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Summer 2016

Generation pain

**Gen Y face up to their looming health
issues as they enter the workplace**

MSD screenings

Post-employment
screenings

The ergonomics connection

Employee and
organization wellness



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Welcome

We're back with another edition of our ever popular magazine for risk management professionals, Cardinus Connect, and boy have we crammed a lot of incredible articles and industry-leading thought into it!

In this issue we look at the significant risk generation Y is imposing upon itself with its dedicated desire to stay connected wherever they are. But not only is it their problem, it's our too problem too. As business leaders, as management, as those people who'll be bringing generation Y into the workforce, we need to know how to cope and how to manage that risk from day one. Their perspective on work and how they work is going to be different to us, whether it's using multiple devices, sit/stand desks or flexible work patterns, and we need to make sure that this 'ergonomic tsunami' is well managed and the risk mitigated as much as possible.

Experienced ergonomics flag-waver and 2002 Olympic torch carrier (you think you know some people!) Donna Defalco teaches us how to ROAR. Now that's not to howl in excitement, distress or anger, it's to measure a Return On all Allocated Resources, instead of the traditional ROI measurement. This method goes hand-in-hand with high touch engagement and a whole life philosophy to the ergonomic welfare of your staff.

On page 22 Ann Hall, Efficiency Software's Wellness and Ergonomics consultant in the US, looks at different types of fatigue prevention software, as well as discussing why such software is necessary for today's workforce. From my own perspective, I interact with my work in a number of different ways throughout the day, and having something remind me when to take a rest can be hugely beneficial in keeping alert when I need to be.

If you'd like to have a trial of rest break software, please drop us a line on info@cardinus.com and we will organize a free trial.

We hope that you enjoy what we've put together for you and find the information useful and informative, not just for you, but for your friends, family and importantly the people that you work alongside. Only Cardinus bring together such a treasure trove of expertise, so make you sure you stay in touch!

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Jon
Abbott



A generation in pain

Millennials are entering the workforce in pain and in need of help, says Bill Pace

Generation Y have been tethered to technology for most of their lives. They rely on technology outside of work to be sociable. We know that they are entering the workforce with pre-existing pain from poor posture and extended daily use of technology; many have pre-existing musculoskeletal disorders.

For the most part, these conditions are left untreated and not diagnosed until they have started their careers. Quite simply, they are experiencing pain, numbness and discomfort in the neck, upper back, shoulders and wrists. They know they are not alone. "My hands turn numb and fall asleep while I work on my laptop and use social media, but I keep going because I know my friends are dealing with this too," says Kim, aged 15, from New York. They demand collaborative work environments and these are created to meet their social and technology needs. But they are far from risk-free and poorly meet their health needs. Providing ergonomic tools and seating is not enough to prevent injury and loss of productivity at work, because the problem is too deeply rooted in their past behavior.

So, what else can we offer them to reduce their pain and keep them gainfully employed? To answer that question properly, we will need to better understand their connection to technology and poor static postures.

What we know

We have an emerging workforce that is entering the job market with pre-existing medical conditions. Never before has there been a labor group, ready to work, but suffering from MSDs, RSI and other computer-use related ailments. They enter the workforce at high risk of injury and are in need of medical attention to provide relief.

We have interns and new employees, fresh out of college, who come to us in full time employment. These new employees are now requesting their 91st day off of work to meet with a medical professional, perhaps a doctor, physical therapist, chiropractor or medical practitioner, in order to seek relief from pain and possible soft tissue injury developed while in school and at home. They are unaware as to why they developed the pain but they are now seeking relief. They can set an appointment due to the fact that they now, on the 91st day of employment, have health insurance.

"We have hired engineers straight out of college and they are requesting a half-day off on their 91st day to see a doctor for what we see as textbook early neck or other musculoskeletal disorders," claimed an oil and gas industry executive in March 2016.

A vice-president of healthcare and benefits for a large regional brokerage firm says, "The

MSD claim is number one in both frequency and cost for our self-insured clients."

New research by social-influence marketing platform Crowdtap indicates that individuals aged between 18 and 36 spend an average of 17.8 hours a day with different types of media. These hours represent a total across multiple media sources, some of which are consumed simultaneously.

