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IN THIS ISSUE

2 / What researchers mean by...
cross-sectional vs. longitudinal studies

3 / Pilot program decreases
duration and costs of workers'
comp claims

4 / Research 101: Dealing with
the unexpected

4 / New IWH senior scientist
reaches out to policy-makers

5 / Tools you can use: A practical
way to apply best evidence

6 / **infocus**: Small firms need
OHS services tailored to their
needs

Preventing upper extremity MSDs: What works and what doesn't

The strongest evidence to come out of a new systematic review from the Institute for Work & Health is that workstation adjustments alone have no effect in preventing upper extremity musculoskeletal disorders. However, there are indications that adding ergonomics training to the mix may make a difference.

Health and safety professionals have long been aware of the problem of work-related musculoskeletal injuries, especially pain disorders of the muscles, tendons and nerves. The upper extremity – including the neck, shoulders, arms, wrists and hands – has proven particularly vulnerable. In 2006, musculoskeletal disorders (MSDs) and traumatic injuries of the upper extremity accounted for about 30 per cent of lost-time claims in Ontario. The burden to individuals, workplaces and economies is significant.

Workplaces seeking to prevent upper extremity MSDs certainly have options. Approaches to prevention range from ergonomics training to new equipment. The difficulty is in knowing which intervention technique will supply the greatest benefit.

A new systematic review from the Institute for Work & Health (IWH) aimed to provide workplaces with evidence to make informed choices about such programs. It looked at the effectiveness

of different workplace interventions for preventing and managing upper extremity MSDs and traumatic injuries.

"The use of workplace interventions is quite widespread, not to mention costly," confirms Carol Kennedy, a research associate at the Institute who coordinated the review. "Still, no research review has looked at all types of upper extremity disorders, from acute injuries to chronic pain, or across all industries and sectors. This is what drove the review."

Led by IWH Scientific Director Dr. Benjamin Amick, an international review team of 14 researchers evaluated existing studies of workplace interventions. From an initial pool of more than 15,000 articles, the team identified 36 high or medium quality studies. There were 19 categories of workplace interventions – everything from job stress management training to the physical adjustment of computer workstations.

continued on back page



IN THE NEXT ISSUE

The IWH's first policy brief will address what research tells us about the risk of injury based on "newness" — new-to-Canada worker, young worker, new firm. Find out more in the next issue of *At Work*.



New IWH website up and running

It's here. The revamped Institute for Work & Health (IWH) website — incorporating the Institute's new visual identity — was launched in early December. And it's not just the look that has changed. You'll find some new features, such as easy access from the home page to research and tools by subject area. You can check out the new website at the same address: www.iwh.on.ca. Please let us know what you think. Just click on Feedback, found on the bottom of every page.

IWH Board welcomes new member

Janice Dunlop has joined the IWH Board of Directors. Dunlop is the senior vice-president of Human Resources and chief ethics officer at Ontario Power Generation (OPG). She is also a member of the Advisory Committee for the Rotman Executive HR Program and a member of the Training and Development Advisory Committee for the Ontario Society of Professional Engineers. Lesley Bell and Dr. Peter George concluded their terms as board members in December 2008.

Change of date for WorkCongress9

The hosts of WorkCongress9 announce a change in the conference meeting date, from the original date in November 2009 to a new date in May 2010. As hosts of the ninth meeting of the International Congress on Work Injury Prevention, Rehabilitation and Workers' Compensation, the Ontario Workplace Safety and Insurance Board and the Institute for Work & Health look forward to your participation in Toronto in the spring of 2010. We will be updating this announcement very shortly with a confirmed meeting date and with revised dates for abstract submissions and conference registration. Check for information updates on the conference website at: www.workcongress2009.com.

WHAT RESEARCHERS MEAN BY...

Cross-sectional vs. Longitudinal Studies

Cross-sectional studies make comparisons at a single point in time, whereas longitudinal studies make comparisons over time. The research question will determine which approach is best.

Study design depends greatly on the nature of the research question. In other words, knowing what kind of information the study should collect is a first step in determining how the study will be carried out (also known as the methodology).

