

Skilled Trades Ergonomics
2010 CUEE Show
Date: [Sept.14-15.2010](#)



Infrastructure Health
& Safety Association™
A Health & Safety Ontario Partner

Overview

- Musculoskeletal Disorders and Ergonomics
- MSD statistics for the skilled trades
- Elements of an MSD Prevention Program
- MSD Prevention Solutions
- MSD Blitz

Musculoskeletal Disorders (MSDs)



High Force



High
Repetition



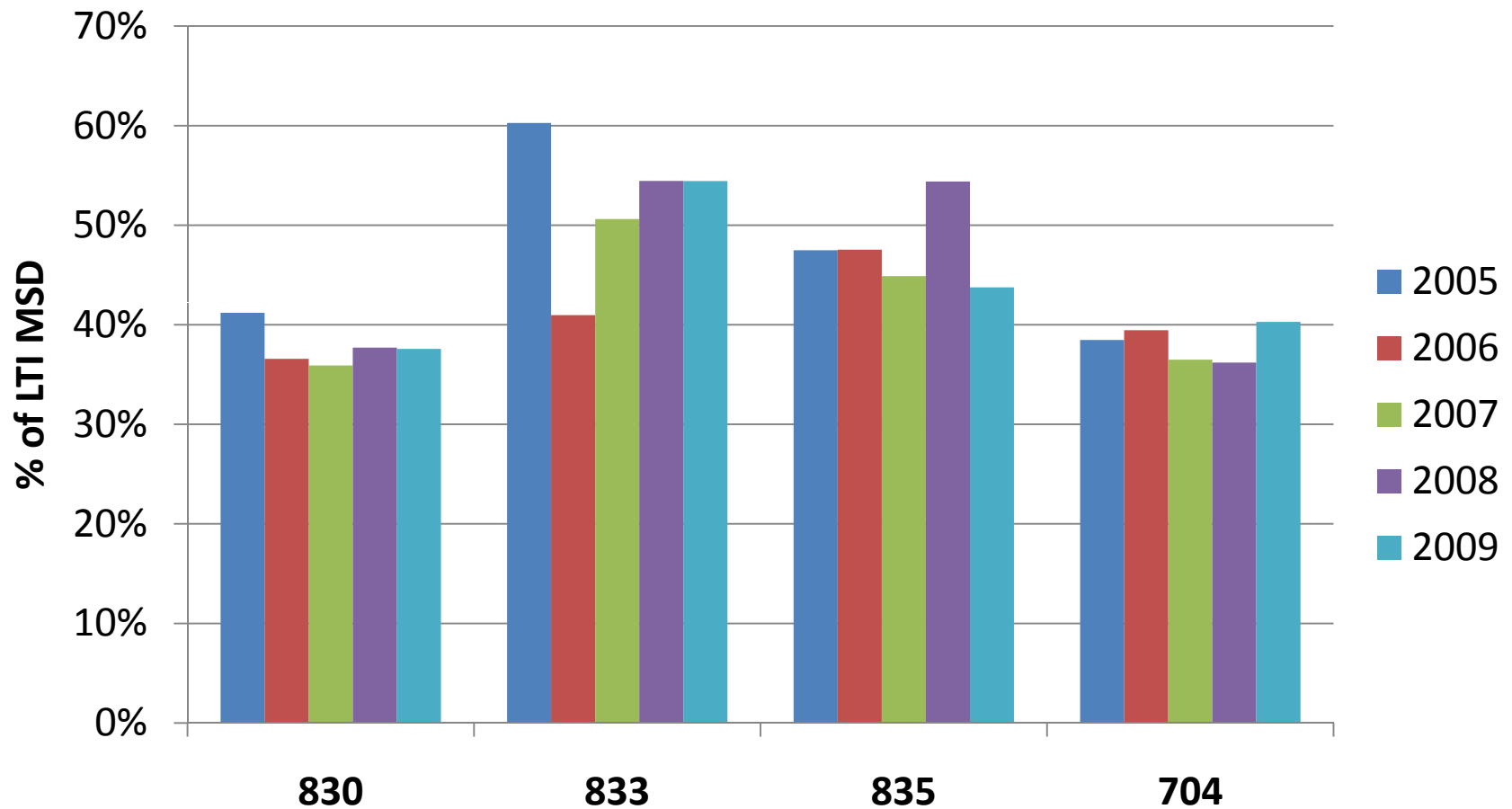
