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Carpal Tunnel Syndrome -- Workplace Buzz-Word of the 90s

By Douglas J. Markham, DC

Recently, I have been receiving an increasing number of requests from employers and employees for information related to the prevention and treatment of carpal tunnel syndrome.

Carpal tunnel syndrome results from compression of the median nerve inside the wrist. The median nerve and nine flexor tendons lie in a small "tunnel" formed by the carpal bones on the top of the wrist and by a ligament called the "transverse ligament" on the bottom of the wrist. Pressure on the median nerve may be caused by tendonitis or tenosynovitis of these tendons. The symptoms of carpal tunnel syndrome are pain, tingling, and numbness in the thumb and first three fingers of the hand. Clumsiness or a tendency to drop things may also result. The symptoms often manifest themselves during non-working hours.

Carpal tunnel syndrome is caused by occupational activities which involve repetitive flexing of the wrist, particularly when performed with high finger forces or grip forces; this leads to irritation and swelling of the synovial membrane inside the carpal tunnel, which causes nerve compression. Nerve compression is also caused by direct contact with the tendons inside the carpal tunnel when the wrist is flexed.

Carpal tunnel syndrome is the most prevalent nerve disorder in the category of cumulative trauma disorders (CTD) or repetitive-motion injuries. CTD occurs when nerves, muscles, tendons, and bones are aggravated by repeated exertion or movements of the body. Many risk factors have been associated with the increase of work-related CTD: they include force, posture, frequency or repetition, and inadequate rest periods or lack of recovery times between cycles.

Industry case study data of incidence and prevalence of CTD suggest they occur in epidemic proportions in some industries. For example, in a study of a poultry processing plant, "Armstrong et al., (1982)," showed CTD incidence rates on some jobs as high as 129.6 cases per 100 workers per year and a plant-wide rate of 12.8. One medium-sized poultry plant with 700 workers reported an incidence rate of 38 percent per 100 full-time workers. Similar rates have been reported in the manufacturing, assembly, and service industries.

"Jensen, et al., (1983)," found that more than six percent of workers' compensation claims from six states were related to inflammation or irritation of the joint, tendon or muscles, or to diseases of the nerves. Silverstein (1985) found prevalence rates of 11.9 percent for hand and wrist tendonitis and 8.1 percent for carpal tunnel syndrome.

Due to the increased incidence of occupational injuries, such as carpal tunnel syndrome, on-the-job safety ranks among the most urgent challenges facing management and employees throughout the 1990s. Some 6.4 million cases of occupational injury and illness were reported in 1988, an increase of 400,000 over 1987, according to the U.S. Bureau of Labor statistics. During 1985, U.S. employers paid a staggering \$21 billion in injury compensation claims, not including administrative and legal costs, compared with \$5 billion a decade earlier.

The problem of repetitive-motion injuries, linked to such tasks as typing on computers, has been called "the industrial disease of the information age." Repetitive-motion injuries presently afflict 5 million Americans annually, at a cost of \$27 billion in medical treatment and lost income. The National Institute of Occupational Safety and Health (OSHA) predicts that more than half of the work force could fall victim to motion injuries in this decade. Due to the increasing threat of repetitive-motion injuries, especially those related to video display terminal (VDT) operators, a growing number of states and communities are adopting mandatory guidelines to curb VDT-related injuries.

The state of California is adopting a new Cal/OSHA regulation requiring every employer to have a formal "Injury and Illness Presentation" program. The Cal/OSHA rule SB 198 will go into effect July of 1991. The sweeping regulation requires all employers, regardless of the size or industry, to have a written injury and illness presentation program containing formal systems of inspections, employee training, record keeping, documentation, correction of unsafe conditions, and investigation of accidents. Employers are being forced, both by monetary considerations and by law, to deal with physical stress issues such as carpal tunnel syndrome that are affecting the health and productivity of their employees.

There are very few times in our professional careers when we come across "windows of opportunity" such as the ones that are presently facing us in regard to the issues of physical stress in the workplace. Our profession stands to gain new patients, who will benefit from chiropractic care. Most importantly, we are the most highly qualified health care professionals to properly educate the working community on the prevention and treatment of conditions such as carpal tunnel syndrome. If we do not follow up on these

opportunities, other health care professionals less qualified than ourselves most certainly will. The average cost of medical treatment and lost income as a result of carpal tunnel surgery is a staggering \$36,000 per case. This is why I have recently incorporated a segment on the prevention and conservative treatment of carpal tunnel syndrome into my own physical stress reduction program to better service the present needs of today's business community.

Approaching the business community is neither an easy task nor without rejection, but for those willing to step forward, you will find many happy returns. Employers and employees are more receptive and in need of our services than ever before. We, as doctors of chiropractic, owe ourselves, our profession, and most importantly, the working public the opportunity for the best possible education on the prevention and treatment of the physical stress issues presently facing our "information society." It is my sincere hope that you will join me and other doctors like myself who are seizing the opportunities presently facing our profession in the 1990s.

Your comments and inquiries may be mailed, phoned, or faxed to:

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