



PREVENTING TOMORROW'S INJURIES TODAY

## Science and Art of Injury Prevention Training

I was sitting in the back of the room listening to a chiropractor teaching a group of employees how to prevent back injuries. He looked like a young version of Jack LaLanne and was a good speaker.



He was very knowledgeable about the human anatomy, biomechanics, and the dynamics of the spine. He was obviously well educated in the subject, citing proper names to muscle groups, the pounds of torque on the spine in one posture versus another and then he really impressed me; he dropped the E word (ergonomics) and said it perfectly.



The year was 1991. I was looking into an interesting phenomenon that didn't add up to me and belied common sense.

I was in the managed care business. I worked for a company that helped organizations control the costs of workers' comp claims caused by sprain/strain injuries.

During normal business conversation I was informed many times by corporate managers that their employees were not trainable with regard to preventing back injuries. As it wasn't my area of focus, I just took their opinion as fact. But as time went on and workers' comp costs in California tried to imitate the runaway real estate market, it became clear that there was great need for a viable solution to back injuries and other sprain/strains - before they occurred!

- Why have back injuries been so difficult to prevent and how has this problem persisted for so many decades?
- Why weren't employees capable of learning how to prevent back injuries?
- Was there a fundamental flaw in the design of the spine, which caused so many life altering and costly injuries?
- Was it true that "old dogs can't learn new tricks?"
- Was it, in fact, inevitable that all nurses, truck drivers, police officers, etc., would eventually succumb to back pain no matter what was done?

**Something wasn't computing. A 12 year-old child can learn to do a back flip on a balance beam four inches wide, several feet off the ground, yet 50 year-old material handlers couldn't be taught how to lift a sack of letters, a case of ketchup, or how to move a wheelbarrow properly.**

Here I am, 1991 sitting in this workshop thoroughly impressed with this professional's knowledge. I noticed a few employees paying rapt attention, others' attention was in and out, and others, well "vacant" would best describe it.

After the class I asked the employees questions regarding some of the material covered and lo and behold they "knew" how to lift. Most could recite the basic principles of lifting and other biomechanical motions. What on earth was the problem then?

I stayed to observe the employees performing their jobs and instantly understood what all these corporate managers were talking about. Not one of the workshop attendees applied an ounce of what was "professionally" taught to them in the previous hour, yet could score 100% on a test of the subject. The information and instructor were great, but the workshop did not result in a change of physical behavior. Net result - a complete waste of time and money and another notch in the old "training doesn't work" belt.

I witnessed a colossal disconnection between good information and the practical application of that information. In other words, the training resulted in an intellectual awareness but did not produce, more importantly, a physical awareness.

**Were we to believe that proper lifting technique was the only information that existed on planet earth that was not transferable to humans-beings; that could not be physically learned?**

The solution to this enigma of how to effect changes in physical behavior via training was worth the effort to solve. It was postulated that if in fact a solution could be found that resulted in reductions of back injuries via training, it would help millions of people to live more productive lives and save billions of dollars worth of workers' comp costs and lost work days. Economically, it would be a landmark event for countless organizations, particularly those in industries with high losses from sprain/strain injuries.

A talented doctor with a specialty in biomechanics, ergonomics and stretching and a team with expertise in human behavior and organization set out to solve this problem that had plagued corporations for decades.

**The first axiom we worked off of was, "training is only as good as it is then applied in life." We knew our future as a viable business was based on this result - getting employees to decide to change their physical behavior on and off the job. This was the bottom line.**

Employees of various job descriptions were observed as well as people performing chores outside of work. It became immediately apparent why 80% of the population suffered from back injuries in their lifetimes. Virtually 100% of those thousands observed were incorrectly using their bodies on a daily even hourly basis. There was such a dearth of awareness of proper body management technique that a mother could watch her ten year old son grossly twisting while lifting his backpack and not even have it register as being potentially harmful to her child.

Truck drivers, material handlers, nurses, office personnel, police officers, grocery clerks, manufacturing personnel, etc. could work all day and not even be slightly aware that their (and their co-workers') physical habits could someday instantly bring them to their knees, lives changed forever. That people can control their musculoskeletal health to their extreme benefit was not even a blip on their awareness screen.