For example, a twenty-something may report spending two hours a day on Facebook, an hour a day answering texts and three hours a day watching television, which would count as six hours total. But may only take up three hours of her day if she does some of those things at the same time. What if they are now working eight hours a day on a laptop or desktop? We can accurately report that they would then be spending more than nine hours per day using technology.

"Millennials are always on," says Anna Kassoway, Crowdtap's chief marketing officer. "Some of it is passive consumption. A lot is media hours that are overlapping." Generation Y is not just physically tethered to technology, they are emotionally tethered as well. Taking away their technology abruptly or reducing the hours spent on technology produces stress.

Who was on watch?

Teachers, parents, family members... all of us. What did we fail to do? We failed to protect our youth. Why? We simply did not know.

Their eyes are being negatively impacted too. Carrie Miranda, a doctor of optometry, explains, "The reason eyesight problems are becoming more prevalent for the younger folks is because of the demand for clear near vision. Screen sizes can be between five inches and 32",

spread across cell phones, tablets, computers and TVs. It takes a lot of visual and muscular energy to move between them. Google ciliary body of the eye to see what I mean. "To help prevent this from happening eye care professionals like to recommend 20/20/20. Every 20 minutes of close work look 20 feet away, or further for 20 seconds. This will be very helpful to reduce eye strain and prevent distance blur at the end of the day."

What can we do about it?

If left alone their problems continue and they eventually become injured. They will choose not to work. We know that their technology use impacts their eyesight and their posture; it creates MSD and affects their overall health. With past employees, we gave them an ergonomic assessment and provided them with recommendations and/or ergonomic tools.

However, with generation Y traditional furniture is not the norm. Mobile, collaborative, sit-stand and lounge-style seating is more prevalent. They prefer to avoid the systems furniture. Instead of walls they use headphones, peripheral devices and monitors to block out their neighbors, only to remove them for quick and short interactions.

Work hours reflect when work needs to be done and not necessarily during a 9am to 5pm day. How do you keep an eye on those that do not come to work every day and those that may require flex hours and are at work when support is not? What has been provided in the past is not sufficient. They need immediate education, targeted medical attention and support devices that help reverse the long-term muscle memory. Generation Y and millennials like to research; they respond well to e-learning but not as

well to surveys, unless they believe there will receive a benefit or incentive. Is it just the millennials that we should be concerned for? We know that students are tethered to their electronic devices for 7.5 hours or more every day in extremely awkward postures. The UK's Health and Safety Laboratory has measured that 50 per cent of 11-year-old students are self-reporting back discomfort. The problem continues to the next generation and may be worse if nothing is done to make a change.

Members of generation Z were born after 1995. Gen Zers use five devices: a smartphone, TV, laptop, desktop and iPad-style tablets. Gen Z are adept researchers. They know how to self-educate and find information. Thirty-three per cent watch lessons online, 20 per cent read textbooks on tablets, and 32 per cent work with classmates online. The average gen Zer has the attention span of about eight seconds. They have grown up at a time when they're being served media and messaging from all angles, and have adapted to quickly sorting through and assessing enormous amounts of information. In fact, recent studies have found that three quarters of young people believe that they cannot live without the internet and nearly half of young people claim that they feel happiest when they are online. So the problem continues, only the tsunami is growing. According to a white paper published by Cardinus Risk Management in October 2015, seventy-nine percent of generation Z consumers display symptoms of emotional distress when kept away from their personal electronic devices. We need smarter solutions, faster.



Bill Pace is president of Cardinus LLC. Bill has worked in the US HR software market since 1995 and has specialized in ergonomics solutions for business for the last 12 years. He has worked with several Fortune 500 and 100 companies, including Honeywell, Travelers Insurance and USAA.



Post-employment screening for MSDs

Lee Huber tells us why screening for MSDs can help organizations benefit in the long term

Musculoskeletal disorders (MSDs)—such as carpal tunnel syndrome, hand tendonitis and shoulder inflammation—cost the U.S. economy between \$13 and \$15 billion annually. As a result, many executives who promote MSD prevention need to look carefully at better testing for predicting who is at risk during hiring and before putting people in new jobs. Such screening should be carried out after an applicant is given a conditional job offer, in accordance with the Americans with Disabilities Act (ADA). In theory, screening employees minimizes hand disorders in jobs having upper extremity MSD risks. Screening is also thought to benefit employees by achieving proper diagnoses and foregoing unnecessary surgery.

