

“Beat The Odds” Revisited

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Dr. Hugh Riordan and two of the authors listed above (JAJ, REH) published an article titled “Beat The Odds” in the 1992 *Journal of Orthomolecular Medicine*, Vol. 8, No. 4.¹ The name for the original study was chosen with the expectation that those living long enough, will, over time, develop one or more degenerative diseases (Alzheimer’s, AMD, arthritis, bone disease, cataracts, cancer, heart disease, Parkinson’s, strokes, etc.). By monitoring their blood and urine nutrients, not smoking, diet and proper exercise, participants should be able to “Beat the Odds” of having such a disease. At the same time, participants should be able to slow the aging process in order to enjoy greater vigor and productivity in later life.

Essentially, the program is a tool to measure nutritional status, to maintain health, and to help prevent diseases. If one could delay the admittance to an assisted living/nursing home at a cost of \$40,000 a year or more, the saving would be tremendous.

As stated above, the key element of this program is the measurement of actual levels of nutrients in the blood, urine, and, indirectly, the tissues. The 1992 study had one panel of tests. It measured RBC (red blood cell) zinc, RBC magnesium, RBC selenium (all important as cofactors in numerous enzyme reactions). Also measured were two fat soluble vitamins, A and E, and one water soluble, vitamin C. These vitamins and minerals were chosen because a review of 200 patients’ results showed that these were the nutrients commonly low in the chronically ill

patients seen at The Center. In the initial study, the RBC membrane fatty acid ratio of stearic/oleic acid ratio was also performed as a nutritional screen for cancer.² There were 59 participants enrolled in the initial program. See reference 1 for the data and results of the initial study.

Over the years as more research data became available, more panels, in addition to the original “antioxidant panel” were added to monitor nutrients in specific diseases. These included panels for bone, brain, breast, eye, heart, inflammation, preconception/fertility, prostate, skin, hair, nail health and two mega-health panels (basic and comprehensive) that included most all the tests in the other panels plus additional tests. Visit www.brightspot.org and click on Health Hunter/BTO to see an example of tests ordered with specific panels. Table 1 (p. 203) lists the panels with specific tests.

The latest program is called Health Hunter/Beat The Odds. It is held each April and October. The various report forms are color coded with low, normal and optimal nutrient levels.

A short paragraph gives adequate explanations on how to improve any values not optimal. We have had people from many cities in Kansas, several different states and even some from Canada who come to have a panel done. Many return once or twice a year to keep track of their progress, or lack of progress.

Why specific nutrients for each panel? The United States Department of Agriculture (USDA) performs several studies on dietary habits of certain population groups. For example, 73% of women and 64% of men do not consume the RDA of vitamin E (15 mg or 22.5 IU). Also, 74%

1. The Center for the Improvement of Human Functioning International Inc., 3100 N. Hillside Avenue, Wichita, KS, USA, 67219

of Americans do not meet the RDA for mineral magnesium and 33% over the age of 50 have a deficiency of zinc (could lead to stroke). About 88% of the population consumes less than 400 ug/day of folic acid which could lead to dementia and stroke.

If we examine the brain health panel, we find it measures vitamins A, C, D, E, B₁, B₃, B₅, B₆, folic acid, RBC fatty acids, coQ₁₀, homocysteine, essential amino acids plus taurine and glutamine, lipid profile, C-reactive protein, RBC magnesium, selenium, zinc, urine vitamin C and pyrroles. How does this panel help to prevent or delay diseases of the brain? Individuals who die from Alzheimer's have decreased magnesium and vitamin B₁ in their brains. In the U.S., Alzheimer's is more common as people age; in the age groups 65-74 years, 3% have Alzheimer's; from 75-84 years, 19% have the disease; and above age 85, 47% have the disease.

Individuals with high homocysteine have 2 to 4 times the risk of developing Alzheimer's. Deficiency in the B vitamins causes memory loss and ataxia. Vitamins A and E protects the membranes of brain cells. Vitamin C is about 15 times higher in the brain than in the blood. An increase in vitamin C has been shown to improve IQ and cognitive skills. Vitamins B₁₂, B₆ and folic acid decreases homocysteine. A deficiency of B₁ may effect concentration and can result in a form of dementia and B₁ dependent enzymes are decreased in the brain of patients who have died of Alzheimer's disease.

Selenium and vitamin E improve cognitive function and prevents the oxidation of fats and that produce the formation of plaques and increases strokes. Low levels of selenium and vitamin E in men increases the risk of stroke by 4 times. CoQ₁₀ helps maintain vitamin E in its active form, protects LDL from oxidation, increases HDL and decreases Lp(a). All the amino acids measured play an important role in

brain functioning. Glutamine stimulates thought clarity and alertness, taurine is the most prevalent amino acid found in the brain and low levels lead to depression while leucine and isoleucine stimulate the upper brain to keep you alert.

