

Omega-3 fatty acids

Omega-3 is a polyunsaturated fatty acid, which contains EPA and DHA, both of which are vital for proper visual development and retinal function. As a result, a deficiency is linked to impaired vision and retinal degradation, particularly in children.

EPA and DHA are concentrated in oily fish but vegetarian DHA can be manufactured from microalgae.

Conditions helped

- Conjunctival xerosis (dry eye)
- Diabetic retinopathy
- Glaucoma
- High eye pressure
- Neovascular macular degeneration

Top five sources mgs per serving

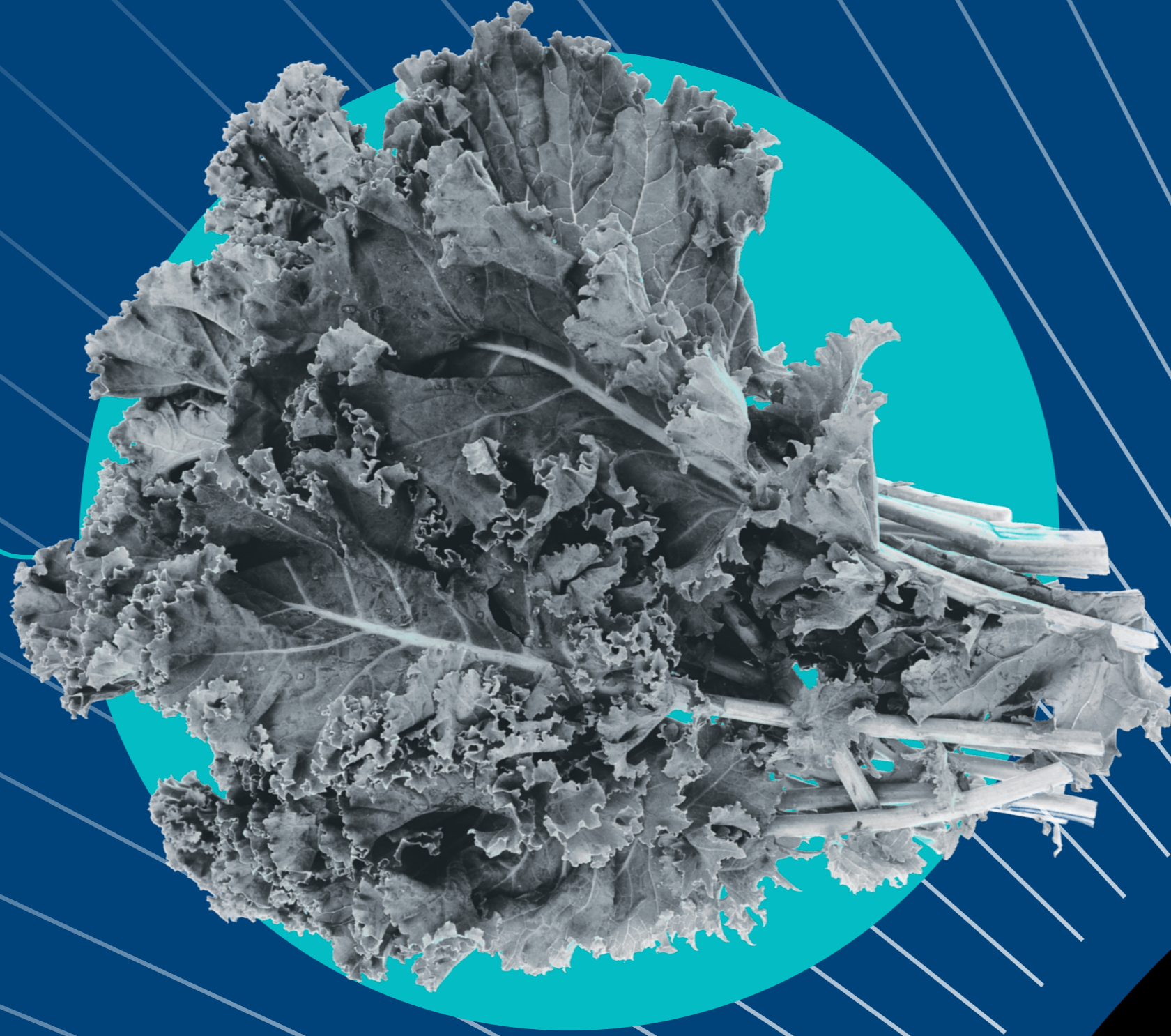
Mackerel	4,107
Salmon	4,023
Herring	3,181
Cod liver oil	2,664
Oysters	565



