

RUNNING AWAY FROM INFLAMMATION

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Inflammation is the major cause of post workout soreness as well as the cause of tendonitis and tendinosis. In fact, inflammation causes most sicknesses and diseases that affect us. Maintaining a low inflammatory state will speed recovery and decrease injury. All runners will benefit from reducing inflammation, however, anyone training over 25 miles per week, this is a must.

Now the issue becomes how to keep the inflammation at a minimum within the body. This can be addressed by medication, dietary supplements and food. As for medications, they all have side effects which can range from simple irritation to the stomach to ulcers or even in the case of Vioxx, death. Considering that over the counter non steroidal anti-inflammatory drugs, (NSAID's), are the most widely taken medications in America, clearly as a society we are in a pro-inflammatory state.

As for supplements and foods, we know that certain supplements are anti-inflammatory in nature. These include the omega-3 fatty acids, commonly found in your cold water fish oils, Such as salmon and cod, as well as flax seed oil, borage oil or evening primrose oil. Other good sources of omega-3's include green vegetation, plankton, seaweed and even algae.

Maintaining a good balance of anti-oxidants in the body, also keeps inflammation levels down, by neutralizing particles called "free radicals." Free radicals are the end products of normal metabolic reactions, which are highly reactive and are commonly aggravating in the inflammatory reaction. The most common anti-oxidants available today are vitamins C, and E, along with the minerals selenium, potassium and zinc. Additional anti-oxidants which are extremely potent include as alpha-lipoic acid, co-enzyme Q-10, green tea, miatake mushroom extract, grape seed extract and lycopene. These agents are found in foods, as well as concentrated in supplement form.

Foods that contain naturally occurring anti-oxidants are often dark colored with a strong taste. Common examples are collards, broccoli rabe, radicchio, brussel sprouts, endive, dark unsweetened chocolate, red wine, even Guinness Stout.

Herbs such as ginger, rosemary, tumeric, garlic and curcumin are well known for their anti-inflammatory properties. Furthermore, traditionally, papaya and pineapple have enzymes in them that also have been used for generations because of their anti-inflammatory effect. These can be taken as the whole foods and herbs or, again, in concentrated extracts as a supplement form.

A simple, and natural, recovery drink is 1/2 teaspoon of organic ground ginger with honey in a glass of water. Check out the *Home Made Energy Gel* article for more ideas.

Research has shown that omega-3 fatty acids, the herbs listed above, fruits and vegetables are anti-inflammatory. Furthermore, research also tells us that omega-6 fatty acids are pro-inflammatory. They accelerate the inflammatory response in the body. Therefore, it stands to

reason to reduce the amount of omega-6 fatty acids in the body and increase the amount of omega-3's in the body.

The highest concentration of omega-6's are found in grains, hydrogenated oils and fried foods. Grains, even organic whole grains, only contain omega-6 fatty acids and no omega-3's. There are no omega-3 anti-inflammatory properties in grains. Therefore, the first step in maintaining an anti-inflammatory diet is to stop grain products. Now don't get all panicked here, there are plenty of carb sources out there besides pasta! We'll cover what to eat instead of pasta and cereal later. Right now let's concentrate on eliminating omega-6's from your diet which means grains, seed oils and beans.

Pro-inflammatory omega-6 fatty acids are also found in seed oils such as corn, safflower, soy and sesame as well as hydrogenated oils. These are pro-inflammatory and need to be avoided at all costs. For example, one serving of corn or potato chips, (a handful), contains on average 10 grams of hydrogenated fat. That is one tablespoon of pro-inflammatory fat, per serving. Taking a fish oil pill, (about 2 grams of omega-3 fat) can offset this volume of omega-6's. To keep it simple, just do not eat hydrogenated fats, (fried foods, mayonnaise, processed foods), or seed oils. Olive, flax and macadamia nut oil are fine.

As for beans, be careful here, too. Beans contain a chemical called *lecthins* which can be extremely pro-inflammatory for some people. When you first begin to reduce inflammation with your diet it is best to also stop all beans, too. This includes tofu and soy bean products. After you have reduced your overall state of inflammation, moderate amounts of beans may be re-introduced. However, to get good results from the beginning it is best to be strict with all anti-inflammatory food choices before you start to experiment with specific food sensitivities. That will come later. Vegetarians are often reluctant to remove beans from their diet, however, once they do remove them the results are always much better. Finally, peanuts are actually a bean, and not a nut: stay off peanut butter and peanut oil.

The next step is to look at meat and protein sources because they can be pro or anti-inflammatory. Yes, that's correct. Beef can be pro-inflammatory or anti-inflammatory as can fish – simply because the fatty acid content of meat and fish is directly proportional to what it eats. For example, if fish and meat are grain fed, they will be high in omega-6 fatty acids and pro-inflammatory. However, if fish and meat that have a diet high in omega-3's, i.e., grass, seaweed, plankton, vegetation, they will be anti-inflammatory. Free range chicken and beef that's allowed to graze on vegetation, is the answer, as well as fish that is caught live at sea and not farm raised. These are truly anti-inflammatory protein sources. Studies have shown that farm raised tilapia, bronzini, and catfish are high in omega-6 fatty acids and thus drive inflammation.

This concept has already entered into the egg industry, where "Smart Eggs" are very common in all super markets today. Right on the crate it states "high in EPA" meaning those chickens were actually fed EPA, an omega-3 fatty acid, to make them healthier and anti-inflammatory. A classic example of we are what we eat, eats.

As for snacking, you're not going to be grabbing doughnuts, bagels or pretzels to remain in an anti-inflammatory state. Rather reach for raw or dry roasted nuts, fruit and fresh vegetables. An easy snack is a homemade trail mix of raw nuts, dry fruit and dark chocolate. The best nuts are almonds, cashews, macadamia, walnuts and pecans, just make sure they are not coated with sugar, salt or milk chocolate! Remember, are actually a bean and not a nut and are one of the poorer snacks to have. A great on the go snack is a handful of nuts, with maybe a few pieces of unsweetened dark chocolate and a couple of raisins instead of a bagel with cream cheese or butter.

The take home here is to run away from inflammation, (tendonitis, arthritis, bursitis, neuritis), change your diet to limit the inflammatory foods such as grains, seed oils, grain fed meats, and fried foods and increase vegetables, fruit, nuts and wild caught/grass fed meats. It really is that simple, it just takes a little effort in the beginning.