

## Health, safety partners make MSD prevention a priority

Ontario's workplace health and safety system is taking a big step forward in how it addresses musculoskeletal disorders (MSDs). It has recognized the need to make MSD prevention a priority for all system partners and all workplaces in Ontario.

This is being achieved through a nine-part MSD Prevention Strategy, which the Ontario Health and Safety Council (OHSCO) approved in March 2005. The Institute for Work & Health has supported the development of this strategy in a number of ways.

"The goal of the MSD Prevention Strategy is to increase MSD prevention

activities in Ontario workplaces," says Jonathan Tyson, the strategy's Project Manager. "This will, over time, lead to lower rates of reported lost-time MSDs, healthier workers, and lower costs for Ontario employers."

The foundation of the strategy is the development and dissemination of an MSD Prevention Guideline for Ontario. The guideline contains practical information about MSD risk factors, control strategies, hazard identification tools and risk assessment methods.

The guideline was created under the direction of OHSCO, whose members include senior decision-makers from the Ontario Workplace Safety & Insurance Board (WSIB), Ministry of Labour (MOL), Institute for Work & Health (IWH), and all of Ontario's Health and Safety Associations (HSAs).

"The Institute is playing an important role in the implementation of the strategy, by offering support through our research and knowledge transfer expertise," says Kiera Keown, an IWH Knowledge Transfer Associate, who sits on the OHSCO MSD prevention committee.

Content for the guideline was developed with input from internationally recognized experts in MSD research, including IWH Senior Scientist Dr. Donald Cole and President Dr. Cam Mustard. Many stakeholders were also consulted to help develop and review the guideline.

It is expected that all system partners will support the final guideline and use it to promote and support MSD prevention activities in workplaces. Ontario's HSAs and employers can use the guideline to create or update their MSD awareness, prevention and training materials.

### A spotlight on MSDs

This issue of At Work features articles relating to soft-tissue injuries, also called musculoskeletal disorders (MSDs). In Ontario, MSDs are the leading cause of compensation claims for time off work each year. MSDs are injuries of the muscles, tendons, nerves and other soft tissues. Between 1996 and 2004, MSDs accounted for more than 40 per cent of lost-time claims by workers in Ontario. The Institute for Work & Health has invested a long-standing commitment to MSD research, prevention, and knowledge translation and exchange activities. In this special issue, we have highlighted some of these efforts.

"This is an exciting step for the Ontario health and safety system," says Tyson. "If widely adopted and promoted, the guideline has the potential to make a real difference in the lives of Ontario workers and the competitiveness of our workplaces."

In Ontario, employers have a general duty under the Occupational Health and Safety Act (OHSA) to take reasonable precautions to protect workers from MSDs. While there is no specific requirement, the act requires employers to acquaint workers "with any hazard" related to work, including MSD hazards.

Copies of the draft guideline are available at the Pulp and Paper Health and Safety Association website ([www.pphsa.on.ca](http://www.pphsa.on.ca)).

Once the guideline is in place, the next step will be to create sector-specific MSD prevention materials and implement other strategy initiatives. ☺

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**WSIB** Workplace Safety &  
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## What researchers mean by...

### absolute risk and relative risk

When a doctor says that a woman has a 15 per cent risk of developing a particular cancer over a lifetime, or a new drug can reduce the risk of heart disease by 20 per cent over an old drug, what exactly does that mean?

The media often mentions risk when reporting on research, but this can sometimes be misleading. Understanding how risk is expressed can help determine a study's significance, or a person's chance of illness, injury or recovery. Risk can be explained in terms of absolute or relative risk. Here's a look at the difference between these terms.

**Absolute Risk** Let's say a study of 100 workers in factory A revealed that 20 workers experienced back pain on the job. In factory B, 30 workers in a similar workplace of 150 workers developed back pain. The absolute risk of developing back pain is simply the percentage of people affected. This is 20 per cent in both groups. In scientific terms, absolute risk is the number of people experiencing an event in relation to the population at risk.

**Relative Risk** Relative risk is a comparison between two groups of people, or in the same group of people over time. It can be expressed as a ratio. In the example above, the relative risk of developing back pain - comparing factory A and factory B - is 20:20 or one. That is, workers in factory A are no more (or less) likely to have back pain than workers in factory B. It's 20 per cent for both groups.