Let's say we want to investigate the relationship between daily walking and cholesterol levels in the body. One of the first things we'd have to determine is the type of study that will tell us the most about that relationship. Do we want to compare cholesterol levels among different populations of walkers and non-walkers at the same point in time? Or, do we want to measure cholesterol levels in a single population of daily walkers over an extended period of time?

The first approach is typical of a cross-sectional study. The second requires a longitudinal study. To make our choice, we need to know more about the benefits and purpose of each study type.

Cross-sectional study

A cross-sectional study is an observational one. This means that researchers record information about their subjects without manipulating the study environment. In our study, we would simply measure the cholesterol levels of daily walkers and non-walkers along with any other characteristics that might be of interest to us. We would not ask them to modify their behaviour. In short, we'd try not to interfere.

The defining feature of a cross-sectional study is that it can compare different population groups at a single point in time. Think of it in terms of taking a snapshot. Findings are drawn from whatever fits into the frame.

To return to our example, we might choose to measure cholesterol levels in daily walkers across two age groups, over 40 and under 40, and compare these to cholesterol levels among non-walkers in the same age groups. However, we would not consider past or future cholesterol levels, for these would fall

outside the frame. We would look only at cholesterol levels at one point in time.

The benefit of a cross-sectional study design is that it allows researchers to compare many different variables at the same time. We could, for example, look at age, gender, income and educational level in relation to walking and cholesterol levels, with little or no additional cost.

However, cross-sectional studies may not provide definite information about cause-and-effect relationships. This is because such studies offer a snapshot of a single moment in time; they do not consider what happens before or after the snapshot is taken. Therefore, we can't know for sure if our daily walkers had low cholesterol levels before taking up their exercise regimes, or if the behaviour of daily walking helped to reduce cholesterol levels that previously were high.

Longitudinal study

A longitudinal study, like a cross-sectional one, is observational. So, once again, researchers do not interfere with their subjects. However, in a longitudinal study, researchers conduct several observations of the same subjects over a period of time, sometimes lasting many years.

The benefit of a longitudinal study is that researchers are able to detect developments or changes in the characteristics of the target population at both the group and the individual level. The key here is that longitudinal studies extend beyond a single moment in time. As a result, they can establish sequences of events.

To return to our example, we might choose to look at the change in cholesterol levels among women over 40 who walk daily for a period of 20 years. The longitudinal study design would account for cholesterol levels at the onset of a walking regime and as the walking behaviour continued over time. Therefore, a longitudinal study is more likely to suggest cause-and-effect relationships than a cross-sectional study by virtue of its scope.

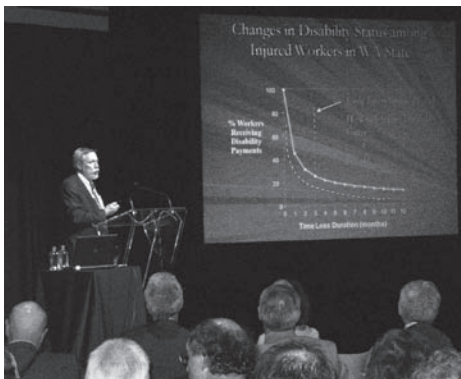
Pilot program decreases duration and costs of workers' comp claims



Dr. Thomas Wickizer

Organizational support to family physicians — including health services case managers to help coordinate care, improve communication with employers and reduce paperwork — can improve the delivery of health care to injured workers and lower costs. Dr. Thomas Wickizer explained how and why.

An innovative program designed to improve the delivery of health care to injured workers is lowering both days lost to disability and workers' compensation costs in Washington State. Dr. Thomas Wickizer, professor of Health Services at the University of Washington, shared the results of this pilot program at the Institute for Work & Health (IWH)'s annual Alf Nachemson Memorial Lecture. Held in Toronto in October, the 2008 lecture attracted more than 85 people in the occupational health and safety community.



"You really can make progress in fostering better outcomes for injured workers," Wickizer said. "There really is hope." According to Wickizer, the project is successful because it provides organizational support and infrastructure changes that allow family physicians to improve the quality of care to injured workers. It doesn't rely on financial incentives alone.

