

# NEWS

## Macular Degeneration Research



BETTER HEALTH THROUGH RESEARCH

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## New Study Bolsters Link Between Carbohydrate Quality and Vision Loss

*MDR-sponsored researcher says eating whole grains could lower AMD Risk*

Eating whole-wheat rice, pasta and bread, as well as other “high quality” carbohydrates, could reduce your risk of contracting age-related macular degeneration (AMD) and its associated vision loss, says a researcher currently being funded by Macular Degeneration Research.

Allen Taylor, Ph.D., director of the Laboratory for Nutrition and Vision Research at Tufts University, recently spearheaded a study that confirms earlier findings tying dietary glycemic index to the risk of developing AMD. “Men and women who consumed diets with a higher glycemic index than average for their gender and age group were at greater risk of developing advanced AMD,” Dr. Taylor says. “The severity of AMD increased with increasing dietary glycemic index.”

Glycemic index is a scale that measures how quickly carbohydrates are converted to blood sugar, or glucose. Foods like white rice, pasta and bread have a high glycemic index because they trigger a faster rise and subsequent drop in blood sugar. By contrast, whole-wheat versions of rice, pasta and bread have a low glycemic index because they produce slower and less marked variations in blood sugar levels.

“Our findings suggest that 20 percent of the cases of advanced AMD might have been prevented if those individuals had consumed a diet with

a glycemic index below the average for their age and gender,” notes Taylor.

AMD typically occurs after middle age, although the events which cause it may begin earlier. Although there is no effective therapy for AMD, scientists say dietary intervention may delay its progress.

The task of identifying modifiable risk factors for AMD is becoming increasingly important as the population ages. As Taylor and his colleagues point out, the number of people in the United States with AMD-caused vision loss is expected to double to 3 million by 2020.

“Our results support our hypothesis,” says Taylor, “that **dietary glycemic index, which has been related to the risk of diabetes, is also associated with the risk and severity of AMD.**”

Improving the quality of carbohydrates in the diet can be accomplished through relatively simple alterations, such as replacing white bread with whole grain bread. However, Taylor cautions that it's still too soon to “recommend dietary carbohydrate management as a prevention strategy for AMD.”

Macular Degeneration Research has contributed \$100,000 to Dr. Taylor's work.

# President's Corner

## An ounce of prevention

So much of the work supported by Macular Degeneration Research is focused on finding a cure for this terrible degenerative condition. But for those people who have contracted, or who are at risk of contracting, the disease, it's every bit as important to know how to slow AMD's progression.

In this issue of **Macular Degeneration Research News**, you'll learn that diet is an increasingly important part of the equation. A major new study has confirmed that consuming whole-wheat foods and other "high quality" carbohydrates may reduce our risk of getting AMD. This comes on top of previous findings, which suggest that diets rich in omega-3 fatty acids, vitamin D, antioxidants and zinc may also stave off the disease's advances.

You'll also read about ways that science is helping doctors detect devastating eye diseases even sooner; before too much damage is done and when further loss of sight can be slowed.

Seeing your doctor regularly, enjoying a well-balanced diet and living an active lifestyle will not only protect your sight, but provide for a healthier life overall — and that's good news indeed.



Brian K. Regan, Ph.D.  
President

# Visual Impairment Tied to Higher Mortality Risk

*Research suggests people with AMD may die earlier than peers*

Older people with cataracts and age-related macular degeneration (AMD) appear to have higher mortality rates, according to a study in the July issue of *Archives of Ophthalmology*.

Working in the Blue Mountains area west of Sydney, Australia, a team led by Sudha Cugati, M.S., of the University of Sydney examined 3,654 individuals above the age of 49. After being assessed for both AMD and cataracts, participants were then tracked over an 11-year period. Rates of death were higher among those with visual impairment than among those without (54 percent vs. 34 percent). Among those with AMD, the mortality rate was 45.8 percent; among those without, the rate was 33.7 percent.

The results confirm the findings of previous studies, which have suggested links between visual problems and the risk of death in older individuals.

"The mechanisms for higher mortality associated with visual impairment remain unclear," the authors write. "It could be attributed to age-related ocular conditions, such as age-related macular degeneration (AMD) or cataract, which can be markers of biological aging."

*...continued on page 3*



Log onto our website at [www.ahaf.org](http://www.ahaf.org) then simply click on the Macular Degeneration Research link to learn more about what's new in the world of research, as well as important information about risk factors for macular degeneration.

*continued from Vision Impairment*

Alternatively, the authors say, visual impairment could have the same biological origin as other conditions associated with increased mortality.