Now suppose workers in factory A were to receive exercise therapy for half an hour each day. One year later, we find that only eight of 100 workers have back pain, while the rate in factory B remains the same at 20 per cent.

The ratio now changes to 8:20. Eight is the risk per 100 workers in factory A. Twenty is the risk per 100 workers in factory B. If we divide eight by 20, this gives us 0.40, or 40 per cent. In other words, the relative risk of developing back pain in factory A is now 40 per cent of the risk in factory B.

**Risk Reduction** How much did the risk of back pain change due to the exercise therapy intervention? Again, this can be calculated two ways, using absolute and relative risk reduction.

Absolute risk reduction is the difference in the percentage of people who are affected. Again, recall that before the intervention, 20 per cent of workers in factory A developed back pain. Afterwards, eight per cent did. The difference is 12. Therefore, the intervention resulted in an absolute risk reduction of 12 per cent.

The relative risk reduction is the change in relative risk. Recall that before the intervention, the relative risk was one for both factory A and B. After the intervention, it dropped to 0.40. The difference is 0.60. In other words, the intervention resulted in a 60 per cent reduction in relative risk.

**Which is better?** Risk expressed either way is correct. In our example, the relative risk reduction of 60 per cent appears larger than the absolute risk reduction of 12 per cent. It often helps to look at both types of risk to see how significant a change is.

For example, say the absolute risk of a work injury is two per 100 workers. Due to an intervention, it drops to one injury per 100 workers. This yields a relative risk reduction of 50 per cent. Overall, in absolute terms, this means one less injured worker per 100.

In another case, say the absolute risk of injury is 50 per 100 workers, but drops to 25 injuries per 100 workers. This will also result in relative risk reduction of 50 per cent. However, this translates to 25 fewer injured workers per 100. Even though the relative risk reduction is the same in both cases, the second intervention has a greater impact overall.

Let's revisit the examples from the start of the article. The doctor is describing the absolute risk of the woman developing cancer, in relation to all women at risk, over a lifetime. On the other hand, the reduction in risk of the new heart disease drug is relative, compared with the older drug. ☺

*The figures quoted are fictional. However, a 2005 study by Institute for Work & Health researchers did show that some forms of exercise therapy for back pain can be helpful.*

## Reviews show ergonomics' role in MSD prevention

How effectively do ergonomic interventions prevent or reduce work-related musculoskeletal disorders (MSDs)? What role does ergonomics play in alleviating complaints in office workers, such as shoulder pain or eye discomfort?

These are just some of the questions that have interested researchers at the Institute for Work & Health. As part of the Institute's systematic review program, researchers have been involved in three reviews with an ergonomic focus.

The newest review focuses on the facilitators and barriers to implementing participatory ergonomic (PE) interventions. PE is an approach in which workers are educated about ergonomics, and they are actively involved in identifying hazards, as well as suggesting and implementing solutions to work-related health and safety problems.

Facilitators or barriers to PE can include factors such as support from management or lack of financial resources to implement change – anything that may help or hinder a workplace ergonomic intervention.

“An earlier systematic review on PE focused on the outcomes and effectiveness of participatory ergonomics,” explains Dwayne Van Eerd, Research

### Findings from past reviews

Here's what previous systematic reviews on workplace ergonomic interventions have shown.

There is:

- Partial evidence that participatory ergonomic (PE) interventions have a small, positive impact on reducing musculoskeletal symptoms
- Partial evidence that PE interventions have a positive impact in reducing injuries and workers' compensation claims
- Partial evidence that PE interventions have a positive impact on lost days from work or sick days
- Moderate evidence that workstation adjustments, and rest breaks with exercise, as implemented in the studies reviewed, have no impact on musculoskeletal or visual outcomes
- Moderate evidence that alternate pointing devices have a positive effect on musculoskeletal outcomes

*For more information, visit [http://www.iwh.on.ca/sr/systematic\\_reviews.php](http://www.iwh.on.ca/sr/systematic_reviews.php). The completed reviews are called The Effectiveness of Participatory Ergonomic Interventions, and Workplace Interventions to Prevent Musculoskeletal and Visual Symptoms and Disorders Among Computer Users.*

Associate, who has been involved in each of the reviews. “This new review will focus on the process of implementation, and how these interventions are actually put into practice.”

