Musculoskeletal disorders (MSDs) account for a large percentage of lost workdays. MSDs of the low back and upper extremities result in approximately 1 million people losing time from work each year. These disorders impose a major financial burden on industries and corporations in terms of compensation costs, lost wages, and lost productivity. Conservative cost estimates vary, but a reasonable figure is approximately $50 billion annually in work-related costs. With more than 80% of the adult population in the U.S. workforce, the need for intervention is paramount to reduce the burden of rising health-care costs.

Traditional rehabilitative care for work-related MSDs has consisted of referral from an occupational-medicine facility to a physical therapy clinic. Rising health-care costs, however, and limitations on the duration of physical therapy treatment have stimulated employer interest in on-site care for injured employees. By providing free, on-site musculoskeletal treatment, rehabilitation, and injury-prevention programs, the certified athletic trainers at the Kennedy Space Center have realized significant cost savings for NASA and contractor organizations.

Key Words: musculoskeletal disorders, ergonomics, on-site rehabilitation, industrial athlete

Key Points

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The KSC RehabWorks Program was developed in 1997 to provide free postinjury and postsurgical rehabilitation at an on-site location that would decrease employees’ time away from work. The RehabWorks philosophy is to treat the employees as athletes—industrial athletes. Their mechanisms of injury might differ somewhat from those of traditional athletes, but the evaluation, treatment, and rehabilitation that follow musculoskeletal injury are identical to those provided for professional and college athletes. At KSC, sprains and strains account for the greatest number of work-related injuries, whereas the greatest number of nonwork cases treated are postsurgical cases (Table 1). The most common body area injured during work-related activities at KSC is the low back. Knee and shoulder surgeries are the most common nonwork conditions that are treated (Table 2). By being on-site, the RehabWorks athletic trainers have first-hand knowledge of the work environment, and they are available to conduct work-site visits to educate employees or their supervisors on any necessary accommodations for physical limitations while reconditioning for full return to duty.

Following the sports-medicine model (Figure 1), the certified athletic trainers (ATCs) at RehabWorks coordinate efforts with the occupational-medicine physicians to see patients as soon as possible. Same-day referrals are preferred, which permit rapid assessment and treatment that diminishes the effects of pain and inflammation on the recovery process. The
primary advantages of an on-site rehabilitation program include decreased lost time, maintenance of the employee’s normal work routine during the rehabilitation process, and reduction of workers’ compensation and medical costs.

A coordinated health-care team must be in place to provide a smooth transition from injury to return to full-duty work status. At KSC, the health-care team is composed of two ATCs, an on-site supervising physician, occupational-health physicians, occupational-health nurses, industrial hygienists, and workers’ compensation specialists. Each team member plays an integral role in the management of work-related injuries (Figure 2).