



# THE CHILDREN'S CHEWABLE VITA-GARD™ STORY

## CHILDHOOD CAN BE HAZARDOUS TO YOUR HEALTH

Childhood can be a pretty scary time for both kids and parents. Children face obvious threats, such as a car speeding through an intersection that must be crossed. They also encounter mysterious hazards, such as electrical sockets, paint thinner, and pesticides, and invisible villains, such as viruses and bacteria.

**While parents try their best to protect their offspring, certain unalterable "facts of childhood" create both hidden and obvious health hazards for children:**

- **Children are dynamos**, burning enormous amounts of energy to fuel their sky-high metabolisms, maintain their tremendous growth and development, and support physical activity levels that would exhaust most adults.
- **Children's poor diets** are typically characterized by too much fat, too many highly processed foods, and not enough fruits and vegetables.
- **Children are routinely exposed to environmental pollutants** such as smog, ozone, cigarette smoke, and pesticides.
- **Children's immature immune systems are constantly exposed to bacteria and viruses** in the course of their various activities and explorations.

**All of these "facts of childhood" have one thing in common: They increase children's needs for antioxidant protection.** The reason is because these situations all generate free radicals, highly reactive chemicals which can destroy cells. Antioxidants help protect cells from free-radical damage, as well as strengthen the immune system so children are better able to meet the many infectious challenges they face on a daily basis. *Pound for pound, children's requirements for certain antioxidant nutrients (for instance, vitamins C and E) are greater than those of adults.*

**What are free radicals, and how do they harm cells?** Free radicals can form as byproducts of oxidation, a normal chemical reaction in cells that provides energy for physical activity and other life functions. But oxidation can also cause destruction, examples of which can be seen in rusting iron or rancid butter. Free radicals can also be created by physical activity, sunlight, smog, ozone, pesticides, food additives, cigarette smoke, many drugs, and other substances to which children are exposed as a matter of course. Just as termites jeopardize the structural integrity of a house, free radicals undermine the cellular architecture upon which good present and future health depends. They can damage lipids, proteins, and DNA. The damage accumulates over time, eventually crippling cells' abilities to perform their vital functions.

## NATURE'S SOLUTION TO FREE RADICAL DAMAGE? ANTIOXIDANTS!

Free-radical damage compromises the health of cells in the short term, but eventually it may "snowball", leading to age-related diseases such as heart disease, cancer, cataracts, the decline of the immune system, and degenerative diseases of the nervous system. While these ailments have long been accepted as inevitable consequences of time, it may be possible to forestall or prevent the cellular damage that precedes disease.

**Fortunately, nature has a solution to the free radical problem.** She has packaged antioxidant nutrients in the fruits and vegetables we eat to prevent their spoilage. But they also may forestall our "spoilage". Antioxidant nutrients such as vitamin C and flavonoids, for instance, protect the watery regions of cells from free radical attack, whereas the vitamin E family and carotenoids defend their fatty regions, particularly the membranes through which cells absorb nutrients and excrete wastes. Zinc and selenium are also crucial components of the body's natural antioxidant enzyme systems. Mother Nature was indeed wise to put these antioxidant nutrients together in the foods we eat, because research suggests that combinations of antioxidants are more effective than larger quantities of any single antioxidant.

## HOW DO ANTIOXIDANTS PROTECT HEALTH?

As long as the body has abundant antioxidants, free radicals are held in check. But when the antioxidant defense team becomes overwhelmed, free radicals can initiate reactions that harm and even destroy cells. For instance, a typical human cell undergoes 10,000 oxidative "hits" to its DNA every day!<sup>1</sup> DNA damage accumulates over time, and so does the risk of cancer, one of the diseases linked to free-radical damage.<sup>2</sup> Antioxidants may lessen the lifetime risk of cancer, not only because they prevent free-radical damage, but also because they boost the immune system, which is the body's first line of defense against disease. In a study conducted by the United States Department of Agriculture, for instance, GNLD's Carotenoid Complex™ was shown to strengthen the body's defenses, causing a 37% up-swing in immunity in study participants.<sup>3</sup> Many of the ingredients in Carotenoid Complex are included in the Vita-Gard formulation. The carotenoids and other nutrients in Vita-Gard may similarly help strengthen children's immune systems and contribute to their ability to meet the many infectious challenges of childhood.

**HOW MUCH ANTIOXIDANT PROTECTION IS OPTIMAL?**

Antioxidants destroy free radicals. In the process, however, the antioxidants themselves are either destroyed or re-activated, so they must constantly be replenished. How much antioxidant protection a person needs depends on metabolic rate, lifestyle, diet, and health. Since most children have high metabolisms, active lifestyles, poor diets, and constant exposure to infectious agents, their antioxidant needs can be great.