Awkward
Posture



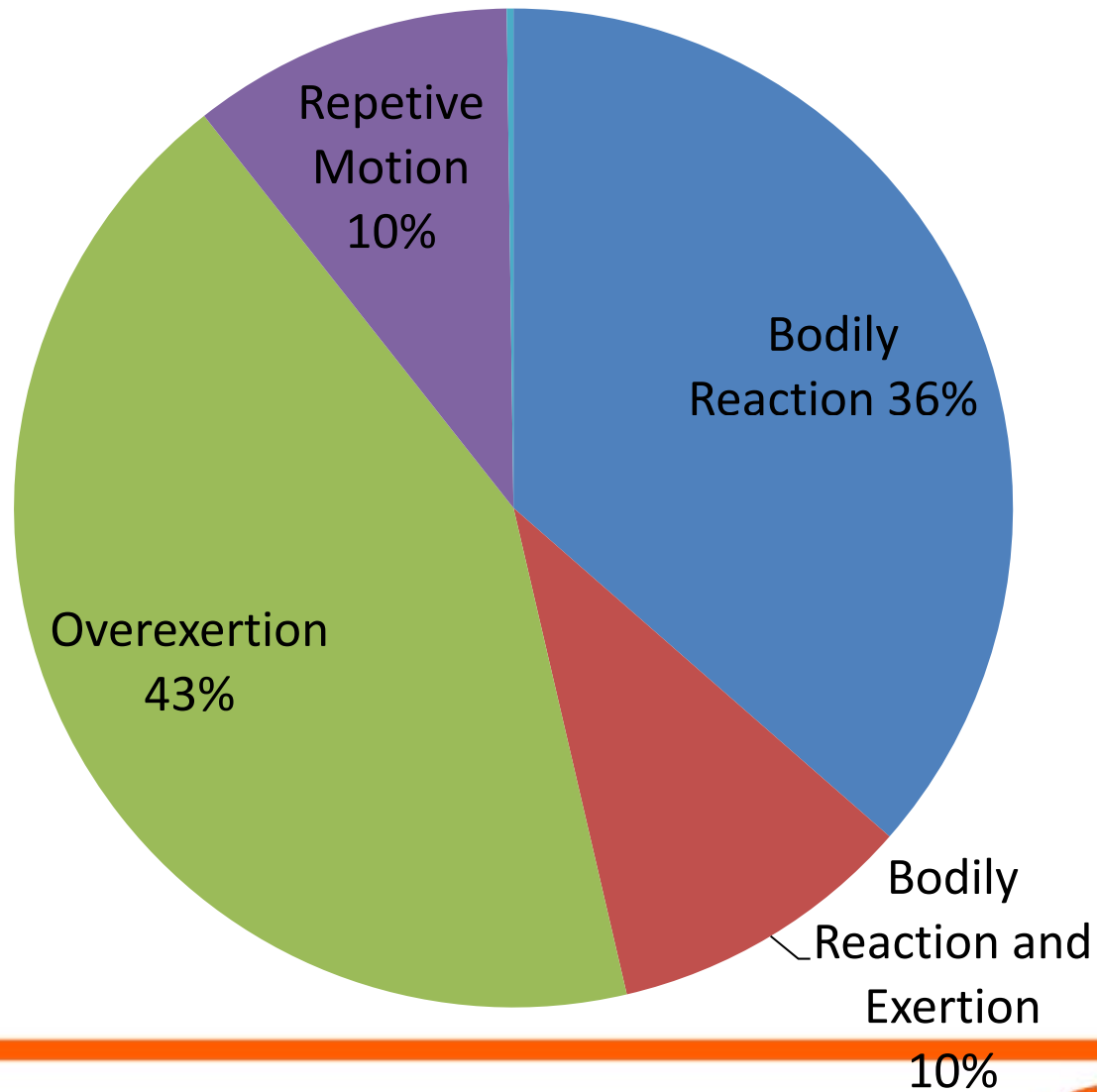
Static Work

Vibration, Environment, Awkward Posture, Static Posture

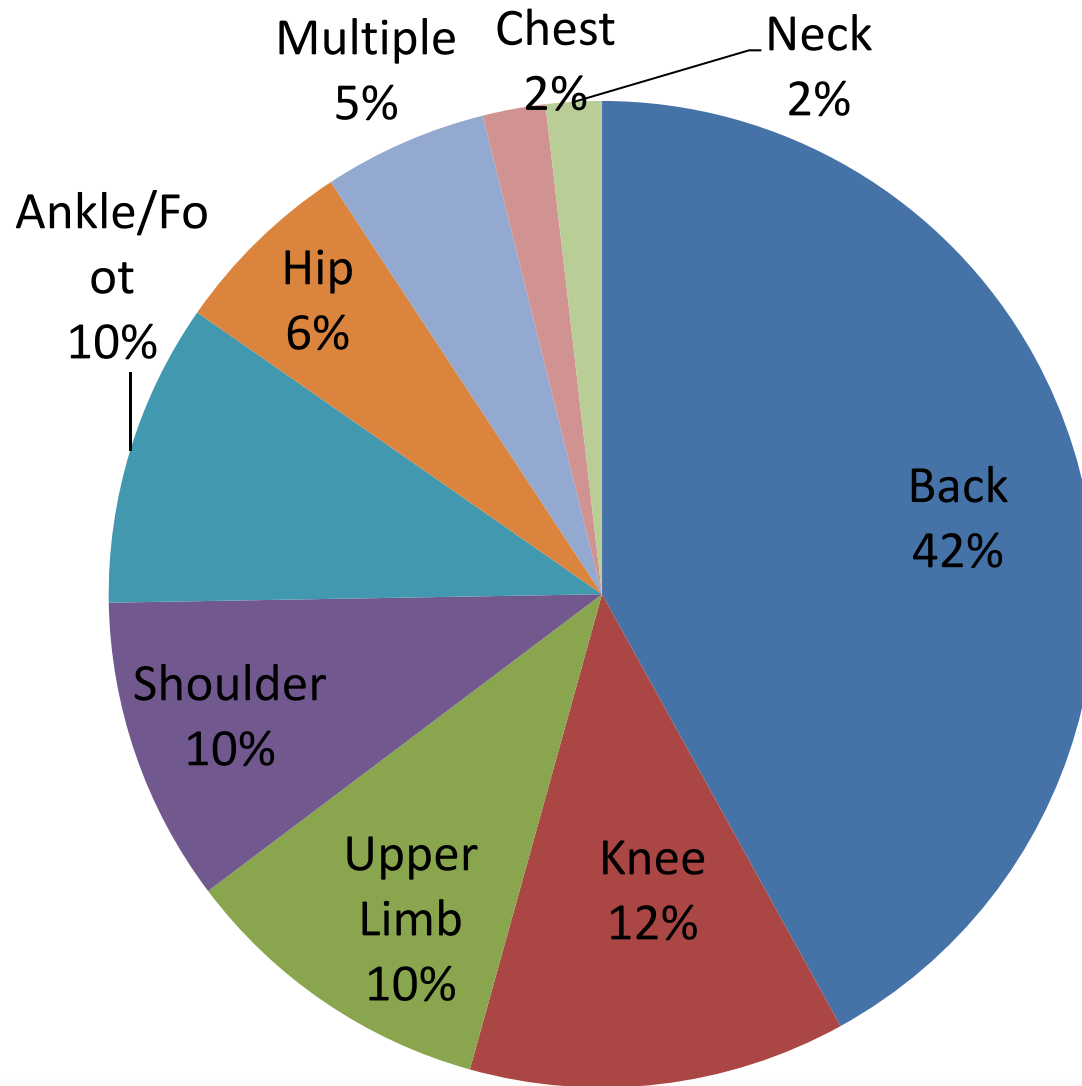
Lost time MSD (05-09)