Redesign pushes quality improvements

The pilot program, called the Occupational Health Services Project, began in 1998 with a redesign of some elements of the workers' compensation health-care delivery system. (Washington State is not a "managed care" system, and workers are free to see the doctor of their choice.) The major changes included the following:

- **Developing quality indicators.**

The system was redesigned to measure a number of practices required of physicians: the timely submission of accident reports, two-way communication with employers, the assessment of impediments to return to work (including psychological or social barriers), the completion of activity prescription forms (akin to functional abilities forms) and the use of best practices for treating specific conditions.

- **Developing financial and non-financial incentives for physicians.**

Incentives were built into the system to reward physicians who undertook the "quality" practices above. For example, doctors were paid 50 per cent more for accident reports submitted within two business days of an injured worker's first visit.

- **Establishing centres for occupational health and education (COHEs).**

These centres had two objectives: one, to provide the support that would allow community physicians to offer better care to injured workers and, two, to identify and handle high-risk cases. As for supporting physicians, the centres offered continuing medical education, made senior doctors available as mentors to help with complex cases, and disseminated treatment guidelines and best practices. They also provided health services case managers to help coordinate care, improve communications with employers about return to work and reduce the paperwork burden on doctors.

Program decreases net cost per claim

The redesigned system was launched within two communities in Washington

State: in Renton in 2002 and in Spokane in 2003. Over 175 physicians were recruited in Renton and 650 in Spokane.

The program was assessed in the third and fourth years of operation, and the results were convincing. The study compared injured workers who saw doctors in the pilot with workers who did not. The intervention:

- decreased the number of time-loss days per claim by four days;
- decreased the time-loss costs per claim by \$347; and
- decreased the medical costs per claim by \$245.

The net cost savings was \$480 per claim, after taking into account the increased administration cost of \$65 per claim and increased payments to physicians of \$55 per claim. The pilot also resulted in fewer rejected claims and appeals, fewer reopened claims, and fewer claims that involved a lawyer.

What's more, both doctors and employers welcomed the program. Both highly valued, in particular, the involvement of health services coordinators. They saw these case managers as instrumental in improving return-to-work communications between doctors and employers, and as problem-solvers during points of potential friction within the workers' compensation system.

Interestingly, the physicians noted that the financial incentives were only moderately helpful in promoting occupational health best practices. "The additional financial incentive alone did not improve the quality of health care injured workers received," Wickizer said.

For a copy of Dr. Wickizer's slides, visit: www.iwh.on.ca/nachemson-lecture. ■

In Brief

Providing organizational support to family physicians can improve the delivery of health care to injured workers, thus lowering disability duration and claims costs.

RESEARCH 101: Dealing with the unexpected

In this series, Research 101, we are taking you behind the scenes of a research project at the Institute for Work & Health (IWH), from start to finish.

In Part 1, we introduced you to the project's lead researcher, IWH Scientist Dr. Peter Smith. We explored the formulation of the research question: Why, over a 14-year-period, have lost-time claims in Ontario decreased by more than 40 per cent while no-lost-time claims have only decreased by four per cent? And we followed Smith and his IWH research team through to the good news that his \$200,000-plus grant proposal had been awarded by the Workplace Safety and Insurance Board (WSIB)'s Research Advisory Council. (You can read the details at: www.iwh.on.ca/research-101.)

Roadblocks threaten timelines

In January 2008, the research begins. As is often the case in research, unanticipated roadblocks crop up. Smith and his team come up against three challenges in particular that threaten to derail the project's timeline.

First, in order to explore trends in no-lost-time WSIB claims over time, 10,000 such claims must be "coded." What Smith and his colleagues soon find out is that "coders" are in high demand, and it can take up to nine months to train a person to do this specialized work correctly. That kind of time just isn't built into the two-year research proposal.

Second, the research team needs a tailor-made database to code and store the no-lost-time claim information. One will have to be designed.

Third, in order to compare lost-time and no-lost time claims, the research team needs to manage information from a large number of claims. This takes special expertise.