**Somehow, knowledge of how to prevent back injuries that ruin lives, costs 10's of billion dollars per year in health care and workers' comp costs, and accounted for more lost work days and absenteeism than almost any condition, completely escaped us.**

We are allowed to get out of grade school never learning that innocent daily physical stresses on our bodies accumulate to cause fatigue, discomfort, pain and injury. We are never taught that it is entirely possible to control the amount of physical stress that we allow to accumulate on our bodies. We remain unaware that we can learn to be "cause" over our own health vs. being the "effect" of our jobs and other activities of daily living.

How we stayed blind to the fact that we could control our spinal health (spinal hygiene?) the same as we have learned to control our dental health is the subject of another newsletter.

After 15 years of research and development, over one million people trained, and a lot of water under the bridge, it is now safe to say people *can* learn how to lift those sacks of letters, cases of ketchup, and move that wheelbarrow correctly. People *are* motivated to change physical behavior if it means less pain and more pleasure in their lives. It turns out that teaching people how to prevent back injuries that results in a physical change of behavior involves a combination of science and art.

The trainer that I watched knew the science of anatomy, he knew some physics, he knew about ergonomics and biomechanics but he did not know the art of how to *communicate* these concepts in a way that would arouse a change of behavior. A trainer with scientific knowledge in these fields is confronted with several barriers to getting their message "through" to employees.

- His audience did not volunteer for this training and may not even have an interest. They were told to attend so they did.
- The audience may think they already know the subject (huge barrier to learning).
- Educational barriers that include those without the benefit of a good education. (NOTE: It may also be a factor that educational training can revisit past bad experiences one may have had in their earlier schooling).
- Poor employee/management relationships.
- Union issues.
- A workforce spread out in multiple locations.
- Workers that work with time constraints and that may falsely perceive there is not time to perform their jobs correctly.
- An older work force.
- A younger work force.
- APATHY - "Injuries are inevitable."

The art component of training is how to communicate injury prevention concepts to individuals, despite the barriers, and be capable of having your audience receive these concepts, understand them, and then decide to use them in life for their own benefit.

**One of the major breakthroughs was in learning to understand the difference in how one teaches "information" versus teaching actually doing a physical activity.**

Try teaching a kid how to swim with just a video and your lifeguard skills better be good. It is impossible to learn a physical activity without doing it. Just ask your local athletic coaches and drill sergeants.

Kinetic activities such as lifting, bending, pulling, getting in and out of trucks, sitting in vehicles, and yes even learning how to set a workstation precisely to one's own body, must be taught so that they are highly understood, taught in a way that is thoroughly "real" to the audience, and where the concepts are embraced as highly valuable by the employees. It is extremely common in any of our trainings to see gradient phases of "I guess I will listen a little longer" to "this really makes sense" to "why didn't we learn this years ago," to an enlightened stage of "I will use this information in my life for my own benefit."

**This is why training never worked in the past. Employees must at some point in the training actually have some level of realization of needing to change how they use their bodies so they can protect their own health. The training methodology must result in intellectual AND physical awareness.**

The methodology that was developed was more than just teaching biomechanics. It also encompassed stretching, ergonomic concepts and above all, the art of how to "reach" and impinge upon the employee so to motivate a self determined decision by employees to protect their own health. As this was a new methodology it became known as Bionomics™ - bio (body) + nomics (manage), knowing how to properly manage our body.

Morale, workers' comp costs, and production are all affected by teaching people what we all should have learned in third grade. It took breakthroughs in how to teach physical activities to people, how to "reach" employees of all job descriptions, and how to get employees to decide for their own benefit to perform activities and daily living differently.

**The methodology now exists where people can be trained to prevent back injuries, carpal tunnel, and other sprain/strains versus waiting for the injury to occur and blaming bad luck.**

We have no preference on whether we train your employees or we license your company to train your own. Either way, finally a training solution for sprain/strain injuries is available. It's about time isn't it? "Prevent tomorrow's injuries today!"

\*This article may be reprinted in its entirety provided that the following resource is left intact:

**About Future Industrial Technologies** // FIT offers workplace safety and ergonomics training programs. **Backsafe®** teaches employees how to perform their specific job tasks in a manner that is biomechanically correct. **Sittingsafe®** teaches office employees how to adapt their existing workstations so they are ergonomically correct. These injury prevention programs make your workplace safer and are proven to reduce injuries and worker compensation insurance costs.

For more information contact Dennis Downing at:

**Future Industrial Technologies, Inc.**

4930 Cervato Way | Santa Barbara, CA 93111

Tel (800) 775-2225 | Fax (805) 967-2487 Email: [info@backsafe.com](mailto:info@backsafe.com) | Website: <http://www.backsafe.com>

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