

# NUTRITIONAL SELF DEFENSE™



Dr. Craig Rubenstein

## Potentially Dangerous Anti-Inflammatory Drugs vs. Natural Medicines for Injuries and Inflammation

**W**hy Dangerous? Did you know that people actually die from taking non-steroidal anti-inflammatory drugs (NSAIDs)? If you or someone you know is an NSAID popper please take this information seriously! It has been reported that due to the complications from the overuse of NSAIDs that somewhere between 16,000 and than 20,000 people die in the United States every year. These statistics, which are considered conservative, have been reported in the most prestigious medical journals since the late 1990s and corroborated by the Food and Drug Administration (FDA). Of-course this is due to “overuse.” Unfortunately, people take these NSAIDs such as ibuprofen and naproxen like they are candy. Although the biggest abusers may be those with crippling arthritis, many competitive athletes and weekend warriors are going overboard taking these meds multiple times a day, every day, for months at a time, and this is very dangerous. Often these same athletes are also consuming alcohol while taking these NSAIDs and according to the American College of Gastroenterology “NSAIDs and aspirin...they should not be taken with alcohol, as the combination can increase the risk of GI bleeding.”

Let’s put this into perspective. “Every year, 6 times as many people die of NSAID-related GI (stomach and intestinal) bleeds than died on September 11, yet this gets very little media attention,” says Sunil Pai, MD, director of Sanjevani Integrative Medicine. Since the mid-80s, more than 300,000 Americans have died of NSAID complications, and 1.7 million were hospitalized.

It may or may not be obvious that short of dying from taking NSAIDs (that we think of as harmless), there is damage other than bleeding going on in our bodies each time we take them. NSAIDs are some of the most commonly used drugs in the world, but they have the potential for other significant side effects affecting the liver, kidneys and the heart. NSAIDs are also one of the drugs on the National Institutes of Health’s website that can cause erectile dysfunction! Probably one of the more surprising side effects from NSAIDs is that they actually cause arthritis in the long run. Of course, you might ask, “Aren’t these medications given to help people with arthritis?” The answer is yes! Unfortunately, although these drugs can help significantly with the pain of arthritis they do lead to an increase of the arthritis itself. According to the recent article “The Acceleration of Articular Cartilage Degeneration in Osteoarthritis by Nonsteroidal Anti-inflammatory Drugs” by Ross A. Hauser, MD, published in the Journal of Prolotherapy, “It is clear from the scientific literature that NSAIDs from in vitro (in the lab) and in vivo (in the body) studies in both animals and humans have a significantly negative effect on cartilage matrix which causes an acceleration of the deterioration of articular cartilage...” OK, now we know how potentially bad these everyday medications are if they are taken too often and for too long. So, what can we do instead? This is where Nutritional Self Defense comes in.

The scientific literature is full of studies showing the effectiveness of many herbal extracts and other supplements such as Omega 3s that can work as good as many NSAIDs but without the nasty side effects. Extracts of herbs like curcumin or turmeric, ginger, white willow bark, boswellia, and black and cayenne pepper are proven to be effective and safe alternatives to NSAIDs for many injuries and acute and chronic inflammatory conditions. There are other non herbal anti-inflammatory supplements that are also supported in the scientific literature, such as DMG (Dimethylglycine), kre-celazine, omega 3s, bromelain, and other proteolytic enzymes.

If you or someone you know is an NSAID popper or has chronic injuries or other inflammatory problems, it is your diet that should be the first place you look for help. Many of us are eating in a way that absolutely promotes inflammation: lots of conventionally raised red meats and dairy products (not from healthy free range “pastured” and “organically” raised cattle), and refined carbohydrates (white flour and sugar) with very few fruits and vegetables. Eating this way means you are consuming huge amounts of *inflammation pro-*

moting **omega-6** fatty acids, and very few of the amazing *anti-inflammatory omega-3* fatty acids.

High levels of omega-6 fatty acids cause an over-production of substances called inflammatory prostaglandins and leukotrienes. In many of us, our ratio of “bad” (omega 6) to “good” (omega 3) fatty acids is as high as 30:1. This bad ratio makes us inflammation machines. This is a recipe for disaster, since a healthy ratio is about 2:1. Although taking fish oils is great, you must change your diet to reduce your omega 6 intake. The first step is to eat more fruits and vegetables and less conventionally raised animal proteins (“pastured, organically raised free range” animal products are fine), and increase your intake of omega-3s, primarily from wild caught fatty fish that swim in cold water such as salmon, fresh sardines, mackerel, tuna, and halibut. Omega 3s from high quality fish oils and to a lesser extent flax seed oil (due to its need to be converted in the body to an active form) that are validated for purity should be taken on a daily basis. Research shows that omega-3 fatty acids reduce inflammation. Omegas 3s are converted in the body into anti-inflammatory eicosanoids. Omega 3s also block the omega 6s from making the inflammatory prostaglandins, and they also block other inflammatory substances such as certain cytokines and interleukins. On top of all this amazing anti-inflammatory chemistry, omega 3s may help lower the risk of chronic diseases such as heart disease, cancer, and arthritis.

Getting back to the herbal extracts and other anti-inflammatory supplements, there is strong evidence supporting their use in helping people with injuries and other inflammatory conditions. This is a list of some of the most common and most well researched supplements available on the market today. Often these are more effective when used in combination.

**Curcumin (Curcuma longa):** Curcumin is one of the most well researched herbs, with over 5,000 published papers. Substances in this herb affect over 90 inflammatory mechanisms. Recently, investigators at Baylor Medical Center compared a standardized Curcumin extract (500 mg twice daily) against Diclofenac (50 mg twice daily-an anti-inflammatory drug) in people with rheumatoid arthritis for 8 weeks.

