

# Lutein and Zeaxanthin are Good for Your Eyes

You've probably heard that lutein and zeaxanthin are good for the eyes. These two major *carotenoids* found in the macula and retina are sometimes called xanthophylls or macular pigment. They function as *antioxidants* and also help protect tissues from phototoxic damage by filtering out some of the blue light.

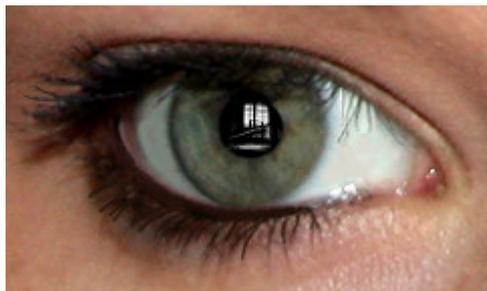


Photo by [K Conkling](#) 

The eye, and particularly the macula and retina, are almost constantly subjected to free radical generation and oxidative damage. Just as exposure to too much sunlight can damage the skin, so too can light damage the eyes. It is, thus, critical that you maintain your basic nutrients and especially antioxidants in the eye.

A study of macaque monkeys (with eyes similar to humans) showed that there was more zeaxanthin than lutein in the central fovea where vision is most clear. But, the concentration of zeaxanthin is reduced the further you get from the fovea and lutein dominates.

The macula has a yellow tint due to the presence of lutein, zeaxanthin and another xanthophyll called meso-zeaxanthin. It's these pigments that help filter out or absorb some of the more damaging blue light to help protect the eye.

## What the Studies Show

Carotenoids are especially important because they seem to help prevent age related macular degeneration. A study indicated that getting high levels of carotenoids (especially in dark green leafy vegetables) in the diet results in a 43% lower risk of age related macular degeneration, the leading cause of blindness.

The original Age-Related Eye Disease Study showed that antioxidants (vitamin C, vitamin E, beta carotene, and zinc) reduced the risk of age related macular degeneration by 25%.

The second Age-Related Eye Disease Study showed beneficial effects of adding lutein and zeaxanthin to the mix for preventing late stage age related macular degeneration.

Another study showed that lower levels of the antioxidant lycopene in the blood was associated with age related macular degeneration.

A study of monkeys who were feed a diet with no plant pigments for several years found that these pigments dissppear in the macula. And retinal abnormalities resembling age relate macular degeneration appeared.

Overall, there is an inverse relationship between the amount of macular pigment and age related macular degeneration. The more pigment the less macular degeneration. The less pigment, the more macular degeneration.

The Third National Health and Nutrition Examination Survey (NHANES III) examined the contents of lutein and zeaxanthin in the blood and found a wide variation. The quarter of the people with the lowest concentration averaged 0.19  $\mu\text{Mole/L}$  while the average concentration for the upper quarter of the people was 0.79  $\mu\text{Mole/L}$ . This is a difference of greater than 4 to 1.

## **How to Get Natural Antioxidants**

Lutein and zeaxanthin cannot be synthesized or made within the body. They must come from external sources. If not in a supplement, they come almost entirely from plant sources.They may also come indirectly from plants through animals that eat plants.

The most important source of carotenoids are fruits and vegetables.

The best natural sources of both lutein and zeaxanthin are egg yokes and corn, both of which are yellow.

Most other fruits seem to supply more lutein or more zeaxanthin. For example, orange pepper has close to 5.6 time more zeaxanthin than lutein. But green pepper has 13 times more lutein than zeaxanthin.

Overall, most vegetables supply more lutein than zeaxanthin. Topping the list are egg yoke and corn. Other good sources for lutein and zeaxanthin include:

- Kiwi
- Red seedless grapes
- Zucchini squash
- Pumpkin
- Spinach
- Orange pepper
- Yellow squash
- Cucumber
- Peas
- Green pepper
- Red grapes
- butternut squash

- Orange juice
- Honeydew
- Celery stalks and leaves
- Green grapes

## Conclusions You Can Use

Lutein and zeaxanthin are important components of eye health. These and other antioxidants are important to help reduce the likelihood of a number of eye problems including macular degeneration, cataracts and retinitis pigmentosa.

## References

- [Fruits and vegetables that are sources for lutein and zeaxanthin: the macular pigment in human eyes](#) as published in the *British Medical Journal*
- [BIOLOGIC MECHANISMS OF THE PROTECTIVE ROLE OF LUTEIN AND ZEAXANTHIN IN THE EYE](#) as published in the *Annual review of nutrition*
- [Secondary Analyses of the Effects of Lutein/Zeaxanthin on Age-Related Macular Degeneration Progression AREDS2 Report No. 3](#) as published in the *Journal of the American Medical Association: Ophthalmology*
- [The Body of Evidence to Support a Protective Role for Lutein and Zeaxanthin in Delaying Chronic Disease. Overview](#) as published in the *American Society for Nutritional Sciences*

Get more health information at [Healthy Body Support](#).

