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

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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
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.
Stakeholder Interactions:

**Workshops and Conferences:**
- Job Rotation: Is It a Solution?
- Pushing, Pulling, Lifting, Lowering
- Manual Materials Handling in the Workplace: A Workshop
- Solution?
- Principles and Practices of Job Rotation, 7th December 2004

**Build Research Capacity:**
- Internships:

**Starter Grants:**
- Web Site:

**Who should attend?**
This workshop is aimed at employers, workers, injured worker associations, unions, and ergonomists. A workshop presented by the Centre of Research Expertise in the Prevention of Musculoskeletal Disorders (CRE-PREMUS) and OH & S consultants within the Health and Safety Associations and WSIB.

**Schedule**
- Registration 8:00-9:00 am
- Break with light refreshments 10:30-11:00 am
- Commentary from a business and labour perspective followed by panel discussion with presenters 11:00-12:00 pm
- Light Lunch 12:00-12:45 pm
- Case study presentations 12:45-2:00 pm
- Reporting back from workshops followed by questions and a summary 3:30-4:30 pm

**Our Presenters**
- **Mardy Frazer**
  - President and C.E.O. of CIMTEK
  - President and C.E.O. of CIMTEK
  - Ted Pattenden
  - Ted brings over 20 years experience and broad background in business leadership and strategic business management in a variety of major industries to our discussions.
  - David Robertson
  - Montréal (UQAM)
  - Department of Kinesiology and CRE-PREMUS, University of Québec at Montréal
  - Richard Wells
  - Richard is Director of CRE PREMUS and has worked for the last two decades in the causes of MSDs, assessment of work and prevention of musculoskeletal disorders.
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):**

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!
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”

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**How?**

- **CRE-MSD support:** Workplace Safety and Insurance Board of Ontario, Research Advisory Council
- **Collaborative Activities:**
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  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. **Conference #2:** What we found: Concerns and countermeasures
  6. Documentation of concerns and sector specific countermeasures
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**Seed grant from CRE-MSD to turn talk into action**

**Understanding the work**

**Grant from WSIB**

**Courier, garbage, LTL, long haul, flat bed.**
Evaluation, the key step

E.g. Do different tarping methods offer advantages?

- Fall from heights
- Slips and Trips
- Cardio-vascular demand
- Productivity
- Muscle activity
- Driver's assessments
- Spinal loads
- Strength required
- Posture

Manual
Rack and Tarp
Slider
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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