In comparison, federal and state OSHA regulators expect inherently hazardous jobs to be evaluated, and the risks designed out of them, to the extent possible. Companies having taken initial risk reduction steps and refinements are most likely to benefit in the long term. On the other hand, regulatory

In theory, screening employees minimizes hand disorders in jobs having upper extremity MSD risks.

compliance officers put little stock in what they consider to be administrative efforts, such as employee screening to control potential injuries. Therefore, the use of post-offer screening is not likely to ward off potential OSHA enforcement concerns.

Other governmental agencies mandate close adherence to their regulations, like the Equal Employment Opportunity Commission (EEOC) and the ADA. In accord with ADA requirements particularly, job-related screening is a significant issue, particularly for identifying problems with workers' upper extremities. Whether by choice or by mandate, employers would be well-advised to establish some kind of

post-employment screening process to determine employees' susceptibility to MSDs as a matter of prevention. Testing may include fitness-for-duty, electronic screening, written exams, non-work-related physicals, strength capability, clinical exams (e.g., Tinel's sign or Phalen's manoeuvre) and others.

The NCV test has its faults

The current "gold standard" for MSD diagnosis is the NCV test, which measures the speed of impulses through a nerve, using an electrical stimulus to the nerve. NCV testing costs around \$550 per limb, however, not counting attending physician evaluation charges. It also regularly produces false negatives for symptomatic people and false positives for asymptomatic people.



Given NCV's shortcomings, effective post-offer screening needs to consider a discussion of best practices in the screening industry, regulatory practices and the effectiveness of screening itself. The National Institute of Occupational Safety and Health recommends that if screening is incorporated into company protocol, five factors should be considered to determine if test procedures are valid: they must be safe to administer, reliable in their data, job-related, practical and predictive of risk. These criteria tend to exclude most screening methods.

Senior management demands for fiscal responsibility require a close look at methods purported to reduce injury through predictive analysis. The consensus among professionals who make injury reduction and prevention their livelihood is that the highest cost benefits are derived from investing in job and design modification. As a result, the ergonomic risks that cause upper extremity MSDs in the first place are reduced.

Adequate risk reduction

The methods for achieving optimal results through ergonomic initiatives lead researchers to basic conclusions for reducing risk in the vast work universe. Risk reduction still comes down to the proper tools to perform the job, appropriate materials, adequate workstation designs and sound risk management. When these elements are properly evaluated, chosen and utilized, the worker has a chance to excel without injury and the employer has the opportunity to reap the benefits of injury-free workers with optimal productivity.

It is suggested that progressive companies are better served by continuing to invest in proven prevention methods such as job modifications, redesigning equipment and/or improving job methods to reduce ergonomic risks in higher hazard operations. This is because there are as yet no consistently reliable, cost-effective, scientifically validated criteria for screening employees to prevent upper extremity MSDs. Until there are, these measures will have to suffice.



■ **Lee Huber is a Senior Ergonomist for ESIS Health, Safety and Environmental.**

In this role, Lee provides professional ergonomic services for manufacturing, distribution, retail and office environments.

Lee has a Bachelor of Science in Industrial Education. He has multiple designations including Certified Professional Ergonomist (CPE), Certified Industrial Ergonomist (CIE) and Certified Safety Professional (CSP).

Lee also actively participates in a number of professional/society board memberships including the Human Factors and Ergonomics Society; Law Enforcement Alliance of America; Board of Certification in Professional Ergonomics; Board of Certified Safety Professionals; and the Oxford Research Institute.

Preventing fatigue at work

Create a healthier and more productive workforce by preventing fatigue at work, says Ann Hall

Fatigue might not seem like a big deal but it decreases our ability to respond to situations and zaps our energy. It is a risk factor for injury.

We have all had those days where we are working intensely at our computers not taking breaks and under a great deal of stress. At the end of that day we are exhausted. We didn't do heavy physical activity, rather we worked too hard, for too long. For many of us this means that when we get home we crash.

If this happens every once in a while that is one thing, but many people repeat this pattern every work day. Can you imagine the stress that places on their health? How it effects their quality of life?

The effects of fatigue on your body can manifest in the form of tiredness, headaches, body aches, and even irritability.

To prevent this ongoing cycle, one must learn to manage fatigue by balancing and pacing themselves throughout the day. The skill of pace is not one that comes easy for many. You have to remind yourself to slow down and

take small breaks along the way to achieve overall endurance.

