News from the CREs

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

creod
Centre for Research Expertise in Occupational Disease

OCRC Occupational Cancer Research Centre

Paramedics team up with CRE-MSD to prevent musculoskeletal disorders

Musculoskeletal disorders (MSDs), or sprains and strains, pose a substantial challenge to the long-term viability of a healthy, capable paramedic community. Although Canadian data are scant, according to a 2001 report by WorkSafeBC, British Columbia's workers' compensation agency, B.C. paramedics lost over 60,560 days of work over a three-year period. And claims costs surpassed $10 million for injuries related to the back and shoulder alone.

Unfortunately we know very little about the physical demands of paramedics' work. That's why the Centre for Research Expertise for the Prevention of Musculoskeletal Disorders (CRE-MSD) and several paramedic services have collaborated on research aimed at mitigating career-threatening injuries for paramedics.

Paramedics at the Frontenac Paramedic Service conduct a physical demands assessment, as part of a project aimed at reducing musculoskeletal disorders in the profession. (Photo: Brendan Coffey)

Paramedics across the country are exposed to a number of high-demand tasks. However, the frequency and duration of the exposures depend on many factors, including the location of the service. Paramedics in high-density metropolitan areas are required to do physically demanding tasks, such as loading and unloading stretchers from ambulances, nearly twice as often as those in low-density rural areas. Conversely, those in rural areas spend more time roaming in their vehicles or standing by awaiting calls. While the magnitude of physical exposures varies, in some instances a two-person crew may be required to lift loads that exceed 160 kilograms.

"The challenge for this profession is two-fold," says Dr. Steven Fischer, assistant professor in the School of Kinesiology and Health Studies at Queen's University in Kingston, Ont. "Paramedics need to lift heavy loads immediately after spending extended periods in seated sedentary positions. And paramedics also need to lift or reposition patients who may be in very awkward situations, where normal, commonly taught lifting techniques may not be possible."

With funding support from CRE-MSD, a team consisting of Fischer, Dr. Renée MacPhee, assistant professor at Wilfrid Laurier University's Kinesiology & Physical Education and Health Sciences, Brendan Coffey, a master's student at Queen's University, and Doug Socha, chief of the Hastings-Quinte Paramedic Services, have developed a unique training package for paramedics. In partnership with Paramedic Chiefs of Canada and the Paramedic Association of Canada, the team has implemented the training in five different sites across the country.

As part of that training package, paramedics are being asked to rigorously and systematically document the physical demands of their own work. This comprehensive physical demands data gathered by paramedics provides baseline knowledge to help guide MSD prevention efforts moving forward. The research team intends to use these data as the basis for an evidence-based physical abilities test for the profession. Researchers are also working together with program co-ordinators at local colleges to help ensure that paramedic candidates have a clear and detailed understanding of the physical demands of the job once they are hired.

Of course, changing the work environment is critical to injury prevention too. There are a number of ongoing projects aimed at improving the ergonomics of the paramedic workplace. New equipment and technologies—such as powered stretchers for automated stretcher loading and unloading, "kneeling" ambulances that lower the lift height, and motorized stair chairs that reduce total lifting—are among the ongoing changes within the profession.

"New advances in equipment, coupled with an opportunity to rethink 'fitness' in the paramedic community, will likely generate an appreciable decrease in the number of injuries reported," says Fischer. "However, rethinking fitness will require a significant cultural shift where paramedics are afforded improved access to equipment and coaching in order to effectively improve their occupational athleticism."

This project is an example of how strengthening partnerships between paramedics and researchers allows paramedics to be directly involved in research planning and implementation. It also contributes to the growth of research culture within the profession, and ensures that evidenced-based research is timely and relevant to inform practice. •

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Building HSA capacity to support the prevention of occupational diseases

Over the last 10 years of collaborative research with our health and safety partners, it has become evident that awareness of the exposure risks and prevention programs for occupational disease (OD) remains low. This has implications for Ontario workers, given that early recognition and treatment of OD make a big difference to health outcomes and successful return to work.