All groups showed significant reductions in pain, swelling and tenderness, but Curcumin alone gave the biggest reductions. There were no dropouts in the Curcumin group and no serious side effects, while 14% of Diclofenac patients withdrew due to adverse effects.

**Boswellia (Boswellia Serrata):** Boswellia is also a heavily researched herb. It has anti-inflammatory, anti-arthritic, and pain relieving effects.

A recent study compared a standardized Boswellia extract, against a placebo in the treatment of people with significant osteoarthritis of the knee. Within five days, 100 mgs/day of the Boswellia extract, gave significant relief of pain and improvements in physical functioning. The Beth Israel Deaconess Medical Center, a teaching hospital of Harvard Medical School, also notes a double-blind, placebo-controlled study where patients with arthritis of the knee experienced significant improvement in pain, mobility and walking distance while taking Boswellia.

**Ginger (Zingiber officinale):** Ginger is a popular spice in many parts of the world, and has also been used in Indian and Chinese medicine for over 4,000 years. It affects numerous inflammatory pathways. In a study of 261 people with osteoarthritis (OA) of the knee, those who took a ginger extract had less pain and needed fewer pain-killing drugs than those who received a placebo.

**Black Pepper (Piperine) and Cayenne Pepper (Capsicum Annum):** Although these herbs have anti-inflammatory actions of their own, extracts of black and cayenne pepper are used in most herbal formulas primarily to improve the absorption of other herbs such as curcumin and boswellia.

A review of clinical trials conducted by Memorial Sloan-Kettering Cancer Center, one of New York’s premiere hospitals, has shown that cayenne can be helpful in treating lower back pain. A research team recently evaluated the antioxidant, anti-inflammatory and anticancer activities of extracts from black pepper. By measuring inflammation markers, human tumor cell production and measuring cell damaging chemicals called free radicals or oxidizers (the opposite of anti-oxidants), the researchers were able to determine the health-boosting properties of pepper. They found that all extracts from black pepper suppressed inflamma-

tion-producing substances and concluded that black pepper exhibits anti-inflammatory, antioxidant, and anticancer abilities.

Of course, if you are sensitive to “nightshades” (potatoes, tomatoes, sweet and hot peppers, eggplant, tomatillos, tamarios, pepinos, pimientos, paprika, and cayenne peppers) or think your symptoms worsen when consuming any of these foods as foods or in the form of a supplement, it is suggested that you avoid them.

**White Willow Bark (Salix Alba):** White willow bark is traditionally used to treat pain. The effectiveness of this herb is mainly thought to be due to the amount of salicin it contains. Salicin is believed to be the original source of aspirin, and is also known as acetylsalicylic acid. The two substances share anti-inflammatory actions, but salicin has not been shown to cause the same gastrointestinal distress or internal bleeding that aspirin does. Like aspirin, salicin works as an antipyretic (fever reducer), anti-inflammatory and as an analgesic (reduces pain).

According to an article on the University of Maryland Medical Center web site, “Willow bark appears to be effective for back pain. In a well designed study of nearly 200 people with low back pain, those who received willow bark experienced a significant improvement in pain compared to those who received placebo. People who received higher doses of willow bark (240 mg salicin) had more significant pain relief than those who received low doses (120 mg salicin).”

**Proteolytic enzymes, such as bromelain** which was introduced as a medicinal remedy in 1957, has had hundreds of scientific papers studying its therapeutic effectiveness have appeared. Bromelain was reported in these studies to exert potent effects, including reducing inflammation in cases of joint discomfort, sports injury or trauma, and reducing swelling after overuse or surgery.

Italian researchers have shown that the ability proteolytic enzymes in reducing inflammation is similar to or superior to some strong steroidal and non-steroidal anti-inflammatory drugs: Phenylbutazone, Hydrocortisone, and Indomethacin.

The next supplement does not have a lot of studies behind it, but it has promise. Only time will tell.

**Kre-Celazine® (US Patent 6,399,661):** Kre-Celazine® is as you can see a patented but natural compound that contains a specialized fatty acid and creatine complex. A case study and a published double-blind placebo controlled trial shows this patented formula was effective in reducing inflammation, pain, swelling, and stiffness in various joints.

The last supplement that will be listed has a lot of studies behind it over many years, but the majority of them are in animals. As you may know, most supplements or drugs are first tested in animals and if those tests go well then human studies come next. Again, since there isn't a four thousand year history, as there are with many herbs, we will have to wait for more human trials.

**DMG HCl (US Patent 5,026,728) (US Patent 7,229,646 B2):** Dimethylglycine HCl is another patented compound. It affects the production of inflammatory substances and acts as an anti-oxidant as well as an anti-inflammatory agent. This novel supplement has two US patents for the treatment of inflammatory disease, modulating immune response and for the treatment of arthritis and inflammation. Another reported use for DMG is for athletic performance by improving oxygen utilization.

There are numerous alternatives to the potentially dangerous NSAIDs. If you are trying to stay healthy, and you have a diet that does not promote inflammation, yet you find that you are in need to treat an injury or to reduce inflammation, it is time to try the natural route. It is usually more efficacious to use a product that has a combination of many natural anti-inflammatories, as they often work better that way. Diet, omega 3s, herbs, and supplements are Nutritional Self Defense for inflammation.

*Dr. Craig Rubenstein was a team Chiropractor to the US Freestyle Ski Team in 1990. He is also a certified clinical nutritionist and a Fellow and Diplomate of the International Academy of Clinical Acupuncture. He operates his Park Avenue practice in NY and a satellite office in Suffolk County, Long Island. Go to <http://www.drrubenstein.com/>*