

Disease-Proof Your Family Do Your Genes Fit?

While genetics play a role in the expression of many diseases, and we all have genetic weaknesses and predispositions, for the vast majority of diseases that occur in the modern world, nutrition, exercise and environment play a much larger role than genetics. For example, those living in rural China prior to 1980 have a lifetime risk of heart disease of less than two percent and less than two percent risk of developing breast cancer, but when they move to America their children have the same high risks as other Americans.¹ When we abuse our bodies many different problems arise and what happens to you then may be influenced by your genetics.

Heart disease and diabetes are recent occurrences in the history of mankind. By 1916 it was already hypothesized by the well-known French scientist, C.D. de Langen that overeating and a diet rich in animal-fats appeared to be a factor in the populations of those European countries experiencing a rise in heart attacks. We cannot consider heart disease to be primarily genetic, because it did not occur much before the last hundred years and pockets of populations inhabiting the world today have no heart disease. By the 1950's scientific investigations were able to explain population differences in heart disease rates by differences in the consumption of saturated fat (the most important determinant of serum cholesterol, found primarily in foods of animal origin) and the inverse association with consumption of fresh produce. The less saturated fat and the more fresh produce consumed the less heart disease that occurs. A significant amount of modern research studies have documented that heart disease is almost totally preventable through diet rich in plant produce and low in animal products and processed foods.²

Scientific Research Shows Food Is Our Greatest Weapon Against Disease

Over the last 50 years, this causal relationship between diet and heart disease has been observed and documented by thousands of scientific studies. The reality is that heart disease, the leading cause of death in the modern world, as well as the other leading causes of death, including various cancers and strokes, are created by our diet and are avoidable. Very few people have genetics so favorable that they can eat anything without concern. Heart disease is discussed here as an example but strokes, dementia and especially most common cancers can all be traced back to an unhealthful diet-style as the predominant causative factor; especially the diet consumed in childhood.³

The Boyd Orr Study assessed food intake from almost 5000 families, tracking their risk of disease over the next 60 years. One of the major findings from this fascinating study was that higher levels of childhood fruit intake had dramatic effect at reducing incidence of all adult cancers, such as cancer of the breast, prostate and colon. Children in the highest quartile of fruit intake became adults with forty percent lower risk of all cancers.⁴ However children who ate more nutritionally empty calories and more calories in general had dramatically higher risk of cancer.⁵

These and numerous other studies illustrate that food choices, especially food choices early in life are the primary cause of most chronic diseases and premature death. Inferior childhood nutrition has led to a nation with high levels of chronic illnesses, and out of control health care costs.

The American Diet is Nutritionally Inadequate

Americans eat about 26 percent of calories from animal products, such as meat, eggs and dairy.

Animal products contain no antioxidants, bioflavonoids, carotenoids, folate, vitamin C, vitamin K or those thousands of phytochemicals that are essential for cellular normalcy and prevent DNA damage.

Americans eat about 62 percent of calories from processed foods such as oil, sugar, and white flour products.

Processed foods contain almost no antioxidants, bioflavonoids, carotenoids, folate, vitamin C, vitamin K or those thousands of phytochemicals that are essential for cellular normalcy and prevent DNA damage.

To make matters worse, most of the animal products eaten by children such as butter, cheese and milk are high in saturated fat. Saturated fat consumption correlates with cancer incidence worldwide. It also raises cholesterol and causes heart disease. Scientific studies also show that the combination of low micronutrient intake plus high saturated fat (found mostly in foods of animal origin) is more disease causing than either alone.⁶ The typical American diet, high in both processed foods, animal fats, and unfavorable fats, is the perfect formula for a nation of sickly children and adults.

