

Revisiting the Zone

Fifteen years ago our government made a commitment to reduce the incidence of heart disease, the number one killer in this country. Because scientists found fat and cholesterol deposits in the coronary arteries of heart attack victims, a government strategy evolved to reduce fat and cholesterol intake in the American diet. The low fat diet became the mantra of physicians across the nation, and for once, patients listened to their doctors! Low fat diets had never been studied before in human populations, but there *was* an industry that had extensively studied low fat, high carbohydrate diets--the cattle and hog industry! Farmers had understood for decades that a high carbohydrate, grain-based diet would result in the rapid fattening of their livestock, thereby commanding higher prices at market. In fact the USDA food pyramid for fattening cattle is almost identical to the current USDA food pyramid recommended for feeding Americans!

This massive low fat, high carbohydrate mania has resulted in an unmitigated disaster. Recent statistics have shown that Americans are now the fattest people on the face of the earth. Greater than half of all Americans are overweight and over one quarter are obese. During the past ten years, childhood obesity has increased by fifty percent! In 1996 the American Heart Association announced that the mortality from heart disease had increased for the first time since 1980. Type 2 diabetes is epidemic among middle-aged Americans and is afflicting younger victims; now for the first time obese children in their teens and younger are developing this "maturity-onset" type of diabetes.

The failure of the low fat diet can be attributed to an unconscionable oversight on the part of our nutritional policy makers. They neglected to consider the effects that the macronutrients, protein, carbohydrate, and fat have upon the hormone systems that regulate body functions. They ignored the effect that proteins have on the hormone glucagon, the effects that carbohydrates have on the hormone insulin, and the effects that fat has on the most powerful hormones of all, the eicosanoids. A diet predominant in bread, pasta, cereals, and sugar results in the rapid absorption of glucose. The rush of sugar into the blood brings out the hormone insulin. Insulin is a storage hormone that lowers blood glucose by transporting it into the cells where it is either converted to energy or stored as fat. If carbohydrates are eaten in excess of one's current needs, insulin levels will remain elevated and direct the storage of yet more fat. The capacity of the body to store fat is unlimited. As long as insulin levels remain elevated, body fat stores are locked up and unavailable. Chronically elevated levels of insulin, or hyperinsulinemia, cause the accumulation of excess body fat and results in a *seventeen-fold* increase in the chances of developing heart disease. This is pretty powerful data when you consider that hypertension or smoking merely increases heart attack risk by a factor of *four*. Observe the powerful anti-smoking campaign mustered by our government, yet no advice is forthcoming on how to lower our insulin levels. However, there is a wonder drug now available that can lower insulin levels effectively, without any side effects. That miracle drug is food!

Twenty-five percent of the population, the so-called "genetically lucky ones," do not over-secrete insulin in response to a high carbohydrate meal. They can do well on a diet of pasta, Twinkies, or Snickers. The rest of us are not so lucky however. How can you tell if you are insulin sensitive? If you eat a big pasta meal at noon and at 3:00 p.m. you are ready for a nap, you are insulin sensitive. How can you tell if you are hyperinsulinemic? Take off all your clothes and stand stark naked in front of a mirror. Ask yourself two questions. Am I fat? Am I shaped like an apple, that is do I have truncal obesity? If the answers are yes, you are hyperinsulinemic--no further testing required! However, you can be thin and still be hyperinsulinemic. If the ratio of your fasting blood triglycerides to HDL cholesterol is greater than five, you are hyperinsulinemic. Why is this important? If you are hyperinsulinemic, you are on a fast track to developing heart disease, diabetes, and premature aging. It is not the fat in the diet that causes you to be fat; nor is it dietary fat that elevates your cholesterol or blood pressure. It is the overproduction of the hormone insulin that leads to these problems.

The hormone glucagon opposes the action of insulin. Glucagon is a mobilization hormone; that is, it directs the body to utilize stored fat for energy. Glucagon is secreted in response to the protein consumed at a meal. The Zone diet works by keeping these two hormones in therapeutic zones, not too high, not too low, in order to establish an efficient fat burning metabolism and to stabilize blood sugar levels. If



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"Primum non nocere"

your blood sugar level is stable, you won't experience hunger or cravings between meals, and your brain will function optimally. Optimal brain function is dependent upon an unwavering supply of blood sugar, and the brain is exquisitely sensitive to swings in blood sugar levels. Maintaining stable blood sugar levels are especially important for children. Their ability to concentrate, to learn, and to keep their emotions under control depends on a stable blood sugar level. Ask any teacher about the effectiveness of teaching the day after Halloween when the kids have been gorging themselves on candy! The high levels of carbohydrates to which children are exposed daily is an evolving national tragedy: cereals, juices, candies, rollups, chips, crackers, spaghetti, bread, snack cakes, pizza, fries, cookies, ice cream, soda pop, etc. These foods contain predominately sugar, with minimal protein, fiber, vitamins, minerals, or healthy fats.

