



**Macular
Disease
Foundation**
AUSTRALIA



**NUTRITION FOR
AGE-RELATED
MACULAR
DEGENERATION (AMD)**

Nutrition is important to optimise macular health and reduce the risk age-related macular degeneration (AMD). Eating a healthy, well-balanced diet, which includes eye friendly foods, will benefit your overall wellbeing as well as your eye health.

An appropriate dietary supplement may help if consumption of eye health foods is inadequate.

However, it's important you speak to your doctor before changing your diet or taking any supplements.

Please note:

While this fact sheet focuses on nutrition for AMD, in general the same dietary recommendations may apply to people with other macular diseases.

Eating for eye health

Studies show diet is important to reduce the risk of AMD and slow its progression. The following advice can help keep your eyes healthy:

- eat dark green leafy vegetables and fresh fruit daily
- eat fish two to three times a week
- choose low glycemic index (GI) carbohydrates whenever possible
- eat a handful of nuts a week
- limit your consumption of fats and oils.



Nutrients for macular health

Eye friendly foods contain the following nutrients:

Lutein and zeaxanthin

Lutein and zeaxanthin (pronounced zee-zan-thn) are present in high concentrations in a healthy macula. High levels of these nutrients are found in dark green leafy vegetables such as kale, spinach and silverbeet. They're also found in peas, lettuce, pumpkin, Brussels sprouts, broccoli, corn, and eggs.



Omega-3

Omega-3 fatty acids are important to eye health. All fish and shellfish contain Omega-3s but there's more in oily varieties of fish such as salmon, mackerel, anchovies, trout, herring, sardines, and tuna. Aim to eat fish or seafood (fresh, frozen or tinned) two or three times per week.



Other nutrients

Other nutrients that support good macular health are:

- zinc (oysters, seafood, nuts, and legumes)
- vitamin E (nuts and whole grains)
- vitamin C (citrus fruit, berries, and tomatoes)
- selenium (nuts, particularly Brazil nuts).



Carbohydrates and glycemic index

The glycemic index (GI) ranks carbohydrates in foods according to how they affect blood glucose levels. High GI carbohydrates produce a large, rapid rise in blood glucose. Low GI carbohydrates cause a lower, slower rise in blood glucose.

Evidence shows eating more low GI foods lowers your risk of developing AMD.

Low GI foods include most fruit and vegetables, wholegrain cereals, wholegrain breads, and legumes. GI only applies to carbohydrates so protein and dairy don't have a GI.

People who have low GI diets tend to have less heart disease, lower cholesterol, less obesity, less diabetes, and less AMD.



Nutrient content of foods

Nutrient	Daily Intake [†]	Examples of food sources	Contains ⁱ	Examples of food sources	Contains ⁱ
Lutein & zeaxanthin	6mg [‡]	½ cup (65g) kale	11.9mg	½ cup (120g) pumpkin	1.2mg
		½ cup (90g) spinach (cooked)	10.2mg	½ cup (125g) Brussels sprouts	1.2mg
		1 cup (30g) spinach (raw)	3.7mg	½ cup (80g) broccoli	0.8mg
		½ cup (80g) peas	1.9mg	½ cup (80g) corn	0.6mg
		1 cup (55g) cos lettuce (raw)	1.3mg	2 eggs	0.5mg
Omega-3	0.9-1.6g	100g salmon	1.8g	100g tuna	0.2g
		100g sardines	0.9g	100g prawns	0.2g
Vitamin C	45mg	1 medium orange	69mg	¼ cup capsicum	47mg
Vitamin E	7-10mg	20 almonds (30g)	7.8mg	1 tbs wheat germ	2.2mg
Zinc	8-14mg	7 oysters (100g)	59mg	½ cup rice bran	3.5mg
Selenium	60-70µg [#]	2 Brazil nuts (8g)	80µg	24 cashew nuts (30g)	5.6µg

† Recommended Daily Intake (RDI) per National Health and Medical Research Council.

‡ There's no standard daily intake for lutein; 6mg is considered an acceptable daily intake from food.

i www.nal.usda.gov #The measure µg is a microgram. 1 milligram (mg) = 1000 micrograms (µg)

Note: The RDI refers to the amount of a specific nutrient (vitamins, minerals, energy or protein) considered adequate to meet the requirements of healthy people. The RDI does not address the extraordinary needs of people who smoke, suffer from ill health, or are on medication.



Supplements for eye health

Vitamins, minerals or other substances can be taken as a supplement. Dietary supplements can help if your intake of eye health nutrients is inadequate.