Low levels of lysine lead to an inability for the brain to concentrate. Methionine helps clear the brain of metabolic wastes. It prevents the accumulation of heavy metals (cadmium and mercury) in the brain. Phenylalanine, in optimal amounts, brightens mood and improves long-term memory. Optimal levels of tryptophan are necessary as it is the major precursor of serotonin (the "feel good" neurotransmitter). Valine promotes a calming effect on the emotions and is partly converted to spermine whose low levels are sometimes seen in age-associated memory loss. Remember, eleven amino acids in adults cannot be made by the human body.

The omega-3 fatty acids (fish oil, flax seed oil) are useful in preventing the onset of Alzheimer's patients. They also improve cognitive skills in these patients. These fatty acids are involved in postnatal development of the brain and low levels are found in children with ADHD.

The lipid profile and highly sensitive C-Reactive Protein (hs-CRP) are added to the Brain Health Panel to provide insights into the potential severity of plaque deposited in the arteries leading to, and in the brain. Low levels of vitamin D are also known to affect brain neurotransmitters.

Each of the HH/BTO panels have similar specific nutrients and supporting tests to measure and monitor the participant's ability to "Beat The Odds" of developing that particular disease.^{3,4,5,6} It is also important to remember that the human body cannot make many of the nutrients measured: they are "essential" You must eat, digest, absorb, metabolize, and excrete them before they are of any use to your cells. The only sure way you can do this is measure them in your blood.

Table 1. Health Hunter/Beat the Odds Panels (HH/BTO) as of October, 2008.

Check Panel Desired	HH/BTO Panels	Description
___	Antioxidant Health	Vitamins A, C, E, urine Vitamin C
___	Bone Health	Vitamins A, C, E, B ₅ , D, DHEA-S, serum Calcium, Phosphorus, Red Blood Cell Magnesium, Copper, Manganese, urine Vitamin C urine Boron & Strontium
___	Brain Health*	Vitamins A, C, D, E, B ₁ , B ₃ , B ₅ , B ₁₂ , Folic Acid, Fatty Acids, CoQ10, Homocysteine, Essential Amino Acids plus Taurine and Glutamine, Lipid Profile, hsC-Reactive Protein, Red Blood Cell Magnesium, Selenium, Zinc, urine Vitamin C & Pyrroles
___	Breast Health	Vitamin A, C, D, E, B ₆ , folic acid, CoQ ₁₀ , Lycopene, Red Blood Cell Selenium, Urine Vitamin C.
___	Eye Health	Vitamins A, C, E, B ₂ , B ₅ , Lutein, Beta Carotene, Red Blood Cell Selenium, Zinc, urine Vitamin C.
___	Heart Health*	Vitamin A, C, D, E, B ₅ , Homocysteine, CoQ ₁₀ , Lycopene, Lipoprotein (a), hsC-Reactive Protein, Lipid Profile, Red Blood Cell Magnesium, Selenium, urine Vitamin C.
___	Inflammation Health***	Vitamins A, C, D, E, Fatty Acids, hsC-Reactive Protein, Hemoglobin, A1C, Basic Cytotoxic Food Allergens, urine Vitamin C, urine Potassium/Sodium Ratio.
___	Pre-Conception/Fertility	Vitamins A, C, E, B ₆ , B ₁₂ , Folic Acid, TSH, Free T3, Homocysteine, Essential Amino Acids, Red Blood Cell Magnesium, Manganese, Selenium, Zinc, urine Vitamin C.
___	Prostate Health	Vitamins A, C, D, E, Lycopene, Red Blood Cell Selenium, Zinc, urine Vitamin C (PSA can be added, please inquire).
___	Skin, Hair, & Nail Health	Vitamins A, C, E, B ₂ , B ₃ , B ₅ , B ₆ , Fatty Acids, Free T3, Red Blood Cell Manganese, Zinc, urine Vitamin C.
___	Mega-Health (Basic)**	Includes all tests contained in the Antioxidant, Brain, Eye and Heart Health Panels.
___	Mega-Health (Comp.)**	Includes all tests contained in the Mega-Health Basic plus Free T3, TSH, serum Calcium, Phosphorus, DHEA-S, Red Blood Cell Copper, Manganese, Urine Boron & Strontium.

Prices vary according to panels. If a Health Hunter (see web site www.brightspot.org) a 30% discount is allowed off the base price. These tests cannot be filed with any insurance provider, Medicare, or any other provider.

** = Requires a minimum of 14 hours fast

*** = A blood drawing time must be schedule and a 14 hour fast is required.

The general public is looking for personal health data. The aging boomer population is determined to have actionable data that they can translate into a longer, happier and more productive life. What better way to provide service than by reaching out to the community and interacting with people before they become patients?⁷

We continue to monitor the results and modify or adjust the panels as data becomes available. Of particular interest, a business in Kansas has enrolled its employees in this program and the Bio-Center Laboratory staff travels to the factory every year, collects the blood and returns the results to the factory's employees and medical staff. It is a health promotion/incentive for employees. To review an example of a "John/Jane Doe" sample report sheet, go to www.brightspot.org and click on "Beat The Odds."

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