Plagued by sprain and strain injuries, the manufacturing industry has had to become more flexible—implementing daily workplace stretching programs to combat mounting workers compensation claims and an aging workforce that is more susceptible to injury because of lost agility, flexibility and balance.

"Manufacturing still requires a high degree of manual labor, which can contribute to the frequency and severity of strains and sprains," said Patrick S. Clarke, Risk Engineering Manager for Zurich Services Corporation. “Compound that with an aging workforce and a company could have a claims nightmare on its hands.”

In 2009, sprains and strains were the leading injury categories in manufacturing, accounting for nearly 34 percent of employee absences, according to the Bureau of Labor Statistics. Further, workers compensation data from Zurich shows that strain injuries are the top accident category in manufacturing when measured by claims frequency and severity.

The high costs associated with these injuries are spurring manufacturers, along with other industries, to implement focused, customized and measurable workplace stretching programs.

"Pre-work stretching helps prepare the body for physical activity throughout the workday, resulting in fewer injuries and claims” Clarke said. "Fewer injuries and claims often equate to heightened productivity, as well as improved bottom lines.”

The bottom line

A daily stretching program might seem like an unlikely solution for improving the bottom line, but based on Zurich’s experience with more than 100 companies that have implemented workplace stretching programs, the results have been dramatic.

Overall, customers experienced a 61-percent-reduction in sprain or strain frequency and a 30-percent-reduction in strain or sprain severity. The reduction in frequency and severity can translate into savings of hundreds of thousands of dollars of direct costs, including fewer indemnity payments, doctor’s visits and lower medical expenses.

But indirect cost savings, although more difficult to measure, are also apparent. Avoiding absenteeism, increasing productivity, and improving employee morale through stretching programs, can often add up to between 100 and 150 percent of direct costs.

In fact, the median days away from work in the manufacturing industry for a strain or sprain injury is nine days. Paying employees two-thirds of their salaries, while getting no production in return, can quickly cut into a company’s bottom line.
The major costs associated with strain and sprain injuries recently spurred Falcon Plastics, a manufacturing company in Brookings, S.D., to implement a voluntary workplace stretching program. Over an 18-month period, the company spent $235,000 on direct costs related to sprains and strains, according to Sarah Perry, Falcon’s vice president of corporate affairs. In addition, she said 58 percent of claims and 86 percent of the company’s direct worker’s comp costs were the result of the same type of injuries.

Considering Falcon’s program is months-old, it has yet to measure or realize the impact, but the company is fully expecting a return on investment just based on hearing testimonials from participants, Perry said. She said participant feedback has touted everything from improved range of motion and flexibility, to reduced soreness, to improved employee morale.

“When you look at all those strains and sprains, and their financial impact on the company, a lot of question marks arise,” Perry said. “We wanted a way to prevent these injuries from happening, and we felt a stretching program could reduce their frequency and severity. When I hear all these testimonials, I know the ROI will eventually be there.”

One company that has seen a dramatic return on investment is Miron Construction Co., Inc., based in Neenah, Wisc. It implemented a mandatory company-wide stretching program about three years ago. While Miron is not a manufacturing company, its workforce’s physically demanding jobs made it a prime candidate for a stretching program. The company experienced a 33 percent decrease in frequency of sprain and strain claims one year after launching the program, said Sara Gorenchan, Miron’s claims manager. The results have held steady at that level for the last two years, she said.

“This program is a part of our entire wellness initiative,” Gorenchan said. “We know stretching isn’t going to eliminate all our claims, but it has certainly reduced injuries and made employees more aware of their physical well-being.”

The heart of the program

Such positive results won’t be experienced, however, without a comprehensive and widely supported stretching program—factors missing from the manufacturing industry’s first stretching programs that were introduced in the 1980s and fell out of favor with many organizations by the end of the 1990s, said Michelle Roehrig, an absence, health and productivity consultant for Zurich.

“The initial stretching programs weren’t customized to employees’ specific job movements and tasks, and measurements weren’t in place to gauge the impact and sustainability of the program,” she said. “Even more detrimental, the programs weren’t supported at organizations’ highest levels, and employees weren’t educated or trained properly and therefore felt uncomfortable with the programs.”

At the most basic level, stretching programs ideally take place pre-shift, mid-shift and post-shift; contain a brief warm-up; and include approximately five stretches held for one minute in length.

The more detailed components of a comprehensive and customized program—like the type of stretches recommended, whether it’s mandatory or voluntary, or self- or group-paced—should stem from an organization’s needs assessment and analysis of physical job demands. From there, an organization should establish metrics; train and educate employees; and follow up for feedback about the program.

“At the heart of a successful workplace stretching program is a comprehensive, holistic analysis that integrates specific past injuries with a customized program to focus on movements unique to workers’ jobs,” Roehrig said. “Beyond that, managerial and executive-level support is crucial.”

Benefits of Stretching

• Increases flexibility: Flexible muscles may improve daily performance – everyday tasks like lifting and bending may become easier and less tiring
• Improves joints’ range of motion: Good range of motion keeps promotes better balance, which may help keep people mobile and less prone to injury from falls – especially as they age
• Improves circulation: Stretching increases blood flow to muscles. Improved circulation may speed recovery after muscle injuries
• Promotes better posture: Frequent stretching keeps muscles from getting tight, allowing proper posture and possibly minimizing aches and pains
• Relieves stress: Stretching relaxes the tense muscles that often accompany stress
• May help prevent injury: Preparing muscles and joints for activity may protect against injury, especially if muscles or joints are already tight
• May help increase
At Falcon Plastics, each of its four divisions—all in different locations—have slightly varying programs. In general, each work group starts the day by stretching for five to ten minutes in a designated area of the Falcon facility. The routines include at least four stretches customized for each work group’s daily tasks or duties.