Some vitamins and minerals, whether obtained through food or supplements, can interfere with certain medications.

Please talk to your doctor before you change your diet or take a dietary supplement.



Omega-3 supplement

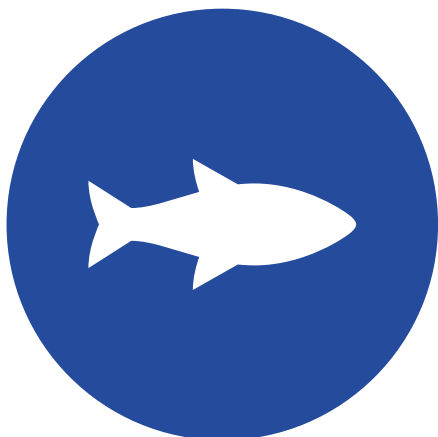
There's substantial evidence to show that eating fish two or three times a week reduces your risk of AMD. If you eat this amount, on the current evidence, you're unlikely to benefit from taking Omega-3 as fish oil. If you don't eat two or three serves of fish a week, speak with your doctor. The benefits of taking fish oil for AMD haven't been confirmed by large randomised trials.

Lutein supplement

Lutein is found in dark green leafy vegetables and is important for eye health. If you're over 50 or have a family history of AMD and aren't eating enough dark green leafy vegetables, evidence shows a lutein supplement may help. You should discuss this with your doctor.

AREDS2 supplements

Some people diagnosed with AMD may benefit from a supplement based on the Age-Related Eye Disease Study #2 (AREDS2) depending on their stage of disease. Please contact us on **1800 111 709** for further information or speak to your eye health professional.



FAQS



Do I need to be careful with leafy greens and medications?

Most of the best natural sources of lutein, including kale, spinach, silverbeet, Brussels sprouts, and broccoli, also contain high levels of vitamin K. This may interfere with some medications, including the blood thinner, warfarin. If you can't obtain enough lutein from your diet, a supplement may be appropriate. You must speak to your doctor before changing your diet if you take warfarin.



Are carrots the best food for eyes?

Carrots are a good source of vitamin A, which is important for general health. However, they're not the best eye food that the popular myth suggests. Choose dark green leafy vegetables as your main eye health vegetables and eat carrots in moderation.



Does food have to be fresh?

No. Frozen or tinned food, such as fish or vegetables, are very good options if fresh isn't readily available.



What about alcohol?

As part of a healthy diet, excessive consumption of alcohol should be avoided. You shouldn't consume more than two standard drinks per day.



What about margarine, fats and oils? Are they bad for your eyes?

Although there is no definitive evidence for margarine, fats and oils and their association with AMD, research shows you should limit your consumption of these. Recent research shows that consuming one tablespoon of olive oil per day may reduce your risk of developing late stage AMD. More research is required in the area of fats and oils and AMD.



Which nuts should I eat?

Eat a handful of nuts each week - a few each day or crush and sprinkle them over your food. Choose raw, unsalted nuts and mix a selection such as almonds, walnuts, Brazil nuts, pine nuts, pecans and pistachios.



Should I eat seeds?

Seeds such as flax seeds (linseeds) are often recommended for their high essential fatty acid content. However, their relationship to AMD is not fully known.



Can bilberry or saffron reduce the risk of AMD?

There's currently no strong evidence that either bilberry or saffron reduces the risk of AMD or slow its progression.

Eye health checklist

- have regular eye examinations, including a check of the macula
- don't smoke
- live a healthy lifestyle, control weight, and exercise regularly
- eat fish two to three times a week, dark green leafy vegetables and fresh fruit daily, a handful of nuts a week, and limit your consumption of fats and oils
- choose low GI carbohydrates instead of high GI whenever possible
- ask your doctor about taking a dietary supplement
- ask your eye health professional if AREDS2 supplements are appropriate for you
- protect your eyes from exposure to the sun
- use an Amsler grid regularly to check for changes in your vision

Need more information?

Learn more about macular disease at www.mdfoundation.com.au.

How's your macula? Take the quiz at www.CheckMyMacula.com.au.

You can also access our free, personalised support services and order information kits and Amsler grids by calling our National Helpline on **1800 111 709**.

MDFA has a free newsletter and you can sign up to receive invitations to education sessions and events in your area.

Macular Disease Foundation Australia is committed to reducing the incidence and impact of macular disease, by providing up-to-date information, advice and support.

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