"When roadblocks happen, you have to think of alternatives — fast," says Smith. "You have a fixed budget and a fairly inflexible timeline, so you don't have the luxury of waiting around for things to fix themselves."

Read how Smith and his research team overcome these obstacles at: www.iwh.on.ca/research-101.

New IWH senior scientist reaches out to policy-makers

Getting workplaces, health-care providers and public institutions to understand and adopt evidence-based practices has long been a priority of the Institute for Work & Health (IWH). Now, the IWH is strengthening its ties in particular with the policy-makers within these stakeholder groups.



Dr. Ron Saunders

Enter Dr. Ron Saunders, the newest senior scientist at the Institute — a policy expert with a passion for labour market issues. "Ron Saunders' appointment as a senior scientist will bring a wealth of policy development experience and a long record of policy research to the Institute," says IWH President Dr. Cam Mustard. "My colleagues and I look forward to Ron's contribution to strengthening our solid relationships with public institutions, employers and labour groups and to his contributions to the Institute's research mandate."

Saunders officially joined the IWH in November 2008. Nationally recognized for his work on labour market issues, Saunders brings years of experience in policy research and development. He came to the Institute from the Canadian Policy Research Networks (CPRN), where he was vice-president of Research. His own research at CPRN centred on vulnerable workers, the school-to-work transition, access and quality issues in post-secondary education, and skills development and training.

Prior to that, Saunders spent 17 years in the Ontario public service, most notably as the assistant deputy minister of Policy, Communications and Labour Management Services in the Ministry of Labour. There, he was instrumental in developing policies related to employment standards and labour relations.

Saunders spent time in the academic world, too, having taught at the University of Toronto and, in 2001/2002, at Queen's University School of Policy Studies. His own academic credentials include a PhD in Economics from Harvard University, where he specialized in industrial organization.

Identifying policy implications of IWH research

At the IWH, Saunders will continue to pursue his research on Ontario and Canadian labour market trends, focusing on labour force demographics (such as immigrant workers, aging workers) and their potential impact on health and safety in the workplace. Equally important, Saunders will devote time to identifying and disseminating the implications of IWH research for decision-makers.

"I'm already looking at developing and pilot-testing policy briefs that would summarize the policy implications of IWH research," Saunders says. "I'm also planning to help the IWH strengthen its relationship with the policy community." That community includes policy-makers within public institutions such as the Ministry of Labour and Workplace Safety and Insurance Board, as well as those affected by policy, such as employer groups and organized labour.

Saunders is proud to be joining the IWH team. He was well aware of the Institute's strong reputation for research excellence before taking on his new role. Given his background, he hopes he can now "help the Institute connect with decision-makers so its excellent research gets accessed and implemented at the policy level."

What's more, Saunders has always valued the Institute's mission. "It is clearly an important one," he says. "The health of workers is instrumental to both individual and societal well-being." ■

Tools you can use:

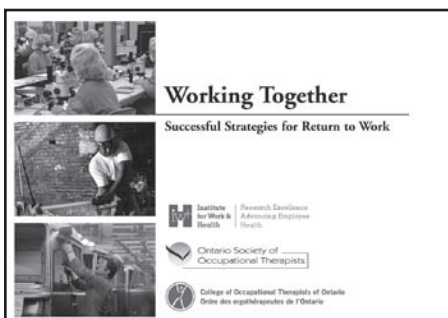
A practical way to apply best evidence

The Institute for Work & Health is adding to its collection of user-friendly tools to help you make health, safety and return-to-work decisions based on the best scientific evidence.

How can researchers help workplaces make health and safety decisions based on evidence? This question has spawned a range of strategies at the Institute for Work & Health (IWH). These include research highlights, audience involvement in research, and professional networks for information exchange. IWH is now placing greater focus on another strategy: developing evidence-based tools. Evidence tools are user-friendly guides to help decision-makers understand and apply research.

“Research users are telling us that such tools assist them in applying research evidence to their decision-making,” says Jane Gibson, director of Knowledge Transfer and Exchange. “IWH has been in the business of creating evidence guides and tools for some time, but we are increasing the number of tools that we’re producing.” The popularity of the Seven Principles for Successful Return to Work is one recent example.

