



# Pain MANAGEMENT

SPECIAL INTEREST GROUP • ORTHOPAEDIC SECTION, APTA, INC.

## President's Message

*Joe Kleinkort, PT, MA, PhD, CIE*

What is the one pain syndrome that seems to cause more problems than all other pain syndromes? Carpal Tunnel Syndrome (CTS)!! This is a syndrome that is often misunderstood and overlooked and surely misdiagnosed. It has the highest number of lost workdays of any injury at the workplace, averaging 34! This doesn't seem that bad until we compare it to the number of lost work days for amputation, which averages 14 lost work days. The main reason for the huge number of lost workdays is that the majority of all diagnosed cases are treated with surgery. Approximately 28,000 cases of CTS were reported in 1999. The average cost per case is over \$13,000. The sad fact is as many as 80% of the cases can be resolved with various treatments, the most effective of which is augmented soft tissue mobilization (ASTM). This ingenious way of deep tissue remodeling is done with a variety of tools to remold collagen and reduce inflammation. With this technique, the therapist enjoys a near 80% efficacy rate with no real side effects. Low Level Laser is also a very effective modality that I have found effective for the past 25 years. I suspect the reason that some patients don't respond to this treatment is that as many are misdiagnosed. I have found that many so called CTS cases are actually cervical radiculopathies. Keyboarding is rarely the direct cause of the disorder. Of those diagnosed with CTS, 70% are women who have one or more of the following characteristics: they are pregnant, menopausal, obese, smokers, or diabetic. Those who are obese are more at risk. In addition, diet can have a major role, especially deficiency in vitamins B6 or C. With our skills in upper quarter assessment and early evaluation of signs and symptoms, CTS is one syndrome that our profession can almost totally eliminate if we are able to treat the person early enough.

I pray that you all have a most blessed holiday and hope that you all have a wonderful New Year. Please keep your thoughts and ideas coming. I hope to see you at the CSM in Tampa in February!

## Report of a New Orthotic Shoe Design with Heel Coil Spring Assist

**A New Aid to Ambulation and Lessening Effects of Walking Shock to the Spine**

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Patented Orthotic Coil Spring Shoe  
(ZCOIL™ Freedom 2000)

The authors have been evaluating a new orthotic shoe design, with a steel conical spring built into the heel of the shoe. The purpose of the orthotic shoe and its' coil spring heel is to provide improved support and shock-absorbing cushioning during ambulation. This orthotic shoe (Zcoil™ Freedom 2000 – Zcoil Inc, Albuquerque, NM) provides foot support and cushioning in excess of any previously evaluated footwear in the authors combined over 50 years of rehabilitation work. The shoe is of a 'double rocker' design according to the inventor, Al Z. Gallegos, Founder of Zcoil, Inc. Mr. Gallegos, a 72-year-old 5-mile-a-day runner, developed loss of cartilage in both of his knees, leading him to develop the cushioned, heel coil-spring equipped shoes.<sup>1</sup> The goal of these shoes is to lessen the amount of shock transmitted from the ground to the foot upwards to all body structures.

Studies done by Los Alamos National Laboratories, through the auspices of their industrial partnership office—the United States Department of Energy—showed the apparent decrease in shock transmission to be due to a slower transmission of shock proximally, when compared to the conventional elastomer cushioned shoes in this study.<sup>2</sup> Since force is equal to mass times velocity, slowing the velocity of the transmitted force may also lessen the effects of the foot and heel shock that gets transmitted upward to the rest of the body structures.

The amount of downward excursion of the heel was also studied by Sandia National laboratories and was found to be more than the conventional elastomer-running shoe.<sup>3</sup> The implication of this is a larger heel excursion, which is cushioned by the shoe and allows shock absorption. The design of the spring affects the shoe in such a manner that if a