Lutein and zeaxanthin

Lutein and zeaxanthin are two carotenoids - the pigment responsible for the orange colour in certain vegetables and fruits - that play an important antioxidant role in the eye. They work by defending the macula region of the retina against unstable molecules called free radicals. Specifically, they cancel out harmful oxygen free radicals and help block blue light damage.

Lutein and zeaxanthin are commonly found in leafy greens, but also in pistachios, egg yolks and red grapes.



Conditions helped

- AMD
- Cataracts
- Diabetic retinopathy
- Eye detachment
- Uveitis

Top five sources mgs per serving

Kale	23.7
Salmon	20.4
Herring	19.3
Cod liver oil	14.6
Oysters	12.2

Gamma-linolenic acid

Gamma-linolenic acid (GLA) is an omega-6 fatty acid, which unlike other omega-6 fatty acids has anti-inflammatory properties. Studies have shown that the fatty acid can have a positive impact on meibomian gland dysfunction, a primary cause of dry eye.

GLA is not a widely occurring chemical compound but is available in a selection of plant oils.

Conditions helped

- Conjunctival xerosis (dry eye)

Top three sources mgs per serving

Borage oil	210
Evening Primrose oil	76
Blackcurrant oil	70



Zinc

Zinc is a part of many essential enzymes, including superoxide dismutase, which works as an antioxidant. Research suggests that is involved in the formation of visual pigments in the retina and consequently a deficiency can lead to conditions including night blindness and cataracts.

Conditions helped

- AMD
- Cataracts

Top five sources mgs per serving

Oysters	74
Beef	7
Alaskan crab	6.5
Fortified breakfast cereal	3.8
Lobster	3.4



THE SCIENCE BEHIND EYE NUTRITION

Whether it's carrots to see in the dark or stories about WWII fighter pilots eating blueberry jam to make their sight keener, dietary advice on improving eyesight is plentiful. However, what foods and nutrients could actually have an impact on eye health? Raconteur investigates the science behind the myths to understand what's at play

Vitamin A

Vitamin A is a group of unsaturated fat compounds that are vital to human health. Consuming food rich in the vitamin can help combat night blindness by helping maintain rhodopsin, a light sensitive pigment found in the retina. Furthermore, it has been shown to slow the deterioration seen in age-related macular degeneration (AMD), the leading cause of blindness in the developed world.

The vitamin is most prevalently found in its active form in animal products. However, it also exists as a provitamin A carotenoid in some fruits and vegetables, which the human body can convert into its active form.

Conditions helped

- AMD
- Conjunctival xerosis (dry eye)
- Bitot's spots
- Corneal scarring
- Corneal ulcers
- Corneal xerosis
- Night blindness

Top five sources mgs per serving

Beef liver	6.4
Lamb liver	2.1
Liver sausage	1.5
Cod liver oil	1.4
King mackerel	0.4



Vitamin C

In addition to being critical to tissue repair and immune system function, vitamin C is also a powerful antioxidant, which is needed by the human eye. Indeed, studies have shown that the vitamin is linked to decreased risk of cataracts and AMD

As an essential vitamin, vitamin C can't be produced by the body, meaning that it has to be obtained from fruits and vegetables.

Conditions helped

- AMD
- Cataracts

Top five sources mgs per serving

Kakadu plums	2,650
Acerola cherries	822
Guava	126
Rose hips	119
Chili peppers	65



Vitamin E

Vitamin E is a group of fat-soluble antioxidants that can help protect the fatty acids in the retina. Research suggests that vitamin E is linked to the reduction in cataract formation, and in severe cases a deficiency may lead to retinal degeneration and blindness.

The vitamin is common in most foods but especially rich in cooking oils, seeds and nuts.

Conditions helped

- Cataracts

Top five sources mgs per serving

Wheat germ oil	20
Sunflower seeds	10
Almond	7.3
Hazelnut oil	6.4
Mamey sapote	5.9