Ask a runner how they pace themselves for a race. The answer will vary depending on the distance, difficulty of the course, environmental factors and their personal health condition. There are many things to consider in order to know how to pace yourself in order to have a good, safe, comfortable run, rather than a run where you are puking a mile from the finish line.

One study analyzed elite performers spanning from musicians to athletes to chess players. The study concluded that more rest can maximize achievement. This goes against what many of us practice. We arrive to work, focus on the task at hand and go as hard as we can without a break until we get really fatigued. Sadly, some estimates show as many as two-thirds of office workers eat lunch at their desk. Employers tend to see these people as the hardest workers, but what they are doing has been shown to be counterproductive. Going without breaks exhausts us and the result can be lack of focus and reduced quality of work.

Top performers, by contrast, tend to practice in focused sessions lasting no more than 90 minutes. They work in bursts taking frequent breaks to ensure recovery and avoid exhaustion. This supports studies that conclude

that performance deteriorates in continuous work, but can be reversed by taking rest breaks. Breaks from sustained activity as short as one minute have been shown effective in restoring performance while at the computer. These should be a combination of both physical and mental breaks (depending on personal need) so employees can learn to master their pace.

Fatigue

There are many types of fatigue in the office – mental, eye, static muscle and muscle over-use. The effects of fatigue on your body can manifest in the form of tiredness, headaches, body aches, and even irritability.

All of the fatigue types combined together can be quite the monster. When I talk about fatigue I always think about a long car trip. Imagine yourself driving for 9 hours. A trip like this is always exhausting. You have static muscle fatigue from holding the same sitting posture for so long. You have mental fatigue from the monotony of the drive and extended focus. If you are in heavy traffic or have crying children – that will increase the mental load. Your arms and hands are likely tired from gripping and holding onto the steering wheel. There is no tremendous physical activity involved, but the majority of people will be extremely tired by the onset of fatigue during the drive.

Some people's work environments closely resemble a long road trip. Sitting for hours without movement in a closed space, intense focus and repetitive arm work. Replace the traffic and crying kids with work stress, deadlines, customers and co-workers. It is often the combination of multiple types of fatigue that can lead to complete exhaustion. It is up to each of us to do what we can to manage our fatigue. Awareness is key and

taking the time to rest is necessary to optimize our work performance over the long-term.

Managing fatigue at work by software intervention

Studies have shown that scheduled breaks were generally more effective than leaving workers to take breaks at their own discretion. Rest break software has been created to coach and encourage workers take the breaks they need to avoid fatigue. This type of software targets different types of fatigue, but gives users the ability to customize their own plan. The user chooses a setting that best represents their needs and then they have the ability to enhance this with custom reminders and content. Breaks range from stretch breaks, to short-cut key tips, to world news.

