



# NEWS YOU CAN USE

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## DIET & HEALTH—WHEN ANCIENT WISDOM JOINS MODERN SCIENCE

The relationship between diet and health has been recognized since ancient times. For years, physicians have prescribed specific foods and diets as remedies for illness and for disease prevention. In the past 30 years, food and nutrition research has grown to focus more on the role of certain foods in lowering the risk of degenerative and chronic disease. Nutritionists have broadened their understanding of what constitutes an optimal diet: one that does more than provide sufficient nutrients to sustain growth and reproduction, but also promotes health and longevity and lowers disease risk. In spite of this understanding, our diets continue to be overloaded with industrialized foods that are calorie dense and nutrient poor.

### IS YOUR “INDUSTRIAL DIET” PUSHING YOU TOWARDS DISEASE?

Despite the well-established and scientifically substantiated relationship between diet and health, the food most of us consume every day fails to provide us what we need.

The whole-food nutrient density and diversity that our biochemistry needs to thrive has been displaced by industrialized foods that fit the pace of our increasingly industrialized lifestyles. There is perhaps, no better example of this progressively alarming situation than in the scientific evaluations of the impact of “fast food” on health. The World Health Organization’s (WHO) Report on *Global Chronic Disease* (2006) shows that the modern diet of the industrial world is over-loaded with processed and altered fats and sugars and is driving us towards obesity, cardiovascular disease, and diabetes. The lack of critical whole-food nutrients from grains, fruit, vegetables, and fish is allowing inflammation and oxidation—the evil twins of aging and disease—to attack and undermine our health in ways we never expected. The large amount of scientific evidence that demonstrates how poor diets put us at great risk of chronic disease, is compelling and growing every day.

### POLYPHENOLS: THE PROTECTORS WE NEED

One group of phytonutrients that offers some hope of protection includes polyphenols. Polyphenols are natural compounds found in certain super-fruits and have powerful protective properties. These special protector nutrients play unique roles in the body’s biochemistry that no other nutrient can perform. Scientific investigation<sup>1</sup> shows when these polyphenols are absent from, or deficient in our diets, aging processes are accelerated and disease risk is higher. Conversely, when they are abundant in the diet, aging is slowed and disease risk is lowered.



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Only in the last decade have nutritionists realized that the protective power in fruits and vegetables comes from a diverse group of phytonutrients called polyphenols. In 1998,

a few researchers and myself, came together to form the PhenHRIG (*Phenols and Health Research Interest Group*) to keep abreast of this emerging science. Since then, with the help of government and industry organizations, like GNLD, the group has grown and made impressive progress in our understanding of key aspects of polyphenols and health.

Polyphenols, the most abundant antioxidants in the diet, represent a wide variety of compounds, divided into classes that include stilbenes (resveratrol). Many are responsible for the bright red colors of berries, red grapes, cranberries, pomegranate, and beets, and are usually associated with an astringent taste. These antioxidant compounds are potent, free radical scavengers that support enzyme activities affecting cell division, proliferation, platelet aggregation, and immune response. Current evidence strongly supports their role in cancer and heart disease prevention. New studies show that they are important in maintaining healthy brain function and protecting against neurodegenerative diseases, diabetes, chronic inflammation, and osteoporosis.

A diet high in fruits and vegetables is our best strategic tool for health and longevity. Consuming an abundance of fruits and vegetables, and the protective nutrients they contain, can reduce the risk of chronic disease and keep us healthy throughout our lives.

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## CROSSING THE BLOOD/BRAIN BARRIER:

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One of the more unique nutritional aspects of super-fruit polyphenols is their ability to cross the blood/brain barrier and enter the domain of the brain to protect brain cells against damage and preserve their crucial function. As one of the most energy intense tissues in the body, the brain is naturally at higher risk of attack by the evil twins of aging—oxidation and inflammation. Modification of brain tissue and the resulting decline in cognitive function has long been associated with the high fat and sugar content of an “industrial diet.” Conversely, high polyphenol intake has been shown to reverse that trend—protecting brain tissue from modification, defending cognitive function, and slowing cognitive aging.

