

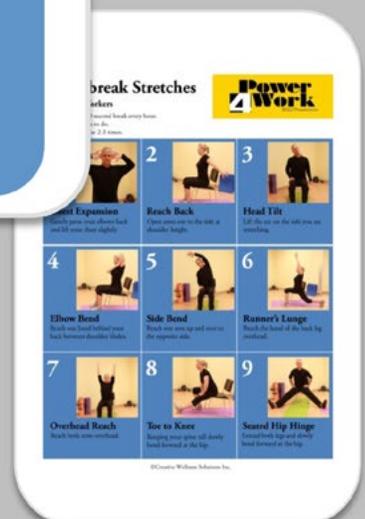
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2015

AN EXPERT INTERVIEW WITH
CREATIVE WELLNESS SOLUTIONS, INC.
CREATORS OF

eve^xia™
and

Power™
4 Work
MSD Prevention



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AN EXPERT INTERVIEW WITH
Creative Wellness Solutions

ABOUT LYDIA MAKRIDES, Ph.D

President • Creative Wellness Solutions



Lydia Makrides is an internationally recognized leader in health promotion, prevention and corporate wellness and is the President of Creative Wellness Solutions Inc. She is also the editor-in-chief of the *International Journal of Workplace Health Management*, a respected peer-review journal and was a Professor and Director of the School of Physiotherapy at Dalhousie University. As a consultant, Lydia works with companies around the world and serves as external advisor to governments and organizations internationally. In addition to her consulting work, Lydia is an accomplished researcher who has received more than \$3.5 million dollars in grants for research in cardiac rehabilitation, corporate wellness and MSD prevention.

Creative Wellness Solutions Inc., an evidence-based organization and the creator of **Power4Work™**, provides customized corporate wellness programs through Evexia an innovative global wellness portal. Evexia integrates the delivery of the Power4Work™ program, health risk assessments, customized wellness interventions, expert coaching, goal trackers, interactive videos and live webinars to employees through a variety of web-based platforms anywhere, anytime. Lydia's commitment to improving employee wellness led her to design, implement, and evaluate Healthy LifeWorks, a 4-year groundbreaking workplace wellness program implemented in a large public sector organization. The resulting study, published in the *Journal of Occupational and Environmental Medicine*, demonstrated that a comprehensive workplace wellness program improves musculoskeletal health and decreases musculoskeletal disorders. This discovery is the foundation on which the **Power4Work™** – MSD Prevention Program has been built. **Power4Work™** is a cutting-edge initiative that has been shown to prevent musculoskeletal disorders – the most significant health-related cost borne by employers.

ABOUT RYAN PICARELLA, MS, SPHR

President • WELCOA



As WELCOA's President, Ryan brings immense knowledge and insight from his career that spans over a decade in the health and wellness industry. He is a national speaker, health care consultant, and has designed and executed award winning wellness programs.

Ryan Picarella can be reached at rpicarella@welcoa.org.

In this Premier Provider Network Expert Interview, WELCOA president Ryan Picarella sat down with Lydia Makrides, President of Creative Wellness Solutions to discuss what's new in the world of Musculoskeletal Disease prevention and how Power4Work can make the difference in a company's wellness program.



Q1 Lydia, you've developed Power4Work, a unique program to help employers lower costs and improve productivity while enhancing the health of workers. What drove you to create this program?

Lydia Makrides: I have been in the business of corporate wellness for over 20 years. In that time, the sector has focused on a variety of important assessments such as blood pressure and cholesterol, but we have repeatedly overlooked what is actually the most significant health problem in the workplace: musculoskeletal disorders or MSDs. These are injuries or pain in the body's joints, ligaments, muscles, nerves, and tendons that support our limbs, neck and back.

More than a decade ago my company, Creative Wellness Solutions Inc., began including questions about MSDs as part of the many health risk assessments we conducted. Here's what we discovered: excess weight and low back pain are very, very closely related. We are currently examining this relationship in a larger and more diverse population. Preliminary analyses so far, with a sample size of n=1450, have demonstrated that the relationship is highly statistically significant (at a statistical level of $P < .0001$).

We also discovered another critical finding: MSDs happen when there is a gap, a disconnect, between the demands of the job and the physical fitness of the worker. For employers, this means there are two fundamental choices. Aggressively reduce the ergonomic demands placed on workers or help those workers become healthier. Putting programs in place for workers to increase their strength and improve their fitness are effective – and the benefits for both the employer and the employee are almost immediate. That's why I developed the Power4Work Program.

