

Preventing Sprains and Strains: Best Practices at Work

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What is the point of this paper?

Trying to reduce the incidence and severity of sprain and strain incidents can be daunting due to ambiguity of causation and diversity of vocabulary and opinion among EHS, Claims Management, Medical professionals, Human Resources, Labor representatives and the work force. Two assets can help increase effective prevention and cooperation:

- A common vocabulary and understanding of the factors that contribute to causation and prevention.
- Specific task-based examples of how to reduce the risk of strain and sprain at work... and off-the-job.

The Oregon State Accident Insurance Fund (SAIF) is rolling out a web-supported training and risk reduction system designed to provide these two assets to policyholders. This web-supported system is called SIM4

This paper, and the presentation at the 2009 ASSE Conference in San Antonio, provide an overview of the design of SIM4 and some specific examples of this training and risk reduction system applied to diverse work environments, including construction sites, food services, retail sites and hospitality sites.

The common vocabulary and understanding

Two of the goals of SIM4 are utilizing proven technologies for prevention and making risk reduction simple and practical. This is why SAIF decided to invest in a way to more effectively and efficiently deliver the Safety In Motion® injury prevention principles and techniques to their policyholders. These principles and techniques are designed to make the basics of musculoskeletal injury prevention easy to understand, remember and apply.

Here is an example of how the vocabulary and concepts are simplified and focused on behavior. The first technique taught to all employees is Position Elbows Closer™ (Figure 1). This concept introduces the basic implications of leverage and the biomechanics of the elbow,

Adjust the way you hold the steering wheel

Stressed



Holding the steering wheel near the top positions your elbows in the Red Zone. This adds stress to your shoulders, neck and back.

Better



By adjusting your hand position to hold the wheel at the "9 and 3" position, your elbows move into the Yellow Zone. This reduces stress and fatigue on your arms and back.



Figure 1. Photos illustrating the technique of Position Elbows Closer™.

shoulder and spine. What makes it easy to remember and apply is the terminology. The terminology is a mnemonic for the behavior that results in reduction of stress on the body.

The injury prevention principles are also offered, using terminology that is easy for all involved to understand, remember and apply. Here is a list of the primary injury prevention principles utilized by SIM4:

- Tools and equipment – this encompasses ergonomic design, material handling equipment, personal protective equipment, and equipment selection. Again simple mnemonics are used. For example, ergonomic design is Smart Setup™ and Better Fit. This is easy for non-ergonomists to remember and apply.
- Physical Technique. This principle focuses on application of biomechanical techniques like Position Elbows Closer™. There are six basic techniques that make the biomechanics of the arms, the spine, and the legs easy to understand and to apply to relevant tasks. Utilizing these simplified techniques in the task environment reduces unnecessary stress on muscles, tendons, joints and nerves.
- Re-energize. This principle focuses on fitness – specifically range of motion, restoring circulation and developing balanced strength. The words “fitness” and “exercise” are not used as mnemonics because of the negative associations that many people have with these words. For many employees, these pre-existing negative associations can block both learning and application.
- Early Warning™. This principle addresses risk recognition based on behavioral observation or personal symptoms. This principle is used to integrate musculoskeletal injury prevention with work planning, supervision, behavior-based safety observations, safety audits and incident investigations. And this principle is used to meet the requirements of the Cal OSHA Ergonomics Standard that requires that employees be educated to understand and report persistent or recurring pain, numbness or swelling. Doing this education without causing psychosomatic pain is an art in itself.

Frank Yiannas, Director of Safety and Health for Walt Disney World, summed up the benefits of this approach to musculoskeletal injury prevention in the following assessment:

- Simple, powerful concepts
- Applicable at home and on the job
- Delivered in a way that makes it clear we are interested in taking care of people and not just reducing costs

Web-supported, not web-based, risk reduction

SIM4 is carefully designed to provide live training to employees and managers, on-site loss control consulting, and internet resources that help organize and sustain the impact of the training and consulting. This mix was formulated based on the following observations:

- In order to gain employee buy-in, sprain and strain injury prevention training must include experiential proof that the techniques and principles being taught actually reduce stress on muscles, tendons, joints and nerves. Live training (person-to-person) is still the most effective way to provide this experiential proof. Computer based training (CBT) can be effective at reinforcing knowledge gained in live training. But CBT is still much less effective than well designed live training at convincing employees to use what they learn.
- Loss Control consultants can identify very practical, task-specific applications of the Safety In Motion® risk reducing techniques. The key to getting the most out of these applications is to present them effectively. And then to efficiently distribute these easy-to-understand applications to other similar operations or locations. The SIM4 website makes it easy to create, library and distribute Stressed-Better™ photo-documented training aids to a large community of participating organizations.
- A well designed web application can facilitate better quality and organization of risk reduction processes. For example, a consultant can identify, photograph and document a specific application of a Safety In Motion® technique. The website then facilitates a vetting process to make sure that the photos and descriptions are technically correct and consistent with the full array of safety regulations that also apply to the task. This is a two-stage vetting process that precedes publication to the library and wider distribution. An example of a simple Stressed-Better™ training aid is displayed at the end of this paper.

Conclusion

During the first 3 months of 2009, SAIF Loss Control consultants have identified and photographed over 400 applications of the Safety In Motion® techniques. These photos are being incorporated into the live training, published training aids, and a computer-based training refresher and knowledge assessment.

In addition, the initial experience of SAIF Loss Consultants during the development of SIM4 confirms that employers and employees find the strain and sprain prevention techniques and resources both easy to understand and practical to apply. The participating policyholder management and employees have expressed excitement about the impending rollout of SIM4.

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