PE interventions often involve an ergonomics team. Interventions are diverse, and can range from tool or equipment changes, to work organization changes such as altered work shifts or job rotation.

The new review is expected to be completed in late 2006. A stakeholder

group involving ergonomists from health and safety associations, private consulting firms, government ministries and Ontario's Workplace Safety & Insurance Board was assembled earlier this year to discuss the direction of this review.

“We are planning on reconvening with this group later this year,” says Kiera Keown, Knowledge Transfer Associate. “The original meeting allowed the stakeholders to provide input into our research question and search terms.

*(continued on page 5)*

## Doctors' network promotes back pain evidence among peers

A network of 200 Ontario physicians has been learning the most recent evidence on back pain treatment. The question now is whether they effectively influence peers to change their practice – and whether the network can be maintained over time.

The network was established by the Institute for Work & Health and several other partners. An evaluation of the project is now underway.

“We are trying to see if physicians will align practice with the evidence on low-back pain,” says Rhoda Reardon, a Knowledge Transfer Associate at IWH. Reardon helped set up the network, which involves the province's Guidelines

Advisory Committee (GAC), the Ontario College of Family Physicians, the College of Physicians and Surgeons of Ontario, and the Knowledge Translation Program at the University of Toronto.

The committee plans to use this network on an ongoing basis to promote other research-based evidence and clinical guidelines. They would also like to collect information from physicians to improve projects on research, leadership and guideline development.

The physicians are called “Educationally Influential” (EI) because they were identified by their peers, through a structured questionnaire, as acting as informal influencers with col-

leagues. The network is called POCKET: Physicians of Ontario Collaborating for Knowledge Exchange and Transfer.

At an initial meeting, the EI physicians indicated that the focus, which was originally on acute low-back pain, was too narrow. They also asked for guidance on interacting with the Workplace Safety & Insurance Board (WSIB), as many back-pain patients were involved with the WSIB. The Guidelines' EI steering committee responded by expanding the focus to include chronic back pain, and by developing a physician's reference guide to the WSIB.

Since then, physicians have been invited to attend one of seven regional

*(continued on page 5)*

## IWH research adds to body of knowledge on MSDs

It wasn't always evident that changing a worker's posture or reducing time on certain tasks could prevent painful soft-tissue disorders.

Over the past two decades, these connections have been established through research. The Institute for Work & Health (IWH) has contributed significantly to this body of knowledge about musculoskeletal disorders (MSDs).

"About two-thirds of the Institute's current projects focus on MSDs," says Dr. Cam Mustard, President and Senior Scientist. "The burden of MSDs remains high, as they are still responsible for the majority of lost-time claims. Research helps provide guidance on effective ways to reduce this burden through prevention and treatment measures."

The Institute's research on MSDs has been broad, including prevention, clinical treatment, and optimal return-to-work practices.

Institute research has contributed evidence showing that specific work demands place workers at risk of developing pain. One key study, conducted by IWH Scientist Dr. Michael Kerr, looked at factors that contributed to low-back pain among auto workers.

With colleagues at the University of Waterloo, the research team identified three forces on the spine that increase the risk of low-back pain. The findings suggested that reductions in these forces, through job redesign, would reduce the rates of low-back pain. This study was published in the *American Journal of Public Health* in 2001.

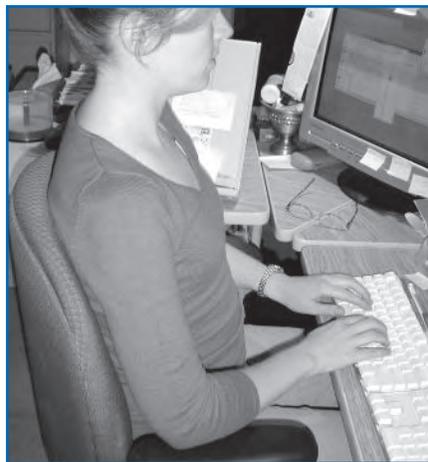
Another major Institute study showed that, after the introduction of an ergonomic program, frequent and severe pain declined among workers with repetitive strain injury (RSI) at a large Toronto newspaper.

