



NUTRITIONAL KEYS FOR LIFELONG EYE HEALTH

Whole food nutrition, phytonutrients in particular, continue to draw attention at the crossroads between food, health, and disease. The amount of nutrients present in your diet is a critical predictor of your future health and risk of disease. This notion is gaining more traction against some skeptics as research backing it continues to mount.

Since the early days when nutritional science first began (circa 1900) we have had an understanding that nutrition is important to vision. For the vast majority of that time however the only connection made was with vitamin A preventing night blindness. Mothers and grandmothers seemed to know this long before the scientists eventually proved them right. It turns out that vitamin A, technically known as retinol is needed by the retina for both light sensitivity and colour vision. For several decades that relationship of nutrition to eye health seemed to be the only one science was willing to accept.

For more than a decade there has been a revolution in our understanding of the broader connection of nutrition to lifelong eye health and visual acuity. It is now well accepted and understood that the eye is a unique organ faced with challenges that no other organ faces. Like essentially everything else in the body, how well the eye deals with those challenges and provides us with the essential ability to see clearly, is now known to be dependent upon a wide array of whole food nutrients that our diets are supposed to provide. Science is now showing us which nutrients we need to protect our eyesight and what happens when we don't have enough of them. Here's some of the very latest science telling us about how to plan for lifelong healthy eyes and vision.

OMEGA-3 FATTY ACIDS PROTECT VISION!

Writing in the May 19, 2011 issue of the *New England Journal of Medicine*, US National Institute of Health Director Dr. Emily Chew (MD) summarised her review of scientific literature by concluding that for age-related eye disease (age-related macular degeneration (AMD) and diabetic retinopathy), taking an omega-3 supplement to prevent the disease or slow its rate of progression may prove a better course of action than the current, often painful, therapies.¹

Another high-level study published in the *Archives of Ophthalmology* reported that regular consumption of an omega-3 rich diet reduced the risk of vision loss due to AMD by 45%. The evidence, drawn from more than 38,000 women, caused the leader of the combined research team from Brigham and Women's Hospital and the Harvard Medical School, Dr. William Christen to state that the results of this study "...appear to be the strongest evidence to date to support the role of omega-3 long chain fatty acids in primary prevention of AMD, and perhaps the reduction in the number of people who ultimately have advanced AMD."²



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Like everything else in the body, vision is nutrient dependent. A good diet promotes good long-term visual health while a poor diet tends to undermine that.

In your plan to live to a ripe old age don't overlook this key nutritional knowledge; when it comes to clear, crisp lifelong vision...diet matters!

Probably everyone has heard that vitamin A is important for night vision. You may even know that vitamins C and E protect against clouding of the lens or that the carotenoids lutein and zeaxanthin are particularly important to the health of the retina and protect against age-related macular degeneration (AMD). But the latest vision health discoveries confirm omega-3 fatty acids are protective against AMD, diabetic retinopathy and other diseases that affect the nerves and tissues of our eyes is also important news that everyone should hear. This powerful evidence reinforces the fact that diet is the strongest tool we can all use to help ourselves and our families live long, healthy, and fully functional lives.

The message is clear. Those same whole food nutrients that fend off chronic disease and maximise our physical and mental functionality throughout our lives also protect and promote our most precious sensory system, our eyesight. My recommendations for everyone are simple. Make sure you eat as much fruit, vegetable, whole grain and fish as you can - and use GNLD supplements to make sure you get what you need.

As reported by the United States Department of Agriculture "About 16 million people in the United States over age 45 report some vision loss. This group may find hope in the growing body of evidence that diet can influence eye health."

GNLD SCIENCE: ON THE WORLD STAGE IN THE NEW ENGLAND JOURNAL OF MEDICINE

As evidence for her recommendation in *The New England Journal of Medicine*, Dr. Chew cited an article from the 9 February 2011 edition of *Science Translational Medicine*.³ Co-authored by GNLD SAB member Dr. Arianna Carughi, this article referenced evidence that was drawn in part from GNLD's human clinical trial on Salmon Oil Plus. The powerful, health promoting benefits of this unique and exclusive 8-member omega-3 fatty acid supplement continues to build, drawing increasing attention from leading edge researchers and the health conscious consumer intent on providing their body only the best. The high level of the journal involved is further testament to the leading edge science behind GNLD products.

CAROTENOID LUTEIN PROTECTS AGAINST STRONG LIGHT

Many vision scientists believe that sudden or repeated exposure to strong light, such as that from computer screens, causes more than just the temporary visual anomaly of "blue spots" floating in your vision. Researchers from Japan feel that such exposure triggers apoptosis (cell death) in photoreceptor cells and thinning of the layer of photoreceptor cells at the back of the eye. In the *Journal of Nutritional Biochemistry*, the researchers concluded, "Although lutein has been applied as a dietary supplement for chronic diseases, such as AMD, it may have a chance to be involved as a preventative medicine for acute diseases in the future."⁴

GNLD CAROTENOID COMPLEX - FOR YOUR PROTECTION

The role of carotenoids in general and lutein (and its close relative zeaxanthin) in particular in the preservation of eyesight has long been known to GNLD's Scientific Advisory Board. When the initial formulation was made, the SAB standardised the whole food ingredients to assure that each capsule delivered the equivalent of a whole serving of lutein-rich foods. Today, this highly tested, frequently published, comprehensive, exclusive, and patented product (drawn completely from carrots, tomatoes, spinach, red bell pepper, peaches, strawberries, and apricots) continues to define the ultimate in whole food carotenoid supplementation.