Two recent scientific studies shed more direct light on this situation. The first, published in December 2008 comes from the Alzheimer’s Disease Research Center at the Karolinska Institute in Sweden.<sup>2</sup> It demonstrated that a diet rich in fats, sugar, and cholesterol (patterned after the industrial “fast food” diet) resulted in changes to the brain similar to those seen in Alzheimer’s patients. “All kinds of food that contain a lot of fat, sugar, and cholesterol, is likely to have the same bad consequences,” commented study author Susanne Akterin. “Considering the lack of effective medication for this dreadful disease, to prevent the disease from developing in the first place would be desirable.”

The second study acts as counter-point. It shows that polyphenol-rich fruits seem to offer protection against such events occurring. In the January 2008 issue of *Journal of Food Science*, Korean researchers showed that select polyphenols caused a reduction of oxidative stress-induced damage to brain cells and tissue associated with Alzheimer’s disease and other forms of dementia. “Our study demonstrates that antioxidants in major fresh fruit consumed in the United States and Korea protected neuronal cells from oxidative stress,” the researchers concluded.<sup>3</sup>

These studies add to the large and growing body of evidence from earlier studies that fruit-derived polyphenols not only offer protection to brain cells and tissues against Alzheimer’s disease, and thus cognitive health, but also support heart, prostate, breast, lung, and joint health. Here are a few more examples.

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## SPECIFIC POLYPHENOLS AND THE WORK THEY DO:

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### POMEGRANATE

An Israeli study published in the journal *Clinical Nutrition*,<sup>4</sup> demonstrated that the daily consumption of pomegranate juice protected the cardiovascular system against hardening arteries and slowed down cholesterol oxidation by almost 50%. A 2005 study published in the *American Journal of Cardiology* presented evidence that drinking a glass of pomegranate juice each day could improve blood flow for men and women with coronary heart disease.<sup>5</sup> The power of pomegranate is connected to its polyphenol content, in particular one subclass known as punicalagins.

### GREEN TEA

Green Tea polyphenols have been shown to protect the brain, breast, and prostate cells. A 2007 study published in the journal, *Current Neuropharmacology*, states the family of green tea polyphenols known as catechins, and in particular epigallocatechin gallate (EGCG) has been shown to block “microglia-induced neuronal damage” associated with Alzheimer’s progression.<sup>6</sup> Another study, from the April 2008 *Journal of Nutritional Biochemistry* further validates the importance of the specific catechins inhibiting the adverse brain biochemical events that lead to Alzheimer’s.<sup>7</sup> The January 2007 issue of *Breast Cancer Research*

highlights the importance of green tea polyphenols, pointing out a significant 20% reduction in breast cancer risk for high green tea consumers—stating EGCG is thought to be the polyphenol with greatest effect.<sup>8</sup> A 2007 study in the *Annals of the Royal College of Surgeons* about prostate health pointed out that their study showed green tea polyphenols had the power to “reduce primary tumor growth and inhibit metastasis” in prostate tissue.<sup>9</sup>

### ACAI BERRY

Acai has recently gained a scientific following as an antioxidant powerhouse. Analytical details published in the *Journal of Agricultural Food Chemistry* showed its power is associated with its polyphenol content, in particular anthocyanins and cyanidins.<sup>10</sup>

## TRÉ — A LIQUID NUTRITIONAL ESSENCE:

A powerful source of polyphenols, Tré is a bioactive nutritional essence—a pure blend of three of nature's most potent, health-enhancing ingredients: Pomegranate, Acai berry, and Green Tea.

The phytonutrient-rich Super Fruits in Tré join forces with Influx, an exclusive proprietary blend of deep, dark berries—blueberry, elderberry, bilberry, cranberry, black currant, and red and white grapes. This unique blend is further enhanced with two powerful, scientifically validated anti-aging antioxidants: resveratrol and alpha-lipoic acid. Tré delivers the nutrient density and diversity your-body needs—and nature intended.