This program doesn't just reflect my insight and expertise. Its success is demonstrated. We formally tested the initiative and our groundbreaking results were published in 2013 in the *American Journal of Occupational and Environmental Medicine*. The key to our success is customization. For an MSD prevention program to be successful, it must be tailored to the individual and the workplace. Power4Work does that. It can be adapted for use by employees in construction, manufacturing, and corporate environments. It can help those who work in unusual environments – in the field,

MSDs happen when there is a gap, a disconnect, between the **demands of the job** and the **physical fitness of the worker.**"



in very hot weather, in sub-zero temperatures. No matter the job or the conditions, Power4Work can be adapted to a worker's reality.

Q2 Many employers have never heard of MSDs. What led you to explore this important area of workplace wellness?

LM: As Editor-in-Chief of the *International Journal of Workplace Health Management*, I have reviewed manuscripts submitted by researchers from around the world, and I have noticed the link often reported in these published papers between the unfitness of the worker and the development of MSDs. This causal relationship is so significant, European governments have established the Fit for Work Europe Coalition to combat MSDs – the number one cause of lost productivity on the continent.

I also have a unique background that combines physiotherapy, cardiovascular Physiology, cardiac rehabilitation and health promotion. As a university professor and a clinical researcher, I saw firsthand that the attention paid to the musculoskeletal system was almost non-existent particularly in the area of corporate wellness. **Yet MSDs cost employers more each year in both direct and indirect costs than heart disease and stroke combined.**

Power4Work™ is based on a comprehensive understanding of the musculoskeletal (MSK) system which is one of my areas of expertise and research. The MSK system is essentially Movement Central for the human body; it helps us move and do things. When we get up in the morning, take a shower, get in the car and go to work, we use our MSK system.

It's a complex system. There are more than 200 bones, 400 muscles and joints, over 800 ligaments, and miles of nerves and blood vessels. And all these parts need to work well together for a worker to be healthy and productive, whether the job requires sitting, lifting, carrying, typing, walking, or standing. Too often, unfortunately, things don't work well. In fact, there are more than 200 conditions that cause musculoskeletal pain and result in some form of functional impairment and excessive preventable employer costs.

“The MSK system is essentially Movement Central for the human body.”



“There are more than 200 conditions that cause musculoskeletal pain and result in some form of functional impairment and excessive preventable employer costs.”



Tell us how Power4Work™ addresses MSDs.

LM: Power4Work™ prevents MSDs. The most effective and cost-effective way to address a musculoskeletal disorder is to stop it before it becomes a problem. That's what Power4Work™ does. It starts upstream and identifies and resolves problems before they become chronic. Treating MSDs after problems have settled in is more painful and debilitating for workers and more costly for employers.

Here's how Power4Work™ helps companies address MSDs. It starts by being upfront about the issue. **MSD prevention must be a stated company goal.** Next, we collect baseline information through simple strength and flexibility tests collected by employees right in the workplace. This is accompanied by an MSK questionnaire that helps us understand the specific issues in an organization.

The third component is the train-the-trainer program for supervisors, managers and safety officers. This is a distinctive feature that is particularly effective. We work to empower individuals to reinforce the wellness and safety messages and to serve as the first line in implementing and supporting the Power4Work™ Program on a day-to-day basis.

The fourth component consists of pre-work fitness programs to stretch and warm-up muscles along with microbreak exercises to offer relief for repetitive work. Interventions to assist employees to lose weight and eat healthier are also included, as well as educational sessions to raise awareness about the importance of exercise, strength and a healthy lifestyle. We've found an effective way to reinforce the wellness message is to incorporate wellness education into mandated safety meetings. Similarly, safety education can be delivered during exercise sessions.

In addition to acting differently, we also need to think differently. A critical factor in reducing MSDs, particularly the very prevalent low back pain, is to change attitudes and beliefs about MSK pain. We have shown, as have other researchers, that *education about the causes of low back pain and other MSDs is not as effective as initiatives aimed at changing workers' attitudes and beliefs about this pain.* As part of the Power4Work™ Program we consistently deliver one strong message regarding back pain: **The best way to treat chronic low back pain is to move.** In other words, exercise should be embraced rather than avoided.

The fifth component of the Power4Work™ incorporates strategies to increase participation and engagement both from the employee's point of view as well as supervisors and managers. Effective strategies include team or department competitions and a variety of rewards and recognitions both for employees and most importantly for their supervisors.



