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**ISSUE #123**  
**April-Dec 2023**

## Metformin and Gut Health

Dr. Dimitra Skondra is the director and leader of the retina microbiome team at the University of Chicago. Her team is investigating the possible protective properties of Metformin in relationship to age-related macular degeneration.

Metformin has been used as an oral medication for type 2 diabetes for more than 30 years. Data was collected from patients that have been on metformin for diabetes or other indications to see if they have less incidence of AMD versus people that don't take metformin. They found that patients that take metformin have significantly decreased risks for AMD.

The research led to the hypothesis that metformin was improving "gut health" by suppressing inflammatory pathways. This provided a protective element in neovascularization, the cause of wet AMD. Studies suggested many of the properties of metformin for promoting healthy aging and health is by promoting healthy microbiome.

Dr. Skondra states, "the best tool we have now to promote healthy microbiome is a healthy diet."

## Resources

Magnification  
Glasses Order  
Information  
800-426-4846  
[www.american-readingglasses.com](http://www.american-readingglasses.com)

NFB Newsline  
866-504-7300

Choice Magazine  
Listening  
888-724-6423

National Library  
Service  
888-657-7323  
(Audio Books)

Free Low Vision  
Catalogs and  
Independent  
Living Catalog  
800-537-2118

Maxi Aids  
800-522-6294

Jewish Heritage  
for the Blind  
800-995-1888

LS&S Low Vision  
Catalog  
800-468-4789  
[lssproducts.com](http://lssproducts.com)

EyeSmart  
<http://www.get-eyesmart.org/eyesmart>

MD Foundation  
Resource Dir.  
Dan Roberts  
816-588-7747  
Email: [director@mdsupport.org](mailto:director@mdsupport.org)

## Getting a “GRIP”

Liz Trauernicht - President



When patients visit their ophthalmologist and hear the words “blindness” or “going blind”, they often leave traumatized and consumed with fear and negative thoughts about their future. Fortunately, caring physicians usually direct their patients to sources of emotional and practical support.

I am privileged to answer the support line for our foundation and make sure callers have the information they need to develop a constructive attitude during a challenging period of life.

The following are just a few suggestions that have helped new patients to focus their thinking on positive things and begin to advocate for themselves.



### DIET

When patients learn about “oxidative stress” and how it can negatively affect the rods, cones and photoreceptors of the eye, they begin to appreciate the benefits of “antioxidants”. A proper diet that includes colorful vegetables, fruits and fiber provides natural occurring antioxidants that help to protect the body from this type of cell and tissue damage.



## EYEWEAR

Good sunglasses do more than make you look cool ... they protect your eyes from the sun's damaging rays. Summer is when we naturally reach for our sunglasses, but winter snow and glare can also be harmful.

Many people also report a benefit from using lenses that block the "blue" light generated by computer monitors and portable screens like tablets and cell phones.

## ENDORPHINS ARE YOUR FRIEND

When we experience long periods of stress, our bodies react by producing excessive amounts of stress hormones like cortisol and put us at a higher risk of health problems like depression, high blood pressure and problems sleeping.

On the other hand, endorphins are hormones produced by the body that help to relieve pain, reduce stress and improve our mood. Exercising, socialization, laughing, nature walks, hobbies and volunteering to help others all generate endorphins. Of course, our way of producing endorphins is a personal choice, but our goal is to turn fears into hope. Hope provides the promise of a new day with new opportunities. So, as we face challenges in life, let us all adjust our "GRIP" and keep going.

## MD Support and Prevent Blindness America Establish New On-Line Resource

The new resource provides an extensive list of searchable resource directories, a database of 1,500 municipal paratransit services, a library of self-help guides and workbooks, and up-to-the-minute news.

This marks the first time in Internet history that two major organizations have joined in such a dramatic way to bring both education and support to the entire global low vision community.

See [lowvision.preventblindness.org](http://lowvision.preventblindness.org) or [mdsupport.org](http://mdsupport.org)

## Are You Missing Out on Benefits?

April Issue of AARP by Joan Rattner Hellman

If you're struggling to pay for health care, food, or utilities, help may be closer than you realize.

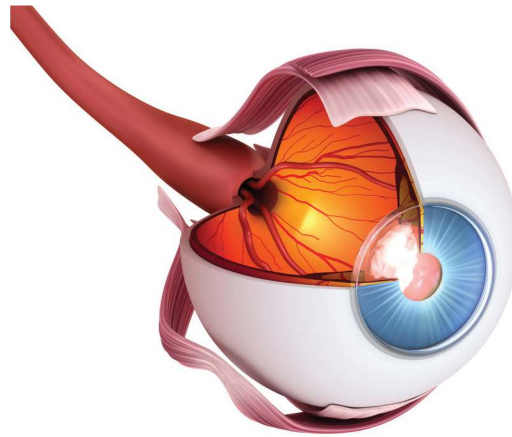
Older Americans miss out on more than \$20 billion worth of benefits every year. A nationwide campaign launched by the National Council on Aging and the National Association of Area Agencies on Aging aims to help older adults learn about two easily accessed resources that can connect them to needed support.