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## Treating Metabolic Syndrome Naturally

Metabolic syndrome is a group of symptoms that have been associated with an increased risk of type 2 diabetes and cardiovascular diseases. About [35% of the US adult population](#) has metabolic syndrome. For those aged 60 or more, the rate is close to 50%.

Women are more likely to suffer with metabolic syndrome than men, and Hispanics have a higher rate than non-Hispanics.

### Just What is Metabolic Syndrome?

Metabolic syndrome is a group of 5 symptoms. If you have 3 or more of these symptoms you are said to have metabolic syndrome. These symptoms are:



1. Elevated blood pressure of 130/85 or more.
2. High triglycerides of 150 mg/dl or more
3. Low HDL cholesterol, less than or equal to 40mg/dl for men and 50mg/dl in women
4. Elevated fasting blood glucose levels of 100 mg/dl or more
5. Central obesity generally associated with a BMI of 30 or more

A study reported in the [Journal of the American Medical Association \(JAMA\)](#) reported that metabolic syndrome is increasing long term in the United States. In 2003-2004 the rate was 32.9% but increased to 34.7% in 2011-2012, a 5% increase. Some short term studies indicate that in recent years the rate have leveled out.

The prevalence of metabolic syndrome means that many people are suffering from increased risks for a number of diseases including heart disease, stroke and diabetes. And often the symptoms and diseases result in limitations of lifestyle options. In addition, [a study of members](#) of 3 health care plans indicated that those with 3 symptoms had 60% higher costs for health care than those without symptoms. And, the costs increased by a further 24% when a fourth or or fifth symptom was added.

These individual symptoms are pretty common among Americans. About a third of Americans have high blood pressure. About a third of American have high triglycerides. A fifth of American adults have low HDL cholesterol. Slightly under 10% of the population has elevated fasting blood glucose levels. And, a third of the population is obese.

Next, let's look at how doctors treat metabolic syndrome.

## Treatment of Metabolic Syndrome

The best advice doctors can give is to avoid metabolic syndrome. To this end, [WebMD](#) advises you to:

- Exercise
- Eat a healthy diet
- Lose weight
- Quit smoking

Then, if this advice is not enough, you should take medicines to help you eliminate symptoms of metabolic disorder.

The traditional medical doctor is taught to identify symptoms that are not

“normal” or healthy in the body. The idea is that the body is having difficulty keeping these symptoms under control, so it needs help in the form of drugs. Once a symptom is identified, the physician then prescribes one or more pharmaceutical drugs that have shown some effectiveness at reducing the symptoms.

Some types of the pharmaceutical drugs dealing with metabolic syndrome include:

<u>Symptom</u>	<u>Pharmaceutical Drug</u>
<b>High Blood Pressure</b>	Diuretics Calcium-channel blockers ACE inhibitors ARBs (angiotensin II receptor blockers)
<b>High triglycerides</b>	Statins like: Simvastatin (Zocor) Atorvastatin (Lipitor) Rosuvastatin (Crestor)
<b>Low HDL cholesterol</b>	Prescription niacin Fibrates such as gemfibrozil (Lopid) Statins like simvastatin (Zocor) and rosuvastatin (Crestor)
<b>Elevated fasting blood glucose levels</b>	Biguanides (Metformin) Sulfonylureas (Amaryl, Glucotrol, Glucotrol XL) Thiazolidinediones/Glitazones Meglitinides Gliptins Alpha-glucosidase inhibitors Sodium-Glucose Transporter-2 Inhibitors
<b>Central obesity</b>	Orlistat (Xenical) Lorcaserin (Belviq) Phentermine-topiramate (Qsymia) Naltrexone-bupropion (Contrave) Liraglutide (Saxenda)

While drugs can help control symptoms, they almost always have side-effects that are harmful. The doctor needs to determine if the patient will overall be better off with one drug or another.

On the other hand, most natural healing doctors believe that the body is quite capable of controlling the symptoms associated with metabolic syndrome. They typically believe that, for example, high triglycerides is **not** caused by a lack of Zocor or Lipitor. It is caused by a less than optimal lifestyle, including diet and exercise.

Next, let’s look at some clinical studies that describe the natural causes and cures of metabolic syndrome.