The best way to treat chronic low back pain is to **move.**”



Education about the causes of low back pain and other MSDs is not as effective as initiatives aimed at changing workers' attitudes and beliefs about this pain.”

Evaluation is the sixth component. We want to demonstrate that the program makes a difference in decreasing MSDs. Ideally this is achieved through comparing baseline data with post-program data including costs related to MSDs and self-reported changes in employee MSK issues. As an international wellness consultant I have found that employers have difficulty identifying costs directly related to MSDs, and the even larger indirect costs, which include return-to-work programs, overtime expenditures, and training replacement workers. So, as part of **Power4Work™** baseline data are collected concurrently enabling program evaluation.

Q4 So how do MSDs actually develop?

LM: There are two sides to MSD development: the work and the worker. While there are many occupational health and safety requirements, policies, guidelines and regulations governing work design and ensuring a workplace free of hazards, there is less attention focused on wellness and helping workers help themselves. **Too often, unfortunately, safety and wellness work in silos.** But until workers' individual health and fitness are addressed, MSDs will develop – and they will continue to take a serious toll on individuals and organizations.

It is not difficult to understand why MSDs occur so frequently when we consider the prevalence of overweight, unfit and generally unhealthy workers. **Research indicates that 6 out of 10 workers carry excess weight, and 3 out of 10 are obese.** The current workplace demographics



The current workplace demographics paint a picture of baby-boomer generation that is increasingly physically de-conditioned with age and a younger generation of employees who show significant signs of poor health at an earlier age due to sedentary lifestyles, poor nutrition and obesity.”

paint a picture of baby-boomer generation that is increasingly physically de-conditioned with age and a younger generation of employees who show significant signs of poor health at an earlier age due to sedentary lifestyles, poor nutrition and obesity. The incidence of MSDs is forecast to rise exponentially with time unless effective intervention strategies are incorporated among the workforce.

Aging is also an issue. As individuals grow older, muscle mass and muscle strength decrease and body fat increases. In other words, body composition changes. Even if we weigh the same as we grow older, we have less muscle mass and more fat making up our weight. A major risk factor in MSDs is loss in strength, which we call **Strength Deficit (Figure 1)**.

Q5 What exactly is strength deficit, and how does it affect the workforce?

LM: We know from research that a **sedentary lifestyle can lead to a muscle loss of up to 0.4 lbs per year after the age of 50 with a general decline of about 1% per year after that.** So as we grow older our body composition changes, adding more fat and less muscle. Of the two, loss of muscle mass is the greater risk for reducing life expectancy. In a 24-year follow-up study, researchers found that grip strength was a strong, long-term predictor of life expectancy. Another long-term study measuring the fat and lean body weight of over 700 men, found that after a 22-year follow-up, men with the least muscle mass had a 40% increased risk of early death compared to men with higher muscle mass.

While strength declines as we age, job demands remain relatively unchanged. When strength falls below the level of job requirements, employees are working in the strength deficit zone and are at increased risk for MSDs, as Figure 1 shows. Employees no longer have the level of strength needed to perform their job without risk of injury or MSD development.

Fortunately, there is much we can do to counteract this decline. We found that with the strength-training component of the Power4Work Program small changes can make a big difference. Having the necessary strength makes it easier to do daily and job-related activities such as lifting, sitting, typing, pushing, and pulling.

