The Problem With Passive

Greg Hart
Kinesiologist
President, Human Effort

If you stumbled out into the street with a microphone and a tape recorder and started asking people at random whether they believe an active approach to living in all respects is superior to a passive approach, what do you think most people would say…what would you say? You would, as would almost everyone else, say that an active approach to life fosters more appealing outcomes and therefore is a superior route to follow. This applies to everything; relationships, career, society, politics and certainly physical health. Anyone could easily reel off countless examples to support this hypothesis. This all raises an interesting question - why do we choose to approach life so passively if the active approach is superior?

The realm of workplace health is a key example of how the passive approach has entrenched itself. Ergonomics has largely become a business of equipment supply. How often has a company purchased several $800 “ergonomic” chairs and given them to their employees believing that the superior design of the chair will ward off dreaded episodes of back injury and other Repetitive Strain Injuries. Chairs aren’t sitting there all by themselves, we can certainly add wrist rests, keyboards and keyboard trays to the list in the office and a wide variety of part placement systems and lifting assists, not the least of which is the back belt, in the manufacturing and warehousing environment. There are certainly some dramatic similarities between taking pills to feel better and the aforementioned one dimensional ergonomic interventions.

The human body was developed to be active. When it is not, only negative consequences accrue except during normal sleep, which is important for restoration. There are a myriad of illnesses and disease that are directly related to inactivity with obesity, heart disease and many muscle and bone difficulties including back pain and osteoporosis leading the pack. Other muscle and bone injuries are caused by inappropriate activity or activity that outstrips the present capabilities of tissues and energy systems. Activity seems to always improve our situation no matter what malady we suffer from; it rarely makes things worse.

In the same sense that drugs that can only treat the symptoms of many of these diseases and won’t cure them, ergonomic equipment alone cannot cure the problems associated with workplace injury and discomfort. In fact, this equipment at times and in many applications increases the risk of injury. There are two major points to draw out of this discussion.

The first point is that implementations of ergonomic equipment cannot be passive. Providing someone with a chair that has 15 adjustments and giving them no instruction in its use or more specifically how it relates to their particular work organization and

requirements is of no help whatsoever. Some would say that a chair with 15 adjustments is unworkable and it should be simplified to gain higher levels of compliance - that is an almost textbook definition of passive. The answer is to provide regular and competent education on the appropriate use of the tool and the tool should be as effective and variable as possible. Ergonomics is a highly specific exercise and demands individualization to be effective. It also requires surveillance and real attention. Just ask any company that spent millions of dollars on equipment changes only to see their injury situation worsen or only temporarily improve. This leads to the second point, which is illustrated by the fact that 10 people may use a workstation and only 4 of them ever have difficulties - let's talk about the person doing the work.

As we move further into the dawning information age and solidify the changes to the late industrial age we see increasing numbers of jobs that require or encourage passive postures and low task variation. Most of the injuries that fall into the ever growing category of Repetitive Strain Injury (RSI) are created out of passive participation in work and life. This happens in a number of ways and sitting is a good place to start. Humans are not well set up for this activity to begin with and the overall lack of conditioning through the torso muscles that is so prevalent in society today makes it much worse. Manufacturers of ergonomic equipment, especially chairs, will often speak of how effective it is at giving "support". We perceive support to be a good word and sometimes it is, but often it isn't. This is especially true when dealing with things that don't require the support. The spine is something that requires no external support and in fact will decline in function with that support regularly present. A chair needs to provide "reminders" of positioning that cue the user into a mechanically suitable posture that involves higher levels of muscle activation. The muscles of the torso are designed to support the spine against changing positions due to gravity and offer poor support only to vertical seated loads that compress the spine. The fact that we spend so much time in poor, supported postures while sitting in school, driving in cars, watching television, talking on the phone, doing our work and many other non-activities leaves us with poor conditioning and alignment that does not allow us to sit, stand or even walk properly. This places us at increased risk for injury to the extremities and shoulders as well as leaving our spines in a condition of low stability. Imagine how long a sailing ship's mast would last in high winds with no rigging to hold it in place. No ergonomic device will solve these difficulties - only people can with adequate and professional instructional support.

In future issues of this newsletter we will discuss individual examples of the active application of ergonomic technology including wrist rests, keyboards, keyboard trays, back belts, wrist splints and many others. Ergonomic technology is important, but almost ineffective and even dangerous if utilized inappropriately and without changes to the person doing the work. Problems that grow out of passive interactions and low conditioning are not going to be cured with passive interventions. Choose an active lifestyle and make your work as active as possible - it is the single most important impact you can make on your personal comfort.