

Anti-Inflammatory Diet

The Anti-Inflammatory Diet, includes particularly:

- 3 meals daily (no snacking), each of which includes a serving of meat, fish, poultry, eggs or cheese.
- very limited intake of sugar, including fruit.
- avoiding juice and other sweetened beverages.
- avoiding polyunsaturated oils (salad dressings, mayonnaise, margarine, foods containing vegetable oils or cooked in vegetable oils).

Weston Price's book, "Nutrition and Physical Degeneration", is by far the most valuable nutrition book ever written. Dr. Price traveled the world and observed many healthy and lean populations who consumed diets that were quite diverse. However, these diets all shared the following in common:

The majority of calories were derived from animal-source foods.
(Generally eaten three times daily)

The animal foods were not over-cooked

There was little or no sugar in the diet

There was little or no polyunsaturated fat in the diet

That's it --- that's all there is to maximizing health and longevity. In other words, all the cultures who historically lived long and lived well, ate this diet.

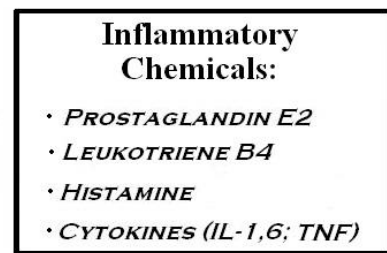
For a more in depth understanding, let us look at the specifics of the anti-inflammatory diet, and what you must do to Avoid Diet Induced Inflammation.

Diet Induced Inflammation

Chronic inflammation is a major causative factor involved in practically every illness. It is the driving force not only of chronic pain but also the pathogenesis of heart disease, cancer, arthritis, colitis, PMS osteoporosis, neuro-degenerative diseases (such as Alzheimer's) and most other degenerative diseases.

Dietary factors determine the nutritional status of the tissues and the amount of inflammatory chemicals the body produces. Bad dietary choices lead to increased

levels of pro-inflammatory chemicals that lead to chronic systemic inflammation and a pro-inflammatory state.



Pro-Inflammatory State



CHRONIC INFLAMMATION

Bad dietary choices include:

A. Bad Fats:

1. **All polyunsaturated fatty acids (PUFAs) are damaging.** In summary, there are two mechanisms by all PUFAs (omega 6 and omega 3) cause both short term and long-term tissue destruction.
 - a. When PUFAs are heated or hydrogenated, or are oxidized (rancidity), they form trans isomers and isomer entirely unrelated to the original fatty acid. **These fatty acid isomers are hepatotoxic, mutagenic and cause free radical oxidative damage to cells throughout the body.**
 - b. Even without the complications of rancidity or isomerism, **PUFAs cause catabolic tissue oxidation, inhibit normal oxidative metabolism, and deplete antioxidant nutrients such as tocopherols, tocotrienols, vitamin C and vitamin A.**

PUFAs accelerate:

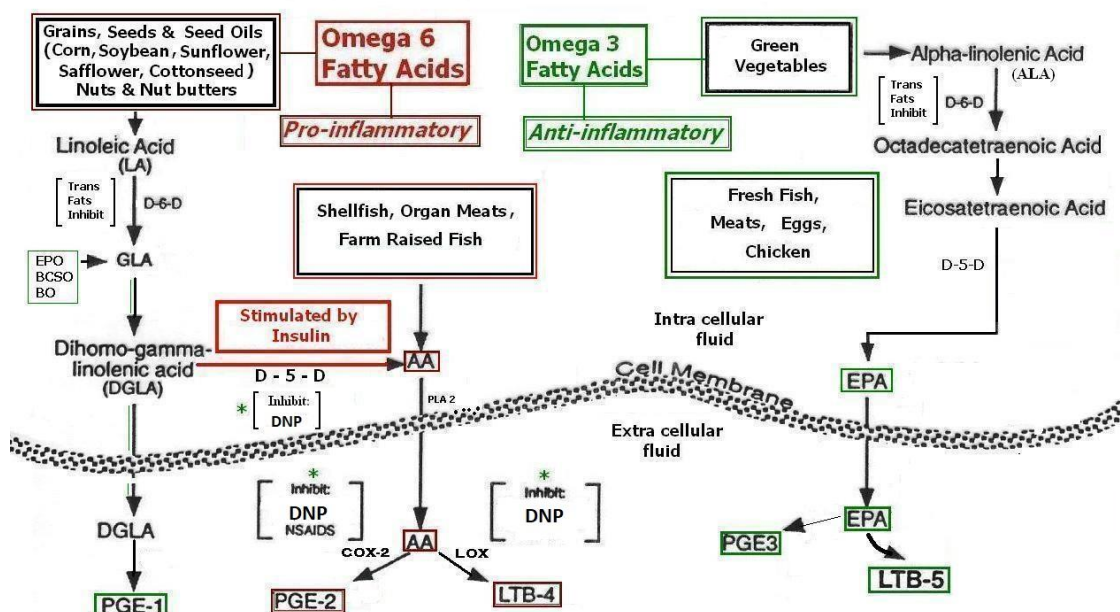
- lipofuscin-related brain and skin aging
- the development of auto-immune diseases
- the development of cancer
- liver damage
- dysaerobic metabolic imbalance (oxidative stress)