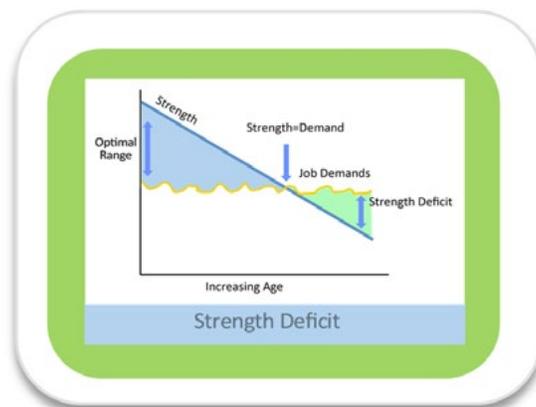
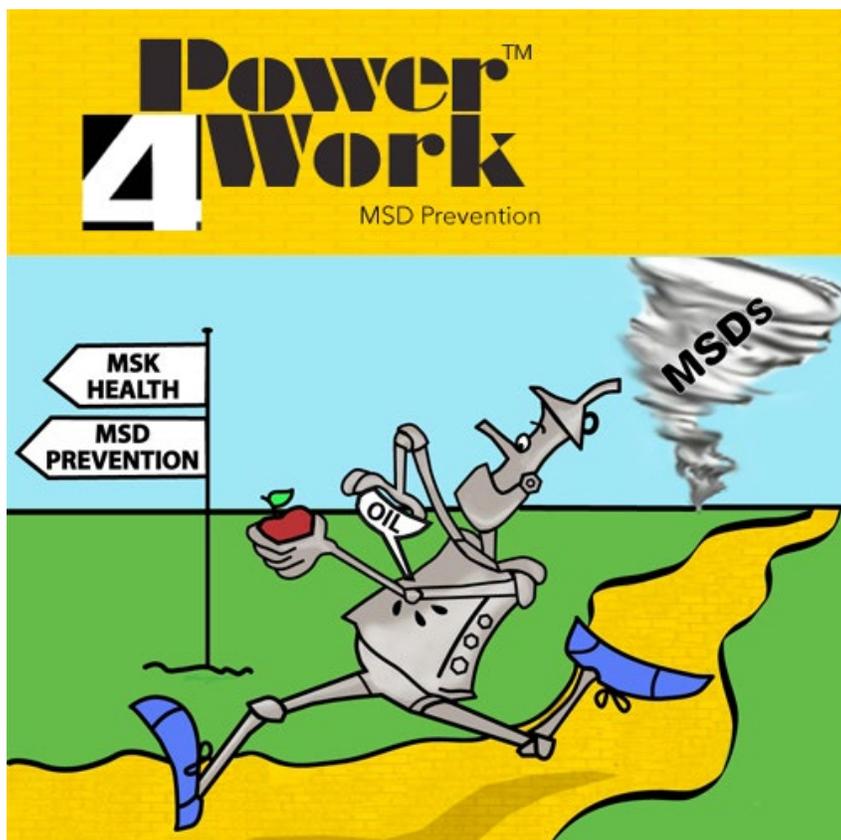


Figure 1: Strength Deficit: Difference between Job Demand and Level of Strength



A tested MSD Prevention Program that integrates Wellness & Safety in the workplace.

It also improves balance and stability, decreases risk of osteoporosis, reduces blood pressure, increases the number of calories we burn, and reduces low back pain. That's why I developed the Power4Work Program and why it is a key component of our corporate wellness approach.

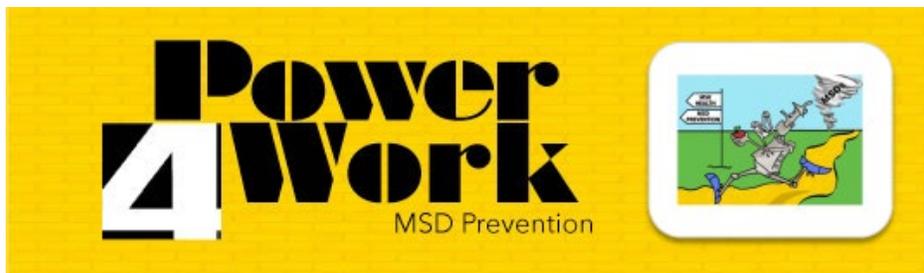
Q6 MSDs are clearly a significant problem for workers and employers. Just how big are we talking?

LM: MSDs are very prevalent in the workplace and very costly. 80% of workers anywhere, in any occupation, for example, report experiencing back pain at some time in their life. In fact, if we were to ask workers right now at least 20% of them would say that they have low back pain. And when we look at employer health costs, MSDs are often the number one cost driver.

Research has put the costs of MSDs in the billions of dollars. The National Institute for Occupational Safety and Health (NIOSH) has identified low back pain, neck pain, tendonitis and carpal tunnel syndrome as the top issues in MSK health. **A report from Johns Hopkins University in 2012 indicated that the cost of chronic pain in the United States can be attributed primarily to low back and neck pain and cost employers as much as \$635 billion a year. This was more than the annual cost for cancer, heart disease and diabetes combined.**

The European Agency for Work Safety & Health reported that MSDs were the most common work-related health problem in Europe. MSDs account for 50% of all absences from work and lost productivity and 60% of short- and long-term disability. The American Pain Society in 2012 estimated that the cost of lost productivity to companies due to MSK pain was estimated to range from \$299 to \$335 billion a year. These are direct costs; indirect costs may be five times this level. I certainly see the impact of MSDs in my work every day with companies around the globe. I also know that something can be done. That's why I developed **Power4Work™**.

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To learn more, check out evexia.ca



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