Lost Time MSD Statistics – Root Cause

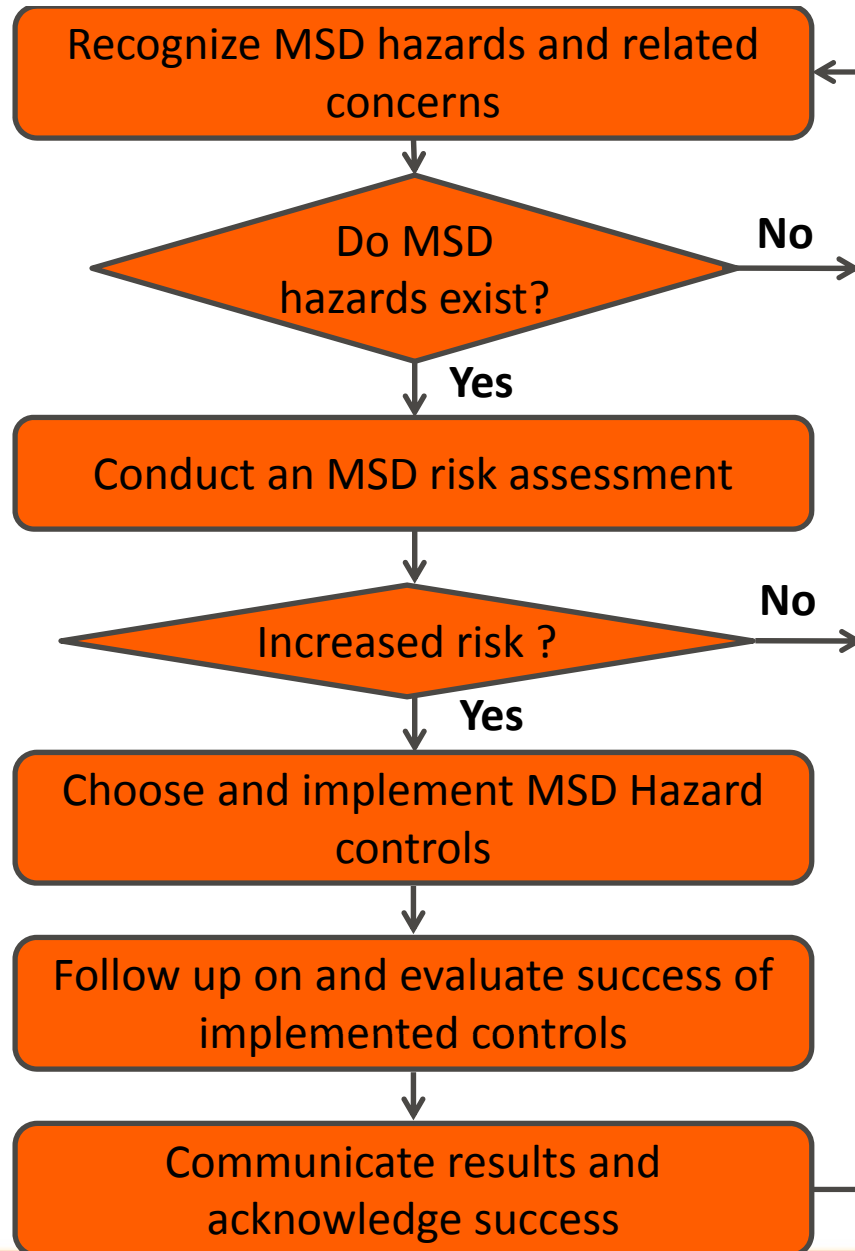


Lost Time MSD Statistics – Body Part



MSD Prevention Framework

Establish a Foundation for Success

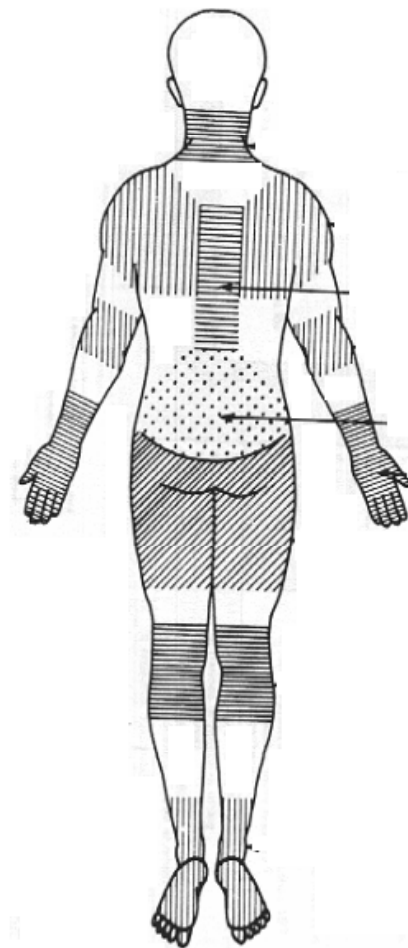


Establish a Foundation for Success

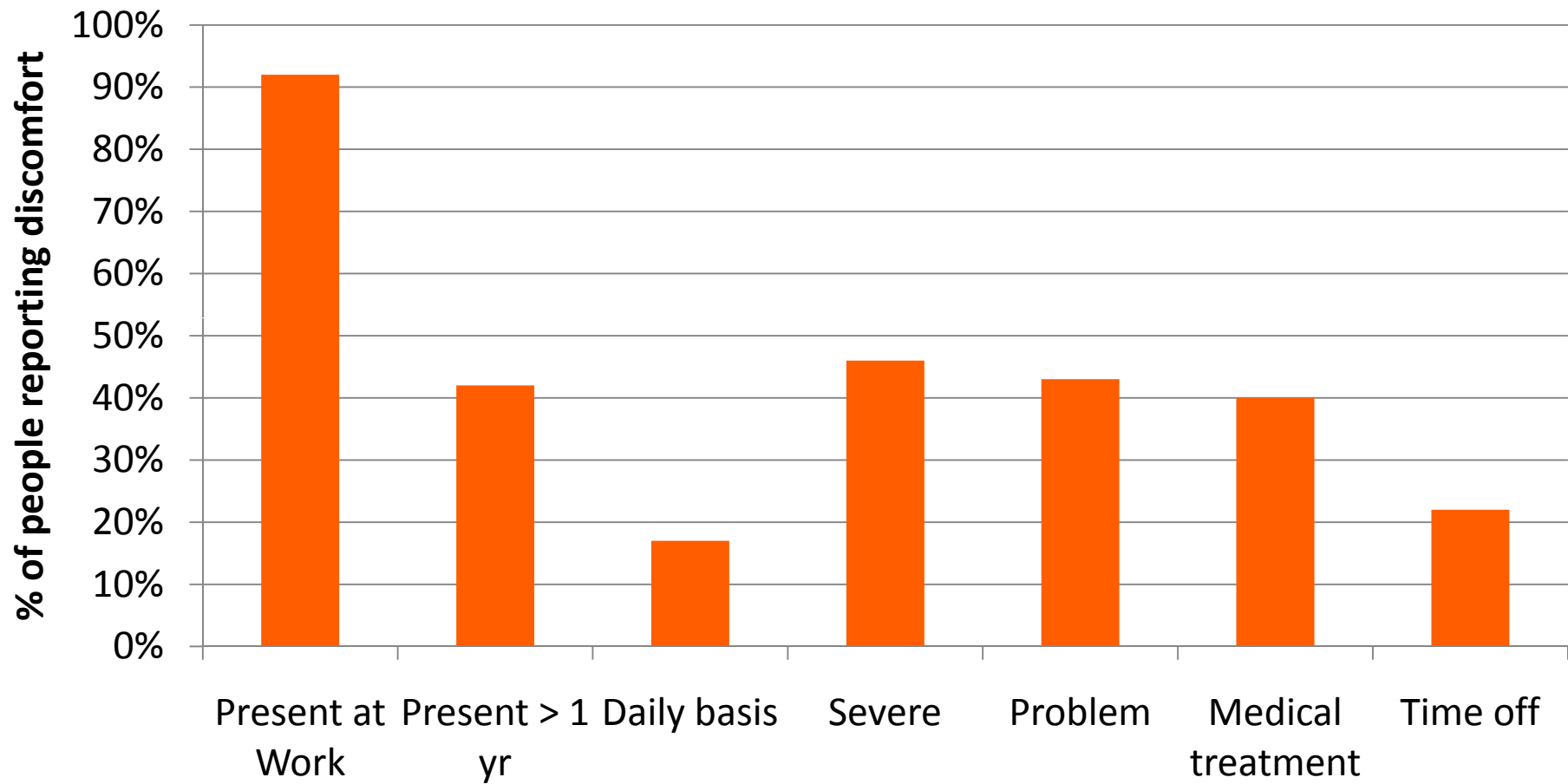
- Senior management commitment
- MSD prevention policies/procedure have been created and communicated
- Training on MSD Prevention
 - Everyone is able to recognize signs and symptoms of MSDs
 - Everyone is able to recognize MSD hazards
 - Supervisors and health and safety staff have been trained on how to respond appropriately to reports of MSD symptoms (conduct a simple MSD hazard assessment)