VITAMIN D PROMOTES EYE HEALTH

Data published in the April 2011 issue of *Archives of Ophthalmology* shows those women with the highest average daily vitamin D intake (15.1 mcg or 604 IU) had a 59% lower risk for AMD than those with the lowest average intake (7.9 mcg or 316 IU). From analysis of blood samples from 1,313 women age 50 to 79 it was concluded that an inverse association existed between early AMD and blood vitamin D levels in women younger than 75 years. Those with the highest intake had the lowest risk, and vice versa.⁵

Important practices for vision protection: In addition to assuring that your diet is abundant in vision health promoting nutrients, including omega-3 fatty acids, carotenoids and vitamin D, a few simple, easy lifetime practices can also help greatly.



FROM: Age-Related Macular Degeneration What You Should Know

U.S. Department of Health and Human Services
National Institute of Health
National Eye Institute

DOES LIFESTYLE MAKE A DIFFERENCE?

Some lifestyle choices, like smoking, are linked to AMD although it remains unknown if altering any of these would alter the impact of AMD on an individual. Nevertheless, the following choices may have an impact on AMD and certainly promote healthy living, including the following:

- Avoiding smoking
- Exercising
- Maintaining normal blood pressure and cholesterol levels
- **Eating a healthy diet rich in green, leafy vegetables and fish**

GNLD SUPPLEMENTS - FILL THE GAPS

In addition to an overall healthy lifestyle that includes exercise, the avoidance of smoking, and maintaining normal blood pressure and cholesterol levels, GNLD recommends a diet abundant in nutrients that promote healthy vision, including omega-3 fatty acids, carotenoids, and vitamin D. When daily factors such as food choice availability and hectic schedules leave gaps in the diet, the GNLD supplements can be trusted to fill the gaps.

FACTOIDS :

Age-Related Macular Degeneration (AMD)

is a leading cause of blindness. One of the accumulative effects from the steady stream of light that enters the eye as highly charged particles called photons is damage to the retina that causes the degeneration of the macula, the highly sensitive tissue at the center of the retina that provides the tight focus associated with reading or telling one face from another. There are two forms of AMD called "dry" and

"wet". Though the processes are somewhat different, the outcome is the same - loss of central vision and possible detachment of the retina and ultimately legal blindness.

Diabetic Retinopathy

is the loss of eyesight brought about by damage to the retina. It is an indicator of an underlying systemic disease. 80% of all people with type 2 diabetes (mellitus) persisting for more than 10 years experience some effect of this condition.⁶

WHOLE FOOD NUTRITION:

Feeding your body is a complex process - GNLD makes it easier!

Food, it's a simple word, but actually feeding your body is a complex process. Your body needs a consistent amount of whole food nutrients to perform the numerous biological activities occurring every second. Early in human history, food was consumed, for the most part, in its natural nutrient-rich state. However, over the last 50 years, much of that has changed as whole foods are replaced with highly processed foods stripped of their diverse bioactive nutrients. In return, the scales of chronic disease are tipping in an unfavourable direction.

Studying this relationship between food and life and thus health and disease, is the science of nutrition. Though we have only managed to scrape the surface of this exceedingly deep subject, science is giving us new knowledge every day that will help all of us live long, healthy, and happy lives. Here are just a few of the latest findings:

WHOLE FOOD ANTIOXIDANTS BALANCE THE RISKS OF OXIDATION

Oxidation is a fact of life. It's how we produce energy in our cells and how our immune system defends us against invaders amongst many other activities and processes. It is also potentially dangerous when unchecked, accelerating aging and increasing risk of disease. As the latest scientific research shows, antioxidants balance the risks of oxidation in amazing ways.

FLAVONOIDS HELP PROTECT AGAINST PARKINSONS DISEASE

Presented at the 63rd annual meeting of the American Academy of Neurology in April 2011, researchers from the Harvard School of Public Health found an inverse relationship existed between whole food flavonoid intake and risk of Parkinson's disease. Using evidence derived from more than 130,000 people for more than 20 years the researchers concluded that a flavonoid rich diet (including tea, berries, red wine, apples & oranges) offered a 35% lower risk of developing Parkinson's disease for those subjects consuming the most compared to those consuming the least. (Top 20% of men compared to the bottom 20%).⁷ This builds further on similar evidence from 2007.⁸

GREEN TEA POLYPHENOLS BOOST MEMORY

A great deal of science has shown that regular green tea consumption is associated with a wide array of benefits including; improving heart and oral health, risk reduction for Alzheimer's and certain cancers, and healthy energy production. As published in the *Journal of Medicinal Foods*, researchers have shown that the family of polyphenols in green tea (epigallocatechin gallate (EGCG), epigallocatechin, epicatechin gallate, epicatechin and L-theanine) can boost mental alertness and enhance memory.⁹

