

Wrist Fracture: Experts Say to Take Vitamin C

Physical Therapy in Portland for Wrist

Clients with distal radial wrist fractures were found to have a lesser incidence of CRPS "complex regional pain syndrome" if they took a 500 mg supplement of oral vitamin C. It is suggested that a Bridgetown Physical Therapy & Training Studio patient with this type of fracture, while being immobilized, should take the time to read this study and consult with your doctor about whether it is appropriate to take the Vitamin C supplements (for some people, vitamin C would be contraindicated) in order to prevent CRPS.

Patients with fractures of the distal radius (wrist) are advised to take vitamin C to prevent a condition called complex regional pain syndrome (CRPS). Vitamin C may have the added bonus of speeding up healing. But how much should you take? And for how long -- the rest of your life?

These are questions addressed by the authors of this review article on the use of oral (by mouth) intake of vitamin C after distal radial fractures. Let's define a few terms here starting with distal radius. There are two bones in the forearm that help make up the wrist joint (radius and ulna). The proximal end of those two bones is closest to the elbow. The distal end refers to the bottom of the bone at the wrist.

Complex regional pain syndrome (CRPS) is a common problem after distal radial fractures but no one knows why exactly. The patient develops wrist and hand pain, swelling, and skin color changes. The pain and swelling are accompanied by a loss of motion and function. There can even be changes in skin temperature (warm or cold) and increased hair growth on the arm compared to the other (healthy) side.

The first inkling anyone had that vitamin C could help prevent complex regional pain syndrome (CRPS) after wrist fracture came in 1999. The same researchers published a second study in 2007 confirming the benefits of vitamin C to prevent this condition. By comparing two groups with wrist fractures (those taking Vitamin C and patients who didn't take the vitamin), it was clear that the group taking the vitamin had far fewer cases of CRPS.

The group taking vitamin C in these two studies were further divided by how much (dosage) they took. Some took 200 mg daily, others 500 mg, and a third portion took 1500 mg of vitamin C. The results showed that 200 mg wasn't enough to make a difference. That's about how much the average person gets just through diet with four to five servings of fruits and vegetables. A difference wasn't observed until patients took 500 mg. That's called a beneficial dose-response. No further benefits were seen when patients took more than 500 mg of Vitamin C each day.

How does the vitamin C work to prevent complex regional pain syndrome (CRPS)? Scientists aren't entirely sure but vitamin C may reduce the number of free oxygen radicals that form as a result of the fracture and subsequent inflammatory healing process.

Free radicals form when a normal oxygen atom loses an electron. Electrons like to be paired and the loss of one in the pair makes the oxygen atom unstable (a free radical). Vitamin C comes in and gives up an electron without becoming unstable itself. That makes vitamin C an antioxidant.

A daily dose of 500 mg is advised for a period of 50 days. That's about seven weeks and without any complicating factors, the average fracture heals within six weeks' time. Not everyone should bump up their vitamin C intake. It's best to consult with your doctor about his or her recommendations.

There are some health problems for which large doses of vitamin C are not advised. For example, too much vitamin C can cause kidney stones in patients with diabetes. Anyone taking extra Vitamin C who develops diarrhea and/or abdominal bloating may be experiencing some mild adverse effects of this supplement. Patients are usually advised to back off on the dosage until the symptoms are gone.

In summary, vitamin C is a safe, effective, and relatively inexpensive way to prevent complex regional pain syndrome following fracture of the distal radius. Taken in the recommended dosage, it may also speed up healing and recovery when there aren't complicating factors. It's not a magic cure -- patients must still wear a splint or cast and receive follow-up hand therapy when needed.

Reference: Apurva S. Shah, MD, et al. Use of Oral Vitamin C After Fractures of the Distal Radius. In The Journal of Hand Surgery. November 2009. Vol. 34A. No. 9. Pp. 1736-1738.