Recognize Hazards and Related Concerns

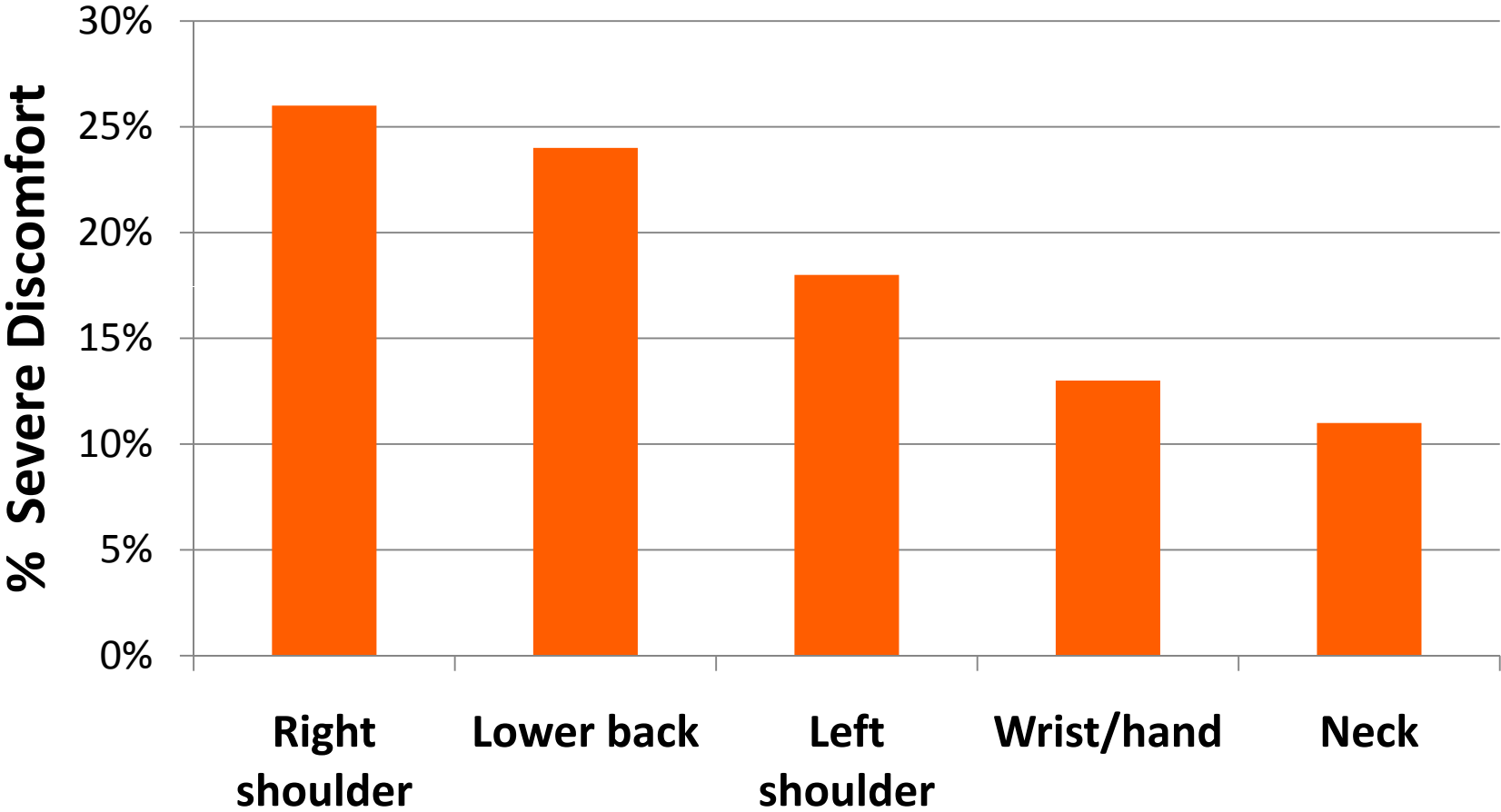
- Review incident reports of where MSD have already occurred
- Well defined documented process for workers to report hazards or discomforts
- Include MSD hazards in all workplace inspections
- Supervisors look for MSD hazards as part of their normal job duties
- Discomfort Survey