Here are some new or upcoming tools to look for, with information about the IWH research from which they were drawn.



Working Together

This hands-on guide helps occupational therapists (OTs) share return-to-work (RTW) knowledge with employers. It merges the Seven Principles into four stages reflecting OT practice processes. The tool, developed by members of the OT clinical network (made up of peer-nominated

informal opinion leaders), the Ontario Society of Occupational Therapists, the College of Occupational Therapists of Ontario and IWH, is now online at www.iwh.on.ca/working-together.

The supporting research: The Seven Principles, which were developed from a systematic review of studies on effective RTW interventions.

Red Flags/Green Lights Return-to-Work Guide

Each year, a fraction of compensation claims don't proceed as smoothly as expected, which can complicate recovery for injured workers. This tool helps decision-makers identify and avert the situations that may cause a claim to turn down such an unintended road (“red flags”). It also offers helpful practices (“green lights”). “The tool provides signs for different players, so that they can understand the different aspects of the injured worker’s problem and ask relevant questions,” says Scientist Dr. Ellen MacEachen. The guide is expected to be complete in spring 2009.

The supporting research: A study of complex claims led by MacEachen, which identified many of the red flags, as well as workshops across Ontario with workers, employers, health-care providers and workers’ compensation board staff, where solutions, or green lights, were discussed and confirmed.

Participatory Ergonomics

This guide distills the essential elements needed to successfully implement a participatory ergonomics (PE) program in the workplace. It also includes real-life examples showing what happens with and



without these elements. A PE approach, which seeks workers’ input on how to organize their work, helps prevent injury. “The idea for this guide came from stakeholders in systematic review meetings in Manitoba, British Columbia and Ontario,” says Associate Scientist Dwayne Van Eerd. The guide is expected to be available in mid-2009.

The supporting research: Two IWH systematic reviews, the first on the effectiveness of PE interventions and the second on the successful implementation of PE interventions.

Economic Evaluation Workbook

This practical workbook is designed to help decision-makers determine the economic costs and consequences of an occupational health and safety (OHS) program. The workbook team includes partners from Ontario and British Columbia. Workbooks specific to the manufacturing, service and health-care sectors will be developed. The scheduled completion date is December 2009.

The supporting research: A systematic review of OHS interventions with economic evaluations, led by Scientist Dr. Emile Tompa, as well as a methods text on economic evaluation edited by Tompa. ■

In Brief

A new tool is now available from the IWH website to help occupational therapists with the return-to-work process.

When it comes to occupational health and safety (OHS), small businesses are not large firms on a smaller scale. They have unique features that affect their approach to workplace health and safety, and these features should be taken into account by OHS professionals and policy-makers when designing small-firm programs and services.

This is a key message of a systematic review of the research on OHS in small businesses, led by Institute for Work & Health (IWH) Scientists Dr. Ellen MacEachen and Dr. Curtis Breslin. “OHS programs designed for large firms cannot simply be scaled down and imported into small businesses,” says MacEachen. “They have different cultures that give rise to different OHS needs.”

The whys and hows of the review

Small businesses, defined as those with 100 or fewer workers, play a pivotal role in the Canadian economy. They employ half of all people working in the private sector, and make up 97 per cent of goods-producing businesses and 98 per cent of service-producing businesses in the country.

Given the importance of small firms, a team of 15 reviewers set out to discover what the scientific research has to say about their OHS practices. In particular, the researchers wanted to find out how small firms understand and incorporate OHS processes and which OHS programs have an effect on workers’ health and safety.

To do this, the systematic review looked at two types of research studies: qualitative studies and quantitative intervention studies. From an initial pool of over 5,000

articles, the research team — based on a rigorous analysis of both relevance and quality — determined that 14 qualitative studies and five quantitative studies were of sufficient strength to give rise to reliable evidence.

Small business culture shapes OHS needs

What the qualitative studies make clear, says MacEachen, who led the review and the qualitative side of the research, is that small businesses tend to have unique cultures that shape their approach to OHS. Three features in particular are noteworthy, she says.