How ludicrous it would be to take Omega 3 oils that are catabolic, age-accelerating fatty acids, to control the symptoms caused by other catabolic, age-accelerating fatty acids? If people did not eat vegetable oils, they would have no “need” for omega 3 oils. The only reason the damaging effects of omega 3 fatty acids are not readily apparent is because they make up such a small percentage of our diet relative to omega 6 intake, and relative to over-all caloric intake.

2. Excess Omega-6 Fatty Acids (Vegetable Oils and their Products)]:

Your body places dietary fatty acids in every cell membrane of every cell of your body so if you eat inflammatory fats you will make inflammatory cells. Omega 6 fatty acids are uniquely pro-inflammatory in that not only are they damaging like all PUFAs, but they also directly convert into pro-inflammatory chemicals called Prostaglandin E-2 (PGE2) and Leukotriene B-4 (LTB4).

Prostaglandin and Leukotriene Production



An anti-inflammatory diet is low in PUFAs and especially omega 6 rich foods. Therefore, you must:

a. Limit Grains and Grain

Products: white bread, whole wheat bread, bagels, rolls, pasta, crackers, pretzels, cereals and other products made with grains or grain flour including most deserts (cakes and cookies) and packaged foods. Grains also contain gluten and lectins which are also highly inflammatory to a great many people.

b. Avoid Seed and Legume Oils

(“Vegetable” Oils): Corn, safflower, sunflower, cottonseed, peanut, soybean oils as well as foods made with these oils, like mayonnaise, tartar sauce, almost all salad dressings and many packaged foods.

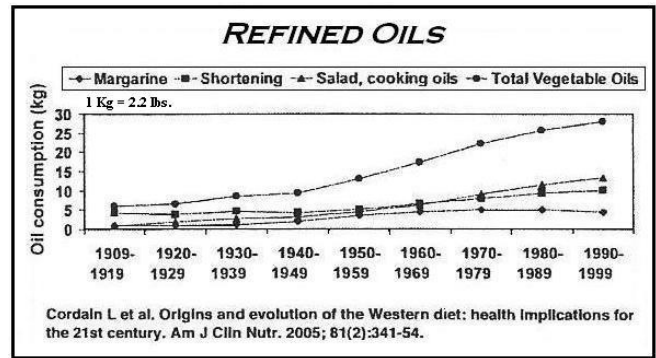
c. Avoid Foods Containing

Partially Hydrogenated Oils (Trans-

fats): Including deep fried foods (French fries, etc.) and margarine. Besides the harmful effects trans-fats cause regarding fatty acid metabolism, they also cause an increase in inflammatory cytokines, lipid peroxidation and insulin resistance. Trans-fats also promote fibrin deposition in soft tissue injuries, increasing the likelihood of scar tissue residuals in soft tissue injuries.

Also, avoid soy, farm raised fish like tilapia, catfish, basa and bronzini, shellfish and mollusks (shrimp, lobster, clams, and crab), as well as liver and other organ meats.

Be moderate in your intake of butter, cheese (dust on omelets and salads), cream and milk. Oatmeal is high in omega-6 as are most nuts



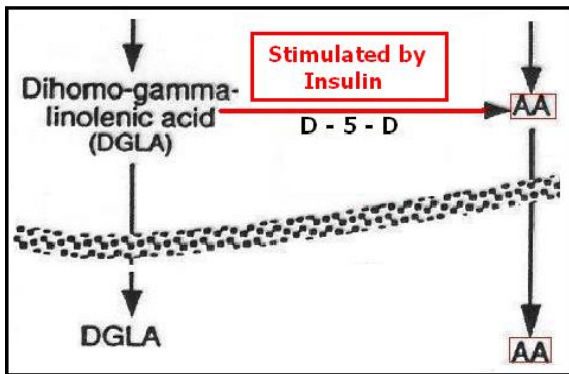
Oils: Pro- & Anti-inflammatory/ Omega-6: Ω-3	
Anti-inflammatory	
Olive oil 15% sat: 75% mono: 10% poly (11:1)	Hands ES. Nutrients in food. Lippincott Williams & Wilkins; Baltimore: 2000 Enig MG. Know your fats. Silver Spring: Bethesda Press; 2000: p. 123, 142, 280-292
Coconut oil 91% sat: 6% mono: 3% poly. Ω6 only	
Butter 66% sat: 30% mono: 4% poly (4:1)	
Pro-inflammatory	
Corn oil 14% sat: 27% mono: 59% poly (70:1)	Dr. David Seaman (modified)
Sunflower oil 13% sat: 18% mono: 69% poly. Ω6 only	
Safflower 9% sat: 12% mono: 79% poly. Ω6 only	

