

No Strain Safety

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By [Robert Pater](#) | Jan 01, 2016

It seems like many people are straining at work these days. Everyone is working harder. More hours and years than they'd originally planned. So when you think about it, it's no surprise that soft-tissue injuries—typically, strains and sprains to the back, shoulders, neck, and other areas—plague numerous organizations. After all, the soft tissues of muscles, tendons, and ligaments are front-line involved with moving, the body, and then external objects. And *everyone*—from executives to office personnel to all kinds of workers—moves, lifts, pushes, and pulls at work, or at home, or both, so all have potential risk of strains (to muscles and tendons) and sprains (ligaments.) More and longer moves result in greater risks.

So no surprise, this is reflected statistically. The most recent Liberty Mutual Workplace Safety Index of costs of workers' compensation claims revealed that costs for injury sources that typically result in soft-tissue damage ("Overexertion," "Other exertions," "Slip or trip without a fall"/Bodily Reaction, "Repetitive motions") account for up to 39.2 percent (!) of all *direct* payouts. If you're tallying actual losses, now add in worker replacement, lost productivity, and many other indirect expenses. Even worse, these nagging and impactful injuries loom even larger for companies with aging workforces as, for a variety of physiological and other reasons, soft-tissue injuries become more statistically prevalent and severe as workforces age. Overall, for many companies, this may portend a future with potentially gloomy prospects.

But all does not have to be bleak. We've worked in this field for three decades and have seen numerous organizations with dramatic soft-tissue injury risks have been able to realize up to 80 percent reductions in such injuries—even those that have

"previously tried everything" or have aging workforces that do physical work. What they *don't* do is only rest on the laurels of "tried and true" traditional methods of tool/equipment purchasing and redesign, signs, reminders, same-old training, "back schools," checklist monitoring, more policies and procedures, "better" personal protective equipment, and old-style medical management that conflates "optional"/"light" duty for lower back pain with seated jobs (pressure catheter studies show that sitting actually increases pressure in the lower back vs. standing.) Of course, all of these minor, ill-considered medical management efforts help to a point. But they clearly aren't enough—just look at how the incidence and costs of soft-tissue injuries have held steady or even risen.

What actually works?

- *Strategically reduce forces that concentrate in small areas of the body.* It's no coincidence that soft-tissue damage generally occurs to "small" body parts—"small" of the back, neck, shoulders, wrists, knees, ankles (vs. gluteus and other much larger muscles where it's thereby less likely for forces to concentrate). Think of strains and sprains as akin to metal fatigue, where continuously bending a piece of even the strongest metal in the same way will cause it to first weak/fatigue and then break. The Third Law of Motion indicates that "for every action, there's an equal and opposite reaction." That is, anytime a person pushes, pulls, lifts, exerts, and forces it also comes back into the body. So find ways to "spread the bends" by using different muscle groupings. There are many ways to accomplish this, from high-level design that enables/encourages workers to employ full body strength to displace objects rather than just "muscling"/"manhandling" with the upper body, training people to discover what it means to actually use their legs, "true" job rotation—where tasks are intermingled that rely on different muscle groups. Employing off-hand even 10 percent more will transfer forces to different parts of the body, thereby reducing concentration.) And more.
- *Educate workers to think cumulatively.* With the understanding that small amounts of force can build up into a wear-down soft-tissue injury (bending the "metal"), workers can learn how to make small, almost effortless adjustments to dramatically increase their strength, enlist leverage in their favor, and reduce forces that would otherwise blow back into them. For example, closing distance with objects to be maneuvered, even by a small amount, can make a significant difference.
- *Let them discover, don't just lecture or discuss.* Many workers—especially those who've been around for quite some time—likely have heard a variation on the basics of Soft-Tissue Safety 101. Which means that many of them will less likely to listen to what they assume is just more of the same. If a picture is worth a thousand words, a feeling is worth millions. We've found ways to involve people where they can discover immediate improvements in lessened tension combined with dramatically improved strength. In almost every case, people are most convinced—and their actions then actually change—when they decide for themselves there is a better way. It's especially important and relatively easy for everyone to learn to mindfully self-monitor force buildup in his or her body when applying strength.
- *Focus on home as well as on at-work tasks.* Because everyone accrues additional units of cumulative trauma in personal and at-home activities, it's critical for them to reduce force

concentration there, as well. And applying principles to personal activities is simultaneously highly motivating as well as helping to build better, positive, autopilot soft-tissue safety habits.

- *Culturally reinforce soft-tissue safety, in actions and words.* Reduce machine pacing wherever possible. Get supervisors involved positively. Use terms like "glide" or "smoothly," rather than "shove" or "jerk" the load (latter terms message overexerting). Transfer needed mental and physical skills that can be easily acquired and make a significant difference.

While leaders may not be able to "injury-proof" their workforce, it is highly possible to de-strain it, preventing common, costly, and frustrating soft-tissue injuries.

About the Author

Robert Pater is Managing Director of Strategic Safety Associates and MoveSMART®. To contact him, email rpater@movesmart.com.

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