One, small businesses are characterized by a culture of independence and autonomy — in which owners and front-line workers often work side by side in pursuit of a common goal: the company’s economic survival. As a result, “health and safety is seen as the responsibility of each individual, and not mainly of the boss,” says MacEachen. “This sets the stage for a lack of formal OHS systems and resources in small firms. This informality can lead to owners and workers failing to recognize hazards, and tolerating them more easily when they do.”

Two, small workplaces are often governed by fewer or different OHS legislative requirements than large firms. Because there are so many of them, any one small business is rarely subject to safety inspections. The policies and regulations that do apply to them are often designed with larger firms in mind and, therefore, do not “fit” the way small businesses work. “Although the idea [behind less stringent requirements] comes

from a desire not to strangle small firms with rules and regulations, it can have unintended effects,” says MacEachen.

Three, small firms tend to work close to the bone, with a strong focus on “getting the product out.” They rely on few employees and, often, slim profit margins. As a result, a workplace injury that takes a worker out of the workplace is particularly disruptive. “It’s often not easy to find a replacement and it’s not easy to keep the job open for the worker while he or she is away,” says MacEachen. Indeed, the strain posed by a work injury can lead employers to re-evaluate the value of the worker, in some jurisdictions putting the worker’s continued employment in jeopardy.

Health and safety professionals and policy-makers would be wise to offer OHS support to small businesses that takes these features into account, says MacEachen. In short, the review suggests that, to improve OHS in small businesses, they need support that:

- helps them understand OHS rules and approaches;
- accommodates the personal nature of their working relationships and their economic constraints;
- recognizes their lack of formal OHS systems and resources; and
- tailors information and services, taking into account their size (e.g., the need for affordability, the informal division of tasks) and their sector.

Practices to improve OHS outcomes

Dr. Curtis Breslin, the scientist who led the quantitative side of the review, bemoans the lack of high quality studies evaluating the effect of OHS interventions on outcomes in small businesses. (Interventions refer to OHS practices such as



Dr. Ellen MacEachen



Dr. Curtis Breslin

“OHS PROGRAMS DESIGNED FOR LARGE FIRMS CANNOT SIMPLY BE SCALED DOWN and imported into small businesses,” says MacEachen. “They have different cultures that give rise to different OHS needs.”



engineering controls, training, safety audits and motivational programs. Outcomes refer to effects on workplace exposures, injury or disability rates, pain levels, behaviours, and attitudes and beliefs.)

The lack of studies means hard-and-fast guidelines about the effectiveness of interventions are not possible. Nonetheless, there was enough evidence to produce some “promising practices,” says Breslin.

One promising practice for small business owners — and the policy-makers and prevention system partners who serve them — is to implement “multiple-component interventions, not just single-component interventions,” says Breslin. In other words, it looks like the best outcomes are achieved when an OHS program is not implemented in isolation, but in combination with other programs.

Other promising practices revealed by the review, says Breslin, include the combined use of training and safety audits, the engineering out of hazards, and the incorporation of motivational components into OHS programs for small business. “For example,

one high quality study looked at providing financial incentives to small businesses that implement changes stemming from a safety audit,” he says.

There is one other piece of important information, says Breslin. The review found no evidence that any intervention led to adverse outcomes. In other words, interventions did not make things worse.

The barriers to small business research

Ultimately, both MacEachen and Breslin would like to see more OHS research focusing on small firms. Breslin acknowledges the feasibility barriers for both intervention researchers and small businesses. “For example, it’s easier for researchers to recruit a lot of people from one large company than to recruit a few people from a lot of little companies,” he says. “It can also be very difficult to get consistent measures across companies, given how different small businesses tend to be from one another.”

As for small firms, it might be that they are so over-stretched, and working with so many economic constraints, that it is hard for them to take on anything extra. “Research may be seen by small businesses as a non-essential item,” says Breslin. “These are some possible reasons for why it’s hard to recruit them for a study.” He adds that incentives might be needed to get more small businesses involved in intervention studies, such as paying them for taking part.

That said, the systematic review shows that high quality studies in small businesses are possible. “We found some good examples,” says Breslin. “It might take more money and time, but it can be done.”

