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LEVERAGE INJURY PREVENTION TO DRIVE
OPERATIONAL PERFORMANCE

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LEVERAGE INJURY PREVENTION TO DRIVE OPERATIONAL PERFORMANCE

“We have to start with safety. It’s how we earn the trust of our people. It allows us to ask them to participate in other improvement activities.” ~ Japanese Manufacturing Manager

The statement above was an eye-opener for Milliken Vice President Craig Long. Here’s how he explains the encounter at Industry Week *“I led several study missions to Japan to learn about world-class manufacturing, visiting over 40 operations, and in every case, they started with a safety briefing. At one plant, we said, ‘we are not here to learn about safety, we are here to learn about world-class manufacturing’.”*

That simple exchange with a Japanese executive changed the fortunes of Milliken & Company in a big way. Milliken has been in the textile industry since 1865 and was facing an existential crisis. While most others in the industry off-shored to low-wage countries, Milliken leadership was committed to continue manufacturing in the United States.

WORLD CLASS SAFETY PROGRAMS

Long re-assessed Milliken’s safety program, *“We were working hard on safety, but in a silo. We saw no connection between safety and operations. We were in survival mode.”*

Milliken executives charted a new course for the company by adopting safety as one of its main drivers of operational performance. Long explains, *“What we learned in Japan really connected the dots. Milliken reached the conclusion that world-class safety was not obtainable unless everyone in the organization was engaged. Easy to say, but hard to do. This level of change required significant training and restructuring of roles and responsibilities.”*

As a result, Milliken:

- more than doubled the S&P 500’s earnings growth rate.
- met world-class safety rates for more than 25 years.
- become the first U.S. corporation to be recognized twice as one of the safest companies.

Milliken isn’t an aberration. There are several companies that have put safety at the forefront of their operational strategy.



Former Alcoa CEO, Paul O’Neill was another believer in the importance of world-class safety. O’Neill addressed Wall Street Analysts with this opening statement, *“I want to talk to you about worker safety.”* When he faced objections from analysts, he followed up with, *“I’m not certain you heard me. If you want to understand how Alcoa is doing, you need to look at our workplace safety figures.”*

Alcoa’s Results:

“Within a year, Alcoa’s profits hit a record high. Upon Mr. O’Neill’s retirement to become U.S. Treasury Secretary, his leadership helped the company’s annual net income surge more than five-fold. Market capitalization was at \$27 billion, and Alcoa had become one of the world’s safest companies.” (Industry Week)

Fast Facts about Safety (Milliken)

- Every lost-time injury costs roughly \$37,500.
- Fortune 500 companies could save an estimated \$50 million in annual workers compensation costs by improving its safety and health rate from national to world-class levels.
- It takes \$800 million in sales revenue to earn \$50 million in profit for the average Fortune 500 company.
- Nationally, companies spend more than \$50 billion annually in direct workers' compensation claims.

Milliken's success led to the development of Performance Solutions by Milliken,¹ a world-class consulting firm dedicated to operational excellence.

For these companies, safety was leveraged to drive operational performance. It holds that if companies get safety right, it sets the tone for the whole organization to achieve its goals. In a global economy, every company has to compete at world-class levels. And for many successful companies, world-class safety is a main cornerstone.



Conventional vs. Preventative Health & Safety

Healthcare costs continue to spiral upwards for many U.S. companies, and yet it appears they're not getting the healthcare outcomes for which they're paying. If 75% of healthcare spending is going towards treating chronic conditions, then the system can be said to be a reactive one.

A reactive healthcare system treats a patient after an illness or injury occurs rather than taking a proactive approach to prevent an illness or injury from occurring in the first place. One may conclude from these studies that the conventional healthcare system is not delivering an acceptable ROI to business.

Business disruptions due to employee injuries can be more expensive than just the cost of a claim and the associated administrative costs. It can result in an order not being shipped and the loss of an important customer, higher business insurance premiums, and uncompetitive product costs.

Furthermore, “On any given day, companies experience an estimated 15 percent productivity loss because of health problems.” according to Sean Sullivan, CEO of the Institute for Health and Productivity Management. Public notification of fines and penalties leading to a negative ESG rating can also be a problem for potential investors or in obtaining financing.

