

Carpal Tunnel Syndrome

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The problem of work-related injuries has been around for centuries. In fact, the first record of an industrial injury dates back to ancient Egypt when a laborer involved in construction of the pyramids reported a back injury to his employer (Putz-Anderson, 1988). In more recent times, employers have gradually accepted the need to provide a safe working environment for their employees. The worker's compensation system has been devised to provide necessary assistance to those who are injured while on-the-job (OTJ) (Grieco, 1986). Often, when we talk about work-related injuries, we consider traumatic episodes such as falls from a ladder or a back strain from lifting a particularly heavy object. However, with some of the changes that have occurred in the workplace (i.e., increased mechanization, assembly line production, computerization, etc.) many of the major accidents that were so common years ago have been replaced with a newer type of problem, the cumulative trauma disorder (CTD).

Today, this type of condition is one of the fastest growing of all work-related injuries. In some industries, such as meat-packing, the prevalence of such injuries may reach as high as 98 percent of the work force (Pheasant, 1991). The Bureau of Labor Statistics recently identified ergonomic disorders as the fastest growing category of occupational illnesses. In 1992 they accounted for 56 percent of illnesses reported to the Occupational Safety and Health Administration (OSHA). In contrast, in 1981, CTDs accounted for only 18 percent of occupational injuries (Pheasant, 1987). In addition to being more and more common, CTDs can be extremely expensive. As an example, Blue Cross of California, an insurance company with a heavy reliance on computers, spent an average of \$20,000 on each of 30 claims. One severe claim of carpal tunnel syndrome (CTS) may cost as much as \$100,000 (Mosely et al., 1991).

There is a growing body of evidence that spinal manipulation, as performed by chiropractors, offers a cost-effective alternative to more traditional methods for treating back pain. Unfortunately, there is not much evidence in the literature that chiropractic has any significant role in the treatment of disorders such as carpal tunnel syndrome. Recently, however, a study published in the *Journal of Hand Surgery* offers some evidence that conservative management of carpal tunnel syndrome may, in many instances, be superior to surgery. The study was performed by Dr. Susan Mackinnon, professor of surgery at Washington University School of Medicine in St. Louis. In the study, the authors evaluated 64 patients with various cumulative trauma disorders ranging from carpal tunnel syndrome to neck and shoulder pain. Thirty-four of the patients had previously undergone surgery; 26 for CTS and eight for cubital tunnel surgery. None of these had reported any significant relief following their operations. Nineteen of the patients had previously received some form of physical therapy for their conditions.

Dr. Mackinnon states that wrist pain or discomfort was not the only symptom that the patients were complaining of. Rather, most patients actually presented with multiple problems. These included multiple sites of nerve irritation, physical fatigue, and muscle imbalances. With this in mind, treatment was directed at getting muscles back into balance. This was accomplished by teaching patients to

stretch tight muscles and to strengthen weak muscles. In addition, patients were taught which postures were most likely to decrease pressure on nerves and to reduce muscular imbalance. Based on her research, Dr. Mackinnon states that surgery is often not necessary nor recommended. Instead, physical therapy, education and workplace modifications can effectively eliminate most patient's pain without the need for surgery. According to the author, "This translates into tremendous cost savings for patients and insurance companies."

The concept that patients with cumulative trauma disorders such as carpal tunnel syndrome, may present with problems in the neck, upper back, and shoulders is presented as a somewhat revolutionary and "new" finding. This "discovery" is certainly not new to those of us in the chiropractic profession. What is so exciting about this study is its treatment implications. For many years, conservative therapy for patients with carpal tunnel syndrome has largely focused on bracing and rest, i.e., removing activities that create discomfort. When such conservative measures have failed to produce any significant gains, surgery often follows. While surgery may offer some temporary relief for patients with CTS, it rarely results in any significant long-term improvement. Now, it appears, there is evidence that measures that are commonplace in the chiropractic office, may actually be preferable. In addition, Mackinnon states that, while most patients felt significantly better following a course of treatment, they were not cured. Instead, she claims they will have to commit to a lifetime of good posture, work habits, and exercise. What a concept!

In conclusion, there is ample evidence in the literature (both chiropractic and non-chiropractic) to support the use of spinal manipulation for some types of back pain. There is an increasing amount of evidence to support the use of manipulation for neck pain and headaches. The chiropractic profession must provide similar evidence to support the use of chiropractic care for other cumulative trauma disorders, such as carpal tunnel syndrome. In this changing health care arena of evidence-based services, we don't have much time to waste.

References

Grieco A. Sitting posture: an old problem and a new one. *Ergonomics*, 29,345-362, 1986.

Mackinnon S. Clinical commentary: pathogenesis of cumulative trauma disorders, *Journal of Hand Surgery*, Sept. 1994, 873-883.

Mosely LH, Kalafut RM, Levinson PD, and Mokris SA. Cumulative trauma disorders and compression neuropathies of the upper extremities, In: *Occupational Hand and Upper Extremity Injuries and Diseases*, ed. Kasdan ML, Hanley and Belfus, Philadelphia, 1991.

Pheasant ST. *Ergonomics, Work and Health*, Aspen, Gaithersburg, Md., 1991.

Pheasant ST. *Ergonomics: Standards and Guidelines for Designers*, pp 7317, British Standards Institution, London, 1987.

Putz-Anderson V. *Cumulative Trauma Disorders: A Manual for Musculoskeletal Diseases of the Upper Limbs*, Taylor and Francis, London, 1988.

Editor's note: If you have any questions, suggestions, or comments please write to Dr. Hooper at 21343 Cold Springs Lane, Suite #443, Diamond Bar, California 91765.

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