BenefitsCheckUp ([benefitscheckup.org](http://benefitscheckup.org))

Eldercare Locator (1-800-677-1116 or [eldercare.gov](http://eldercare.gov))

## Research Approach at the DeAngelis Lab

While physicians have drugs to treat macular degeneration and are aware of the many risk factors (such as age and family history), there is still a lot about the underlying causes and how the disease progresses that is still unknown. One of the major hurdles that AMD research scientists face is they do not have animal or cellular models that fully represent the complexity of the disease in humans.



The DeAngelis Research Lab, located at the University of Buffalo, approaches this problem by studying actual human tissue. Dr. Margaret DeAngelis is responsible for developing the Utah Protocol whereby donated eyes of all types are collected and preserved within six hours of autopsy.

The eyes are then carefully classified and meticulously dissected to isolate just the macula. Further DNA analysis allows them to study the retina at the level of single cells. That, in turn, is helping the scientists at the DeAngelis lab to better understand how AMD develops in humans and to create targeted treatments.

# Can Mindfulness Improve Vision?

by Dan Roberts, MDF Director of Resources

Mindfulness means being fully present, aware of where we are and what we're doing, and not overly reacting or becoming overwhelmed by what's going on around us.

A 2018 study conjectured that relief of chronic stress might be an effective treatment for vision loss. Practicing mindfulness, therefore, may be important to our clinical and home care.

The authors of the study wrote: "The loss of vision after damage to the retina, optic nerve, or brain has often grave consequences in everyday life such as problems with recognizing faces, reading, or mobility. Because vision loss is considered to be irreversible and often progressive, patients experience continuous mental stress due to worries, anxiety, or such as depression and social isolation. While prolonged mental stress is clearly a consequence of vision loss, it may also aggravate the situation. In fact, continuous stress and elevated cortisol levels negatively impact the eye and brain due to autonomous nervous system (sympathetic) imbalance and vascular dysregulation; hence stress may also be one of the major causes of visual system diseases such as glaucoma and optic neuropathy."

After reviewing recent research, the authors concluded that "stress is both consequence and cause of vision loss. This creates a vicious cycle of a downward spiral, in which initial vision loss creates stress which further accelerates vision loss, creating even more stress and so forth."

Doctors and patients, therefore, should be aware of the benefits of stress reduction and relaxation techniques for visual health.

## Latest Audio Newsletters and Video's from the MD Foundation

Visit [MacularNews.org](http://MacularNews.org)

## Talking Books

The National Library Service provides qualifying individuals a bimonthly large print catalog of recorded books and magazine at no charge.

Patrons may order talking books by contacting their local cooperating library. Contact information is online at [www.loc.gov/nls/find.html](http://www.loc.gov/nls/find.html) or call 1-888-657-7323

## Chaplains on Hand

[Chaplainsonhand.org](http://Chaplainsonhand.org) for spiritual support or call toll free 1-844-242-7524

## Definitions

### Ophthalmologist

a practitioner in the medical science of surgery and care of the eye and its related structures. An M.D. degree is required.

### Retina specialist

a medical doctor trained as an ophthalmologist, who has received additional training in diseases and surgery of the retina and vitreous.

### Optometrist

a degreed (O.D.), independent, primary health care provider skilled in the co-management of eye health and vision care, including examination, diagnosis, treatment, management of diseases/disorders, prescription of eye-glasses/contact lenses, and provision of low vision aids and therapy.

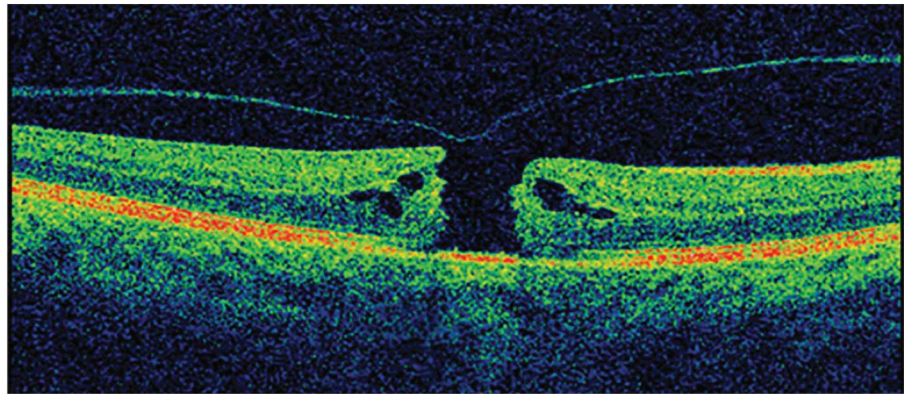
### Optician

a person who designs or manufactures ophthalmic appliances or optical instruments ("ophthalmic optician") or deals in prescriptions ("dispensing optician").