Ample Evidence That Prevention Pays

There is ample evidence that a preventative model reduces worker compensation and healthcare costs and provides a significant return-on-investment. Targeted health, wellness, and injury prevention programs are shown to provide a higher rate of return on investment than utilizing the conventional healthcare model. By diagnosing and treating illness and injury before the condition becomes chronic, companies can significantly reduce their healthcare expenditures.



An OSHA study revealed that, in addition to injury reductions and improved compliance, safety and health programs contribute many benefits to a business such as:

- Reduced Workers Compensation premiums
- Reduced administrative and human resource costs associated with filing injury claims and managing injured workers.
- Reduced recruiting, hiring, and training costs of replacement employees.
- Reduced downtime, improved efficiencies, and greater productivity.
- Improved morale and teamwork leading to collective responsibility for each other’s health and safety.
- Improved reputation in the business community and a positive employer brand.

A 12-year study by the Ohio Bureau of Workers Compensation revealed that businesses in OSHA’s Safety & Health Achievement Recognition Program (SHARP) experienced a 52% decrease in the number of claims filed, an 80% decrease in claim costs, an 87% decrease in lost time per claim, and an 88% decrease in claims per million dollars of payroll.

The [U.S. Department of Health and Human Services](#) reports that prevention programs offer employers a benefit-to-cost ratio of “\$1.49 to \$4.91 (median of \$3.14) in benefits for every dollar spent on the program.”

The study reported on several high-profile companies and the benefits they experienced through their prevention programs:

- Motorola experienced \$3.93 in cost savings for every dollar invested in their wellness program.
- Northeast Utilities reduced lifestyle and behavioral claims by \$1.4 million within 24 months of implementing their program.
- Caterpillar has forecast \$700 million in long-term savings by 2015 through their Health Balance program.
- Johnson & Johnson reduced their average annual healthcare costs by \$224.66 per employee.



Worthington Industries reduced workers' compensation claims by 66%, recordables by 65% and days away from work, transfers, and restrictions by 64%, according to company-provided data. The program also enabled the self-insured company to reduce its reserves for workers' compensation claims by several million dollars.

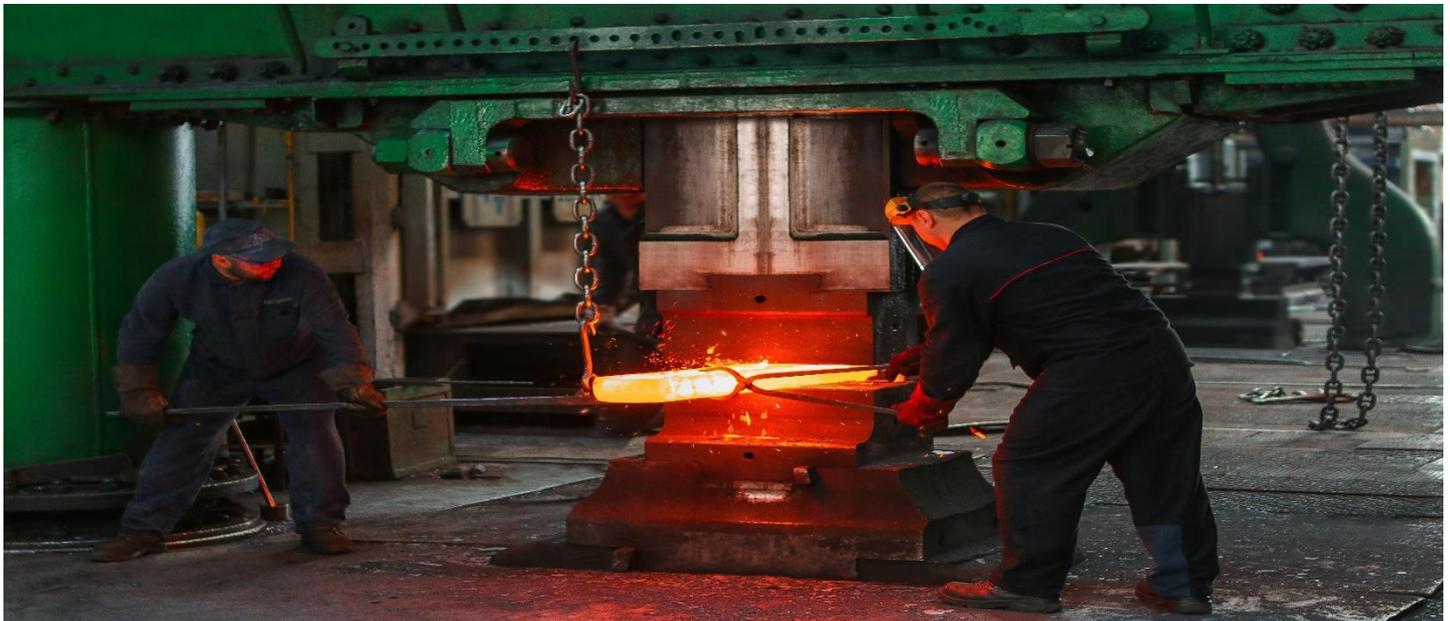
Ergonomics #1 Cause of Workplace Injuries