**WE'RE NOT TAKING FULL ADVANTAGE OF NATURE'S WONDERFUL GIFT**

Without question, children do not eat enough antioxidant-rich fruits and vegetables. Virtually all of the world's major public health organizations recommend high-produce diets. For example, in the United States, the National Cancer Institute, the American Cancer Society, and the National Cancer Research Council all recommend 5-9 servings of fruits and vegetables each day for optimal health. That's the dietary ideal, but this is the reality:

- One-quarter of American schoolchildren do not consume fruits or vegetables every day, according to a nationwide survey.
- Vegetable consumption is declining among U.S. children, especially those from lower income families. Fruit consumption is similarly inadequate.<sup>4</sup>
- In one study children ate an average of two servings of fruit and one of vegetables each day, with *less than 7%* consuming the five daily fruit and vegetable servings recommended by health authorities.<sup>5</sup>
- *About two-thirds of the children ate less than two servings of fruit a day.* Only one child in the entire study ate three or more servings of vegetables a day.<sup>5</sup>
- *Children in the study consumed almost no carotenoid-rich vegetables,* with the average daily intake of dark green and yellow vegetables only one-tenth of one serving!<sup>7</sup>

As a result of these dietary gaps, which are the rule rather than the exception in children, children's diets are often deficient in several antioxidant nutrients<sup>4,6</sup>:

- vitamin A
- vitamin C
- vitamin E
- zinc
- carotenoids
- flavonoids

**VITA-GARD FILLS THE ANTIOXIDANT GAP AND PROTECTS YOUR CHILD'S CELLS**

You wouldn't depend on buying a lottery ticket to pay for your child's college tuition. Similarly, good health is a lifetime need too important to leave to chance. It requires planning. Just as you'd put money in a college fund to provide for your child's future, so should you invest in his or her health. Oxidative damage can accumulate, causing cellular injury that may lead to disease later in life. The earlier you provide your child with antioxidants, the greater the protective benefit. Health benefits may show up in childhood in the form of a stronger immune

system, or they may manifest themselves during adulthood as slowed onset of the effects of aging. Good whole foods and good whole-food supplements are an investment worth making to maximize your child's chances for good health, both now and in the future.

**ANOTHER GNLD "FIRST"**

Great-tasting Vita-Gard is an unmatched opportunity in children's nutrition. It provides antioxidant nutrients typically deficient in children's diets at a time when cellular protection is most crucial. Another GNLD "first", Vita-Gard provides complete antioxidant protection for children from fruit and vegetable concentrates. Its exclusive blend of vitamins, minerals, and phytonutrients (plant nutrients) was specially formulated by our Scientific Advisory Board to maximize cellular protection, and no other children's product provides as broad a range of water- and lipid-soluble antioxidants. Your child can begin to reap the rewards of antioxidant protection as soon as he or she is old enough to chew a tablet!

**BASED IN NATURE, BACKED BY SCIENCE**

All GNLD products are based in nature and backed by science. Following Nature's blueprints, our Scientific Advisory Board uses cutting-edge research to design truly innovative, high-quality products. Our goal is to bring you healthful nutrients in as natural a context as possible. Vita-Gard meets that goal because it features:

- **Broad-spectrum carotenoids, not just beta-carotene.** Beta-carotene does not exist in isolation in nature — it's part of a huge family with approximately 600 members! But many supplements supply it alone rather than with the other healthful members of the carotenoid family. Not Vita-Gard! Vita-Gard is the only children's chewable to deliver beta-carotene with the other carotenoid family members that exist in foods, such as alpha-, gamma-, and zeta-carotene, lycopene, lutein, zeaxanthin, and beta-cryptoxanthin. It's an excellent source of vitamin A from the human food chain, and it offers broader protection of cell membranes.
- **The entire vitamin E family, not just alpha-tocopherol.** Similarly, Vita-Gard contains the entire vitamin E family of tocopherols and tocotrienols as they exist in natural foods, not just the most common member in isolation (alpha-tocopherol). The benefit is more complete protection for cell membranes.
- **Broad-spectrum flavonoids.** Vita-Gard features a broad spectrum of flavonoids, not just the one or two found in other supplements. The result is better protection for the water-soluble portions of cells.
- **Whole-food ingredients.** You won't find ingredients as wholesome as those in Vita-Gard in any other children's supplement. Made from whole foods, flavored with natural fruit essences, and sweetened with fructose and fruit juices, Vita-Gard contains ingredients you can feel good about! And it doesn't contain ingredients that cause concern — sugar and artificial colors, sweeteners, and flavors.



### THREE FOR CHILDREN'S NUTRITION

GNLD's Energy Program for children supports optimal cellular nutrition by providing products to fulfill the specific needs of growing children. Vita-Squares™ provide the lipids, sterols, vitamins, minerals, and other nutrients that help address the need to *feed the cells*. Our delicious NouriShake® protein supplement provides the amino acids necessary to support *renewal and repair of the cells*. And Vita-Gard delivers a broad spectrum of natural, whole-food antioxidants to help meet the challenge to *protect the cells*.

### REFERENCES

- [1] Alberts, B., Bray, D., Lewis, J., Raff, M., Roberts, K. and Watson, J.D. *Molecular Biology of the Cell*, Second Edition. Garland Publishing, Inc., New York, 1989.
- [2] Langseth, L. *Oxidants, Antioxidants, and Disease Prevention*, International Life Sciences Institute, Washington, D.C., 1995
- [3] Kramer, T.R., Burri, B.J. and Neidlinger, T.R. Carotenoid-Flavonoid Modulated Immune Response in Women. USDA: Beltsville Human Nutrition Research Center, San Francisco, CA. *Proceedings of the Annual Meeting of Professional Research Scientists, Federation of American Societies of Experimental Biology (FASEB)*, Atlanta, GA, April 9-13, 1995.
- [4] Kennedy, E. and Goldberg, J. What Are American Children Eating? Implications for Public Policy. *Nutrition Reviews* 53:111-126, 1995.
- [5] Basch, C.E. Zybert, P. and Shea, S. 5-A-DAY: Dietary Behavior and the Fruit and Vegetable Intake of Latino Children. *Am. J. Public Health* 84:814-818, 1994.
- [6] von Petrykowski, W. Healthy Nutrition in Childhood and Adolescence. *Off Gesundheitswes* 52:456-463, 1990.