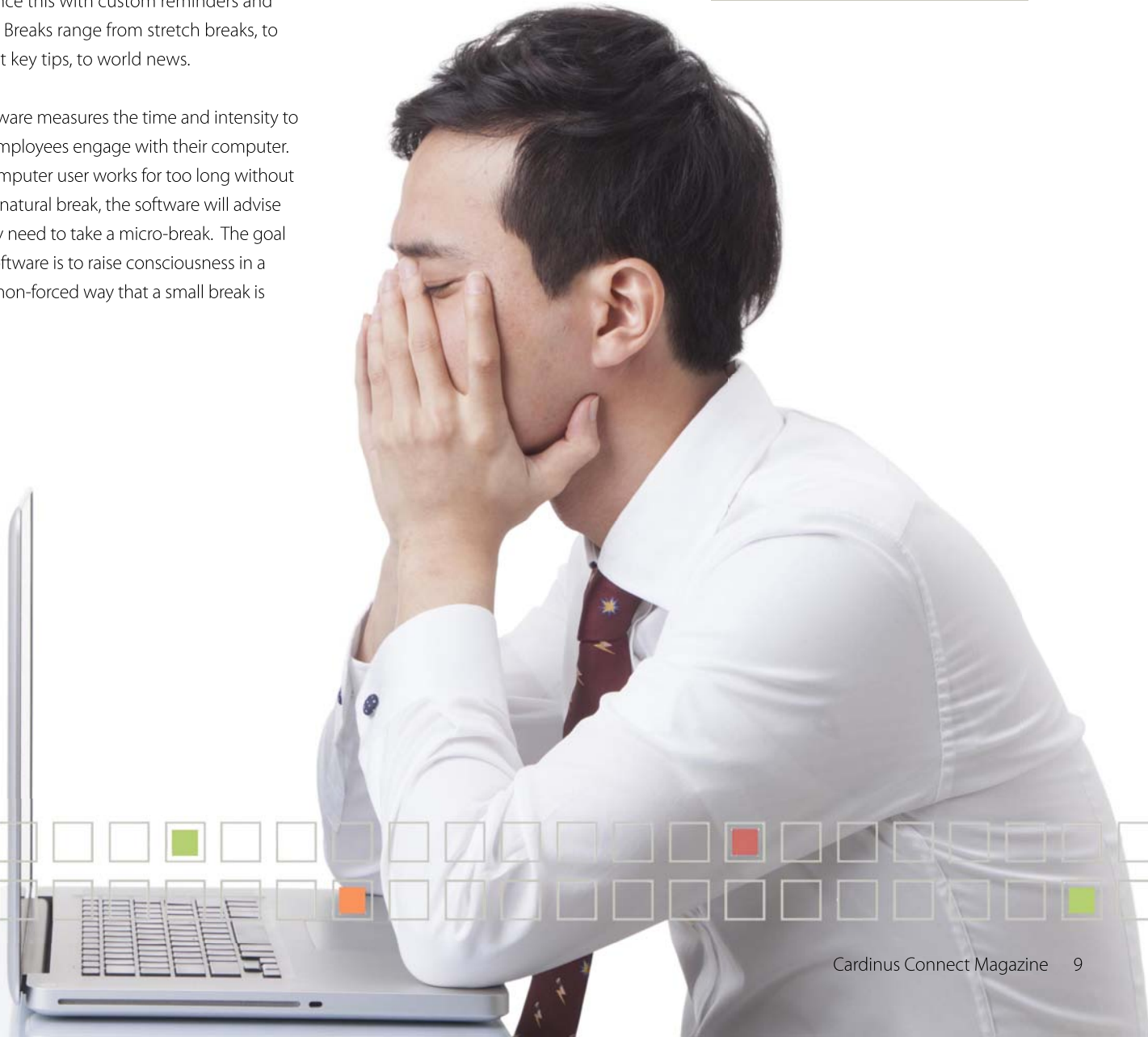
The software measures the time and intensity to which employees engage with their computer. If the computer user works for too long without taking a natural break, the software will advise that they need to take a micro-break. The goal of the software is to raise consciousness in a natural, non-forced way that a small break is

needed. Computer users get feedback on their computer usage and intensity and the software lets them know what they are doing well and what they could improve on to have more comfort and energy. Admins can view statistics to see how employees are doing and better target which departments could use more coaching and support.

The proactive feedback closes the loop for an organization between providing a tool to take breaks, to providing feedback on the actual usage of the tool, to responsibility of taking breaks on part of the individual employee.



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productivity at work.



Healthy Working: introducing a new way to work

Healthy Working is our latest innovation in the fight against poor posture. Jon Abbott gives you the low down on our new e-learning software.

In a unique partnership with the UK government's Health and Safety Laboratory, Cardinus have created a truly ground-breaking e-learning program packed with features to meet the needs of the 21st century worker.

Over the last 10-15 years we have seen massive technological and environmental changes within the workplace. This is the backdrop to how Healthy Working came to be. With other office ergonomics solutions no longer covering the actual needs of employees and employers it became apparent that something had to be done about it. Healthy Working was born to bridge this growing gap.

This partnership has allowed Cardinus' in-house experts to work with HSL's Principal Ergonomist and industry-leading thinker Matthew Birtles, whose approach has brought in cutting-edge ideas about the way we sit, stand, move and work at offices, homes and other places of employment. Together we've come up with something that offers real technological inventiveness with the most current thinking on posture and work practices.

Healthy Working offers many innovative features that revolutionise an organization's office ergonomics provision by setting it firmly in the modern age. These features go beyond other ergonomics software by introducing many contemporary additions such as mobile and tablet devices, flexible working, maternity and pregnant employees, employee behavior modelling and much more.