Discomfort Survey Results



Severe Discomfort - Lineperson



Discomfort Survey Results

Lineperson	Inspector & Substation	Small Vehicles	Metering, Stores, Mechanics
<ol style="list-style-type: none"> 1. Bucket work (37%) 2. Rubber gloves (29%) 3. Cables (26%) 	<ol style="list-style-type: none"> 1. Driving (50%) 2. Working off ladder (33%) 3. Getting objects from back of pick-up (17%) 	<ol style="list-style-type: none"> 1. Sitting or driving for long periods (33%) 2. Computer work (25%) 3. Working above shoulder height (17%) 	<ol style="list-style-type: none"> 1. Installation of meters (78%) 2. Standing in stores (22%) 3. Heavy lifting, twisting and bending of back (22%)

Conduct an MSD Risk Assessment

- MSD risk assessments are done whenever there is a history of:
 - MSD claims
 - Workers expressing concern about pain/discomfort
 - Workers express concerns that there is a need to address current job demands
- Individuals involved in the MSD risk assessment have been provided with training on how to conduct the assessment
- Appropriate workers, supervisors, and managers are involved in the assessment

Choose and Implement MSD Hazard Controls

- Involve those who will be affected by the change in the process
- Ensure that everyone understands the different control approaches (engineering, administrative, PPE)
- Evaluate potential controls
- When a control is selected ensure that workers are trained on how to use the control.

Eliminating and Controlling MSD hazards

Process

- Adequate staffing levels for workloads
- Job enlargement / task rotation
- Self-paced tasks
- Improved communication

Materials

- Organize stock on shelves taking weight into consideration
- Purchase manageable weights/sizes
- Handles on packaging

Environment

- Working Space
- Overcrowding
- Temperature
- Flooring
- Housekeeping

Equipment


- Mechanize a process
- Improve workstation design/layout
- Workstation adjustability
- Preventative maintenance
- Pre-shift checklists/inspections
- Provide space for workers to move, allow unconstrained postures


Human

- Training (S&S of MSD, MSD hazard awareness, how to report MSD hazards, work techniques and processes)
- Reinforce need for use of equipment
- Improve communication/support from supervisors
- Support early reporting concerns

Follow-up and Evaluate MSD Hazard Controls

- Evaluate with the same tools that you used to access
- Obtain workers input on the controls
- Evaluate your MSD prevention process

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 Ergonomics Change Team
To help you... keep yourself well.
ErgonomicsChangeTeam@kwhydro.on.ca

Ergonomic Improvements "1 Minute" Survey Form

Shift: _____ Date: _____
Department: _____ Surveyor: _____

Ergonomic Improvement: _____

1. Have you used this improvement? Tally results below.

No, haven't even seen it	No, have seen it but not used it	Yes, once or twice	Yes, a few times	Yes, regularly
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

2. If you answered yes, how would you rate this improvement? Tally results below.

1 Hate it - worse than before!	2	3	4	5	6	7 Love it - huge improvement!
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

3. What are some advantages of this improvement?

4. What are some disadvantages of this improvement?

5. Do you have any suggestions for improvement?

Communicate Results and Acknowledge Success

- A process is in place to keep everyone up-to-date on MSD prevention activities
- Specific projects are discussed at crew/department meetings
- Individuals involved in MSD prevention projects are acknowledged and successful projects are celebrated
- Support for continuing the MSD prevention efforts have been communicated by local and Sr. Mgt