The development of heart disease begins in childhood. Fifty percent of children ages 2 – 15 already have fatty streaks in their arteries, literally the beginning stages of heart disease. Not only do unhealthy childhood diets high in saturated fat and low in the protective micronutrients found in unprocessed plant foods accelerate heart disease, but they promote the aging process, and create a cellular environment favorable for the development of cancer. To add insult to injury, much of the processed foods children eat are rich in trans fat, a man-made fat that is also linked to cancer and heart disease. While many processed food companies are switching over to non-trans fats, they are replacing them with saturated fats, still very dangerous to health.

We could not have designed a cancer-causing environment more effectively if we scientifically planned it. We feed our children a diet high in saturated fat, add lots of processed foods with those dangerous (man-made) trans fats, and full of other non-food chemicals such as artificial colors, flavors, preservatives, and artificial sweeteners, and combine it with an insufficient intake of unrefined plant foods, to guarantee sufficient phytochemical deprivation and we have created a nation rich in autoimmune illnesses, allergies, obesity, diabetes and finally heart disease and cancer.

Research is Inconclusive...

The reason why some studies performed on adults were not conclusive is that the changes made are not substantial enough and the populations investigated are past the age where dietary improvements can cause dramatic benefits. Childhood diets are the chief cause of adult cancers, not adult diets. When we are growing, the cells are more sensitive to the damaging effects of poor nutrition.

Dr Fuhrman's ANDI (Aggregate Nutrient Density Index)

Food has powerful disease-protecting and therapeutic effects and those who seek truly good health must consume a broad array of micronutrients via their food choices. It is not enough to merely avoid the bad fats, consume foods with a low glycemic index, or lower the intake of animal products; a truly healthy diet must do all of those things **and** be micronutrient rich and the micronutrient richness must be adjusted to meet individual needs. The foods with the highest micronutrient per calorie scores are green vegetables, colorful vegetables, and fresh fruits. For

optimal health and to combat disease, it is necessary to consume enough of these foods that deliver the highest concentration of nutrients.

Adding up all the known and measurable micronutrients in an equal caloric portion of food gives each food a nutrient density score. Nutrient Density is a critical concept in devising and recommending dietary and nutritional advice to patients and to the public. Not merely vitamins and minerals, but adequate consumption of phytochemicals are essential for a normal immune system and to enable our body's detoxification and cellular repair mechanisms that protect us from cancer and other diseases.

Nutritional science in the last twenty years has demonstrated that colorful plant foods contain a huge assortment of protective compounds, mostly unnamed at this point. Only by eating an assortment of natural plant foods that are nutrient-rich, can we access these compounds and protect ourselves from the common diseases that afflict Americans. Our modern, low-nutrient eating style leads to an overweight population with common diseases of "nutritional ignorance" and medical costs spiraling out of control.

For superior health, green vegetables, fresh fruits, seeds and nuts, whole grains and beans or legumes should all be consumed each day. To achieve adequate micronutrient density both animal products and processed foods must be restricted to much lower levels than they are now.

***A Sample of Dr. Fuhrman's
Nutrient Density Scores (ANDI)***

Kale	1000	Tofu	86	Bananas	30
Collards	1000	Sweet Potatoes	83	Chicken Breast	27
Bok Choy	824	Apples	76	Eggs	27
Spinach	739	Peaches	73	Low Fat Yogurt, plain	26
Cabbage	481	Kidney Beans	71	Corn	25
Red Pepper	420	Green Peas	70	Almonds	25
Romaine Lettuce	389	Lentils	68	Whole Wheat Bread	25
Broccoli	342	Pineapple	64	Feta Cheese	21
Cauliflower	295	Avocado	64	Whole Milk	20
Green Peppers	258	Oatmeal	53	Ground Beef	20
Artichoke	244	Mangoes	51	White Pasta	18
Carrots	240	Cucumbers	50	White Bread	18
Asparagus	234	Soybeans	48	Peanut Butter	18
Strawberries	212	Sunflower Seeds	45	Apple Juice	16
Tomatoes	164	Brown Rice	41	Swiss Cheese	15
Plums	157	Salmon	39	Potato Chips	11
Blueberries	130	Shrimp	38	American Cheese	10
Iceberg Lettuce	110	Skim Milk	36	Vanilla Ice Cream	9
Orange	109	White Potatoes	31	French Fries	7
Cantaloupe	100	Grapes	31	Olive Oil	2
Flax Seeds	44	Walnuts	29	Cola	1