## Study on Macular Hole Repair

Dimitra Skondra MD PhD University of Chicago

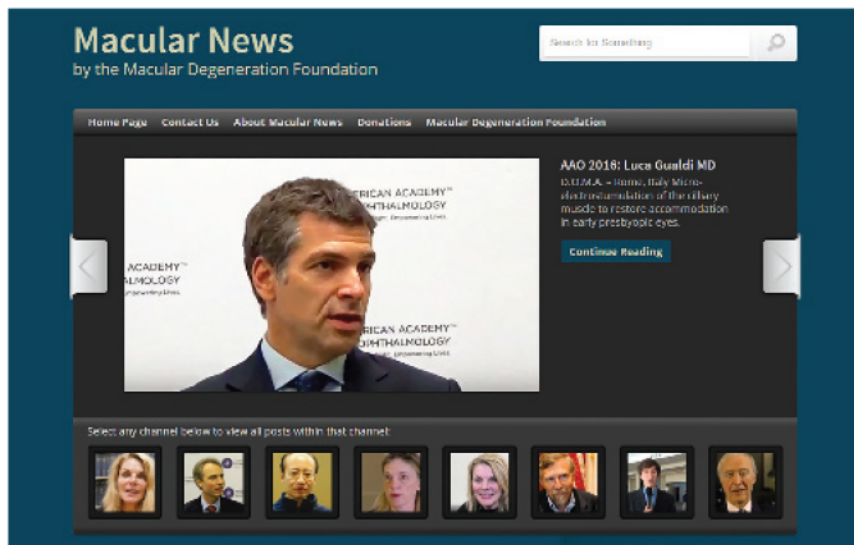
We have a big study regarding macular hole repair. A macular hole is a very common disorder affecting older patients that may already have macular degeneration. Surgery would be needed to repair the hole. This can cause more eye trauma if the patient has an eye disease.



We have pioneered a new treatment algorithm using drops to close the macular hole. We have six years of data from more than 100 patients that were given the drops. We found that in patients with small holes less than 200 micrometer the drops closed the hole in 70% of the patients and they did not need surgery.

The patient population with larger holes did not respond and needed surgery. The success on the smaller holes suggest the clinical trials should continue to bring a safer treatment option to fruition.

# Exclusive Online Videos Featuring World's Leading Eye Researchers



The Macular Degeneration Foundation interviews the world's foremost scientists, medical practitioners and inventors. Visit [Eyesight.org](http://Eyesight.org) for the latest news and register to receive an email notice when new videos are first posted.

## Donations Appreciated

The Macular Degeneration Foundation, Inc. is a tax-exempt, non-profit organization.

Please visit our website at [eyesight.org](http://eyesight.org) to make a tax deductible donation.

## Checks may be mailed to:

Macular Degeneration Foundation, Inc.,  
P.O. Box 531313,  
Henderson, NV 89053

Call: 888-633-3937 (USA)  
Call: 702-450-2908 (Intl)

Email: [liz@eyesight.org](mailto:liz@eyesight.org)

**Disclaimer** - Articles in the Magnifier are for information only and are not an endorsement by the Macular Degeneration Foundation editorial staff.

## Organizations That Can Help

National Eye Institute  
800-411-1222  
[www.nei.nih.gov](http://www.nei.nih.gov)

Community Services for Vision Rehabilitation (AL & MI Areas)  
[csvrllowvision.org](http://csvrllowvision.org)  
251-476-4744  
228-760-0788

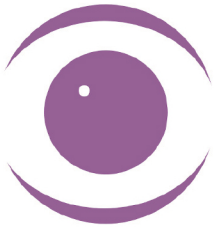
American Council of the Blind  
(800) 424-8666  
[acb.org](http://acb.org)

Second Sense (Chicago Area)  
312-236-8569  
[second-sense.org](http://second-sense.org)

Prevent Blindness America  
800-331-2020  
[preventblindness.org](http://preventblindness.org)

Veterans & Eye Conditions  
<https://veteransguide.org/va-disability/ratings/eye>

Bible on Tape  
Aurora Ministries  
941-748-3031



## THE MAGNIFIER

Macular Degeneration Foundation  
P.O. Box 531313  
Henderson, Nevada 89053

FREE MATTER FOR THE BLIND

### Clinical Trial Information

Nat'l Eye  
Institute  
800-411-1222 or  
[www.nei.nih.gov](http://www.nei.nih.gov)

Clinical trials have guidelines called "inclusion" and "exclusion" criteria. These criteria (age, gender, type and stage of disease, etc.) keep participants safe and ensure researchers will be able to answer the questions they plan to study.

### New Delivery System

Tim Corson, professor and chair of the department of pharmacology and toxicology at Indiana University School of Medicine, presented research from his lab at ARVO this year that has new potential therapeutic targets for treating wet AMD.

An enzyme, ferrochelatase, was identified as a facilitator in creating angiogenesis, the new blood vessel growth behind the eye, causing wet AMD. The lab experiments revealed a previous anti-fungal drug, griseofulvin, had the effect of inhibiting ferrochelatase. The team is creating a new formula of griseofulvin which could deliver a sustainable therapy using microparticles as a delivery system.