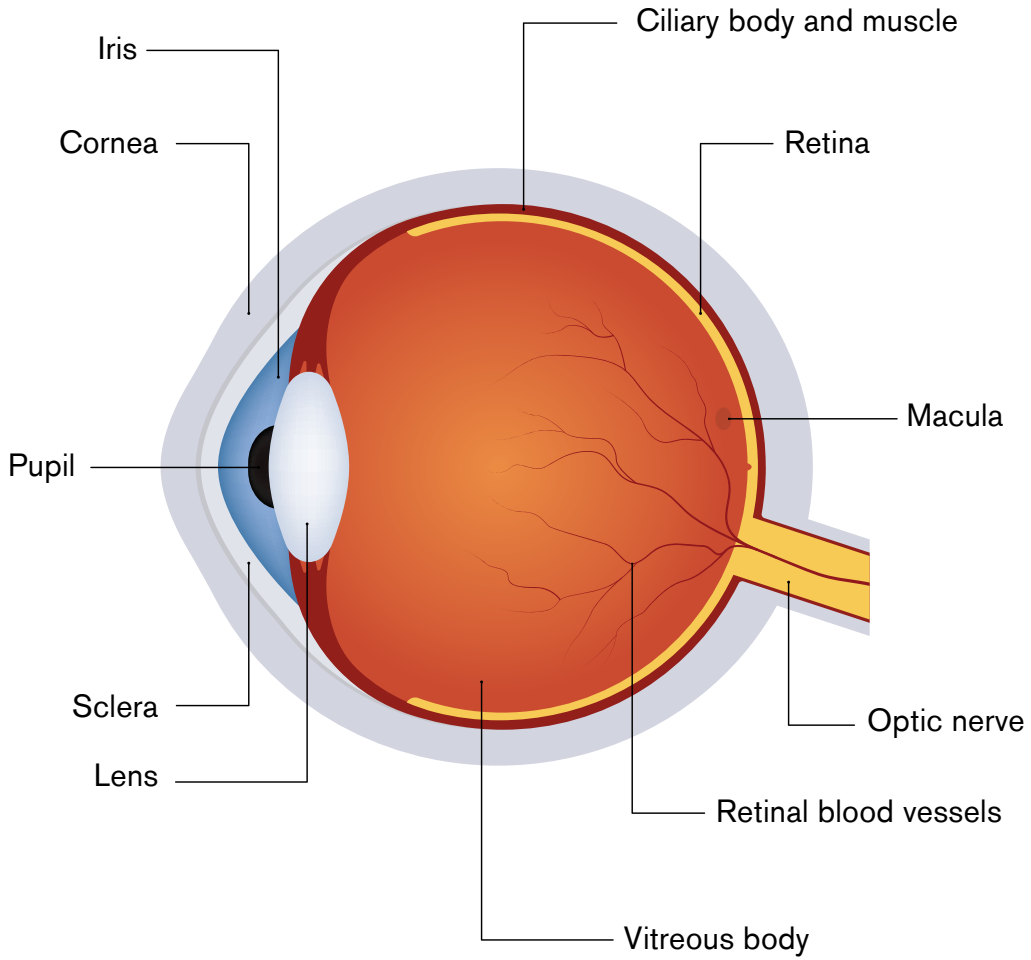
DR.VEGAN®

# Safeguarding visual health

*How nutrition can protect vision*

***Practitioner Paper*** ▪ *For practitioner use only*

## PHYSIOLOGY OF THE EYE



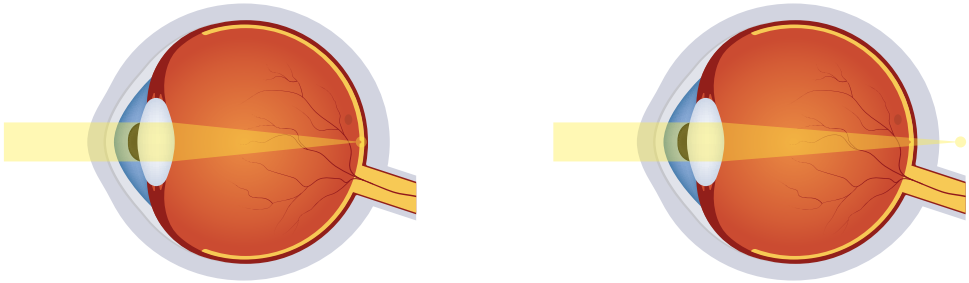

The eyes are naturally designed for a wide range of functions, including changing focal lengths and rapid, jerky eye movements, shifting the eyes from one focal point to another. The ciliary body (a circular, ring-shaped structure in the eye located behind the iris that produces aqueous humour and contains the ciliary muscle, which controls the lens's shape for focusing) adjusts lens curvature, while the extraocular muscles facilitate convergence and ocular motility. Tear film stability, maintained through blink reflex and Meibomian gland function, supports the corneal surface and ensures optical clarity. Prolonged screen use imposes unusual visual demands such as sustained close work and reduced blink rate, all of which are different from the natural visual patterns.[1]

## Screen-Induced Eye Strain

Signs and symptoms of screen-related eye strain include:

- **Asthenopia:** Is eye fatigue caused by an excess expectation of the eyes to adjust to screen use.
- **Transient blurred vision:** This is caused by spasms or a delay in the relaxation of the ciliary muscle.
- **Dry eyes:** A reduced blink rate during intense screen focus leads to tear film instability and increased tear evaporation.
- **Inflammation of the eye surface:** Prolonged dryness can trigger inflammation and cause damage to goblet cells.

## Myopia Progression



**Normal vision** **Hyperopia**

Screen use is a particular problem for the development of myopia.[2] Excessive screen time, particularly at short working distances contributes to:

- **Axial elongation of the globe:** Caused by defocus signals (especially under low-light conditions and limited peripheral stimuli).
- **Reduced outdoor exposure:** This limits dopamine release in the retina, a known inhibitor of eye growth and myopic shift.

## Blue Light Exposure

Screens emit high-energy visible blue light, which impacts melatonin suppression and circadian regulation leading to:

- **Poor sleep quality:** This indirectly contributes to ocular fatigue.
