



# Food & Macular Degeneration

Nutrition has been identified as a major player in the development and control of Age-Related Macular Degeneration (AMD)

Age Related Eye Disease Study (AREDS) conducted by the National Eye Institute showed:

- Antioxidant vitamins and zinc helped slow down progression (25% over 6 years)
- Vitamins C and E and beta-carotene prevent damage caused by free radicals (smokers should avoid high doses of vitamin A since it increases incidence of lung cancer)
- Zinc found in unusual high concentrations in the retina and tends to be low in patients with macular degeneration

The best way to get the nutrients is through a healthy diet (should be your core):

- Studies show that people who ate a diet rich in vitamins C, E, beta-carotene, zinc, lutein and zeaxanthin reduced the risk of developing macular degeneration (35% reduced risk)
- Role of zinc in macular degeneration is important
- Lutein and zeaxanthin are found in high concentrations in the macula and absorb 40-90 percent of blue light intensity (like sunscreen for your macula). We don't produce these pigments (as we produce melanin), so we have to get it from food
- Omega-3 Fatty Acids are present in the retinal pigment cells (in a type called docosahexanoic acid, DHA) protecting the photoreceptors cells from light damage by the sunlight and free radicals. Eating omega-3 from fatty fish can cut the risk of macular degeneration by 30%
- Also complex B vitamins and folic acid have shown a benefit on reducing the risk for macular degeneration

**BEST FOODS FOR VITAMIN C:** Guava, bell peppers (all colors), oranges and orange juice, grapefruit and grapefruit juice, strawberries, pineapple, kohlrabi, papaya, lemons and lemon juice, broccoli, kale, brussels sprouts, kidney beans, kiwi, cantaloupe, cauliflower, cabbage (all varieties), mangoes, white potatoes, mustard greens, tomatoes, sugar snap peas, snow peas, clementines, rutabagas, turnip greens, raspberries, blackberries, watermelon, tangerines, okra, lychees, summer squash and persimmons.

**BEST FOODS FOR VITAMIN E:** Almonds and almond butter, sunflower seeds and sunflower butter, wheat germ, hazelnuts, spinach, dandelion greens, Swiss chard, pine nuts, peanuts and peanut butter, turnip greens, beet greens, broccoli, canola oil, flaxseed oil, red bell pepper, collard greens, avocados, olive oil and mango.

**BEST FOODS FOR BETA-CAROTENE:** Sweet potatoes, carrots, kale, butternut squash, turnip greens, pumpkin, mustard greens, cantaloupe, red bell pepper, apricots, Chinese cabbage, spinach, lettuce (especially darker lettuces), collard greens, Swiss chard, watercress, grapefruit (pink and red), watermelon, cherries, mangoes, tomatoes, guava, asparagus and red cabbage.

**BEST FOODS FOR ZINC:** Oysters, lobster, lean beef, crab, ostrich, wheat germ, skinless turkey (especially dark meat), skinless chicken (especially dark meat), lean lamb, clams, mussels, pumpkin seeds, yogurt (fat-free, low-fat), pork tenderloin, starchy beans (such as black, navy, pinto, garbanzo, and kidney), lentils, black-eyed peas, soybeans (edamame), lima beans, pine nuts, cashews, peanuts and peanut butter, sunflower seeds and sunflower butter and pecans.

**BEST FOODS FOR LUTEIN AND ZEAXANTHIN:** Kale, spinach, Swiss chard, collard greens, turnip greens, dandelion greens, mustard greens, beet greens, radicchio, summer squash (all varieties), watercress, green peas, persimmons, winter squash (acorn, butternut, etc.), pumpkin, broccoli, brussels sprouts, lettuce (especially dark lettuces), asparagus, corn, green beans, okra, artichokes and green bell peppers.

**BEST FOODS FOR OMEGA-3 FATTY ACIDS:** Wild salmon (fresh, canned), herring, mackerel (not king), sardines, anchovies, rainbow trout, Pacific oysters, chia seeds, ground flaxseed, walnuts, butternuts (white walnuts), seaweed, walnut oil, canola oil, flaxseed oil and soybeans (edamame).

**BEST FOODS FOR VITAMIN B6:** Wild salmon (fresh, canned), trout (rainbow, wild), skinless chicken, pork tenderloin, skinless turkey, starchy beans (especially chickpeas and pinto beans), bananas, pistachio nuts, tuna (canned light), fish (especially haddock, halibut, cod), potatoes (white and sweet), spinach, winter squash (especially acorn), lentils, avocados and bell peppers.

**BEST FOODS FOR VITAMIN B12:** Shellfish (clams, oysters, crab), wild salmon (fresh, canned), soy milk, trout (rainbow, wild), tuna (canned light), lean beef, veggie burgers, cottage cheese (fat-free, 1% low-fat), yogurt (fat-free, low-fat), milk (fat-free, 1% low-fat), eggs and cheese (fat-free, reduced-fat).

**BEST FOODS FOR FOLATE:** Lentils, black-eyed peas, soybeans (edamame), oats, turnip greens, spinach, mustard greens, green peas, artichokes, okra, beets, parsnips, broccoli, broccoli rabe, sunflower seeds, wheat germ, oranges and orange juice, brussels sprouts, papaya, seaweed, berries (boysenberries, blackberries, strawberries), starchy beans (such as black, navy, pinto, garbanzo, and kidney), cauliflower, Chinese cabbage, corn, whole-grain bread and whole-grain pasta.

<http://www.joybauer.com/vision/how-food-affects-macular-degeneration.aspx>

