

## Macular Degeneration: Frequently Asked Questions

### 1. What exactly is macular degeneration?

Macular degeneration is a condition in which the eye's macula breaks down, causing a gradual or sudden loss of central vision.

### 2. Is there a difference between macular degeneration and age related macular degeneration?

Macular degeneration is usually age-related, affecting people around 60, so the terms are often used interchangeably, and some cases are inherited as well, which can arise in younger people.

### 3. Is it true that macular degeneration is a growing problem?

Experts think there are a number of reasons for this: more ultraviolet light in our environment due to a thinning ozone layer, people living longer, environmental pollutants, smoking, poor diet, obesity, etc. Another factor may be our aging population, since the risk of macular degeneration rises with age.

### 4. Who's at the most risk for macular degeneration?

If you're over age 60, a smoker, white or have a family member with macular degeneration, you have an increased risk for macular degeneration.

You're also at risk if you take these drugs: Aralen (chloroquine) or phenothiazine derivatives [Thorazine (chlorpromazine), Mellaril (thioridazine), Prolixin (fluphenazine), Trilafon (perphenazine) and Stelazine (trifluoperazine)].

### 5. Is there any way to prevent macular degeneration?

Doctors aren't sure how to prevent macular degeneration. Research suggests that ultraviolet light (and possibly blue light) factors into the problem, so sunglasses could be very beneficial.

What you eat also affects your macula. Researches think that antioxidants (vitamins A, C and E), zinc, lutein, zeaxanthin and essential fatty acids all can aid in preventing macular degeneration. Exercising and quitting smoking might be also helpful.

### 6. What are the signs and symptoms of macular degeneration?

Early signs include: straight lines appearing wavy, fuzzy vision, and shadowy areas in your central vision. Your eye doctor may find indicators before you have any symptoms, so regular eye exams can mean an early diagnosis. One way to tell if you're having these vision problems is to view an Amsler grid, which is a chart of black lines arranged in a graph pattern.

### 7. What are the different types of macular degeneration?

Macular degeneration is classified as either dry or wet. The **dry form** is more common than the wet (about 90%). It may result from the aging and thinning of macular tissues, depositing of pigment in the macula or a combination of the two. In the **wet form**, new blood vessels grow beneath the retina and leak blood and fluid. This leakage causes retinal cells to die and creates blind spots in central vision.

### 8. Is macular degeneration curable?

No, but treatment can slow or even stop the progression of the wet form, so the earlier you are diagnosed, the better.

### 9. What macular degeneration treatments are currently available?

Several treatment options are now available. They include laser photocoagulation, various drug therapies, retinal implants/transplants, and photodynamic therapy. Some doctors also recommend antioxidant and zinc supplementation, which a recent study found to reduce patients' risk of developing advanced AMD by 28%.

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## Foods Rich in Antioxidants, Zinc, Omega-3, Lutein/Zeaxanthin

Following is the table that lists food rich in the vitamins and minerals given in the Age-Related Eye Disease Study (AREDS). It is possible to get the AREDS dose of Vitamin C and beta-carotene in the diet. It's harder though, to the AREDS dose of zinc and almost impossible to get the AREDS dose of vitamin E from food alone.

## Foods Rich in Nutrients that Fight AMD

**Vitamin C:** Recommended daily dose 60-90mg. AREDS dose is 500 mg per day. Foods rich in vitamin C with amount in milligrams per one cup unless otherwise noted.

Fresh Orange Juice – 124  
Broccoli – 116  
Brussel sprouts – 97  
Strawberries – 74  
Grapefruit Juice – 67  
Kale – 53  
Green Pepper (5rings) – 45  
Tomato Juice – 44

**Vitamin E:** Recommended minimal required daily dose 20mg or 30 IU. AREDS dose is 400 IU (about 268mg). Foods rich in vitamin E with milligrams per cup or per tablespoon for oils:

Sunflower seeds – 64  
Almonds – 56  
Sunflower oil – 7\*  
Safflower oil – 5\*  
Peanuts – 16  
Soybean oil – 5\*  
Spinach – 3  
Olive oil – 2\*  
Flaxseed oil – 2

**Beta-Carotene\*\***(converted to vitamin A in the body): Recommended daily requirement is 5000 IU. AREDS dose is 15mg or around 25,000 IU. Foods rich in beta-carotene with IU cup:

Pumpkin – 54,000  
Sweet potato – 32,000  
Carrots – 31,000  
Spinach – 15,000  
Peppers – 8,500  
Cantaloupe - 6,000  
Apricots – 3,000  
Romaine- lettuces – 2,700

**Zinc:** Recommended minimal daily requirement is 15 mg/day. AREDS dose is 80 mg per day. Foods rich in zinc with milligrams per cup unless otherwise noted:

Oysters (6medium) - 76  
Turkey (dark meat) - 10  
Chicken - 7  
Crab – 5 (average but varies with type of crab)  
Kidney beans - 2  
Yogurt - 2  
Brown rice – 1.2  
Spaghetti (whole wheat) - 1

\*Unfortunately these oils are also high in omega-6 fatty acids which may not be good for patients with AMD.

\*\*High doses of Vitamin A are not recommended for smokers or those with a history of smoking within the past 5 years. Please consult with your doctor if this condition applies to you.

**Copper** (trace element): Recommended minimal daily requirement is 2mg. High zinc intake can cause copper deficiency, so 2mg given in AREDS. Found in shellfish, beans, peas, whole wheat bread, and chocolate.

A source for additional information about the amount of nutrients in foods is the US Department of Agriculture (USDA) – Nutrient Database for Standard Reference.

[http://www.nal.usda.gov/fnic/cgi-bin/nut\\_search.pl](http://www.nal.usda.gov/fnic/cgi-bin/nut_search.pl)