The Zone diet recommends establishing an approximate four to three ratio of carbohydrates to protein at each meal in order to keep insulin and glucagon levels in therapeutic zones. Your daily protein requirement is based upon your lean body mass (total weight minus body fat weight) and your activity level. This calculation provides sufficient protein to maintain your muscle mass and provide for repair and synthesis of enzymes and immune globulins. As you can see, the Zone diet is an *adequate* protein diet, not a *high* protein diet. Neither is the Zone diet a *low* carbohydrate diet; it is a *moderate* carbohydrate diet. Forty percent of total calories are derived from carbohydrate at each meal. The better choices of carbohydrates are those that are more slowly absorbed into the blood stream such as fruits and vegetables rather than bread, pasta, cereal, grain, and sugar. The favorable carbohydrates have a lower *glycemic index*, which means they are more slowly absorbed. They will therefore stimulate a lesser insulin response. These favorable carbohydrates also have higher levels of vitamins, minerals, and fiber than their carbohydrate-dense counterparts. Glycemic index is a more accurate indicator of favorability than the current designation of "simple" versus "complex" carbohydrates. For example a complex carbohydrate such as a bagel has a much higher glycemic index than a simple sugar such as fructose. And finally the Zone diet is not really a diet. "Diet" implies a time limited program of either self-deprivation or gluttony that results in eventual abandonment and failure. The Zone diet is a lifelong program of hormonal control, treating food as if it were a drug, resulting in your feeling better, thinking better, and looking better. How do you know if you are in the Zone? If four hours following your last meal you are neither hungry nor craving, and you have a sharp mental focus, you are in the Zone, and that last meal was a hormonal winner.

The most pernicious effect of the low fat diet is the disruption of the balance of essential fatty acids in the diet. Essential fatty acids are precursors for the most powerful hormones of all--the eicosanoids. These exceptionally potent hormones are still unknown by most doctors despite the fact that Swedish researchers won the Nobel Prize for their discovery in 1982. These hormones do not circulate in the blood so they are hard to isolate and to observe. They are secreted by every cell in the body and exist only ephemerally to exert their effects, and then are inactivated and recycled. The eicosanoids are the linkages of your biological Internet, enabling instan-

taneous communication between your seventy trillion cells. Just like insulin and glucagon, eicosanoids exist in antagonistic yet complementary pairs to regulate body functions. Barry Sears, PHD, the developer of the Zone diet placed the opposing actions of eicosanoids into two groups, "good" and "bad".

"BAD" EICOSANOIDS

Promote platelet aggregation
Vasoconstrictor
Pro-inflammatory
Promote cellular proliferation
Suppress the immune system

"GOOD" EICOSANOIDS

Inhibit platelet aggregation
Vasodilator
Anti-inflammatory
Control cellular proliferation
Enhance the immune system

For example if you are having a heart attack, your platelets are over-aggregating and your coronary arteries are over-constricting. At that point in time you have too many bad eicosanoids and not enough good ones. If you had no bad eicosanoids to aggregate your platelets, you'd bleed to death. The correct balance of good and bad eicosanoids is essential to optimal health. The synthesis of these powerful hormones is controlled by the diet, specifically the ratio of omega-6 to omega-3 essential fatty acids. This ratio should be less than four to one. The current American diet has a ratio of twenty to one, which has increased five fold during the past century. The cause of this increased ratio was the commercial development of the polyunsaturated vegetable oils such as corn, soybean, and safflower oils, which are rich sources of omega-6 fatty acids. The decline of omega-3 fatty acids resulted from the decreased consumption of grass fed range cattle, game, and poultry, because grain fed animals are much lower in omega-3 fatty acids. The decreased consumption of cold water fish that contain the potent omega-3 eicosapentaenoic acid (EPA) also served to adversely affect the critical fatty acids ratio.

In order to promote a favorable balance between good and bad eicosanoids, the Zone diet recommends that you (1) eat lean protein sources which will provide an adequate source of omega-6 fatty acids, while being low in saturated fat. (2) Add back to the diet a small amount of monounsaturated fats such as in olive oil, avocados, almonds, cashews, or macadamia nuts. These monounsaturated fats will not affect eicosanoid balance or insulin secretion. They will however make your food taste better, will slow the absorption of carbohydrates from your intestines, and will send a signal to your brain via the hormone cholecystokinin to tell your brain you're satisfied and to stop eating. It truly takes some fat to help burn fat. (3) Eat fish rich in EPA such as salmon, mackerel, and sardines or take a fish oil supplement. (4) Avoid partially hydrogenated vegetable oils (trans fats). These oils have been commercially refined in order to increase shelf life. These unhealthy fats promote the synthesis of bad eicosanoids. They are contained in many processed foods, such as margarine, crackers, chips, and refined peanut butter. (5) Keep insulin levels in a tight zone by maintaining the 4:3 carbohydrate to protein ratio.