- **Retinal stress:** Oxidative stress is triggered by the high-energy visible light exposure on retinal pigment epithelium cells.

## DIET AND LIFESTYLE TIPS FOR CLIENTS

Consume foods rich in the below nutrients daily.

| Nutrient | Why | Best Food Sources |
|---|---|---|
| **Lutein and Zeaxanthin** | Found in the macula; filters blue light and protects retina from oxidative damage. | Kale, spinach, collard greens and corn. |
| **Vitamin A (Retinol and Beta-carotene)** | Prevents night blindness and supports corneal health. | Carrots, sweet potatoes and spinach. |
| **Vitamin C** | Antioxidant that supports blood vessels in the eyes. | Oranges, strawberries, bell peppers and broccoli. |
| **Vitamin E** | Protects retinal cells from oxidative damage. | Almonds, sunflower seeds and avocado. |
| **Zinc** | Helps transport vitamin A from the liver to the retina | Pumpkin seeds, chickpeas, cashews, lentils and tofu. |
| **Omega 3 (DHA and EPA)** | Omega 3 supports retinal health and tear production and helps with dry eyes. | Walnuts, chia seeds, flax seeds and algae oil. |
| **Anthocyanins** | Improves blood flow to the retina. | Blueberries, blackcurrants and purple grapes. |

**Eat the rainbow**

Include colourful fruits and vegetables daily.

**Add leafy greens**

Aim for at least 1–2 cups daily.

**Hydrate well**

Aim for 1.5–2 litres/day to support tear production.

**Reduce the consumption of refined carbohydrates and added sugars**

These increase inflammation in the body and may contribute towards poor eye health.

**The 20-20-20 rule**

Every 20 minutes, look at something 20 feet away for 20 seconds.

**Lighting**

Ensure adequate ambient lighting and screen contrast adjustments.

**Blue light-filtering lenses**

(evidence mixed but commonly used)

**Artificial tears**

Artificial tears help reduce dry eyes (preferably preservative-free).

### Increase outdoor time

Regular breaks should be taken from screens.

### Good sleep

Good sleep helps restore eye tissues and tear film. Aim for 7–9 hours per night.

### Wear sunglasses

UV rays can damage the retina and contribute to cataracts.

### Don’t smoke

Smoking increases the risk of macular degeneration, cataracts, and optic nerve damage.