This study, undertaken by IWH Senior Scientist Dr. Donald Cole and colleagues, interviewed workers before and after the program was implemented. Researchers found that concern by supervisors was associated with reduced pain in workers. Also, more time spent using a computer mouse increased work

disability. These findings were published earlier this year in *International Archives of Occupational and Environmental Health*.

In a current study, Cole and colleagues are examining how best to sustain MSD prevention programs in workplaces over time. In collaboration with the Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD), this project revisited four plants that introduced a participatory ergonomics team facilitated by the researchers. The study is exploring where and when the programs are sustained after the researchers withdrew.

"A colleague is examining the role of different kinds of management commitment in supporting change," says Cole. "The results should be quite interesting."



In another large project, the effectiveness of a participatory ergonomics program is being investigated in six firms in the electrical and utilities sector.

"The project involves new approaches to implement MSD reduction programs in which ergonomists at the health and safety association – in this case the Electrical & Utilities Safety Association (E&USA) – are champions of a sector-wide initiative," says Dr. Phil Bigelow, IWH Scientist. The idea is to create lasting partnerships that use resources more efficiently.

The partnership, which includes researchers from CRE-MSD, IWH and E&USA, has been designed to be participatory as well.

The construction sector faces unique challenges in implementing interventions

to prevent MSDs. Bigelow is involved in a project in this sector to identify barriers and approaches to encourage the use of effective interventions. Fifteen firms have been provided with ladder lifts to help workers place and remove ladders from trucks, rather than doing so manually.

"We are exploring how ergonomic changes are perceived, and accepted or rejected by workers and by firms. This information will help find better ways to bring ergonomics research into practice" says Bigelow.

In addition to prevention, treatment is another area of research and expertise at IWH. In the early 1990s, the Institute was involved in developing the first evidence-based low-back pain guidelines published by the U.S. Agency for Health Care Policy and Research.

In 1995, the Institute sponsored the founding of the Back Review Group of the Cochrane Collaboration. Cochrane is an international group that conducts systematic reviews of research on the effectiveness of clinical treatments. The Back Review Group focuses on treatments of neck and back pain and other spinal disorders.

In 2006, four reviews were published on the following topics: herbal medicine for low-back pain, superficial heat or cold for low-back pain, acupuncture for neck disorders and massage for mechanical neck disorders.

Equally important is ensuring that soft-tissue injuries are accurately identified, particularly by compensation boards. Problems may occur when a disorder is uncommon or difficult to diagnose. In a recent study, published in the *American Journal of Industrial Medicine*, IWH Research Associate Dwayne van Eerd and colleagues proposed a new approach to identifying soft-tissue injuries.

Their approach uses a broader set of codes than usually used by the Workplace Safety & Insurance Board (WSIB). Using this approach, they captured neck pain cases more accurately from a sample of WSIB claims. ❖

## Centre links MSD researchers from many disciplines

The number of researchers studying the prevention of work-related musculoskeletal disorders (MSDs) is limited.

This is why one goal of the Centre of Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD)\* is to strengthen collaborations in this field. IWH scientists are involved with several projects co-ordinated through the centre.

CRE-MSD is based at the University of Waterloo, but it is essentially a virtual organization with a linked network of researchers from different universities and organizations, says Dr. Dee Kramer, Manager of Knowledge Transfer and Exchange at the centre. It funds and supports research on MSDs, with a focus on the prevention of work-related injuries.

“The centre brings together researchers from a wide variety of disciplines, including ergonomists, clinicians, biomechanists and social scientists,” says Dr. Phil Bigelow, an Institute Scientist who also sits on the centre’s research committee. “In some areas, we don’t have those skills at the Institute, but we can



*“Another key goal of CRE-MSD is to mentor and encourage new researchers in the field”*

– Dr. Dee Kramer

access this expertise through the teams with whom we collaborate. This leveraging has been beneficial.”

The centre takes a broad perspective on research, and projects are always done in collaboration with community-based organizations, says Kramer.

“This multi-faceted perspective allows for a more in-depth response to stakeholder needs, and increases the probability that any solution that is found will be more applicable, relevant and effective,” she explains. Another key goal of CRE-MSD is to mentor and encourage new researchers in the field, says Kramer.