To access the review, visit:
www.iwh.on.ca/systematic-reviews. ■

OHS IN SMALL BUSINESSES: REVIEW FINDINGS AT A GLANCE

The IWH systematic review of high and medium quality studies exploring OHS practices in small businesses gives rise to these findings.

- Small firms generally have poor knowledge of OHS rules and approaches.
- Small firms lack formal workplace systems and resources (in terms of both money and staff) for OHS.
- Information, policies and legislation tend not to fit the reality of small businesses, making them difficult to put into practice.
- Small businesses may downplay risks if they are seen as part of the job or interfere with getting things done.
- Small businesses are characterized by close working relationships that shape the OHS views of the workplace parties (e.g. the interests of owners and workers in the viability of the firm are aligned).
- Risk may be viewed as a personal responsibility, so that workers are left in charge of navigating their own OHS risks.
- A workplace injury is especially disruptive in small businesses and can have a profound effect on productivity and workplace relationships.
- Small businesses adapt their own strategies for managing OHS, depending on their particular needs and resources.
- Small firms need support that helps them understand OHS rules and approaches, that is specifically tailored to their size and industry sector, and that takes into consideration personal working relationships and economic constraints.
- Small firms benefit from multi-component interventions involving safety audits and training.

In Brief

The nature of small businesses affects their approach to workplace health and safety, and this should be reflected in the OHS programs and services developed for them.

AT WORK

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Preventing upper extremity MSDs
continued from front page

Taken together, the studies provide a “mixed” level of evidence that occupational health and safety (OHS) interventions prevent upper extremity MSDs. A “mixed” level means the evidence is inconsistent. In this review, inconsistencies arose because some interventions showed a positive effect and some showed no effect on upper extremity health. None of the interventions showed an adverse or negative effect.

Arm supports prove beneficial

Some interventions fared better than others. For example, there is moderate evidence that adding arm supports to computer workstations carries some benefit for upper extremity health.

Yet other interventions appeared to have no effect. Researchers found strong evidence that workstation adjustments alone are ineffective. There is moderate evidence that job stress management training and biofeedback training (in which monitoring instruments are used to provide information about increased muscle tension) are also ineffective.

Still, the review team cautions that additional research is needed. “In many cases, there just weren’t enough higher quality studies to provide a good evidence base,” says Kennedy. “The review team believes that policy recommendations should be based on strong levels of evidence, and this requires consistent findings from a reasonable number of high quality studies. We found strong evidence with only one type of intervention – that workstation adjustments are ineffective when implemented in isolation. As a result, we’re recommending that worksites not engage in health and safety activities that include only workstation adjustments.”

The review team was surprised and somewhat frustrated by the lack of intervention studies evaluating upper extremity injuries in non-office based sectors. Although the office sector is known for having frequent upper extremity disorders, it is not necessarily known for having traumatic injuries, such as crush injuries or lacerations. “We were disappointed not to find a single higher quality study that addressed the prevention of these types of injuries in non-office settings,” says Kennedy.

To access the review, visit:

www.iwh.on.ca/systematic-reviews. ■

EVIDENCE-BASED SUGGESTIONS FOR PREVENTING UPPER EXTREMITY MSDs IN THE WORKPLACE

In this systematic review, researchers looked at previous studies to find those of sufficient quality to help answer the question: Do OHS workplace interventions prevent upper extremity MSDs and injuries? Based on their findings, they offer the following advice.

Recommendation (a strong level of research evidence makes this a recommended workplace practice):

- Worksites should not make workstation adjustments to computing workstations their only solution to upper extremity MSDs. When implemented in isolation in office environments, they have no effect. (However, when combined with ergonomics training, there is limited evidence that workstation adjustments are beneficial for upper extremity musculoskeletal health.)

Practice considerations (a moderate level of evidence makes the application of these practices in the workplace worth considering):

- Workplaces should consider using arm supports to alleviate upper extremity MSDs. Arm supports should be considered a practical design in a range of work environments to reduce muscle loading in the upper extremity.
- Workplaces should not consider using biofeedback and job stress management in their training programs to reduce upper extremity MSDs. These training programs appear to have no effect.

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