Hand Tool Design



Storage



Vehicle Design



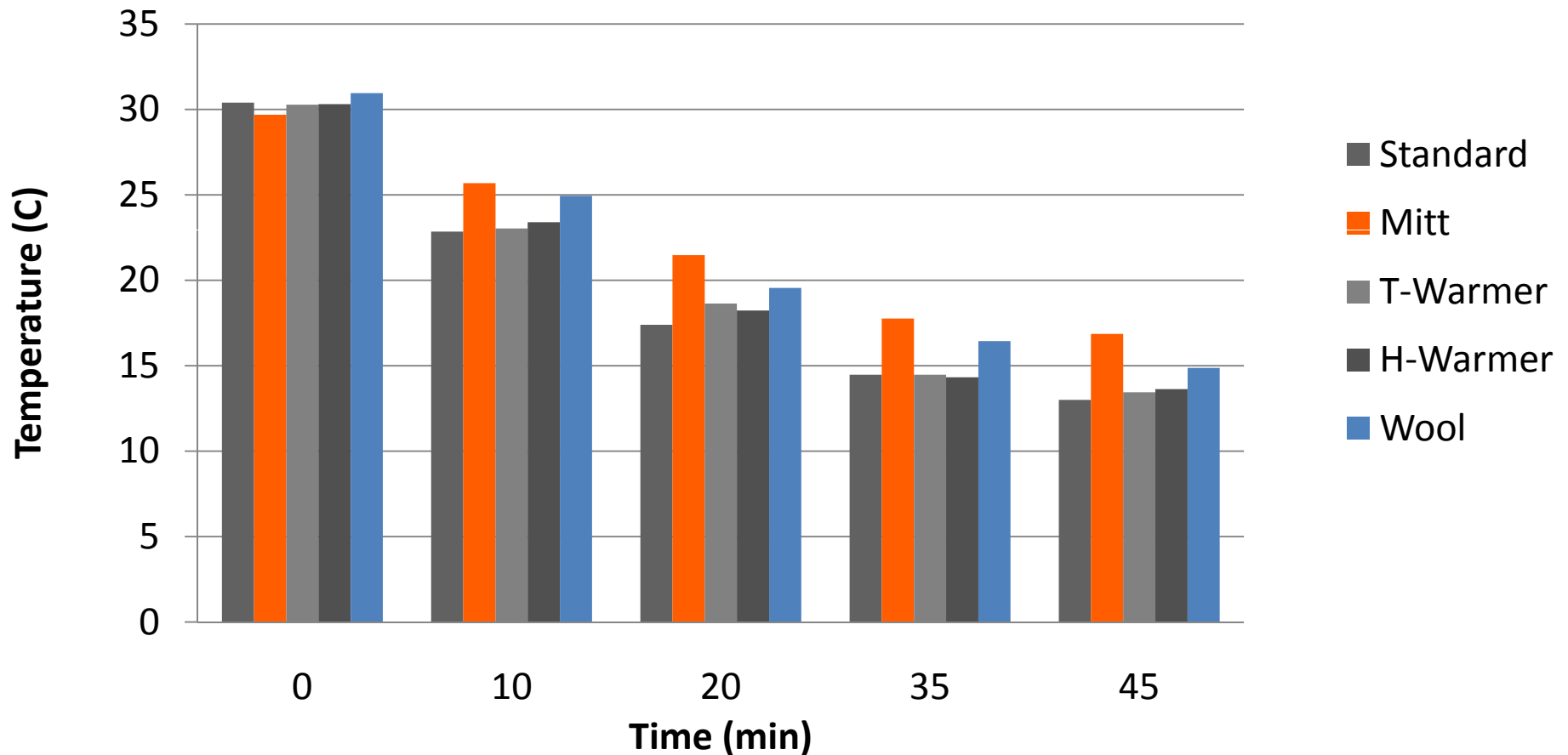
Rubber Gloves & Bucket Truck Controls



Condition	Worker 1	Worker 2	Worker 3
Bare hand MVC	145.2 lb	121 lb	140.8 lb
Class 2 MVC	105.6 lb (↓27%)	70.4 lb (↓41.8%)	105.6 lb (↓25%)
Class 4 MVC	61.6 lb (↓57.6%)	52.8 lb (↓56.3%)	66 lb (↓53%)

Rubber Gloves and Working in the Cold

5th Digit Temperatures for Each Condition



Meter Installation

- Keep installation of new meter bases at chest level height
- Pushing vs. hitting
- Consider the use of a sorbothane mallet
- Lubrication showed no biomechanical benefits



MOL MSD Blitz Sept-Oct. 2010

- OHSA
 - 25(2)(h) – reasonable precautions
 - 25(2)(a) – training
 - 25(1)(b) – maintain equipment
- Industrial Regulations
 - 45 - materials handling
 - 11- flooring
 - 21 - lighting
- Construction Regulations
 - 70-74 access/egress
 - 72(a) obstructions along path
 - 125(1) providing a scaffold where work cannot be done from ground
 - 37(1) storing and moving materials

Contact Information

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