My point in going into great detail about the hormonal effects of food is to dispel the notion that food is merely raw materials to stoke the body's furnace. This utterly simplistic attitude is fostered by the current caloric way of thinking, that is that nutrition is completely a function of calories in versus calories out. Even the slogan "you are what you eat" that suggests that food quality is important, fails to pay homage to the powerful effects that diet plays in releasing the hormones that regulate all body functions. The chronic diseases that are directly affected by eicosanoid balance include heart disease, hypertension, type 2 diabetes, autoimmune disease, cancer, and depression.

In summary, the Zone diet incorporates established scientific research and common sense into a way of eating, which can be continued for a lifetime. It can extend your life while preserving full mental and physical functionality into later life. It can help you to realize your genetic potential. In essence it is the diet your grandmother recommended when you were growing up. Grandma told you: (1) eat small meals throughout the day; (2) eat some protein with each meal; (3) always finish your fruits and vegetables; and (4) don't forget to take your cod liver oil. Everyone laughed at grandma, but little did they know she was at the cutting edge of twenty-first century biotechnology for using food as a drug to manipulate hormonal responses.

For those of you who are waiting for a new pill, herb, vitamin, or product of genetic engineering research to solve your medical problems, this salvation is unlikely to materialize in our lifetimes. The pharmaceutical conglomerates spend millions to market this "cure around the corner" image to us, but unfortunately all drugs carry undesirable effects along with their desired effects. I can recommend the Zone diet to everyone from heart patients to Olympic level athletes and to all those in between--pregnant and nursing women, children, active or inactive men, sick or well persons. The Zone diet cannot be put into a two piece, hard shell capsule, but with the Zone, anyone can perform better, think better and look better without enduring side effects or exorbitant costs.

Our medical care system is geared toward crisis management and provides few answers for those seeking wellness. Medicare is headed for bankruptcy as the baby boomers come of age. What use is having "good" insurance if the product it delivers is flawed? It is time for each of us to become proactive at establishing our personal anti-aging strategies. The Zone diet is a wonderful tool to help us maintain functionality in later life.

To get started, buy Barry Sears' *Zone Perfect Meals in Minutes*. This is the beginner's guidebook. It has a brief explanation of the diet followed by suggested meals, snacks, and recipes. Use the hand size guide to determine portion sizes. Start using fish oil supplements. Fish oil helps to promote the synthesis of good eicosanoids. A molecular distilled product has had contaminants such as heavy metals and PCB's removed. Avoid all partially hydrogenated oils (read those food labels!) Use only pure olive oil or canola oil in your cooking. Eat copious amounts of vegetables, some fruits, and minimal flour products, sugar, and grains. Have small amounts of protein at each meal mainly from fish, chicken, turkey, egg whites, cheese, or soy protein isolates. Drink 64 oz. of water daily.

Register for our Mastering the Zone series of four classes taught by a certified Zone instructor. The class tuition includes a body fat analysis by the infrared method and a blood cardiovascular lipid profile. Classes will cover basic and advanced Zone principles, making proper hormonal choices in restaurants and on the road, zoning food labels, shopping and cooking advice, etc. Attend our monthly Zone support group meetings. Everyone can profit from encouragement and advice when starting the diet. We supply encouragement, swap recipes, and follow each other's progress. We discuss how to prepare Zone balanced meals that you and your family can enjoy. These meetings are highly informative and motivational. Personal Zone consultations are available during office hours. We can check your menus, chart your progress, and follow any medical conditions you may have. The Zone supplies and starter kits are available in our office. If you want to get into the Zone, we are available to help. We can't *do it* for you, but we can *help you* to succeed. Since you have to eat anyway, why not eat in the Zone? *

Office News

Pregnant women will be happy to hear that our obstetrical nurses have been trained in acupuncture techniques that can ease the pain of labor. Points on the body can be stimulated during contractions with small needles or with finger pressure that can help a woman relax, and make coping much easier. Acupuncture is one more method that our nurses now have to help a woman make it through labor without pain medication or epidurals that can present risks to the mother and baby. The series of childbirth preparation classes that we teach at our office offers several different methods to aid in relaxation and pain relief during labor.

Our nurses are also now offering doula services to mothers who deliver at the hospital. A doula is a skilled labor support person who offers continuous attendance and comfort to the laboring woman. A doula can offer suggestions for positioning and breathing, as well as administer massage or acupressure. Let us know if you are planning a hospital birth and you would like to have an experienced doula.

Next time you call our office after hours, you will be greeted by our new telephone system. If you need to reach Dr. Elvove immediately, just follow the prompts and leave your name, area code and telephone number. He will be paged and will call you right back. This new system eliminates waiting for an operator, and will save time in an emergency. *

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