While all plant managers and supervisors are trained to lead the stretches, typically multiple non-managerial employees rotate that responsibility, which Perry said helps engage and motivate employees, as well as prevent against the possibility of routines getting sidelined by managers’ unpredictable schedules.

“This program is a priority so we need to ensure we’re creating an environment where it is accessible and comfortable,” Perry said.

At Miron, which has approximately 200 construction sites at any given time, the foremen and superintendents at each site lead their crews through five different stretches for seven minutes each morning. Employees in the company’s office environment also participate, demonstrating leadership’s support of the program across the board, Gorenchan said.

“You need to have buy-in from everyone,” she said. “Upper management needs to be involved and feel it’s worthwhile for the program to work. When you see the owner of the company stretching in the lobby with everyone else, it sends a strong message.”

Handling the hurdles

No matter how comprehensive or well-thought-out stretching programs are, companies will experience challenges in developing and implementing their programs.

One common concern among employers is how to discern if particular employees, like those on light duty, can participate in their stretching programs. Ultimately, those employees with restrictions can participate, as long as their restrictions are applied during the stretching program.

Employers also have to combat employee resistance. In order to obtain the best results, stretching programs are ideally mandatory whenever possible and therefore, take place on company time.

Still, employees who are unwilling to participate should be directed to the safety or human resources department and handled on a case-by-case basis. Employees who say they are unable to participate in the program for health reasons should have their healthcare provider review the company stretching program and then write notes stating which stretches they can and cannot perform.

Employee injuries that result from stretching also worry employers. However, if appropriate stretches are selected as part of a program and employees are properly trained on how to correctly perform the stretches, the risk of injury should be minimal.

One of Falcon Plastic’s biggest hurdles was ensuring leadership at each division was supportive, thereby influencing employee participation. Perry said multiple meetings explaining the program and its purpose, along with the potential results, helped garner much of the support.

She said eliciting manager input, tweaking the program for each division, and launching the campaign with a temporary incentive program also made a difference—spurring and maintaining a participation rate just below 80 percent.

“Buy-in is critical, or else it could become the flavor of the month,” she said. “I feel that without good buy in, our program participation would run at about 40 to 50 percent.”

A comprehensive, customized workplace stretching program typically includes:

- A needs assessment that identifies where injuries occur in the plant or location; analyzes which activities typically result in strains and sprains; and identifies the body parts most frequently injured by sprains and strains.
- Analysis of physical job demands, which requires observing the work environment and the range of motions that take place in that environment; documenting employees’ activities, paces and frequencies; and interviewing foremen, supervisors and safety personnel.
- Developing a customized program that divides up particular muscle motions or requirements by job class; implements specific stretching routines based on jobs; and includes branded training materials.
- Established metrics whereby the program’s measurement variables are determined, and a process to report successes or areas of improvement is created.
- Education and training that is consistent among trainers, as well as empowering and understandable for employees.
- Seeking feedback from employees on a regular basis to maintain program’s momentum; determine what is and is not working; and what can be done to make the program better.
Rooted in an industry with high turnover, Miron’s challenge was to establish a program that was effective but still simple enough that anyone could participate—no matter how new to the company. They executed this by thoroughly training those leading the stretches, as well as ingraining the program into the company’s culture.

“In our industry, we have people coming and going on a daily basis,” Gorenchan said. “We wanted to make it so someone coming in on the first day could follow along just like a person who has been here for ten years.”

**Time and money**

Developing a comprehensive workplace stretching program and overcoming the hurdles attached to such an initiative requires an investment of both time and money.

“All too often, manufactures hastily throw together a program, merely engaging a local rehab center or independent physical therapist to offer services on a weekly basis at a plant location,” Clarke said. “While some effort is better than no effort, not making the proper investment will likely produce disappointing results.”

While neither Falcon nor Miron representatives could exactly equate how much time and money was spent establishing their actual programs, they said the process was not overly time intensive or financially taxing. However, they did say it was a strategic and focused endeavor.

Strategy has also been key to sustaining the stretching programs, which in general requires developing incentive programs; creating performance metrics at the division, plant or individual level; reassessing the program periodically; altering the program over time for variety; constant promotion; and involving a variety of leaders both from management and the employee base.

Because Falcon’s program is voluntary, it offered incentives for the first month of the stretching campaign. Employees who participated were entered into a drawing for prizes each week for four weeks. On a small budget of $600, Falcon gave away gift certificates, paid time off and a grand prize of a flat screen television the final week. Perry said this was extremely effective.

As the incentives have disappeared, Perry said the program’s sustainability hinges on management support, non-managerial employee-led stretches, regular promotion of the program through communications like the company newsletter, and a culture that embraces stretching.

“We went into this focused on sustainability because of our history of offering programs in the past that have fallen away.”

Gorenchan said Miron’s program is sustainable because it’s customized to fit the needs of participants, therefore making it more worthwhile. In addition, because risk control managers and project managers regularly go on site to ensure it’s being facilitated properly, everyone is aware stretching is a priority. Finally, the knowledge that the company is willing to set time aside for employees to stretch while on the clock, further demonstrates its importance.

“When we rolled out our stretching program, we made it clear it was for the employees as much as it was for the company,” Gorenchan said. “The employees really recognize that and have embraced it. On the company’s end, this program has more than paid for itself through improved production and decreased claims. It’s a win-win for everyone.”
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