

Prevention of MSD in the Transportation Sector: A Collaborative Research Approach

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CRE-MSD receives support from
the Workplace Safety and
Insurance Board of Ontario,
Research Advisory Council



Occupational Health and Safety Prevention Research

The Ontario Context

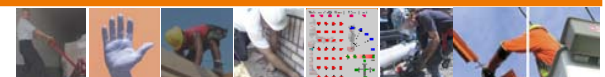
- Labour falls with the Provincial jurisdiction with a relatively small Federal presence in occupational health (no “NIOSH”).
- Recognition of the need to harness the research capability of universities and apply it to occupational health
- Small amount of funding from provincial workplace compensation agency to create Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD), a network of researchers, workplaces and workplace stakeholders

www.cre-msd.uwaterloo.ca



CRE-MSD
Centre of Research
Expertise for the
Prevention of
Musculoskeletal Disorders

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Workplace Safety and Insurance
Board of Ontario, Research
Advisory Council



Centre of Research Expertise for the Prevention of Musculoskeletal Disorders

Vision

To bring together researchers and workplace parties 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 at work.

1. To support workplace-partnered, stakeholder-focused research into the primary prevention of musculoskeletal disorders.
2. To generate transferable knowledge on the primary prevention of musculoskeletal disorders at work.



Centre of Research Expertise for the Prevention of Musculoskeletal Disorders

Activities

Workshops and Conferences:



Starter Grants:

Stakeholder Interactions:



Build Research Capacity:



Internships:

Web Site:

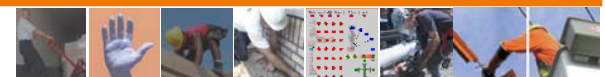


Collaborative MSD Prevention Research?

Why do it??

- **General preventative solutions for MSDs need adapting to particular sectors and settings**
- **Evaluation of particular preventative strategies and solutions highly desirable**
- **Improved diffusion of innovation**
- **Increase ability of workplaces and groups to understand and use research findings**
- **Create a pull for further evidence-based information**

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Why Transportation?

Pull...

- **New Provincial and Federal emphasis on MSD prevention**
- **Transportation sector had a high lost time injury rates (incl MSDs)**
- **Sectoral Health & Safety Association wanted answers for clients**
- **Questions about the relevance of existing knowledge on and practice of MSD prevention**
- **Few efforts in North America to develop knowledge and practice on MSD prevention in the transportation sector**



Transportation Sector and MSDs?

Their questions...

- What are MSDs?
- Are MSDs really connected with work?
- Although our MSD lost time claims are high, we don't think much can be done about them
- Motor vehicle accidents and load safety are key issues
- We have an aging workforce; how can we keep them at work
- How can we return people to work?
- How can we increase the pool of good applicants?
- Our sector is different and solutions from other sectors don't apply



How?

Collaborative Activities (2 year project)

Seed grant from CRE-MSD to turn talk into action

Understanding the work

Courier, garbage, LTL, long haul, flat bed.

Grant from WSIB

1. Identifying and clarifying sectoral needs
2. Getting players together
3. Involving key sectoral actors in project planning and grant preparation (internships)
4. *Conference 1: Awareness and call to action... something can be done!*
5. *Company activities with ergonomist : task analysis, interviews, observations*
6. *Company activities with ergonomist : task analysis, interviews, observations*
7. Inter-company workshop to compare concerns and issues
8. Companies develop countermeasures and trials to evaluate effectiveness & feasibility based on short term indicators
9. *Conference #2: What we found: Concerns and countermeasures*
10. Documentation of concerns and sector specific countermeasures
11. Sectoral association uses and disseminates “recommended practices”



Evaluation, the key step

E.g. Do different tarping methods offer advantages?

Fall from heights ✓

Slips and Trips ✓

Manual

Cardio-vascular demand ✓



Rack and Tarp

Productivity ✓

Spinal loads ✓



Strength required ✓



Muscle activity ✓

Posture ✓/0

Driver's assessments ✓

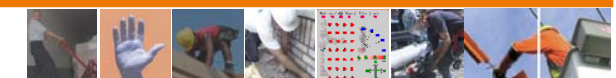


Deliverables

Structure of Recommended Countermeasures:

- **Provincial/Federal Regulations + Compensation Policies and Practices**
 - *E.g., working hours and breaks, compensation policies*
- **Sectoral Transportation Association + Health and Safety Associations**
 - *E.g., dissemination of MSD awareness, recommended practices*
- **Manufacturers of trucks and equipment**
 - *E.g., cab and seat design, entry and egress systems, tarping and loading systems*
- **Customers**
 - *E.g., provision of adequate docks and facilities*
- **Transportation Companies**
 - *E.g., equipment purchasing, yard equipment and condition, maintenance*
- **Drivers**
 - *E.g., footwear, loading and unloading strategies, equipment choices, cab equipment adjustment*

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Implications for Prevention

- Awareness and legitimacy of MSDs
 - *Awareness and understanding needed*
- MSD risk factors in multiple body areas. High force activities, MMH, seating and WBV common
 - *Congruent with reviews presented here*
- Adaptation of general principles to sectors and sub-sectors is important
 - *Demonstration projects and detailed support materials*
- The collaborative process addressing MSD prevention uncovered many system level factors that are likely key to change
 - *System level analysis and solutions indicated:*
 - +ve: potential for larger effects with multi-component approaches?*
 - ve: more complex analysis and solutions?*
- MSD prevention is intimately connected to other key business and health issues
- *(Positive) effects on multiple business and health issues?*

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