### Manage health conditions

High blood pressure, diabetes, and high cholesterol can all damage blood vessels in the eyes. Stay on top of medical care and regular eye exams.

### Exercise regularly

Moderate activity (walking, cycling or swimming) improves circulation to the eyes and may reduce the risk of glaucoma.

### Eye checkups

Even if your vision seems fine, regular eye exams (every 1–2 years) can catch silent issues like glaucoma, early cataracts, or retinal problems.

## Screen Eyes™

*Screen Eyes™ is a uniquely comprehensive full-spectrum formula to help maintain vision and eye health. Containing all three carotenoids found in your macular pigment, lutein, zeaxanthin, and meso-zeaxanthin, alongside astaxanthin and 9 other nutrients, including Vitamin B2 which is scientifically studied to help maintain normal vision, Screen Eyes™ provides optimal daily support for eye health.*

| | PER 2 CAPSULE | EC NRV % * |
|---|---|---|
| Lycored Lutein | 15mg | ** |
| Meso-Zeaxanthin | 10mg | ** |
| Zeaxanthin | 2mg | ** |
| Astaxanthin | 2mg | ** |
| Bilberry | 50mg | ** |
| Provided by Bilberry Extract | 12.5mg | ** |
| Vitamin A | 600µg RE | 75 |
| Vitamin B2 | 3mg | 214 |
| Vitamin C | 80mg | 100 |
| Vitamin E | 20mg -te | 166 |
| Zinc | 10mg | 100% |
| Carrot (powder) | 5mg | ** |
| Pumpkin (powder) | 5mg | ** |

* NRV= Nutrient Reference Value
** No NRV Established

## Directions

- Take two capsules each day.
- The two capsules can be taken together or separately, ideally with food, in the morning, daytime or evening - whenever is most convenient.

## Ingredients

Marigold extract provides Lycored, Lutein, Meso-Zeaxanthin and Zeaxanthin, Brown Rice Flour, Astaxanthin, Vitamin C (Ascorbic Acid), Zinc Citrate, Vitamin E (D-Alpha Tocopherol Acid Succinate), Rice Fibre, Bilberry (*Vaccinium myrtillus*) Extract, Rice Extract Blend, Vitamin A (Retinyl Acetate), Pumpkin (*Cucurbita moschata*) Powder, Carrot (*Daucus carota*) Powder, Vitamin B2 (Riboflavin), Capsule Shell (Hydroxypropyl Methylcellulose).

## Free from

Added Sugar, Starch, Sweeteners, Gluten, Wheat, Soya, Lactose, Dairy, Artificial Flavours, Colours and Preservatives.

## Pairs well with


GlucoBalance®


Vegan Omega 3

## KEY INGREDIENTS IN SCREEN EYES™

### Carotenoids

The carotenoids lutein, meso-zeaxanthin and zeaxanthin are all xanthophyll carotenoid pigments that are essential for maintaining eye health. These carotenoids are highly concentrated in the macula (responsible for high-acuity vision). Their main job is to protect the macula from oxidative damage and blue light exposure, both of which contribute to age-related macular degeneration.[3]

As antioxidants, Lutein, Meso-Zeaxanthin, and Zeaxanthin neutralise free radicals and reduce oxidative stress, preventing cellular damage within the retina.[4] These carotenoids also function as natural blue light filters, reducing phototoxic stress that could otherwise accelerate macular degeneration.[4] Research has shown that supplementation with these three carotenoids can improve macular pigment optical density, which is a biomarker of retinal health. This can also improve visual acuity and contrast sensitivity while reducing glare sensitivity. Higher macular pigment optical density levels reduce the risk of age-related macular degeneration as well as improve vision.[4]

### Astaxanthin

Astaxanthin is a red carotenoid found in microalgae. As a potent antioxidant, it has protective effects on eye health. Astaxanthin can reduce inflammation in the eye, both of which contribute to various eye disorders, including dry eye syndrome, keratitis, cataracts, diabetic retinopathy and AMD.[7]

Astaxanthin's exceptional antioxidant capacity allows it to cross the blood-retinal barrier, where it can exert its protective effects on retinal cells. A reduction in oxidative stress inhibits inflammation and slows the progression of degenerative eye conditions.[8]

### Bilberry

Bilberry contains anthocyanins, which are powerful antioxidants that help protect retinal cells from oxidative stress and inflammation, key factors implicated in the development of age-related eye diseases.[9]

Bilberry extract improves night vision, enhances visual acuity, and reduces eye fatigue, making it excellent for those who engage in prolonged screen time or low-light activities. Bilberry has been investigated for its potential to support retinal circulation, which may further protect against degenerative eye conditions.[9]

## Vitamins A, B2, C and E

Vitamins are essential for maintaining eye health and for vision preservation.