Over the next few years, researchers from both organizations will be involved in several projects. Some of these include:

- A research study on participatory ergonomics programs, which is being conducted with the Electrical & Utilities Safety Association.
- A new “diffusion of innovation” study, which will explore ergonomic interventions in the construction sector.
- A partnership with the Transportation Health and Safety Association of Ontario, unions and transportation companies, to develop best practices in the prevention of MSDs. This involves organizing an international conference, creating ergonomic change teams, a literature review of international regulations and guidelines, and a workshop with companies to discuss the feasibility and usability of proposed solutions.

CRE-MSD is funded by the Workplace Safety & Insurance Board’s Research Advisory Council.✪

*\*CRE-MSD was formerly known as CRE-PREMUS.  
For more information, visit <http://cre-msd.uwaterloo.ca>*

*Reviews show ergonomics’ role in MSD prevention  
(continued from page 3)*

The follow-up meeting will be an opportunity for stakeholders to respond to the findings and discuss the key messages.”

The two completed systematic reviews on ergonomic interventions have yielded mixed findings. The first review was on participatory ergonomic interventions.

The second review examined whether office workplace interventions – such as work station adjustments and rest breaks – could help prevent health complaints in computer users. (See sidebar on page 3 for findings).

Ergonomics is generally considered to be a useful intervention. The study and process of designing and/or modifying equipment, work spaces, tasks and environments to match the abilities and needs of workers have been shown to have an impact.✪

*Doctors’ network promotes back pain evidence among peers  
(continued from page 3)*

meetings or two videoconferences about EI networks. They also heard evidence on low-back pain management from a clinician/researcher, including Drs. Jaime Guzman and Andrea Furlan from the Institute.

In addition, the physicians were asked how best to promote the message to other doctors. One result is a physician tool kit with a variety of components, including a booklet summarizing the evidence on chronic low-back pain management; a CD-ROM showing how to examine a patient’s back in three

minutes or less; a prescription pad, which reinforces evidence-based messages for managing acute low back pain; a back pain information booklet, and other items.

“The kit will go to all EI physicians but distribution could be wider, depending on the evaluation,” says Reardon. “As part of the evaluation, we will be asking, ‘Is it feasible to carry on with the network? Is this a useful way to move knowledge out?’”

The Guidelines Advisory Committee is a joint project of the Ontario Medical Association and the Ministry of Health and Long-term Care.✪



**For more information or to download items available in the POCKET tool kit, please visit [www.pocketdocs.ca](http://www.pocketdocs.ca)**

## What works to reduce the burden of workplace MSDs?

**B**ack pain. Shoulder pain. Elbow pain. These types of problems are often sustained by workers on the job, and can account for many days off work, years of reduced income and high workers' compensation costs. The burden of these musculoskeletal disorders (MSDs) is significant for workers, employees and society at large.

What do we know about what works in reducing this burden? Dr. Barbara Silverstein tackled this question during the Institute for Work & Health's (IWH's) 2006 Alf Nachemson Lecture.

For years, researchers have studied interventions designed to reduce the burden of workplace MSDs. Silverstein – who is Research Director of the Safety & Health Assessment and Research for Prevention (SHARP) Program with the Washington State Department of Labor and Industries – described a variety of these studies.

Her descriptions highlighted the challenges of researching in workplaces, of dealing with uncertain findings, and of translating evidence into practice, policy and regulations.

### Research and response

Clinical guidelines say that bed rest and inactivity rarely relieve low-back pain, says Silverstein. Yet what do practitioners actually advise their patients? A survey published in the *Journal of Environmental Medicine* in 2006 shows that emergency room physicians tend to advise inactivity. Occupational medicine physicians, in line with the guidelines, were more likely to advise activity.

“How many more emergency room doctors do you think there are than occupational medicine doctors?” asks Silverstein. “The longer that the physician has been in practice, irrespective of discipline, the less likely they are going to advise activity.”

So we know what works with regards to the clinical management of low-back pain, but these findings raise questions about putting knowledge into

practice. “In this regard, the IWH is leading the way in how we transfer knowledge and have an exchange about what really works and doesn't,” she says.

