

The Anti-Inflammatory Diet, Part 2: Foods That Affect the Inflammation Response

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As promised in [part 1 of this article](#) (Sept. 23 issue), this installment includes lists of foods that tend to up-regulate and down-regulate the degree of inflammatory response during the metabolic processes that follow ingestion. They are not inclusive. It is important to note that small amounts of foods which up-regulate inflammatory reactions will not nullify the effect of a mainly anti-inflammatory meal. An example would be a packet of sugar and pat of butter on a large bowl of oatmeal. On the other hand, foods that down-regulate inflammation may lose some or all of their benefit if they are prepared incorrectly, such as battered, deep-fried vegetables.

In part one, we identified the five major dietary causes that promote an imbalance favoring an excessive inflammatory response. Four of them - [too much saturated fat](#) (and the related partially hydrogenated family),¹ [too many refined carbohydrates](#) (including sugars)¹ and the dietary ratio imbalances of [omega-6/omega-3 oils](#)² and [sodium/potassium](#)³ - are well-known. However, energy imbalances that cause body-fat accrual are often overlooked as a cause of systemic inflammation.

Foods Generally Considered Pro-Inflammatory

American cheese, bacon, bologna, bratwurst, brownies, (white) breads - including buns, rolls and bagels, butter, cake, candy, cereals,* cheese (American, cheddar, creamed, gouda, jack, mozzarella, provolone, Swiss) cookies, corn chips, corn syrup, crackers*, cream, croissants, corn chips, Danish, doughnuts, egg rolls, French fries, French toast, (deep) fried foods, fruit juices, granola,* hamburgers, hashbrowns, honey, hot dogs, ice cream, jam/jelly, margarine, molasses, muffins, noodles,* onion rings, pancakes, pastrami, pepperoni, pie, pickles, pitabread,* pizza, pasta,* popcorn, potato chips, pretzels, puddings, relish, ribs (beef or pork), rice (white), salami, sausage, sherbet, shortening, sodas/soft drinks, syrup, tortillas (flour), tortilla chips, waffles, whipped cream, whole dairy.

**Unless 100% whole grain and high fiber.*

Foods Generally Considered Anti-Inflammatory

Acai, amaranth, anchovies, apples, apricots, arugula, artichokes, asparagus, avocado, bananas, beans (green beans, black beans, kidney beans, garbanzo beans, pinto beans, lima beans, soy beans), bean sprouts, beets, berries (blackberries, blueberries, boysenberries, goji berries, gooseberries, raspberries, strawberries), bok choy, broccoli, brussels sprouts, cabbage, canola oil, cantaloupe, carrots, cauliflower, celery, cherries, cranberries, cucumbers, dairy (nonfat), eggplant, endive, gooseberries, grapes, grapefruit, herring, honeydew, kale, lemons, lentils, mackerel, mango, mangosteen, millet, mushrooms, mustard greens, nectarines, noni, nuts - raw (almonds, Brazil nuts, cashews, chestnuts, filberts, hazelnuts, macadamia, pecans, peanuts, walnuts), oats, okra, olive oil, onions, oranges, papaya, parsnips, pears, peas, peaches, peppers (bell and hot), persimmons, pineapple, pomegranate, plums, poultry (no skin), prunes, pumpkin, quinoa, rhubarb, rutabaga, salmon, sardines, scallions, seeds (flax, poppy, pumpkin, sesame, sunflower), spices (cinnamon, cayenne, garlic, ginger, green tea, parsley, pepper, nutmeg, oregano, rosemary, turmeric), spinach, squash (butternut, crook neck, summer, winter, zucchini), sweet potatoes, tomatoes, trout, tuna (water-packed), turnips, water chestnuts, watermelon, wild game, yams.

It appears that simply eating too much, too often may be the most powerful factor in the promotion of an exaggerated inflammatory response.⁴ For example, 444 teenagers (249 boys and 195 girls) were studied for the purpose of evaluating how fitness can prevent cardiovascular disease.⁵ They were divided into four groups: normal body-weight and physically fit; normal weight/unfit; overweight and fit; and overweight/unfit. Testing revealed serum levels of C-reactive protein were *not* associated with fitness level. Rather, CRP corresponded to the subjects who were overweight:

- Twenty-three percent of the normal-weight, fit teens had CRP elevations.
- Twenty-four percent of the normal-weight, unfit teens had CRP elevations.
- Fifty percent of the overweight, fit teens had CRP elevations.
- Fifty-six percent of the overweight, unfit teens had CRP elevations.

Body weight had a much greater effect on systemic inflammation than the degree of fitness did. The dietary imbalances we discussed in part 1 yield a food pattern (fatty, starchy, sweet and salty) that promotes overeating by triggering neurochemical responses that hyperstimulate our appetites. We prefer to eat these foods together; therefore, they drive inflammation by both their individual biochemical properties and the overlooked effect of hunger amplification during consumption.

For example, consider how a plate of celery and carrot sticks affects your appetite compared to the same plate filled with fresh-baked chocolate chip cookies. When you start eating the celery and carrot sticks, after a few you've had enough. But with cookies (each of which has 10-20 times more calories than the celery/carrot sticks), the more you eat, the more you want until you're really full. And what do we get when we eat chocolate chip cookies? Refined starch, sugars and saturated fat.

Although there is not a significant amount of sodium in chocolate chip cookies, my analysis of five brands/recipes revealed sodium/potassium ratios from 7:1 to 3:1, with an average of 5:1. The recommended daily allowance for sodium and potassium (2,400 mg and 3,500 mg, respectively) works out to a 1:1.5 ratio.

Finally, chocolate chip cookies are not a significant source of polyunsaturated fats. However, the small amounts they do have yield a 10:1 omega-6/omega-3 ratio. That is not as bad as the 15:1 ratio the average American consumes, but is still high enough to [promote inflammatory marker increases and symptoms in some conditions](#), such as rheumatoid arthritis and asthma.⁶

References

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Next month's article will discuss how to reverse a diet from pro-inflammatory to anti-inflammatory.

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