More than just a tick box exercise

What will impact organizations the most is how Healthy Working allows managers to evidence a very clear return-on-investment by matching potential risks with their associated costs. This allows organizations to see in a transparent way the benefits of having a fully rounded ergonomics program and to assist their employees in avoiding commonplace injuries and disorders related with the types of work we carry out each

day. This can dramatically cut costs in healthcare provisions, workers compensation claims, administration and lost time due to absences. What's more, Healthy Working also aims at boosting productivity by relieving the stresses and strains on the body which can limit people's natural energy levels. It does this through guiding employees through a risk assessment programme so that they can start teaching themselves how to mitigate everyday risks in the workplace.

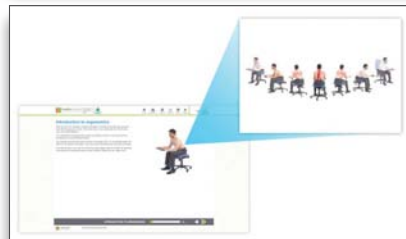


How it works for your employees

Healthy Working was imagined as a tool that does not just simply go through the motions, ending with the employee gleaning just enough knowledge to adjust their seating position. Healthy Working uses elements of gamification and multi-variant modelling to build a complete picture of an employee's working environment and teach and challenge them on various aspects of ergonomic best practice.

This model not only engages an employee more than the average office ergonomics software – in fact 98% of users found Healthy Working an effective solution – also helps them retain that knowledge for greater health impact over a longer term.

This step-by-step, variant approach is also really simple to follow too. Users are given appropriate courses to their needs and the intuitive design makes completing it a doddle. With automated emails nudging employees when they need to complete courses, getting full coverage becomes really easy too.



Additionally Cardinus has developed an e-learning authoring tool enabling our customers to tweak or change any element of any page of any of the Cardinus courses they use with us. This starts with Healthy Working but as the rest of the e-learning library comes online later this year, those too will be editable from within this easy-to-use authoring tool. Furthermore, customers will also be able to choose to write their own e-learning courses on any subject they want to address with their employees and roll out using PACE.

Healthy Working has now been released to benefit organizations across the world. We're running free demos for a limited period. To register your interest for a demo contact us at info@cardinus.com or head here: www.cardinus.com/healthy-working-demo/



Jon Abbott is a director at Cardinus Risk Management Limited, with more than 15 years' experience of ergonomics, safety and occupational health. Over that period he has worked with a wide variety of organizations in the private and public sector providing a full range of risk management solutions including software, e-learning and consultancy. Jon feels passionately about the health and well-being of young people and he believes more must be done to protect the workforce of the future. This drove him to set up Healthy Working MOVE in 2013.



How it works for those responsible for ergonomics management

Behind the Healthy Working course and risk assessment that your employees complete sits a completely rebuilt PACE e-learning and risk management system. More than your everyday Learning Management System, PACE has been developed to manage mass roll outs of courses and report on training completion but more importantly to manage the risk assessment concerns that come back from hundreds or even thousands of office ergo risk assessments

being completed at the same time. With 20 years experience developing Workstation Safety Plus, the world's most widely used office ergonomics training and risk assessment software, coupled with the expert advice from Matt Birtles at the Health & Safety Laboratory, every element of the ergonomics risk management functionality and the MI reporting have been enhanced to make effective risk management and measurable success easier.

The ergonomics connection

As Wayne Maynard reports, whether you're aiming for employee wellness or organizational wellness, the link with ergonomics is irrefutable

Lack of sleep has been associated with traffic crashes and work-related injuries.

There is no universally accepted definition of wellness. But for me, wellness is about the person and decisions they make about their health, safety and well-being both on and off the job.

Ergonomics is about designing the job to fit the capabilities and limitations of the worker. Primary factors influencing job demands to worker capacity include characteristics of materials, organizations, tasks and environment and characteristics of the worker including,

psychological, physiological (fitness), and biomechanical capability (strength). The International Ergonomics Association (IEA) describes three domains of ergonomics:

- 1. Physical:** Concerned with human anatomical, anthropometric, physiological and biomechanical characteristics as they relate to physical activity.
- 2. Cognitive:** Concerned with mental processes, such as perception, memory, reasoning and motor response.
- 3. Organizational:** Concerned with the optimization of sociotechnical systems, including organizational structures, policies and processes.

Job stress is the harmful physical and emotional responses that occur when the requirements of the job do not match the capabilities, resources or needs of the worker. Job stress can lead to poor health and even injury. Fatigue is closely related to job stress. People experience abnormal stress when either deprived or over stimulated; minimal stress occurs when stimulation is moderate.

