



Stand tall!

WHILE WE WERE ALL CONCENTRATING on lean manufacturing, two-thirds of our work force became overweight or obese.

A cost reduction strategy facing companies today is how to deal with the increasing cost of overweight employees. How much does it really impact the cost to the employer in terms of health care, workers' compensation, absenteeism and on-the-job injury?

Should corporations refuse to hire overweight employees? Should they regulate the weight of their employees? Who would set those limits and what level of body mass index or body fat percentage would those limits be based on? Should normal-weight employees simply be rewarded with lower medical premiums?

According to the Milken Institute, by eliminating obesity, we could reduce the economic impact of disease by 27 percent or \$1.1 trillion annually; we could increase the nation's gross domestic product by \$905 billion linked to productivity gains; we could also decrease treatment costs by \$218 billion per year.

Each year, we spend \$55 billion in the U.S. on diet supplements, books and dieting, yet there is no clinical evidence of long-term, sustained weight loss for even 1 percent of the population using diet and exercise alone. Exercise levels among U.S. adults have been steady since the 1980s.

What we all need is more movement, all day long. After decades of technology upgrades, one office worker now does the equivalent of six. However,

there has been a price to pay. The office worker of today never needs to leave the office. While this sounds great for productivity, our bodies were designed to be dynamic rather than stuck in a chair under a desk all day. Compounding this problem is the fact that today, more than 60 percent of our U.S. work force is office based. As a result of the fatigue, postural issues and overuse syndromes that result from sitting all day, we have office workers reporting higher illness rates today than their production counterparts that move and work physically hard. How did we go wrong?

It really comes down to a slow process of more comfortable furniture, more encompassing technology and bad timing in our culture as we also saw portions, food calories and exercise habits take their toll.

The simple solution for industrial engineers to build into their office plans is what I call a "stand-biased design." This concept radically modifies the standard office by gearing it toward standing. Due to its 40-inch rather than 30-inch standard height, the worker would have 33 percent more storage space than before along with a more dynamic workstation that encourages regular standing as opposed to only sitting.

While standing, a typical worker will burn 40 percent more calories than when he sits. This increase in calories burned can result in more than 300 extra calories burned per day if he stands for just two of his eight work hours. That equates

Today's office worker never needs to leave the office.

to more than 20 pounds of weight loss in a year! Critical to this approach is a comfortable stool designed for the purpose and a properly positioned 10-inch tall footrest that can be used for the feet while sitting or standing. The lack of a footrest for standing is the main reason that sit-stand stations (height-adjustable tables with standard chairs) have failed to become mainstream.

The conditions stemming from obesity are treatable by removing the underlying factor. We have a tremendous opportunity to turn around the negative health outcomes for a large portion of our work force, but we must begin by dealing with the underlying causes of the obesity boom in our country. Fighting back with movement-enhancing designs put in motion by industrial engineers could be just what we need. ~

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