

OPTIMAL HEALTH UNIVERSITY™

Presented by Dr. Wayne Terai

Complex Regional Pain Syndrome

It's an all too common scenario: A patient suffers a relatively minor injury, such as a sprained ankle. But it doesn't seem to heal properly; in fact, the pain seems to get worse, and is then accompanied by other symptoms, like burning and stiffness. Numerous doctors in the traditional medical community dismiss the patient's complaints as an exaggeration or "all in her head." The patient becomes increasingly concerned about taking pain medication that does not appear to address the underlying disorder.

Finally, a last-resort trip to a chiropractor brings sympathy, understanding, a diagnosis and relief. Unfortunately, scenarios like this play out frequently for those suffering from complex regional pain syndrome or CRPS. Dr. Terai wants patients to understand what CRPS is and what the treatment options are so that scenarios like those above will not continue.



What Is Complex Regional Pain Syndrome (CRPS)?

CRPS, formerly known as reflex sympathetic dystrophy syndrome (RSDS), is a complex, chronic pain syndrome that can affect any part of the body; however, it occurs most frequently in the extremities — hands, feet, arms, legs, shoulders or knees. The condition has been known by various names over the years, including *algodystrophy*, *Sudeck's atrophy*, *causalgia*, *the shoulder-hand syndrome* and *sympathetically maintained pain*.

CRPS's symptoms include pain (often "burning" in nature), tenderness and swelling of an extremity. Additional symptoms include sweating, excessive warmth and/or coolness, flushing, discoloration and shiny skin.

In addition to severe pain, Dr. Terai notes that patients often endure a dramatic reduction in quality of life. In fact, a recent study found that "the syndrome frequently interfered with job (approximately 62% disability rate), sleep (approximately 96%), mobility (approximately 86%), and self-care (approximately 57%)." (*Reg Anesth Pain Med* 2009;34:110-5.)

Most patients also withstand psychological distress, including depression and anxiety.

What Causes CRPS?

Dr. Terai explains to patients that CRPS occurs most often after trauma, such as a bone fracture or surgery. The trauma can also be minor, such as a sprain. CRPS can also onset following a serious medical condition, such as a heart attack or stroke. In up to 25 percent of CRPS patients, however, there is no apparent cause.

What Happens to the Body During CRPS?

The perception of pain is a complex phenomenon that is both physiological and psychological. Typically, pain is registered immediately following a pain stimulus like a trauma or overuse injury. When the pain stimulus is removed, the body returns to the previous, pain-free state.

When pain continues beyond a reasonable time period, the pain is said to become *pathologic*. This is the essence of CRPS. As the body responds to pathologic pain, permanent struc-

tural and functional changes ensue — ultimately leading to alterations in the central nervous system. Changes in the way the brain perceives pain perpetuate CRPS. The pain of CRPS is always out of proportion to the precipitating event, and is often associated with a lowered overall pain threshold.

Drugs and Surgery Not Proven Treatments

Currently, there is no cure for CRPS because the underlying disease process is still not well understood. In general, early diagnosis and treatment lead to a better outcome.

Since CRPS's effects are so wide-ranging, in some cases guidance may require a multidisciplinary team of health-care professionals, including a chiropractor, acupuncturist, neurologist, psychologist, physical therapist, nutritionist and other specialists.

Traditional medical treatments for CRPS, such as medications and surgical procedures to block nerve activity, have mixed results at best. Research does not equivocally support the use of many of these treatments.

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Natural Alternatives Show Promise

A 2008 literature review published in the *Annals of Vascular Surgery* examined all the various treatment options for CRPS.

The researchers found it unclear whether surgical procedures or medications were of any benefit. On the other hand, nondrug, nonsurgical options showed promise.