### NUTRITIONAL VALUE OF TRÉ



Punicalagins standardized to 35%.

1 ounce of Tré equals 20 ounces of fresh pomegranate juice!



Resveratrol quantified to 500mcg.

1 ounce of Tré equals the resveratrol content of 1-2 glasses of fine red wine.



Alpha-lipoic acid quantified to 20mg.

1 ounce of Tré equals the alpha-lipoic acid content of more than 6 cups of spinach!



ORAC value calculated to more than 750 TE per ounce.

More than 3.5 times the power of antioxidant-rich orange juice!

BASED ON OUNCE TO OUNCE COMPARISONS

### BERRY POLYPHENOLS

Dark colored berries have long been known as some of nature's most powerful protectors. The family of polyphenols known as flavonoids and the anthocyanins in Bilberry and Black Currants were highlighted in the August 2007 issue of the *Journal of Nutrition* as helpers in the fight against the force of chronic inflammatory disease such as diabetes, neurodegenerative disease, and some cancers. The medical journals *Free Radical Biology* and *Medicine*, reported

Blueberry flavonoids were not only protective of brain tissue but memory function as well.<sup>11</sup> Elderberry has been shown to have antiviral properties as well as the ability to activate the healthy immune system. Cranberries contain yet another powerful polyphenol group known as proanthocyanidins. It is these polyphenols that are associated with cranberry's ability to inhibit urinary tract infections.

### RED GRAPE POLYPHENOLS

Red grape polyphenols include flavonoids, anthocyanidins, catechins and resveratrol. The October 2005 issue of the *Journal of Nutrition* notes that red grape polyphenols are strongly linked to heart health.<sup>12</sup> The March 2008 issue of *Agriculture Research*, notes that red grapes help Type 1 diabetics.<sup>13</sup> And the journal *Nutrition*, notes that red grapes may reduce brain aging.<sup>14</sup> Resveratrol, the star of the red grape polyphenols, has been associated

with heart health,<sup>15</sup> protection of cognitive health,<sup>16</sup> weight reduction, and slowing—or perhaps reversing—some aging processes, and extending lifespan.<sup>17</sup>

## THE ANCIENT ORIGINS

**Combining ancient wisdom of the Mediterranean, the Amazon, and the Orient, Tré is built on a powerful foundation of Pomegranate, Acai berry, and Green Tea. From the far corners of the world, these incredible ingredients bring rich traditions of health and longevity.**

**POMEGRANATE:** Known as the miracle fruit of the Mediterranean, Pomegranate was among the first plants to be cultivated by humans—more than 4000 years ago. Highly revered by ancient cultures, Pomegranate was considered a Fruit of the Gods, associated with birth & eternal Life.

As a symbol of righteousness, Pomegranate references include the Old Testament of the Bible, (books of Exodus and Kings), and has graced Egyptian tombs. Centuries ago, its association with health and vitality led to the placement of an image of a Pomegranate on the coat of arms of the Royal College of Physicians (United Kingdom), where it remains today.

**ACAI BERRY:** From the flood plains of Brazil, where they draw strength from the nutrient-rich Amazon soil, Acai berries have been part of human culture for thousands of years. For centuries, indigenous tribes, including Amazon warriors, have used these berries to increase energy, stamina, and vitality. Local legends describe Acai's incredible healing and sustaining powers as warriors ate these berries before and after battle. It is no wonder that for hundreds of years, the Acai plant has been called the "Tree of Life."

**GREEN TEA:** Acknowledged as a miraculous health-giving ingredient from the Orient, Green Tea has been part of human culture for nearly 5,000 years. It was first used and written about around 2750 BC. It was used as a ceremonial tea and as a medicinal. In ancient cultures, Green Tea was thought to have unique powers that worked in the energy pathways of the body, shielding people from evil forces and promoting long life and everlasting tranquility. Energy, alertness, mental clarity, and wisdom were all thought to be benefits of this tea.

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