Protecting our children

We graduate from high school, college, even graduate and professional schools and yet we never learn some of the most important lessons in our lives - how to be in control of our health destiny. We live in a society that believes that we protect our health with access to medical care and drugs; it doesn't work. We also live in a society that makes it cheap and easy to eat poorly, and more difficult to eat healthfully. We can only win the fight against cancer and heart disease, not with more money put into medical interventions and drugs, but by unleashing the powerful tools found in our kitchens--berries, green vegetables, beans and seeds to name a few. The science is important and motivating because we are eating ourselves into a tremendous amount of needless and tragic diseases in this country and our cancer rates have increased unrelentingly each year for the last seventy years. The human suffering and financial cost are both devastating.

But aside from all the convincing scientific data, It is just as important to show people how they can deal with their picky eaters, get their family to like the healthful foods at the family table and make healthy eating great tasting and fun. After gaining the knowledge, people can transition their family over to a disease-preventive lifestyle and enjoy the change.

The food industry influences the policy decisions and legislation created by our government, and this means that we don't get the information which science has unmistakably demonstrated. The food industry attempts to confuse us by citing a few poorly designed or self-staged studies and saying the evidence is inconclusive.

The most amazing and satisfying aspect of promoting a high micronutrient diet-style and utilizing it as medical therapy is watching diseases melt away. People faced with health challenges can often improve and even obtain complete recoveries from autoimmune diseases, digestive disorders, diabetes, headaches and heart disease to name a few, via nutritional excellence. The human body is a miraculous, self-healing machine when the optimal nutritional environment for healing is realized.

Joel Fuhrman, M.D is a family physician and best-selling author *Eat To Live* (2003), *Eat For Health* (2008), and the acclaimed *Disease-Proof Your Child*. (2005), essential reading for every parent in America.

**Links -- DrFuhrman.com
[Blog -diseaseproof.com](http://Blog-diseaseproof.com)
YouTube.com/drfuhrman**

¹Shannon J, Ray R, Wu C, Nelson Z. Food and botanical groupings and risk of breast cancer: a case-control study in Shanghai, China. *Cancer Epidemiol Biomarkers Prev* 2005 Jan;14(1):81-90.

² Tucker KL, Hallfrisch J, Qiao N, et al. The combination of high fruit and vegetable and low saturated fat intakes is more protective against mortality in aging men than is either alone: the Baltimore Longitudinal Study of Aging. *J Nutr.* 2005; 135(3):556-61. Hu FB, Willett WC. Optimal diets for prevention of coronary heart disease. *JAMA* 2002 Nov 27;288(20):2569-2578.

³ Steinmetz KA, Potter JD. Vegetables, fruit, and cancer prevention: a review. *J Am Diet Assoc* 1996 Oct;96(10):1027-1039.

⁴ Maynard M, Gunnell D, Emmett P, et al. Fruit, vegetables, and antioxidants in childhood and risk of adult cancer: the Boyd Orr cohort. *J Epidemiol Community Health.* 2003; 57(3):218-25.

⁵ Frankel S, Gunnell DJ Peteres TJ, et al. Childhood energy intake and adult mortality from cancer: The Boyd Off Cohort Study. *BMJ* 1998;316(7130):499-504.

⁶ Tucker KL ; Hallfrisch J ; Qiao N ; et al. The combination of high fruit and vegetable and low saturated fat intakes is more protective against mortality in aging men than is either alone: the Baltimore Longitudinal Study of Aging. *J Nutr.* 2005; 135(3):556-61.