Compared to a clinical setting, a workplace poses additional challenges in studying how interventions lead to change. Early in her studies, Silverstein says, “I believed that intervention studies could be done purely, particularly in workplaces. If you were able to see an exposure [to a task that increased the



Dr. Barbara Silverstein

risk of developing an MSD], and you decreased the exposure, you would decrease the effect. If you increased the exposure you would increase the effect, and nothing else explained the change.”

The reality is that besides the task, there are other factors, such as the workplace environment, which also affect change. In addition, there are basic issues inherent to intervention studies that pose a challenge in finding what works.

“How many workplaces are excited about having us come in and do research? Are they representative of those who do not want to be bothered?” asks Silverstein. Another problem is that many workplace interventions involve so few workers that they don't have the strength to detect when a change, as a result of an intervention, is significant.

“Workplaces are dynamic, forever changing and they change irrespective of our study design or the intervention that we want to see implemented or evaluate,” says Silverstein.

Recently, the U.S. media has pronounced that ergonomics doesn't work in office settings, based on the findings of a systematic review in the Cochrane Collaboration Database. The review found limited evidence for exercise therapy, for rest breaks, for or against changes to keyboard design, and conflicting evidence about ergonomics programs.

“The conclusion in press was that the benefit of expensive ergonomic interventions in the workplace is not clearly demonstrated,” she says.

But if you look more closely at the studies in the review, Silverstein noted a number of problems. Among these were the fact that the studies didn't always identify if the health conditions were related to work – so an intervention at work might not have been a solution anyway. Many of the studies were short-term, poorly designed and did not have enough power to show a difference.

The findings were not, as pronounced by the media, definite proof that ergonomics doesn't work.

A series of randomized controlled trials between 1999 and 2005 have shown that some interventions do have an effect. Among the findings:

- participatory ergonomics and workstation modifications reduce symptoms in younger workers, but not in older ones
- intensive ergonomics training decreases symptoms in the short term only
- both ergonomics training and an adjustable chair reduced symptoms in office workers in the short term and increased productivity
- workstation changes and breaks prompted by software did not reduce symptoms, according to various studies
- a 2005 systematic review from the Institute for Work & Health showed that almost all participatory ergonomics studies of medium- or high-quality reported some evidence of positive

effects on reducing injuries and workers' compensation claims, and lost workdays

When a large, well-designed study doesn't seem to show results, it pays to look more closely at what's happening, Silverstein says. A multi-site Norwegian study of participatory ergonomics in thousands of workers and supervisors failed to show any improvements in MSD symptoms.

At the start of the study, 94 per cent of participants had symptoms. The changes that were implemented included job redesign, increased job variety and reduced repetition. But these did not reduce symptoms in the three groups being studied.

However, during the study, there was restructuring in the mills involved, and employees changed locations, creating confusion in study groups. Another important point was that the follow-up survey occurred shortly after the intervention, so there was little time for the symptoms to improve.

"It is incredibly important to document both planned and unplanned changes to understand what's actually happening," says Silverstein.

### Regulating MSD prevention

When practices to prevent MSDs are mandated by legislation, another layer of complexity is added, as experiences in Washington State have shown.

"We know that manual patient or resident handling in hospitals and nursing homes increases the risk of MSDs, primarily in the back, but also in the shoulder," says Silverstein. A systematic

review and several studies show that lift equipment and safe patient handling prevent MSDs.

Washington state legislature passed safe patient handling legislation, but the law only applies to hospitals. The incidence rate for MSDs is actually highest in nursing homes, which do not fall under the legislation, Silverstein points out.

Politically, the state has four nurse legislators and all hospitals are unionized, giving them a strong voice, while very few nursing homes have unionized staff, she notes. The legislation would be important in improving back injury rates in nursing homes.

However, on the positive side, the act did make Washington the first state to have mandatory legislation on safe patient handling, and hospitals and unions supported the move.

"I would say that so far it's successful," says Silverstein. "My hope is that nursing homes will be next. Did they need the research in the legislature? I think we informed [the process], but it's naïve to think that researchers are dominant influences on the legislative process."

Washington state also had ergonomics regulations – called the Ergonomics Rule – but this legislation was repealed in 2003. The rule did appear to have an impact on reducing MSDs, according to surveys of thousands of employers conducted by SHARP researchers before, during and after the law was struck down.