FOOD - Pro-inflammatory >Omega6:Omega3 ratios		
Nuts	≥5:1	Hands ES. Nutrients in food. Lippincott Williams & Wilkins; Baltimore: 2000 Enig MG. Know your fats. Silver Spring: Bethesda Press; 2000: p. 123, 142, 280-292
Grain family	≥10:1	
Oatmeal	21:1	
White bread	21:1	Cordain L, Watkins BA, Florant GL, Kehler M, Rogers L, Li Y. Fatty acid analysis of wild ruminant tissues: Evolutionary implications for reducing diet-related chronic disease. Eur J Clin Nutr, 2002; 56:181-191
Whole wheat bread	27:1	
Corn chips	60:1	
Potato chips	60:1	Dr. David Seaman (modified)
Seeds/oils	≥70:1	

(Corn, sunflower, safflower, cottonseed, peanut, soybean [7:1])

and seeds so eat only on rare occasions and if you ever must eat nuts; your best choices would be a small amount of walnuts and almonds.

B. Dietary Habits that Increase Insulin Production:



Insulin stimulates the enzyme (D – 5 - D) conversion of anti-inflammatory DGLA into pro-inflammatory arachidonic acid (AA); something that must be avoided. The dietary factors (#2- 5) in the blue box increased insulin.

Nutritional Status

1. Excess Omega-6 FAs
(↑ Vegetable oil & products)

2. Excess sugar

3. ↑ Carb/ Protein ratio

4. Skipping meals

5. Snacking

*Dietary
habits that
increase
Insulin*

1. Excess sugar consumption:

In order to reduce your potential for inflammatory you must avoid the fruit juice, soda and other sweet beverages and keep the sugar foods made with sugar like deserts, cookies, candy, ice cream, etc. to a bare minimum (holidays and special occasions only).

Besides, the fructose in sugar (sucrose) and fruits (especially juices) are very damaging to tissues directly (especially connective tissue) via a process called glycation. Sucrose is the primary promoter of Syndrome X (aka hyperinsulinism and insulin resistance). Also, NEVER consume aspartame (Nutra Sweet, Equal or sucralose).

2. Eating meals with a carbohydrate to protein ratio greater than

2:1: You must limit the amount of high starchy foods. Each meal should have a minimum of three (3) ounces of protein as meat, fish, poultry and/ or eggs (2 eggs equals 3 ounces) and maximum carbohydrates (vegetables) of not more than twice the protein amount. Occasionally you may have (unless you have a sensitivity or are lactose intolerant) dairy protein sources like cheese (sprinkled amounts only), cottage cheese or unsweetened yogurt (1 and 1/2 cup equals 3 ounces).

3. Skipping meals: When you don't eat frequently enough your blood sugar drops. But because the brain must have glucose the body kicks in its counter regulatory mechanism and releases adrenalin, ACTH and cortisol to increase the blood sugar. Unfortunately, when skipping meals is a habit, the cortisol remains high and that makes the cells less and less sensitivity to insulin (insulin resistance). This decreases glucose utilization. In order to try and correct this, the body will produce more and more insulin. **Therefore, the most important rule that you must follow is: Eat 3 meals a day, 21 meals a week (with the proper carbohydrate/ protein ratio).**

4. Snacking: Every time you eat something – your body makes insulin. Every time you have a snack – you stimulate insulin production. Obviously, any effort to reduce the pro-inflammatory effects of insulin must include an avoidance of an activity that always stimulates insulin production. Therefore, avoid snacking. If you get hungry between meals it means you did not eat enough meat, fish, poultry or eggs at your last meal. There is really no such thing as a “healthy” snack.

High insulin also promotes fat storage in fat cells and therefore is a major factor in the etiology (cause) of **obesity**. Obesity is pro-inflammatory. When fat cells swell it creates an immune reaction and inflammatory chemicals are released. At some point the excess adipose tissue mass starts to function as a pro-inflammatory endocrine organ, releasing increased amounts of pro-inflammatory chemicals called cytokines as well as other chemicals that increase insulin resistance thus creating a vicious cycle of increased inflammation and weight gain. Excessive adipose tissue is not “just some excess weight’ but is actually excess inflammation.

Following the anti-inflammatory diet is critical in avoiding inflamm-aging.

Dietary rules to follow are found in the Nutri-Spec [Eat Well, Be Well Card](#).