## **Natural Treatments of Metabolic Syndrome**

Natural treatments of metabolic syndrome primarily involve managing the

intake of carbohydrates (like sweet beverages, bread, pasta, rice, potatoes). There are two considerations in the management of carbohydrate intake.

1. **Limiting the amount** of carbohydrates consumed
2. Consuming selected carbohydrates with a **low glycemic index**

## **Lower Carbohydrate Diet**

An article in [The Journal of Nutrition](#) described two clinical trials which tested a low-fat meal plan against a low-carbohydrate meal plan. For half the trial period participants ate an amount of food that provided for their daily caloric needs. For the other half of the trial period the participants ate less food in what we normally think of as “dieting.”

The results of these trials showed that during the non-dieting portion of the trial, the participants on a lower-carbohydrate meal plan lost significantly more abdominal fat (11%) than those consuming a lower-fat meal plan. In the traditional “dieting” phase the participants on the lower-carbohydrate meal plan lost significantly more total fat than those on a lower-fat meal plan.

The authors concluded that “restriction of dietary carbohydrate (relative to restriction of dietary fat) resulted in favorable changes in body composition, fat distribution, and glucose metabolism that may reduce the risk of T2D [type 2 diabetes].”

Another study reported in the journal [Lipids](#) worked with 40 overweight subjects who had elevated levels of triglycerides and small-dense low-density lipoprotein (LDL) and low levels of high-density lipoprotein cholesterol (HDL). Half the group was put on a calorie restricted low-carbohydrate meal plan and half the group was put on a calorie restricted low fat meal plan. Both meal plans provided about 1500 calories per day.

After 12 weeks, the results indicated the effectiveness of the low carbohydrate meal plan.

- The total weight loss was nearly twice as great for those in the low carbohydrate group.
- The low carbohydrate group experienced a 12% reduction in fasting glucose levels while the low fat group saw almost no change.
- The low carbohydrate group had 3 times the fasting serum total ketones of the low fat group, indicating greater mobilization and utilization of fats.
- The low carbohydrate group had significantly better measures of fasting triglycerides and higher HDL cholesterol than the low fat group.

The results indicate that a limited carbohydrate diet significantly improves the overall symptoms of metabolic syndrome, more so than by a low fat diet.

The authors of this study conclude, “There are many options for treating obesity or the individual components of MetS [metabolic syndrome], but carbohydrate restriction has the ability to target the range of markers with a single intervention.”

## Consuming Low Glycemic Index Carbohydrates

The glycemic index is a measure of how fast the carbohydrates you consume are digested to sugar and enter your blood stream. A value of 100 represents consumption of pure glucose that does not need digestion. The measure of blood glucose is taken two hours after the consumption of carbohydrates. The higher the glycemic index of a food, the faster the carbohydrate is digested to form sugar that enters the blood stream. The lower the glycemic index of the food, the slower its sugars enter the blood stream.

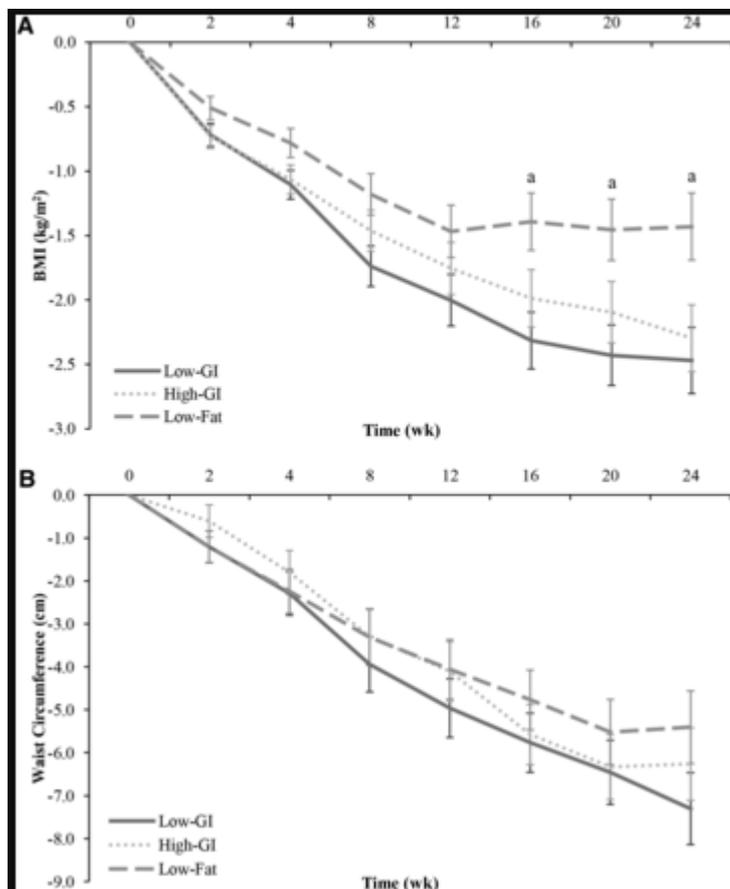
Low-glycemic index diets have been shown to benefit those with chronic conditions such as type 2 diabetes, ischemic heart disease, and some types of cancer.

