



**Macular
Disease
Foundation**
AUSTRALIA



**NUTRITION AND
HEALTHY EATING FOR
AGE-RELATED MACULAR
DEGENERATION**

Healthy eating and nutrition are important to optimise macular health and reduce the risk of 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 healthy foods is inadequate.

However, it's important you speak to your doctor before 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 healthy eating and good nutrition are important to reduce the risk of AMD and slow its progression. The following advice can help keep your eyes healthy:

- eat a range of different coloured vegetables including dark green leafy vegetables and fruit daily
- eat fish high in omega-3 at least two to three times a week
- eat a handful of nuts a week
- limit your consumption of fats and oils, and use mainly extra virgin olive oil
- reduce or limit your alcohol intake.



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 fatty acids

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).

Healthy eating for macular health

A Mediterranean eating pattern includes foods that people living in countries around the Mediterranean Sea such as Greece, Italy and Spain would traditionally eat. Studies have shown a Mediterranean eating pattern can protect against AMD.

The Mediterranean diet is based on:

- vegetables and fruits
- wholegrain breads and cereals
- legumes (such as beans, chickpeas, lentils)
- nuts and seeds
- fish and seafood
- extra virgin olive oil
- herbs and spices.

You can eat small amounts of red meat. Ideally you should only have processed meats, such as, bacon, salami, sausages, and packaged foods, occasionally.

The World Health Organization and other reputable health agencies recommend the Mediterranean diet as research has shown it has many positive effects on your health.

The Mediterranean diet has been linked to many health benefits, including reducing your risk of bowel cancer, heart disease, type 2 diabetes and dementia and even living longer. The Mediterranean diet can also be good for managing your weight, blood pressure, cholesterol, bone health and mental health.

How to follow a Mediterranean eating pattern?

Here are some tips for following a Mediterranean-style eating pattern:

Eat five or more serves of vegetables every day – include a variety of different coloured vegetables.

Have fresh or dried fruit every day.

Eat oily fish, such as salmon, tuna or mackerel, at least twice a week.

Replace a meat meal each week with a legume-based meal, such as chickpeas, lentils or beans.

Swap unhealthy fats and oils for extra virgin olive oil for cooking and dressing your salads.

Why is a Mediterranean-style diet healthy?

The Mediterranean-style diet is healthy because:

- it is high in fresh foods and has lower levels of highly processed foods
- it is high in fibre, making the diet filling without providing excess kilojoules/calories
- it is high in antioxidants and can reduce inflammation in the body
- it has a good balance of healthy fats.

These benefits are related to following a Mediterranean-style eating pattern as a whole, not from single foods or nutrients.



Mediterranean-style meal and snack ideas

BREAKFAST options

- Porridge: rolled oats made with milk/water, with fruit, honey and/or nuts
- Natural Greek style yoghurt with fruit, nuts or muesli.
- Wholegrain breakfast cereal (e.g. Weetbix, Vitabrits, All Bran, Sultana Bran) with milk/yoghurt
- Toast (wholemeal or multigrain) with ricotta/cottage cheese OR poached/boiled/scrambled egg OR grilled tomato and herbs OR baked beans.

LUNCH options

- Salad, including tomato and a dark leafy green such as kale or spinach and canned beans or legumes, with extra virgin olive oil
- Sandwiches/wraps – wholemeal or multigrain bread, roll, wrap or pita with salad. Use canned fish, beans, hummus or chicken breast as a filling. Drizzle with extra virgin olive oil.

DINNER options

- Vegetable soup, including chickpeas/lentils with vegetables, canned tomatoes and onion
- Fish: grilled or baked in extra virgin olive oil with salad or vegetables
- Chicken breast: stir-fry, baked or grilled in extra virgin olive oil and mixed herbs with salad or vegetables and wholemeal bread or rice
- Homemade pizzas, with a wholemeal bread base and drizzled with extra virgin olive oil. Try vegetable toppings such as onion, eggplant and zucchini
- Small portion of lean beef, lamb, veal or pork: stir-fry, baked or grilled in extra virgin olive oil with salad or vegetables and canned beans/lentils.

SNACKS

- Handful of nuts and/or seeds
- Fruit (fresh, canned or dried)
- Fresh vegetable sticks with hummus or tzatziki
- Natural Greek style yoghurt
- Wholemeal crusty bread dipped in extra virgin olive oil/pesto
- Avocado on toast or wholegrain crackers (with extra virgin olive oil)
- Boiled egg OR feta/ricotta cheese on a slice of wholemeal bread or crackers.



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.



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. AREDS2 supplements contain lutein, zeaxanthin, Vitamin C, Vitamin E, zinc and copper.

AREDS2 supplements are not a cure for AMD and they can't reverse damage already caused by the disease. However, studies suggest that you may benefit from these supplements if you have:

- intermediate stage AMD in one or both eyes, to help lower your risk of progressing to late AMD
- late stage AMD (dry or wet) in one eye only, to help lower your risk of developing it in the other eye.

Please contact us on **1800 111 709** for further information or speak to your eye health professional.

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.

**Please talk to
your doctor before
you take a dietary
supplement.**

FAQs



What about alcohol?

As part of a healthy diet and for reducing the risk of AMD, limit how much alcohol you drink. You shouldn't consume more than one standard drink per day, and aim to have some alcohol free days during each week. One standard drink is 280–425 ml of beer, 285 ml of regular cider, 30 ml of spirits or 60–100 ml of wine.



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.



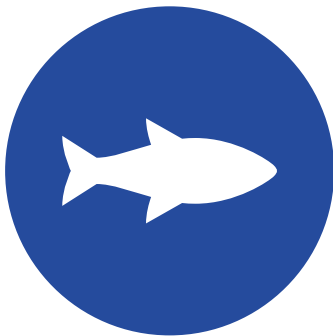
What about margarine, fats and oils? Are they bad for your eyes?

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.



Does an Asian-style eating pattern protect against the progression of AMD?

Studies suggest an Asian-style eating pattern which has many plant based foods and fish and seafood may help protect against the progression of AMD. Like a Mediterranean diet, eating patterns that focus strongly on plant based foods and more fish can be very beneficial for our eye health.



Can curcumin, ginkgo biloba, bilberry or saffron reduce the risk of AMD?

There's currently no strong evidence that curcumin, ginkgo biloba, 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 to mainly extra virgin olive oil
- ☐ limit your alcohol intake
- ☐ ask your eye-health professional about taking any dietary supplements and 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.

Disclaimer: Information in this publication is considered by Macular Disease Foundation Australia to be accurate at the time of publication. While every care has been taken in its preparation, medical advice should always be sought from a doctor and individual advice about your eye health should be sought from your eye health professional. MDFA cannot be liable for any error or omission in this publication or for damages arising from it, and makes no warranty of any kind, either expressed or implied in relation to this publication.