Ergonomics-related injuries are the leading cause of serious non-fatal workplace injuries, according to the 2011 Liberty Mutual Workplace Safety Index. Indeed, overexertion injuries -- caused by excessive lifting, pushing, pulling, holding, and carrying -- grabbed the No. 1 spot (based on 2009 data, the latest year for which data were available) in dollar terms, costing businesses \$12.75 billion in direct costs. Add repetitive-motion injuries to the calculation, and the cost increases by another \$1.97 billion.

Lost-time injuries related to sprains, strains, and tears accounted for 40 percent of the total cases while back injuries resulted in 11 percent of the cases. Overexertion played a role in 43 percent of these injuries, according to the BLS. The body parts that were reported to be most commonly injured were the back (36%), shoulder (12%), and lower extremities such as groin, knees and ankles (26%).

BLS - Lost-Time Injury Medians by Musculoskeletal Injury

- Median days away for all injuries – 8 days
- Median days away for MSD injuries – 11 days
- Back Injuries – 7 days
- Shoulder Injuries – 21 days
- Carpal Tunnel Syndrome – 27 days
- Fractures – 28 days



Repetitive Strain and Ergonomic MSD Injuries

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Overexertion and micro-trauma injuries are typically caused by work tasks that require repetitive movements or stresses that are common in manufacturing and assembly line operations. These are micro-traumatic in nature in that they may not be readily identified because of their subtle or delayed onset.

These injuries are some of the most difficult to heal and have been plaguing employees and companies for decades. Terms such as “sprains” and “strains” are frequently used to describe acute microtrauma or overexertion injury. Repeated episodes of sprains and strains produce a pattern of tissue inflammation that is often the precursor of chronic injury.

A big issue is that many workers don't possess the level of physical fitness necessary to do their jobs safely and avoid the aches and pains that often become lost-time injuries and workers compensation claims. To do any job safely it requires a certain level of strength, flexibility, and endurance, as well as knowledge of their biophysical traits and body-awareness education required to avoid injury.

It's this ergonomic driven micro-trauma that conventional safety procedures and protocols cannot get in front of and that has the biggest impact on pain in the workplace. But injuries due to micro-trauma tend to be more difficult to solve using conventional safety protocols. This is not to disparage effective safety programs. The reality is that most safety programs simply don't have the tools or protocols to measure and document the critically important biophysical markers of an individual worker's risk.

What's needed is a sophisticated set of tools and protocols to measure and document the biophysical markers of individual worker risk that isn't normally utilized in conventional approaches. These tools and protocols take risk management and injury prevention to a whole new level.



Reducing Costs through Injury & Illness Prevention Programs (IIPP)

Industrial safety programs typically place emphasis toward the work environment rather than individual workers. Much of the energy expended by industry today in reducing worker compensation costs is focused on controlling the costs of treatment, improving reporting mechanisms, and implementing sophisticated oversight, and auditing procedures.

