The prevention and treatment of occupational injuries has become a major concern of employers, employees, the medical profession, and the federal government. The Occupational Safety and Health Administration (OSHA), U.S. Department of Labor (DOL), Centers for Disease Control and Prevention, U.S. Department of Health and Human Services, labor organizations, business organizations, insurance companies, and many other organizations all have one thing in common—they all promote prevention as the solution for today's growing health-care problems. President Bush is promoting prevention as the key to a long and healthy life through his health-and-fitness initiative Healthier US.

According to the Bureau of Labor Statistics (DOL), a total of 1.7 million lost-workday injuries occurred in 1999, the last year for which data are available. More than 4 of every 10 injuries and illnesses resulting in time away from work were sprains and strains, most often involving the back. Operators, fabricators, and laborers led all other occupational groups in the number of cases, accounting for 41% of the total. Sprain/strain was the leading injury category. The trunk, which includes the back, was the body part most commonly injured, and overexertion was the most common precipitating factor. The statistics show "how out of whack our health care system is in America. We wait until people get sick or injured before providing care!" (Tommy Thompson, Secretary of Health and Human Services, May 2002).

The U.S. DOL defines a musculoskeletal disorder as an injury or disorder of the muscles, nerves, tendons, joints, cartilage, or spinal discs. Musculoskeletal disorders do not include disorders caused by slips, trips, falls, motor-vehicle accidents, or similar accidents. Over 577,800 musculoskeletal disorders were reported in 1999, which accounted for more than one in three cases of total lost work time. Repetitive-motion injuries resulted in the longest absences from work.

The financial impact of workplace injury and illness is staggering. The direct cost of workplace injuries (payments to injured workers and their medical providers) has increased to $40.1 billion, and the total of both direct and indirect costs (e.g., lost productivity, overtime) is estimated to be as much as $240 billion. Some experts estimate that the total overall cost is in excess of $1 trillion.

The Problem

Clearly, workplace injury and employee illness adversely affect quality of life, and they exert a major negative effect on corporate profitability. The health-care-cost problem will only worsen as the U.S. workforce ages and health-insurance premiums continue to skyrocket.
The United States has surpassed China in the number of worker-hours worked each year. The problem is obvious—or is it? U.S. workers are not going home in the same condition in which they reported to work. In fact they are going home in a much worse state. The employer has the responsibility to provide a safe work environment and proper training, but the individual worker also has the responsibility to work in a safe manner. What is the actual root cause of this multifaceted problem?

**Solutions**

Employers, government agencies, and individuals are looking for solutions to the interrelated problems of poor health status and increasing health-care costs. Unsafe behaviors are the primary cause of workplace injury, and unhealthy lifestyles exacerbate both the incidence and the severity of injury and illness. Optimization of the physical condition, health status, and mental awareness of individual workers should produce a safer and more efficient workforce. Certified athletic trainers and therapists specialize in preventing, treating, and rehabilitating injuries, as well as developing conditioning programs for physically active individuals. Applying those same principles to the education and motivation of “occupational athletes” can have a tremendous impact on workplace safety, producing results for individual employees, as well as their employers. Safe work processes and ergonomically sound workplaces can lower the incidence of work-related injury, but unsafe and unhealthy human behaviors present the fundamental problem. Meaningful reduction in the incidence and cost of injury and illness requires a shift to safer and healthier behaviors. Because people rarely change independently, such a behavior shift requires consistent and long-term intervention to educate, motivate, and facilitate positive change—a behavior-based approach.

**Behavior-Based Injury Prevention**

Behavior-based programs have been a part of worksite safety for many years. Their goal has been to translate intentions, training, and processes into actual worker behaviors. Involvement at every level of the corporate operation is necessary to produce this type of cultural change. In other words, everyone is responsible for safety and injury prevention, not just in words but also through actions that set an example. Clear communication, defined objectives, appreciation of human value, engagement, and outcome measurements are just a few of the principles necessary for the success of the behavior-based process.

Behavioral changes do not come easily; they do not happen overnight, and they do not occur on a predetermined schedule. Change is typically defined in four phases: denial, resistance, enlightenment, and, finally, acceptance. It is important to remember that behaviors are learned responses and represent the accumulation of many stimuli. Habits formed over years of repetition create behaviors that can be difficult to change. Reinforcement, both positive and negative, assists in the formation of new behaviors, but personal responsibility and accountability are vital.

The first step is to define the desirable behavior. Once the desirable behavior is clearly identified, the facilitation process can begin. In the case of injury prevention, analyze the scenario that preceded the injury and determine the mechanism that caused it. Was it repetitive motion, cumulative trauma, overexertion, slip, trip, or fall? Identifying the mechanism of injury should also pinpoint the associated behavior that created susceptibility. This “performance deficiency,” either by commission or omission, is where the behavior-based prevention process begins. Lack of knowledge or information is not necessarily a major contributing factor, but failure to apply knowledge or information is. A simple example is a back injury caused by improper lifting technique. Today, practically every company provides training in proper lifting techniques to encourage workers to use preferred work methods. Moreover, there are few workers who don’t know the proper technique. The question is, how many individuals use this technique during their daily work routine? In many cases, it is not that the information is unknown—the information is often not incorporated into a learned behavior.

Decreasing susceptibility to injury and improving health status require a shift to safer and healthier behaviors. A behavior-based injury-prevention and health-enhancement program must incorporate objectives for attaining information relating to behavioral science, ergonomics, injury prevention, and