[The American Journal of Clinical Nutrition](#) reports on a 6-mo randomized clinical trial that tried to determine effect of dietary glycemic index on a variety of metabolic risk markers.

The 122 participants were randomly assigned of the the following meal plans:

- Low glycemic index meal plans
- High glyceemic index meal plans
- Low fat meal plans as specified by the American Heart Association

104 participants completed the study. The following graph shows that the low glycemic index meal plans produced the greatest reduction in waist measurements and the greatest reduction in BMI.



From [Effect of the glyceimic index of the diet on weight loss, modulation of satiety, inflammation, and other metabolic risk factors: a randomized controlled trial](#)

In addition, the low glyceimic food plan resulted in significantly improved insulin sensitivity than the low fat diet.

The authors conclude, "we showed that following a moderate-carbohydrate, LGI [low glyceimic index] diet may be more effective for weight loss than a moderate-carbohydrate, HGI [high glyceimic index] diet or a conventional LF [low fat] diet. Metabolic benefits observed for insulin resistance and sensitivity in subjects who were consuming an LGI diet and the tendency to improve other inflammatory and associated metabolic risk markers also indicated that LGI diets are better tools for managing obesity and its associated comorbidities."

## Conclusions You Can Use Today

Metabolic syndrome is basically a lifestyle issue. Carbohydrates are a prime controlling factor for the symptoms of metabolic syndrome.

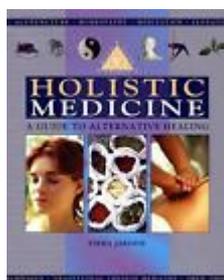
You can reduce and even eliminate these symptoms by reducing your overall carbohydrate intake and selecting carbohydrates with a lower glyceimic index.

If you do not control your carbohydrate intake you should expect your health care costs to grow and your lifestyle choices to become more limited.

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## [Holistic Medicine: Physical Health, Peace of Mind, and Clarity of Consciousness](#)

Holistic Medicine by Emma Jardine



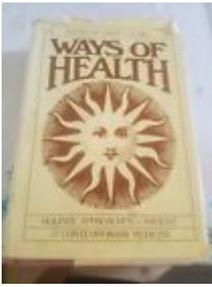
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## [Learn About Holistic Health Care and Why it is Beneficial](#)

### **Learn About Holistic Health Care and Why it is Beneficial**

Holistic health care is a phrase we hear a lot, but most of us would probably be hard pressed to come up with a definition. Indeed, even if we could, holistic health care means different things to different people, so definitions can change from one source to another.



Photo by [Bods](#) 

The term holistic means approaching an entity as whole, because all of its parts are interdependent. As it relates to health care, a holistic approach addresses the whole person, paying attention to all of the interdependent parts, to achieve overall health and well being.

A holistic approach is aimed at maintaining a healthy body, mind and spirit. The understanding is, if there is a problem in any one area, it can affect the others, so we need to look after the whole person, mental and physical, to achieve maximum health.

Contrary to popular belief, holistic health care does not necessarily exclude symptom-based medical treatment. In cases of chronic conditions, diseases or temporary disabilities, especially those involving pain or quality of life issues, a holistic approach can include medicines, support for the body's own healing ability and care for the patient's emotional and spiritual well-being.



Photo by [Patrick Doheny](#) 

Especially with elderly patients, the impact of a debilitating physical ailment, coupled with the issues surrounding aging, can lead to mental and emotional issues, like anxiety, depression and isolation. Even a patient's surroundings, like an unfamiliar hospital room or health care facility, can affect the patient's ability to deal with an affliction in the best possible way.

In such cases, a holistic health care practitioner can work in partnership with the patient to provide care for the whole person, considering all the factors affecting the patient's situation.



For example, if it is determined that a patient's surroundings are adding to emotional stress or loneliness, simply moving to a more familiar setting could vastly improve the patient's overall well-being and speed-up recovery.

Very often, a holistic health care provider becomes an elderly patient's close friend and advisor, acting as an understanding intermediary between the patient, doctors and family.

Many studies show that lifestyle, our physical and mental activities, has the greatest impact on our overall health. A holistic approach to treatment of an ailing elderly patient makes sure their lifestyle constantly moves them towards better health.