After the rule passed in 2001, requirements for companies were phased in over seven years. Industries were grouped based on their size and type.

The first group consisted of workplaces with more than 50 employees in industries such as trucking, nursing and carpentry. By 2003, this group had to identify hazards and educate workers. By 2005, these workplaces would have had to reduce exposure to these hazards to an acceptable level.

SHARP researchers conducted the workplace survey at four different points in time. The first survey was in 1998, and second took place in 2001 and the third survey was done in mid-2003, when the first group had identified hazards. Responses ranged from 5,900 to 7,500 employers for each survey.

The survey asked employers about MSD rates, number of employees exposed to different risk factors, if any prevention measures were taken, and other questions.

Between 2001 and 2003, there was a decrease in the percentage of employees exposed to hazardous tasks, such as awkward lifting, lifting above the shoulder and others. In addition, the percentage of workplaces taking steps to reduce the risk of MSDs increased.

"The reduction in exposure between 2001 and 2003 suggests there was some impact of there being a rule," says Silverstein. However, in November 2003 the rule was revoked. "There was extended controversy about the rule over the phase-in period."

The 2005 survey revealed an increase in the percentage of employees who were exposed to MSD hazards. At this point, says Silverstein, "there was no rule and no possibility of workplace inspection related to ergonomics issues." (See Figure 1).

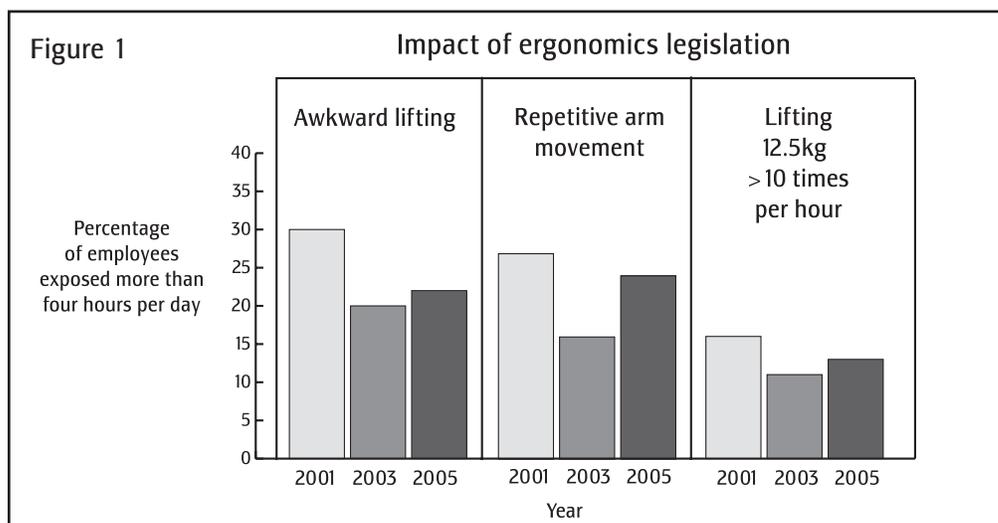
The costs of the repeal are high, according to estimates from SHARP researchers. "The economic effect of not having the ergonomics rule fully in place is about \$182 million per year," says Silverstein.

### Where do we go from here?

Despite the challenges in finding what works to reduce MSDs – and in implementing these changes – past experiences have led to progress.

"I think we have had some improvements in designing MSD intervention

*(continued on page 8)*



## Chief Scientist's term ends

As September drew to an end, so did the tenure of the Institute's Chief Scientist, Dr. Tony Culyer. The Chief Scientist's role is the senior scientific position at the Institute for Work & Health (IWH). It has the twin responsibilities for stewarding the scientific excellence of IWH, and aligning its research priorities and commitments to contribute to the research needs of stakeholders, says President Dr. Cam Mustard.

Over the past three years, Culyer excelled in both respects. He came to IWH as an internationally renowned health economist with expertise in knowledge translation and clinical practice guidelines.

"He brought with him an enthusiastic confidence that IWH could be more of a national and even international institution than it already was," says Mustard.