That was why the Centre for Research Expertise in Occupational Disease (CREOD) set out to better understand the knowledge and resource needs of front-line occupational health and safety professionals regarding OD generally and occupational skin disease specifically. These would include health and safety association (HSA) consultants, Ministry of Labour (MOL) inspectors, and health and safety professionals working with labour and employer groups.

The study was funded by the Workplace Safety and Insurance Board Research Advisory Council (WSIB RAC). Its purpose was to identify and assess gaps in awareness, knowledge, skills and resources of HSA consultants to inform the development of education programs and tools to support their day-to-day work with Ontario workplaces. The study involved eight focus groups composed of 64 front-line staff from four sector-based HSAs, as well as a workshop with 20 occupational health and safety system partners to review the findings and discuss recommendations and next steps.

Here are some highlights of our findings:

- The shift from sector specialist toward more generalist roles is challenging HSA consultants' depth of knowledge as they support an increasingly diverse range of companies and industries.
- The growing emphasis on proactive client visits with a focus on priority issues such as the top hazards leaves little room for thinking about OD exposures and prevention. Participants found OD-related requests were infrequent and usually prompted by a WSIB claim or MOL order.
- There is a mixed level of OD knowledge among the consultants. Consultants rely on each other for information as needed.
- Most reported that their clients' knowledge of OD and exposure hazards was low. Reasons for this include employers' focus on accidents and safety, the challenge of determining work-relatedness of disease, and the general lack of system and legislative emphasis on the hazards related to disease.
- Resources that would be valued include fact sheets, anecdotes and stories, and a system campaign (e.g. an MOL blitz) to raise awareness. Providing these materials in a way that allows for customization was strongly encouraged. Building OD modules back into training programs was also encouraged.

As an outcome to this study, CREOD is developing a toolbox focused on the prevention of occupational skin exposures and disease. Where possible, existing resources will be updated to reflect current research and practice evidence. The material will allow for customization where possible. We are also working with several HSAs on awareness and prevention posters, as well as an e-learning module. •

OCRC and Ryerson to implement sun safety program for outdoor work

Occupational sun exposure is a significant risk factor for both heat stress and skin cancer, the most common form of cancer in Canada. There are over 1.5 million outdoor workers in Canada who receive substantial exposure to the sun. They often have inadequate protection from the sun, and cannot avoid exposure by staying in the shade or by limiting their outdoor work during the middle of the day when the sun is strongest.

Until recently, Alberta's Be Sunsible program (www.besunsible.ca) was the only occupational sun safety program in Canada. To extend the reach and depth of such a program, the OCRC is collaborating with Ryerson University on a project funded by the Canadian Partnership Against Cancer's Coalitions Linking Action and Science for Prevention (CLASP2) grant program.

The project aims to develop an applicable, effective and sustainable national sun safety program for outdoor workers that can address both skin cancer and heat stress, and can be implemented by individual workplaces. The program is to be called Sun at Work.

Research has shown that effective sun safety programs must address both individual and organizational factors. They must actively engage workers and be tailored to the specific characteristics of each workplace. To be sustainable, workplaces must be able to implement customized programs progressively and independently.

Program to be piloted in workplaces in three provinces

The Sun At Work project will have two phases. The first phase will involve development of the Sun At Work program and a toolkit of resources. A trial program will be implemented in several workplaces in British Columbia, Ontario and Nova Scotia. The goal of this trial is to test the relevance of the program to different types of organizations.

The project team will work actively with each workplace to tailor a comprehensive sun safety program to their specific characteristics, and to embed the program within the context of their existing prevention and occupational health and safety programs. Evaluation of these trials will enable the development of the Sun At Work program for use by a broader audience in Phase 2.

Using the Sun At Work program, workplaces throughout the country will be able to implement effective and sustainable sun safety policies and practices on their own. The program and toolkit of resources will be adaptable to the differing needs, characteristics, and occupational health and safety policies and practices of individual companies. The resources will be delivered through a comprehensive and interactive website that will also house a range of sun safety resources for the general public, occupational health and safety practitioners, and policy-makers. •

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