While these efforts clearly contribute to reducing the total expense of workers compensation, these and other measures are geared largely at reducing costs *after* the injury has occurred. There is, however, renewed interest in attacking the problem from the prevention side of the equation. Not just to address existing injuries, but to strengthen anatomical imbalances and weaknesses that, if left untreated, would likely lead to more injuries or chronic pain.

If a company can address an employee's micro-trauma symptoms when they first arise, then the probability of a claim or lost-time injury is significantly reduced. And if an employee can access the program within the facility, their problem can be resolved in minutes or hours rather than days, weeks, and months.

Onsite Workplace Health & Rehabilitation Centers

The reasons are simple. With ever-increasing healthcare and workers compensation costs, companies are starting to *own* their employee health program. For these reasons, onsite wellness clinics are on the rise in corporate America.

The National Business Group on Health conducted a survey of large companies in 2013 that found 44 percent have on-site clinics with another 9 percent in the planning stages. A Mercer survey a few years ago found that one-third of employers with more than 500 employees offered on-site or near-site health clinics.

By providing work-site healthcare, companies can streamline the delivery process by adapting it to their unique needs. For example, a manufacturing facility that incurs predominately ergonomic related injuries can choose a work-site solution that addresses that need. Mercer Lead Clinic Consultant, Bruce Hochstadt, MD agrees, "*The on-site clinics provide an opportunity to restructure the delivery of health care and align the interests of employers, employees and providers.*"

Hochstadt, MD continues, "*Overall, clinics can save employers as much as 25 percent in employee health care fees over initial setup costs in their first year, and even more in the second year, as workers discover the clinic's advantages.*"



Onsite Health Clinics Aren't Just for the Fortune 500

It's not just companies like Sprint, Toyota, U.S. Steel and Goodyear Tire & Rubber Co. that can afford on-site clinical wellness services. Companies like these have thousands of employees in one location where full-blown on-site medical services generate a return-on-investment. They can afford the initial set up costs in the \$1 million and above range with operating costs of another million or more annually. But that's much more than most small, mid-size, and divisions of large corporations can afford or is practical.

There are many companies that may be struggling with profitability and view IIPPs as a cost they simply can't afford. What these companies may not be aware of is that there are a range of options from low-cost solutions to state-of-the-art programs that can help them not only become a safe place to work but contribute to their profitability.

There are affordable on-site solutions for companies and branch plants with 200 to 1,000 workers that improve employee health, increase productivity, and reduce healthcare and workers compensation costs. Injury and illness prevention programs can be adapted to the needs of an organization based on company values and the potential risk involved.

Workplace health and wellness services can be delivered on-site to employees as an add-on to conventional health services that include occupational health, group health, urgent care, and primary care. The central location of the health center helps increase employee utilization of health and wellness programs as employers benefit from minimized employee downtime and lower fixed costs.



On-Site Injury Prevention & Rehabilitation Clinic

A workplace Injury Prevention & Rehabilitation Center is designed to meet four key objectives:

1. Reduce musculoskeletal injuries in the workplace
2. Reduce workers compensation and related costs
3. Identify and reduce ergonomic risk
4. Increase worker productivity

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The program was created on the simple premise that if a manufacturing facility sees fit to regularly maintain its mechanical resources (its manufacturing, processing, packaging, and other machines), then it might be willing to commit itself to maintaining its much more valuable human resources.

The goal is the same: maintain valuable resources in order to extend useful life, increase productivity, and reduce downtime. The greatest opportunity for injury reduction in the workplace is in the area of microtrauma and repetitive stress injuries.

Resistance exercise has been proven to improve muscle and joint function but it's difficult to engage employees in a physical fitness regimen whether due to time constraints or other reasons real or perceived. Physical therapy is another option that gets excellent results, but long-term injuries can get quite expensive, and treatment is reactive rather than proactive.

The answer to getting workers to engage in a strength and conditioning program so that they are physically able to do their jobs and, to have them do it voluntarily, is to:

1. Combine a biophysical profile of workers with quantitative ergonomic assessments to identify problem areas.
2. Implement on-site treatment of worker MSD to reduce and eliminate workplace pain.
3. Maintain and improve worker strength and flexibility in 10-15 minutes per day using sophisticated medical-grade equipment.