Culyer was also "a strong champion of knowledge transfer, and of developing new forms of packaging research evidence to make it accessible to non-research partners."

He was equally appreciated for his engaging leadership style and sense of humour. After arriving at the Institute, he interviewed all staff to develop a sense of the organization, which led to focus groups, and informed his work in strategic planning.

"His commitment to a collaborative and consultative style of decision-making," was a key contribution to the Institute," says Sandra Sinclair, Director of Operations. In addition, he was instrumental in establishing the systematic review program at the Institute, says Jane Gibson, Director of Knowledge Transfer & Exchange.

Another role of the position is to strengthen IWH's external relations. His contributions have been recognized by many organizations. For example, he has been asked to chair the Research Advisory Council of the Ontario Workplace Safety & Insurance Board.

The position of Chief Scientist was, in fact, created in recognition of Culyer's senior stature in the scientific community, notes Sinclair. Although his term has ended, Culyer is staying on at IWH into mid-2007 as a part-time senior scientist.

## New Scientific Director appointed

Dr. Benjamin Amick has been appointed the Institute's new Scientific Director, effective January 2007. Prior to joining the Institute, Dr. Amick was an Associate Professor of Behavioral Sciences and Epidemiology at the School of Public Health at the University of Texas. He was also Associate Director for Education, Training and Leadership Development for the Texas Institute for Society and Health.

## SAC Chair named Royal Fellow

Dr. Clyde Hertzman, Chair of the Institute's Scientific Advisory Committee (SAC), has been elected a Fellow of the Royal Society of Canada. Dr. Hertzman is also a Canada Research Chair Tier 1, and Professor in the Department of Health Care and Epidemiology at the University of British Columbia in Vancouver.

## Syme Fellowships awarded

Three PhD students have received S. Leonard Syme Training Fellowships in Work & Health this year.

Dana Howse, who is at the University of Toronto, will explore workers' reporting behaviours on symptoms of occupational asthma.

Janet McLaughlin is also at the University of Toronto. She is studying health and human rights among Mexican and Caribbean migrant agricultural workers.

Stephanie Premji, who is at the Université du Québec in Montreal, is evaluating the relation between the ethnic composition of jobs and associated risk of injury and illness in Montreal workers.

This fellowship program was created to recognize Dr. S. Leonard Syme's contributions to the Institute as Chair of its Scientific Advisory Committee from 1995-2002.

## New Back Review Group editor

The Cochrane Back Review Group, which is housed at the Institute, has a new co-ordinating editor. Past editor Dr. Lex Bouter, who is also a member of IWH's Scientific Advisory Committee, has taken the position of Vice Chancellor at the Vrije University and Windesheim in the Netherlands.

Dr. Maurits van Tulder replaces him as the new co-ordinating editor, joining Dr. Claire Bombardier. Van Tulder is a senior researcher at the Vrije University. He is an author or co-author of 14 Back Group reviews.

Vicki Pennick, who is based at IWH and has worked with the Back Review Group for a number of years, has recently been appointed Managing Editor. For more information, see [www.cochrane.iwh.on.ca](http://www.cochrane.iwh.on.ca).

## Minister's youth group formed

Dr. Cam Mustard, IWH President, has been invited to participate in a youth action group organized by Ontario Minister of Labour Steve Peters. Its purpose is to identify solutions to prevent injuries among workers aged 25 or younger who are out of school. Members include youth, labour market experts, and labour and employer representatives. ✪

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studies," says Silverstein. "However, we will never have control over workplaces and we need to take that into account. All study designs that take place in dynamic workplaces face the possibility of being overwhelmed by external circumstances, such as plants shutting down or being restructured."

Researchers need to have contingency plans and to document everything that happens, she says. They also need to use information beyond randomized controlled trials, such as case studies and natural experiments occurring in companies.

"Researchers need to hook up with these workplaces to try to get better designs, where possible. This is the only way to get enough studies," she says. "I think where we can do the randomization, we absolutely need to do it. But I don't think we can afford to let the 'perfect' be the enemy of the 'good'." ✪

*The Alf Nachemson Lectureship was established in 2002 to honour Dr. Nachemson's significant contribution to research evidence in clinical decision-making. Nachemson is a founding member of the IWH Scientific Advisory Committee.*