

How To Beat The Odds

Inflammation, Chronic Disease and Antioxidants

The American Cancer Society reports that by 2010 the likelihood of being diagnosed with cancer is projected to increase to 1 in 2!

Likelihood of being Diagnosed with Cancer

1960: 1 in 300
1990: 1 in 75
2006: 1 in 3
2010: 1 in 2

Cancer and chronic disease are on the rise, but you can better your odds!

Many diseases that people think are unrelated; Heart Disease, Cancer, Stroke, Diabetes, and Alzheimer's disease actually have a common cause – inflammation. Of the total U.S. deaths occurring in 2006, 64% were directly related to chronic systemic inflammation. (See Table 1.) And while your genes can result in increased risk, diet and lifestyle play the largest role in the development of these diseases.

In 2002, the United Nations convened a panel of 300 scientists specializing in disease and nutrition to study the chronic diseases of the world. They concluded that diet and lifestyle are responsible for 60 - 65% of all chronic diseases. This means that chronic diseases are largely preventable diseases. Furthermore they projected that, by 2020, chronic diseases will account for almost three-quarters of all deaths.

Contrary to common belief, the United Nations panel went on to state, "evidence shows nutrients and physical activity influence gene expression. Genes may define opportunities for health and susceptibility to disease, but environmental factors determine which susceptible individuals will develop illness." (1)

"This means that chronic diseases are largely preventable diseases," Mitch Kennedy, ND

How do chronic diseases happen?

During an injury or infection, the damaged or infected cells release free radicals and chemicals that cause inflammation and attract White Blood Cells (WBC.) The WBCs are the defense and clean up crew that help repair damage and stop the spread of infection. In the process of trying to repair the damage, WBCs release additional inflammation causing chemicals, which in turn release more free radicals. You can

Table. 1

Top 10 causes of death in the U.S.

Rank	Directly related to chronic systemic inflammation	Disease.	# of deaths per year
1	x	Heart disease	631,636
2	x	Cancer	559,888
3	x	Stroke	137,119
4		Respiratory diseases	124,583
5		Accidents	121,599
6		Prescription Drugs*	106,000
7	x	Diabetes	72,449
8	x	Alzheimer's disease	72,432
9		Influenza & Pneumonia	56,326
10		Kidney Diseases	45,344

Source: Centers for Disease Control, Fast Stats 2006

* Prescription Drugs – taken as directed, not overdoses

see this can be a cycle of "inflammation - react- inflammation".

Normally, this cycle stops naturally. However, if in your diet and lifestyle you have lots of things that cause inflammation, this cycle becomes chronic.

What causes free radicals and inflammation?

Tobacco smoke, alcohol, pollution, pesticides, radiation, chemicals in the home or at work, heavy metals (Lead and Mercury), stress, insufficient sleep, and strenuous physical work, a high-fat diet, and sugar (yes, sugar!) all form free radicals.

In fact poor regulation of sugar can cause inflammation to arteries, causing the release of more inflammation creating chemicals. Each American eats an average of 142 pounds of sugar per year, contributing not just to inflammation but also to obesity, heart disease and diabetes. Reactions in the arteries, can convert sugar into a sticky coating on your cells, especially the Red Blood Cells, shortening their life and ability to function.

Can you measure inflammation?

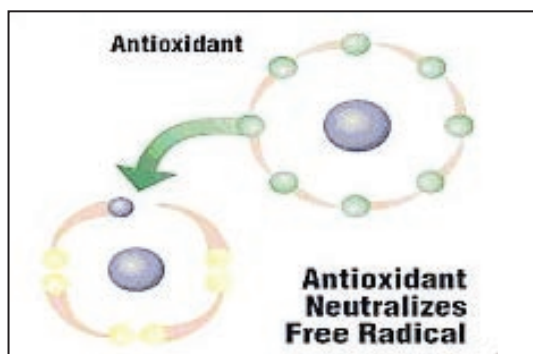
There are lots of tests that can be run to check for chronic inflammation in the body. Most of them are very expensive. There are simple and more advanced blood tests to measure inflammation. You should consult a physician knowledgeable in chronic disease to have these done.

What Tests Do I Ask For?

Tests that are less expensive: Hemoglobin A1c, Erythrocyte Sedimentation Rate and C-Reactive Protein. Advanced tests: Tumor necrosis factor alpha (TNF-a), Interleukin-6 (IL-6), Interleukin-1 beta (IL-1(b)), and Leukotriene B(4) (LTB(4)). These give a more complete picture of inflammation within the whole body, not just the blood cells.

How can we reduce inflammation and free radicals?

Antioxidants are nature's answer to inflammation. Antioxidants quench free radicals. Having been "used up" in this way, the antioxidant molecule is then either recharged by another antioxidant or it is recycled into building material such as: in the case of vitamin C, collagen for rebuilding joints. Antioxidant's health promoting effects have been well documented. There are over 300,000 studies showing the benefits of antioxidants on various diseases. Antioxidants work by donating an electron to a molecule that has been compromised by oxidation, bringing it back into a state of proper function.



What are the best sources of antioxidants?

There are many natural sources of antioxidants. Spices such as cloves and cinnamon have some of the highest levels, when compared against fruits on a per ounce basis. However, most people can and should not eat ounces of spices everyday! For example, cloves although fine as a condiment, can cause stomach pain and vomiting in larger doses.

Fruits, especially the darker skinned fruits like, Acai, and Elderberry have some of the highest antioxidants currently known. But be careful and focus on natural sources, because synthetic antioxidants, which are found in pharmaceuticals and some vitamins, can breakdown into harmful substances in the body.

High value sources of Antioxidants

ITEM	ORAC Value
Cloves, ground	314,446
Sumac, bran, raw	312,400
Cinnamon	267,536
Bran, hi-tannin	240,000
Oregano, dried	200,129
Acai berry, freeze dried	161,400
Tumeric, ground	159,277
Bran, black	100,800
Sumac, grain, raw	86,800
Cocoa, dry powder, unsweetened	80,933
Cumin seed	76,800
Parsley, dried	74,439
Bran, red	71,000
Basil, dried	67,553
Curry, powder	48,504
Sage, fresh	32,004
Ginger, ground	28,811
Pepper, black	27,618
Thyme, fresh	27,426
Chili powder	23,636
Candies, Chocolate, dark	20,823
Flax hull lignans	19,600
Pecans	17,940
Paprika	17,919
Tarragon ginger root	15,542
Elderberries	14,697

YOU are in control

- Everyday we cause and become exposed to things that create free radical damage in our bodies.
- We can minimize and may stop the damage by eating fresh fruits high in antioxidants.
- Doing so will prevent or reduce our risk of developing a serious chronic disease.

References:

1. United Nations, UN Consultation on Diet, Lifestyle and Chronic Disease, 2003, p. 11 & 30.
2. Hasslberger S., Synthetic Antioxidants Can Harm Your Health, Networking For A Better Future, 2/28/2007, http://www.organicconsumers.org/articles/article_4331.cfm.

Mitch Kennedy, ND is a nationally board-certified Naturopathic Doctor & licensed primary care physician. He is the first and only ND to practice at the University of Connecticut Health Center. At his family practice in Avon he works with his patients to develop an individualized health program based on preventing disease and increasing vitality. www.healwithnature.com