Often, workers make a friendly competition on strength and flexibility metrics improving workplace morale.



Critical Components of a Successful Program

Biophysics

Biophysics refers to the physical capabilities of the employee. Using specially designed machines and medical-grade equipment, it's possible to measure an employee's physical capabilities on a muscle-group by muscle-group basis. This is critically important in identifying high-risk joint weakness in individual employees.

Only by creating a baseline capability database for each employee is it possible to measure improvement throughout a program's term. Biophysical measurement enables that process. The ability to measure, monitor, and report is particularly important as one considers the prevalence of injury among an aging workforce.

Ergonomics

Prevention of microtrauma and repetitive stress injuries require a comprehensive understanding of the physical requirement for each worker's job task; these factors include muscle group strength, range of motion, and flexibility requirements.

Job task knowledge must include an understanding of the ergonomics related to the activity.

- How does the worker interface with the work environment?
- How does the worker interact with the tools, machines, products, and materials being handled?
- How is the worker's performance affected by large variations in environmental temperature?

A thorough understanding of biomechanics is necessary in order to identify areas of ergonomic risk. In addition, that same understanding is required to provide constructive input on ways to make necessary alterations and accommodations to protect workers without sacrificing production.



Matching Physical Capabilities to Job Tasks

Because microtrauma and repetitive stress injuries affect specific joints and muscle groups, a significant part of the strategy is to understand the physical requirements of each position. Once a minimum performance level is established, it is possible to compare a worker's physical capabilities to the requirements of the job task in which he or she is engaged.

When strength and flexibility deficiencies are identified, a specific strengthening or flexibility regimen can be developed to assist the employee in achieving a higher level of performance and reduce injury risk. It can also be used in the hiring process to ensure candidates meet the minimum physical requirements to perform the job *before* they are hired.

Education & Awareness

Education refers to transferring the specific knowledge required to do a particular job task in a safe manner. Awareness is accomplished by communicating the limits of individual workers and how they impact the areas of biophysics, ergonomics, and education.

A critically important aspect of awareness revolves around symptom recognition. Although not all injuries are preceded by pain indicators, pain is often a symptom of an impending problem of more serious magnitude. Employees need to be made aware that pain may be an indicator of a problem that needs to be addressed, not stoically ignored. While there may be a culture of “toughing it out” in some facilities, there is an increasing awareness of the potential costs associated with unattended pain.



ROI Evidence - A Safe Company is a Profitable One

The cost effectiveness of worksite health improvement services has been examined in several recent studies, with all studies concluding there are significant positive results for employers and patients.

Consulting firm Towers Watson has reported through various studies that for every dollar a company spends on strategic health and wellness, two to three dollars are returned to the bottom line. And many companies are beginning to realize these savings and are looking to expand healthcare services in the workplace. According to Towers Watson, 25 percent of large companies already have some form of onsite health clinic. Another 12 percent are in the planning stages.

One study looked at several worksite wellness efforts and calculated a \$3-\$6 ROI for every \$1 invested over a 2-to-5-year period. Another study focused specifically on worksite-based clinics and concluded that a worksite-based clinic provides services to employees 2 to 3 times more cost effectively than off-site facilities.

Additional analysis by a leading health care firm concluded that worksite health promotion programs reduce average sick leave, health plan costs, workers' compensation costs, and disability costs by 25%. Many researchers have remarked that this approach to health care represents an efficient way to increase access and affordability of medical care, while reducing the burden of cost on employers.

With U.S. employers paying more than 36% more for healthcare than five years ago, many are choosing workplace health centers to cut costs while keeping their employees healthy. Workplace health centers contribute to not only lower healthcare costs but offer improved employee health, reduced downtime, higher productivity, and less lost time due to injury.

Author Bio

Russell Richer has 15 years experience as a B2B copywriter. A former 17-year corporate accountant, he specializes in promoting B2B products, software, SaaS, and services related to sustainable manufacturing, industrial contracting, supply chain, environmental health & safety, and business process automation. [Contact Russ @ richer-communications.com](mailto:Russ@richercommunications.com).

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