



# **ONCE A DAY VISION LIFE**

contributes to maintenance of normal vision.

# Nutritional Information

TWO TUDICI CONTUNI.			*%NRV
Vitamin C	500mg		625
Vitamin E (400IU)	268mg	α-TE	2,233
Riboflavin (Vitamin B2)	5mg		357
Lutein	10mg		
Zeaxanthin	2mg		
Zinc Citrate	100mg		
Providing Zinc	30mg **		300
Copper	2mg		200

\*NRV = Nutrient reference values

2 tablets per day with food. Swallow with water.



<sup>\*\*</sup> Long term intakes of Zinc of 30mg may lead to Anaemia

Vision Life is a formula containing vitamins and minerals designed to support optimum eye health and protect against the onset of, and limit the deterioration from, Age Related Macular Degeneration (AMD).

- Provides essential nutrients to maintain optimum eye health.
- Protects the eyes from external pollution, disease processes and oxidative stress.
- Ideal for the elderly to help prevent the development of macular degeneration.
- Vitamins C and E are important fat and water soluble antioxidants to protect the delicate eye membrane from oxidative damage.

- Zinc is the most abundant trace element in the humar eye.
- Zinc is used by the body to make antioxidant enzymes that protect photo-receptor cell in the eyes from oxidative damage.
- Copper balances the utilisation of zinc reducing the risk of anaemia caused by high zinc supplementation.
- Lutein and Zeaxanthin are important and highly active carotenoids with key functions in the retina.

# **BACKGROUND**

As the population ages, eye disease and AMD is becoming more prevalent. However, deterioration of the eyes is not an inevitable consequence of ageing, as oxidative stress, smoking, obesity and diet-deficient nutrition are all contributing factors that can be controlled.

Nutritional supplements can be effectively used to ensure the continuous supply of nutrients required to maintain eye health and provide antioxidant protection for the eyes.

# **AGE RELATED MACULAR DEGNERATION (AMD)**

AMD is a slow progressive and painless condition affecting the macula. Degeneration of the macula is the leading cause of vision loss in the over 55s. The main symptom of macular degeneration is the blurring of central vision; peripheral vision (outer vision) is not affected. AMD occurs when the cells (the rods and cones) of the macula break down, causing loss of sight in the central part of the field of vision, but leaving peripheral vision intact.

There are two types of AMD. The "dry" form is the most common form of the disease and accounts for 80% of cases. It results from the accumulation of waste products from within the retina. The "wet" form is much less common, but accounts for more cases of severe central vision loss. This type of AMD is brought about by haemorrhaging blood vessels beneath the retina, with scarring under the retinal-pigmented epithelium. In the less common but more severe wet form of AMD, symptoms manifest rapidly and include blind spots and visual distortion.

With age, the protective layer of cells surrounding the retina (retinal pigment epithelium) starts to get thinner. This means that the retina can no longer exchange nutrients and waste products efficiently. Waste products start to accumulate in the retina and form small deposits, which are known as drusens. A build up of drusens, plus a lack of nutrients, damage the light sensitive cells in the macula, their function then deteriorates.

Cellular damage caused by reactive oxygen intermediates, or oxidative stress, has been implicated in many disease processes, especially age related disorders. Reactive oxygen intermediates include free radicals, hydrogen peroxide and singlet oxygen. They are often the by-products of oxygen metabolism. The retina is particularly susceptible to oxidative stress because of its high consumption of oxygen, its high proportion of polyunsaturated fatty acids and its exposure to visible light.

The development of AMD is also associated with long term exposure to cigarette smoke and sunlight; there is also a strong genetic component.

# **AGE-RELATED EYE DISEASE STUDY (AREDS)**

# **AREDS and AREDS 2**

Since the publication of the findings of a large study known as the Age-Related Eye Disease Study (AREDS) a great deal of interest has been generated in the potential role of nutritional supplements in the maintenance of eye health.

The Vision Life formulation is based exactly on the vitamins and minerals studied in the Age-Related Eye Disease Study (AREDS) which consisted of major clinical trials on the use of specific nutrients for AMD in two stages AREDS and AREDS 2.

The AREDS studies had the following two major findings:

- Taking supplements based on AREDS and AREDS 2 trials reduces the risk of progression from intermediate to advanced AMD by about 25 percent.
- AREDS and AREDS 2 based supplements do not prevent AMD onset.

#### **AREDS 2 Suitable for Smokers**

The Vision Life formulation contains exactly all the vitamins and minerals used in the AREDS2 study and findings, and as a result is also recommended for smokers due to the fact it does NOT contain Beta Carotene (which was recommended in the AREDS initial study), which may increase the risk of lung cancer in smokers.

#### Lower Zinc Levels

The only difference between the Vision Life formula and AREDS study is the reduction of Zinc from 80mg to 30mg, based on the fact that upper limit of Zinc intake daily is recommended at not more than 40mg.

In fact, the investigators in the AREDS2 study did not find a difference in the effects of 80mg versus 25mg Zinc.

# **SPECIFIC NUTRIENTS AND THEIR BENEFITS**

#### Vitamin C. Vitamin E & Zinc

Eyes are particularly susceptible to damage by "free radicals" because they are exposed to light, have a high consumption of oxygen molecules, and contain many polyunsaturated fatty acids. Vitamins C, E and zinc are particularly beneficial in the health of the eyes. Vitamin C is essential for protection against damage caused by oxidative stress. Vitamins C and E have been shown to reduce the risk of AMD due to their antioxidant activity. Higher blood concentrations of vitamin E are significantly protective against AMD. Vitamin E is the major chain-breaking antioxidant of cellular membranes. It is a most effective scavenger of free radicals and is predominant in human retina and plasma. Zinc is the most abundant trace element in the human eye. It is involved in the production of super oxide dismutase (SOD), the antioxidant enzyme, and in the regulation of catalase activity and is shown to stabilise membrane lipids against oxidation.

# Copper

Copper balances the utilisation of zinc reduces the risk of anaemia caused by high zinc supplementation.

#### Lutein & Zeaxanthin

Lutein and Zeaxanthin are two of the most important nutrients in eye health. They are the only two carotenoids present in the lens of the eye and are in particularly high concentrations in the macula. Lutein and zeaxanthin are carotenoid plant compounds. Many studies have linked lutein and zeaxanthin intake to decreased risk of AMD.

Lutein collects at the macula and is also known as the 'macular pigment'. It has the ability to filter short wavelengths of light and so reduce formation of free radicals. Lutein can also stabilise free radicals without being damaged itself. The body cannot make lutein; it must be obtained through the diet.

# Copper

Copper balances the utilisation of zinc reduces the risk of anaemia caused by high zinc supplementation.

# **HEALTH NEEDS**