Long work hours, demanding work schedules and sleep/wake durations are associated with adverse outcomes on worker safety, health and wellbeing. Shorter sleep durations are associated with cardiovascular disease, hypertension, diabetes, depression and obesity. Lack of sleep has been associated with traffic crashes and work-related injuries. Based upon available research, consider the following ergonomic guidelines when designing a shift system for safety and health:

- Day (morning) shifts are to be preferred over afternoon or night shifts.
- Limit work to five or six consecutive shifts in a row.
- Provide for frequent rest breaks. Hourly breaks are appropriate for many kinds of work, but for highly repetitive or strenuous work, breaks more frequently than once each hour are necessary.

As for night work, keep consecutive night shifts to a minimum. Only two to four nights in a row should be worked before a couple of days off. This stops circadian rhythms being disturbed and limits sleep loss. The European Commission's Working Time Directive recommends keeping night work at an

average of 48 hours per week, allowing up to six eight-hour night shifts or four 12-hour night shifts per week.

Lack of physical activity is one of the leading causes of preventable death worldwide. Prolonged sitting time, independent of physical activity, has emerged as a risk factor for various negative health outcomes. Studies have demonstrated associations of prolonged sitting time with premature mortality, chronic diseases such as cardiovascular disease, diabetes, cancer and obesity. Sit-stand workstations allow the user to adjust the height of the work surface from a seated height to a standing height. The benefit is workers will be able to reduce sedentary time while at work by changing from sitting to standing thereby improving health outcomes, and possibly improving work productivity. Sit-stand workstation users, who received comprehensive training (1.5 hours) varied their postures at work, exhibited increased productivity at work, compared to those who were not trained.

Return to work (RTW) programs can have a positive impact on overall health and wellness. The longer a person is away from work, the less likely it is that he or she will ever return. Supervisors trained to respond to work injuries in a positive way, including communication and problem-solving with employees on return to work accommodations, significantly reduced the number and cost of disabling WC claims. RTW programs and integrated disability management strategies complement strategic health and wellness initiatives by shifting attention to employee health as an investment. Obesity is one of the major health problems with over two-thirds of adults being overweight or obese. In America employers bear a large share of healthcare costs and it is estimated that in 2010 direct healthcare costs attributable to being overweight or obese exceeded \$100 billion. Research has shown a clear relationship between body mass index (BMI) and cost of WC claims. Insurance industry research has shown there are systematic differences in the outcomes for obese and non-obese WC claimants with comparable

demographic characteristics, and a greater risk that injuries will create permanent disabilities if the injured worker is obese. In studies, 81 per cent of lost time claims with a comorbidity diagnosis, such as diabetes, chronic pulmonary disease, drug abuse and hypertension, were attributed to obesity. Obesity also plays a role as a contributor to injury risk with obese workers 29 per cent more likely to sustain workplace injuries than those of normal weight. Figures like this make the strongest case for engaging employees in health promotion programs targeting obesity and healthy behaviors. These programs can now be viewed as having a potentially protective benefit in terms of workplace safety and disability prevention.

Health promotion is the non-occupational side of wellness – traditional wellness programme interventions that focus on healthy lifestyles and healthy behaviors. A 2008 survey of large manufacturing employers reported that 77 per cent offered some kind of formal health and wellness programme. The survey reported benefits of a healthy workforce including reduced healthcare costs, reduced workers compensation costs and reduced costs associated with absenteeism (off the job) and presenteeism (on the job but not functioning at full capacity).

A number of studies over the years have shown positive return on investment (ROI) for worksite wellness initiatives. Workplace health programs generated a positive return on investment in all instances except randomized control trials.

In one US report (36 studies, many industries, and larger companies with more than 1000 workers) concluded on average that medical

costs fell by about \$3.27 for every dollar spent on wellness programs and absenteeism costs fell by about \$2.73 for every dollar spent). Analysis criteria for this study included 1) must have had a well-defined intervention; 2) must have had a treatment and comparison group, and 3) must be a distinct new intervention. Average intervention size was >3,000 employees and comparison group 4,500 employees.