The study's authors write: "Four studies were on cognitive behavioral therapy, physiotherapy, or occupational therapy, all of which demonstrated a potential beneficial effect. Three studies on spinal cord stimulation and two studies each on acupuncture, vitamin C, and steroid all showed a potential beneficial effect in pain reduction." They conclude, "Early recognition and a multidisciplinary approach to management seems important in obtaining a good outcome." (*Ann Vasc Surg* 2008;22:297-306.)

Chiropractic for CRPS

Researchers speculate that chiropractic may alleviate the symptoms of CRPS. One analysis concluded that "there is reason to believe that spinal manipulation [chiropractic adjustments] may be beneficial to patients with CRPS." (*J Manipulative Physiol Ther* 2000;23:490-7.)

A case study published in the *Journal of the Canadian Chiropractic Association* also suggests that chiropractic may mitigate CRPS. A 44-year-old woman came to a chiropractic clinic complaining of pain, and "a bone scan, radiographs, and clinical examination led to the diagnosis of complex regional pain syndrome (CRPS). Following chiropractic care, the patient had improved grip strength, functional abilities, and pain reduction."

The study concludes: "A multidisciplinary approach to treatment should be pursued with these patients. More investigation of therapies such as chiropractic care as it relates to the pathophysiology of CRPS is needed." (*J Can Chiropr Assoc* 2006;50:20-6.)

Vitamin C

The doctor often recommends nutritional therapy, including boosting the intake of antioxidant nutrients. Vitamin C is one antioxidant that may prevent CRPS following trauma, say scientists.

One experiment looked at 416 individuals with wrist fractures. Researchers randomly assigned the patients to four groups: a placebo group, or treatment with either 200, 500, or 1500 mg of vitamin C daily for 50 days.

"The prevalence of complex regional pain syndrome was 2.4% (eight of 328) in the vitamin C group and 10.1% (ten of ninety-nine) in the placebo group. Analysis of the different doses of vitamin C showed that the prevalence of complex regional pain syndrome was 4.2% in the 200-mg group, 1.8% in the 500-mg group, and 1.7% in the 1500-mg group." The researchers conclude: "Vitamin C reduces the prevalence of complex regional pain syndrome after wrist fractures. A daily dose of 500 mg for fifty days is recommended." (*J Bone Joint Surg Am* 2007;89:1424-31.)

Physiotherapy

Physiotherapy is frequently used to alleviate CRPS, and has met with some success. Doctors of chiropractic may recommend specific physiotherapy techniques and exercises directly to the patient — or refer patients to a physical therapist.

For instance, a case study published in the *Journal of Manual and Manipulative Therapy* showed positive results using the "strain counterstrain" (SCS) technique. This technique is a form of assisted exercise employed by many chiropractors.

The study followed a 14-year-old girl diagnosed with CRPS after an ankle sprain. She was treated with SCS once per week for six months. Her pain level had a "clinically significant decrease" in month two; tenderness decreased as early as month one. Her level of function and range of motion

also steadily improved throughout the treatment period.

The researchers conclude that CRPS "remains a poorly understood and difficult-to-treat chronic syndrome. By way of its proposed effects on the neuromuscular system and facilitated segments, SCS may be an additional effective treatment tool in the management of some patients diagnosed with CRPS I." (*J Man Manip Ther* 2007;15:25-41.)

Acupuncture

Acupuncture may also be an effective approach for CRPS sufferers. One evaluation looked at the effect of acupuncture and rehabilitation therapy on post-stroke CRPS.

The researchers divided 120 patients with post-stroke CRPS into three equal groups: an acupuncture-rehabilitation group, an acupuncture group and a rehabilitation group. The researchers found that "The total effective rate of 87.5% in the acupuncture-rehabilitation group was significantly better than 67.5% in the acupuncture group and 65.0% in the rehabilitation group; acupuncture combined with rehabilitation therapy could significantly improve upper limb motor function, pain and joint activity with very significant differences as compared with the acupuncture group and the rehabilitation group." (*Zhongguo Zhen Jiu* 2008;28:331-3.)

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