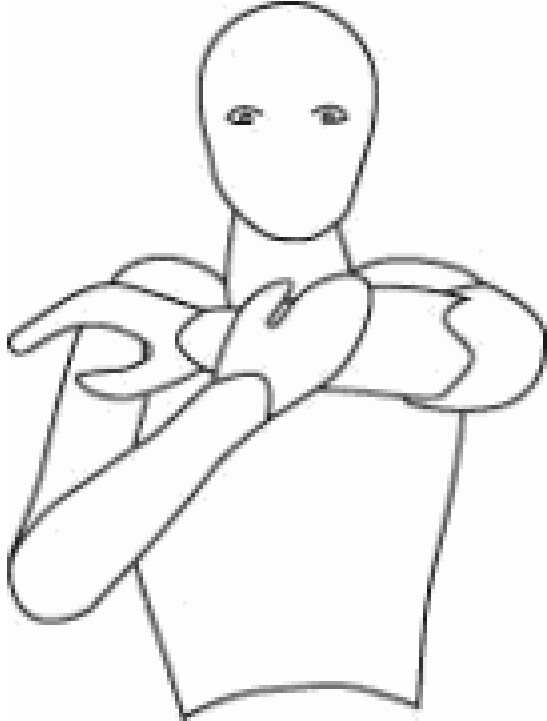


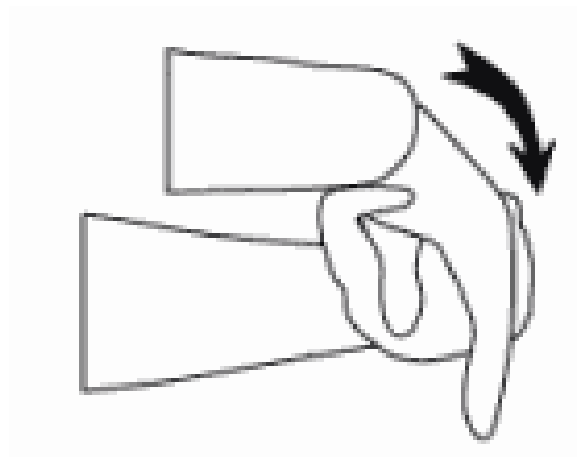


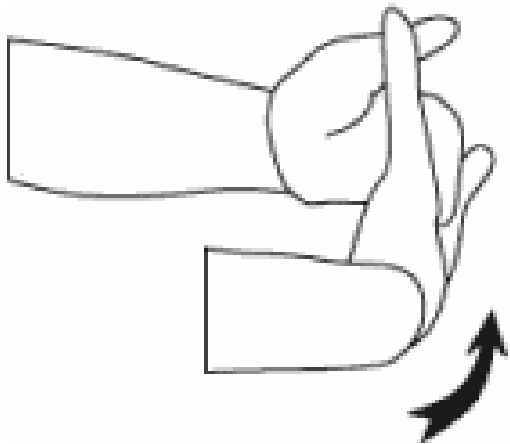


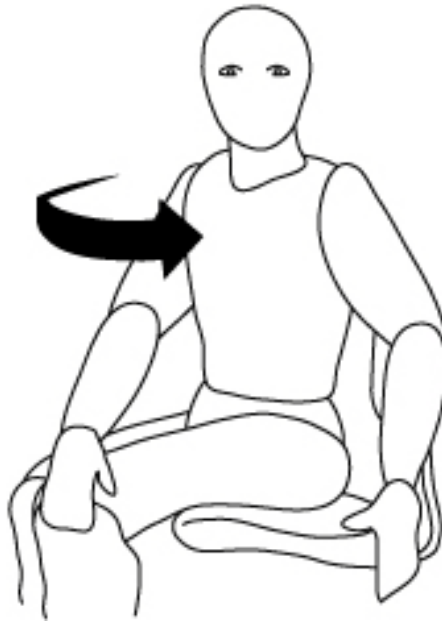













Hazard and Injury Prevention

 Steps to identify hazards and prevent injuries include,

1. Identify Hazards
2. Develop Controls or Solutions
3. Implement Controls
4. Follow up on Interventions

Hazard Controls

- ❖ Hazard controls include,
 1. Improving tools and equipment
 2. Maintaining equipment
 3. Auditing equipment, tools and supplies prior to purchasing
 4. Training in proper work postures and methods
 5. Administrative controls (scheduling, job task rotation, breaks)
 6. Improve worker fitness



Injury
Prevention

Hazards and Controls

5 Main Tasks

- ✦ Vacuuming
- ✦ Mopping
- ✦ Wiping Surfaces
- ✦ Garbage Disposal
- ✦ Moving Furniture & Supplies

Notes

Notes

Summary

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- ❖ What Causes an MSD?
- ❖ MSD Prevention– It's the Law.
- ❖ MSD's and the MOL.
- ❖ An update on the “MSD Prevention Strategy for Ontario”.
- ❖ Workplace hazards that contribute to MSD's in the Cleaning industry.
- ❖ How to prevent MSD's
- ❖ Solutions for prevention (tools, work methods, administrative controls).

Questions?

- Any questions or concerns?
- Please feel free to contact us at,
 - www.oiweb.com
 - mmason@oiweb.com
 - 1-800-813-4202