BLUEBERRY AND GRAPE POLYPHENOLS PROTECT AGAINST FAT CELL FORMATION

The formation of fat cells (adipocytes) occurs in the body as the result of a biochemical imbalance that prompts otherwise unspecialised cells to become fat cells. Adipocytes are specialists at making and storing fat. The thinking is that the more fat cells you have the more likely you are to be fat. Two new studies point to the ability of whole food polyphenols to inhibit fat cell formation (adipogenesis) and promote the breakdown and "burning" of fat. A study by researchers at the Texas Women's University showed that blueberry polyphenols can suppress adipogenesis and fat accumulation.¹⁰ A similar result was shown for the red grape / red wine polyphenol known as resveratrol. Researchers from the University of Pais Vasco in Valencia, Spain fed two groups of study animals an identical diet with the exception that one group was supplemented with resveratrol. Publishing in the journal *Nutrition & Metabolism*, the researchers showed that though body weight was essentially the same, the resveratrol fed group had significantly lower fat tissue levels than the others.¹¹

RESVERATROL IMPROVES INSULIN SENSITIVITY AND PROTECTS CELLS FROM OXIDATIVE STRESS IN DIABETICS

Publishing their findings in *The British Journal of Nutrition*, a group of Hungarian researchers have shown that daily consumption of resveratrol can reduce insulin resistance in type 2 diabetic patients. Working with 19 patients with diagnosed type 2 diabetes they showed that daily intake of 10mg of resveratrol brought a significant reduction in insulin resistance in just 4 weeks. Because it is widely agreed that oxidative stress is a key force in the onset of insulin resistance the researchers felt the antioxidant powers of this unique whole food polyphenol was directly or indirectly involved in producing this beneficial effect.¹²

CITRUS FLAVONOIDS PROTECT AGAINST OXIDATION AND INFLAMMATION

A research team from Harvard University and the Swedish University of Agricultural Sciences, Uppsala¹² joined forces to show women with the highest intake of a combination of 6 members of the whole food flavonoid family (flavones, flavonols, flavanones, flavan-3-ols, anthocyanidins and polymeric flavonoids) had (modest) 11% lower inflammatory markers in their blood than those women who had the lowest flavonoid intake. For anyone pursuing optimal health and well being this information is good news since inflammation is associated with both increased risk of disease and increased rate of aging.

“researchers concluded that a flavonoid rich diet (including tea, berries, red wine, apples & oranges) offered a 35% lower risk of developing Parkinson's disease”



GNLD PROVIDES COMPLETE WHOLE FOOD PHYTONUTRIENTS FOR GOOD HEALTH

GNLD DELIVERS THE NUTRIENTS YOU NEED

One of the founding principles of GNLD science is a great respect for the complexities of human nutrition and the intricacies of how the wide array of foods and whole food nutrients in “Nature’s Blueprint” interact with each other, and our bodies. Evidence from hundreds of studies large and small continue to show the importance of consuming whole food nutrients such as polyphenols, including flavonoids, if one intends to truly supplement the body’s nutritional needs. Throughout our history GNLD has followed that guide and delivered complete families of nutrients from whole foods. Our vitamin C products always include their companion flavonoids. Our unique and exclusive Neo-Plex Concentrate is a select mixture of whole food flavonoids present in many of our tablets and protein supplements. Our proven powerful Flavonoid Complex delivers a complete array of whole food flavonoids with the value of a whole serving of flavonoid rich fruits and vegetables in every tablet. Tré, our powerful and delicious beverage, contains the liquid nutritional essence of polyphenols from a wide array of fruits, berries and green tea. Each product provides comprehensive whole food nutrition just as Nature intended. (See chart for nutritional details.)



Other GNLD Products that provide polyphenols & flavonoids:

Vitamin C Neo-C Vita-Gard

FAMILY HEALTH MATTERS

New benefits of the high protein breakfast.

It has long been established that sending your kids off to school with a low-fat, glycaemic response-controlled, protein-rich breakfast in their stomach is a smart move to avoid mid-morning droop and promote attention in class. New research says it may help them fight obesity too. Publishing their work in the journal *Obesity*, researchers from the University of Missouri (USA) Department of Nutrition and Exercise Physiology showed that a protein-rich breakfast helped promote a long term sense of fullness (satiety) and improved resistance against snacking. “Everyone knows that eating breakfast is important, but many people still don’t make it a priority” said corresponding author Heather Leidy. “These findings suggest that a protein-rich breakfast might be an effective strategy to improve appetite control and prevent overeating in young people.”¹³

SAY “GOOD MORNING” WITH GNLD

GNLD has long promoted the benefits and just plain nutritional common sense that starting your day with a low-fat, high protein breakfast is not only important, but noticeably beneficial. All of GNLD protein supplements are formulated to deliver a “perfect start to an energy filled day”, by providing generous amounts of all 22 amino acids involved in human nutrition in a simple, easy, convenient and delicious way. Check them out!

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