What is also unclear, say researchers, is whether age-related eye disease is a marker of aging or whether it accelerates aging. If the latter is true, they say, “**regular assessment of vision in older persons may lead to early detection, facilitating treatments that could reduce the impact of visual impairment.**”

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## Researchers Take High-Resolution 3-D Images Of Eye

*Earlier diagnosis of eye conditions may soon be possible*

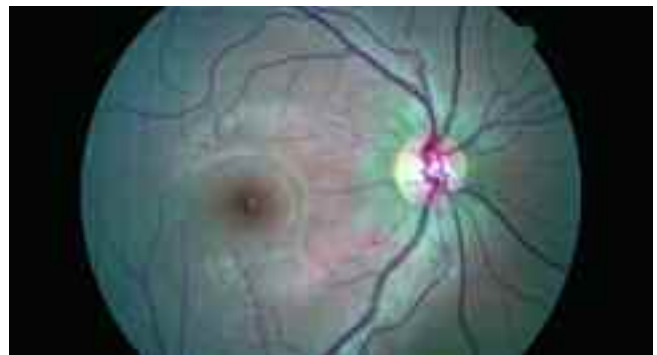
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In work that could enhance the diagnosis of many eye diseases, researchers at The Massachusetts Institute of Technology have developed a new type of laser for taking high-resolution, three-dimensional images of the retina.

The new imaging system builds on an existing tool called “optical coherence tomography” (OCT), which uses light to obtain cross-sectional images of the eye. Developed in the early 1990s by MIT Professor James Fujimoto, Eric Swanson at MIT Lincoln Laboratory and collaborators, the technology helps to visualize what happens to the eye in the course of retinal disease.

“These advances promise to enable new and powerful three-dimensional visualization methods which could improve early diagnosis of disease and treatment monitoring,” said Fujimoto.

Commercial OCT systems scan the eye at rates ranging from several hundred to several thousand lines per second. But a



typical patient can only keep the eye still for about one second, limiting the amount of three-dimensional data that can be acquired. Now, using the new laser, researchers in Fujimoto’s group report retinal scans at record speeds of up to 236,000 lines per second — ten times faster than what is possible under current OCT technology.

Future clinical studies, as well as further development, may someday enable ophthalmologists to routinely obtain three-dimensional “OCT snapshots” of the eye, potentially improving diagnoses of age-related macular degeneration and other retinal diseases.

A variety of resources are available for people who suffer from macular degeneration. For a list of agencies that offer counseling, training and other special services please call Macular Degeneration Research at **1-800-437-2423** or visit our website at [www.ahaf.org](http://www.ahaf.org).

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# Healthy Living Tips

## *How diet can improve your long-term health*

Is there anything people can do to lower their odds of developing age-related macular degeneration (AMD)?

Researchers have consistently identified aging and smoking as risk factors, and a wealth of evidence now links nutrition to the development of AMD. For instance, recent research suggests that consuming more omega-3 fatty acids could reduce the risk of progressing to the advanced stage of AMD. Omega-3 fatty acids are found in nuts and seeds, avocados, some dark leafy green vegetables, several types of vegetable oils and “oily” fish like salmon, albacore tuna and sardines.

Vitamin D — commonly found in cod liver oil, “oily” fish, fortified milk and cereal, and egg yolks — may also lower the risk of developing AMD in its early stages.

The Age-Related Eye Disease Study, conducted by the National Eye Institute,



recommends taking a specific, high-dose formula of antioxidants (vitamin C, vitamin E and beta carotene) and zinc to delay or even prevent intermediate “dry” AMD from progressing to the advanced “dry” or “wet” stage.

Before taking any supplements, be sure to consult with a doctor, since some of them may interact with other drugs you might be taking. Additionally, continue to have your eyes examined at least once every two years.

## 'Tis the Season

*Memorial gifts are an ideal way to honor loved ones over holidays*

With the holidays approaching, this is a wonderful time to honor loved ones with a special gift!

Memorial and Honor Gifts to Macular Degeneration Research can be given at any time of year, for any special occasion — birthdays, anniversaries, graduations, weddings and especially, Christmas and Hanukkah — to show appreciation for someone’s kindness or to recognize a friend’s impact on your life. When you make a gift in memory or honor of someone special, we will send a card notifying the honoree or their family of your generous gift in their name.

To make a Memorial or Honor Gift donation or for more information, please call Sierra Saligumba, Memorial Coordinator, at 800-437-2423, or visit our website [www.ahaf.org](http://www.ahaf.org).

