

## Interactive Employee Wellness & Injury Prevention

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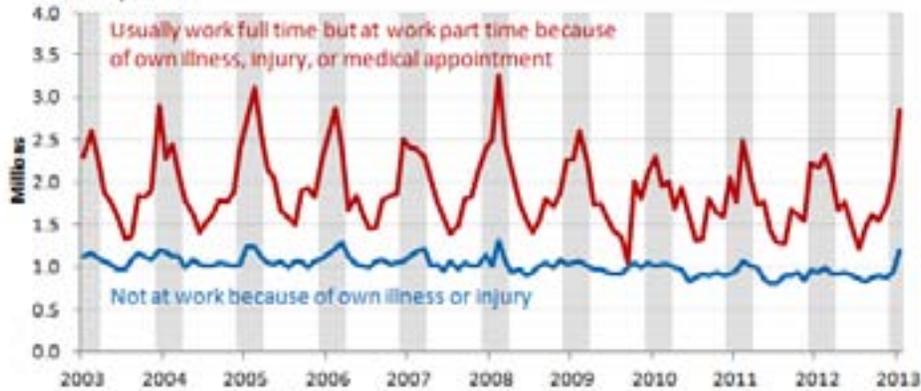
The single common denominator for all top Fortune100 USA companies, no matter what goods or services they sell or deliver, is their annual worker's compensation costs escalating. It has been shown that an estimated 50% of all musculoskeletal stress injuries could be prevented simply by bringing mental awareness to harmful postures and poor body mechanics.

Unfortunately, efforts to correct body position with ergonomic equipment and postural awareness campaigns have not produced the desired effect of lowering costs, reducing claims or keeping employees productive. Why? Because it is highly unlikely that any amount of employee training will undo poor postural behaviors and less than optimal body mechanics that an employee brings with them to the work environment. Alignmed Inc. (Santa Ana, CA [www.alignmed.com](http://www.alignmed.com)) proposes functional apparel; clothing designed to help teach workers to develop good postural behavior without the burden of having to be mindful about every move they make and position they assume. The unique clothing integrates the domains of medicine, ergonomics and fabric technology, and may prove the final variable to solve the problem of postural awareness and its role in injury prevention.

In conjunction with increasing costs for workers compensation, we also see a rise in costs for companies purchasing products and services that apply the science and education of ergonomics. The purchases are made with good intention as there is a clear understanding that the health, wellness, and physical condition of their employees greatly impacts and directly affects the quality, efficiency, and finances of the company. Still, we have to ask ourselves the question; 'do employees need to have a specific ergonomic set up and proper education to be healthy and productive for their employers?' The answer is unequivocally yes, but based on all the research and data, there is still something missing from this equation.

AlignMed as the missing component requires a simple understanding of the process of repetitive muscle activity and its relation to workplace injury. Most employees are required to perform tasks that require consistent muscle movement patterns such as prolonged sitting, computer use, driving, flying, lifting and assembly line work which all embody awkward and/or repetitive movement patterns. These patterns are likely to exacerbate poor postural behaviors and elevate risk factors to the employee and employer. It is well established that the body will always take the path of least resistance in accomplishing tasks and if an employee is not mindful of their movements, the body will conform to postures which create excessive stress on various parts of the body.

Employed persons not at work or at work part time because of own illness, injury, or medical appointment, not seasonally adjusted, January 2003–January 2013



Source: U.S. Bureau of Labor Statistics.

Note: Shaded areas represent peak flu season of December through March.

Overtime, the muscle strain and poor postures associated with repetitive movement patterns will eventually develop into greater physical and mental weakness, injury, and ultimately disability. Workers may or may not grasp the concept of injury over time. Regardless, it is not realistic to believe that they will actively and consistently adapt movement behaviors to prevent an injury that hasn't occurred yet. Thus, without passive intervention we cannot expect the physical body of a worker to improve or maintain itself and the rise of repetitive stress injuries reflects this.

The need for Aligned products and the reason for the gap in understanding posture and its application in improving ergonomic health is twofold. First, people just don't understand posture or see it as something that can be easily improved. No matter the level of education, it is not rational to assume that employees will think about their movement patterns throughout the day, especially when they are distracted or fatigued. Second, there has never been a product that gives measurable results or that the worker will be compliant with. It is for these two reasons that the concept of functional clothing that stimulates advantageous muscle activity is a good idea. The products provide passive therapy and biofeedback, and you don't have to understand what posture is or how you are supposed to manage it; you just wear it.

To address user compliance, Aligned collaborates with science and medical academia as well as fabric developers to enhance the products utility, comfort and look. The technologic solution comprises the use of controlled resistance bands (NeuroBands™) mounted symmetrically onto or built into comfortable, form-fitting garments.

The touch and tension of NeuroBands provides a passive therapy of muscle support and biofeedback that interacts with muscles and joints on a subconscious level. The biofeedback works on sensory pathways to elicit the desired response for optimal posture, and to enlist muscle balance as a means to combat repetitive/awkward movements and enhance the way the body is naturally intended to move. The concept of controlled resistance is similar to how muscles respond to weight training, only with much lighter weight and over a grander period of time. The user is required to do nothing differently in their life to achieve impactful results besides wear the product. In addition, there is a carry-over effect of muscle memory when the products are not being worn. This means the garments can be worn periodically to maintain the results of good posture and improved physical condition. The garments cannot be over worn because they support natural motion and don't restrict it.

Posture maintenance is in fact a daily essential of mobility and longevity; unfortunately it is rarely an active component of health maintenance. Improved posture, poise, and body mechanics can significantly decrease the cost and effort employers expend to maintain the health of their employees while increasing productivity. Aligned should not be ignored as a conservative continuum of care that allows employees to take an active role in their own musculoskeletal health and injury prevention.

#### CREDITS

- 1) Armia Abdo, PT, DPT, OCS, Cert. SMT, SSRC, CSCS
- 2) E. Thomas Vangsness, MD
- 3) Craig Morgan, MD
- 4) Greg Markarian, MD
- 5) US Bureau of Labor Statistics

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