The physical domain is often recognized as 'micro' side of ergonomics and solutions mitigate physical risk factors associated with high repetition, long duration, high force, awkward postures and others. The organizational domain is the 'macro' side or simply macroergonomics. This domain addresses psychosocial risk factors or the organizational and work context issues described above. According to the late Dr Hal Hendrick, "If you take a microergonomic approach and look at the research results over the years, successful programs tend to get a 10-25 per cent improvement, whether it is in productivity or accident reduction. But when you get the macroergonomic level in there and it is a true macroergonomic intervention, we normally see 50-90 per cent improvement. Associated benefits include better productivity and quality, and improved job satisfaction and employee commitment."

Macroergonomics utilises extensive employee participation in identifying work system deficiencies and designing solutions. Macroergonomic approaches include:

- Recognition of employees for good work.
- Opportunities for career development.
- Organizational culture that values the individual worker.
- Demands (both physical and mental)

commensurate with capabilities and resources of individuals.

- Jobs designed to provide opportunities to use skills.
- Employees have input on decisions or actions that affect their jobs and the performance of their tasks.

There are many definitions of wellness but it is important for all stakeholders to understand how a well organization and a well employee work together to form a win/win for both. Management commitment and employee involvement; especially a positive safety climate are critical variables to successful outcomes. The contribution of ergonomics to wellness at both micro and macro levels cannot be overstated and the evidence base is solid. Remember, ergonomics is about healthy jobs, healthy workers and healthy organizations.



■ **Wayne Maynard is a Certified Professional Ergonomist and a Certified Safety Professional. He is a product director - workers compensation, ergonomics and tribology at Liberty Mutual Insurance, Massachusetts, USA. Tribology is the study of the interaction of sliding surfaces and is applied to pedestrian slips and falls. It is an area of research at the Liberty Mutual Research Institute for Safety.**

High touch engagement & ergonomics

Increasing employee engagement means moving beyond the desk and embracing a more holistic approach, says Donna Defalco

Does your current ergonomics program ROAR? Or is it just a means to quantify ROI on a stat sheet? Move on. Now's the time for High Touch Engagement and it promises to give you a Return On all Allocated Resources... it's the ROAR Factor!!

What's the difference between ROI and ROAR?

- Measure all the allocated resources, not just out-of pocket costs
- Measure all the returns, not just reductions in medical cost or similar objective outcomes
- Focus on programs that make people feel great, and what makes them want to roar!
- Measure how well you are doing in helping people feel great

Why we should look to further engage employees

According to Gallup, only 13 percent of employees are highly engaged, with the remaining 87 percent either not engaged, indifferent, or actively disengaged. We all know that employee engagement is critical to success, but only 25 percent of all corporate programs have a strategy to address this human capital issue.

Gallup also estimates that employee disengagement costs organizations an estimated \$450 to \$550 billion a year. Meanwhile, their survey of 1.4 million employees found that teams scoring in the top 25 percent of respondents for engagement experience several benefits:

- Lower turnover: 65 percent
- Fewer safety incidents: 48 percent
- Lower absenteeism: 37 percent
- Higher productivity: 21 percent
- Higher customer metrics: 10 percent

How can you reach the other 87%?

Extending your current ergonomic program to engage the other 87% will offer solutions that touch your employees beyond the desk and embrace total worker health. This "whole" approach addresses the risks associated with individual musculoskeletal disorders (MSDs), the cost associated with MSDs and at the same time making employees feel great, maximizing their work and life performance.

A highly engaged workforce positions the organization for success. External factors have less impact on organizations with an engaged workforce. Engagement enables growth and profit in either a positive or negative business climate. Engagement makes your employee's feel like roaring!!

So is high touch ergonomic engagement worth the investment?

Employee's notice when a company is putting forward their best efforts to ensure their health and safety. If an employee does not experience fatigue and discomfort during their workday, it can reduce turnover, decrease absenteeism, improve morale and increase employee involvement. By offering solutions that go beyond the desk to engage employees in high touch activities at work and play, you educate them and strengthen their musculoskeletal system. When implementing a Knowledge2Action® program you do more than just get an employee to look and listen, this type of programming touches them in a way to makes long lasting changes at work and at play that enhance a culture of trust. Just imagine if you only engaged 10% of the 87% of unengaged employees, the ROI would be \$55 Billion!

Invest in the wellbeing of the future of your company and your employees through high touch ergonomic engagement. Create a happier, less stressful and better work environment and let your employees ROAR!



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