### Vitamin A

Retinol is essential for the maintenance of photoreceptor function in the retina.
A deficiency in retinol can lead to night blindness and an increased risk of xerophthalmia, a condition that can cause corneal damage and vision loss.[10]

### Vitamin B2

Riboflavin supports energy metabolism in ocular tissues and has been linked to a reduced risk of cataract formation by protecting against oxidative stress.[11]

### Vitamin C

Vitamin C is a potent antioxidant that helps neutralise free radicals in the eye, reducing oxidative stress and inflammation. Vitamin C is also needed for collagen synthesis, an essential protein for maintaining the structural integrity of the cornea and lens.[12]

### Vitamin E

Functions as an antioxidant, protecting retinal cells from oxidative damage and helping to reduce the risk of AMD and cataracts.[13]

## Zinc

Zinc is essential for the health of the eyes. It supports the function of enzymes needed for vision. Zinc contributes to the health of the retina and the macula, providing protection against oxidative damage and regulating inflammation.[14]

Zinc deficiency increases the risk of age-related eye conditions, particularly AMD and cataracts.[15] Zinc also plays a role in transporting Vitamin A from the liver to the retina and therefore plays a part in maintaining night vision and overall visual function.[16]

## Carrot and Pumpkin

Carrots and pumpkins are rich sources of Beta-carotene, which is converted into vitamin A within the body and supports retinal function. Beta-carotene helps to prevent conditions such as night blindness and xerophthalmia.[17]

Beta-carotene also acts as an antioxidant, helping to reduce oxidative stress and inflammation in ocular tissues. Regular consumption of Beta-carotene-rich foods may contribute to a lower risk of age-related eye diseases, including AMD and cataracts.[17]

# DRUG INTERACTIONS

*Interaction Severity*

| | | |
|---|---|---|
| ***Major*** | Retinoids | Vitamin A may increase the risk of Vitamin A toxicity when taken with these drugs. |
| ***Moderate*** | Antidiabetes Drugs | Astaxanthin and Bilberry may increase the risk of hypoglycaemia when taken with these drugs. |
| | Anticoagulant / Antiplatelet Drugs | Bilberry and Vitamin E may increase the risk of bleeding when taken with these drugs. |
| | Erlotinib | Bilberry may reduce the effects of this drug. |
| | Hepatotoxic Drugs | Vitamin A may increase the risk of liver toxicity when combined with these drugs. |
| | Tetracycline Antibiotics | Vitamin A, when taken with these drugs, may increase the risk of pseudotumor cerebri. Riboflavin may decrease the effects of these drugs. |
| | Antitumor Antibiotics | Vitamins C and E may reduce the effects of these drugs. |
| | Oestrogens | Vitamin C may increase the levels of these drugs. |
| | Fluphenazine | Vitamin C may decrease the levels of this drug. |
| | Indinavir | Vitamin C may decrease the levels of this drug. |
| | Levothyroxine | Vitamin C may increase the levels of this drug. |
| | Warfarin | Vitamin C may decrease the levels of this drug. Vitamin E may increase the risk of bleeding when taken with this drug. |
| | Alkylating Agents | Vitamin E may reduce the effectiveness of this drug. |
| | Cyclosporine | Vitamin E may increase the absorption of this drug. |
| | Cephalexin | Zinc may reduce the absorption of this drug. |

| Interaction Severity | | |
|---|---|---|
| Moderate | Lithium | Pumpkin may reduce the excretion of this drug. |
| | Salsalate | Vitamin C may increase the levels of this drug. |
| Minor | Aspirin | Vitamin C may increase the levels of these drugs. |
| | Choline Magnesium Trisalicylate | Vitamin C may increase the levels of these drugs. |

*Drug-nutrient interactions have been taken from the Natural Medicines Database, April 2025. Please do your own due diligence before recommending this product to individuals taking medicines.*

## REFERENCES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