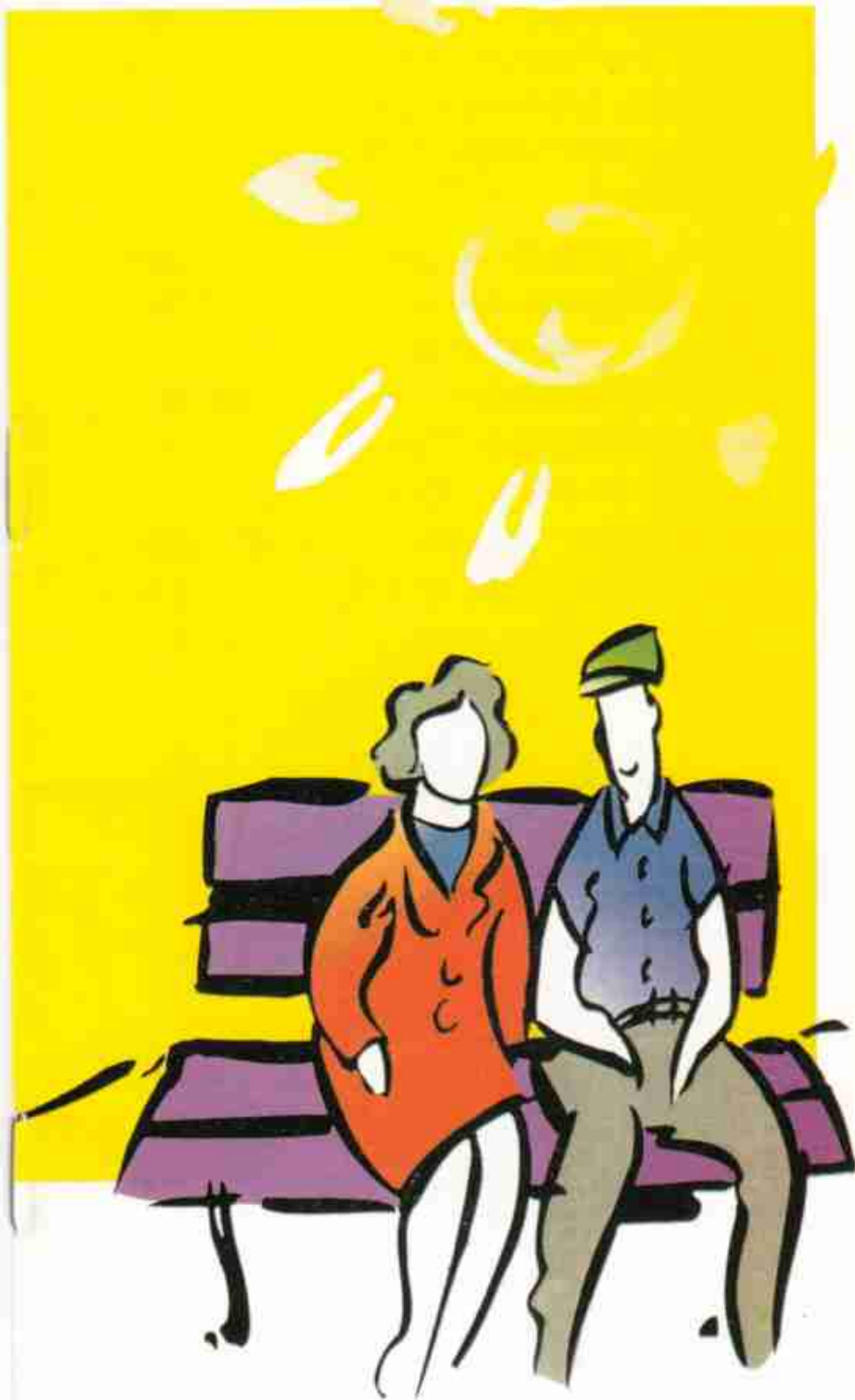


Macular Degeneration

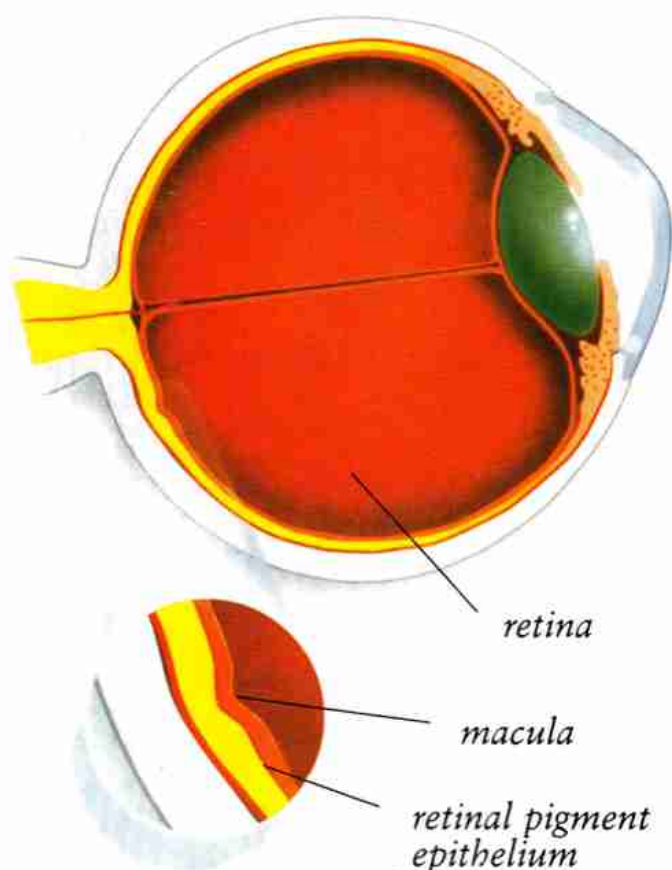


If You're Over 40,
You Could Have This Eye
Condition & Not Know It.

What Is Macular Degeneration?

Macular degeneration is a condition of the eye that is often related to aging. It is commonly referred to as age-related macular degeneration, and is often abbreviated as AMD.

While its cause is unknown, the early or late stage of AMD affects about 8.5 million Americans over the age of 40. The late stage, associated with vision loss, is the most common cause of legal blindness in people over the age of 50 in the western world, and it is even more prevalent in people over 60.



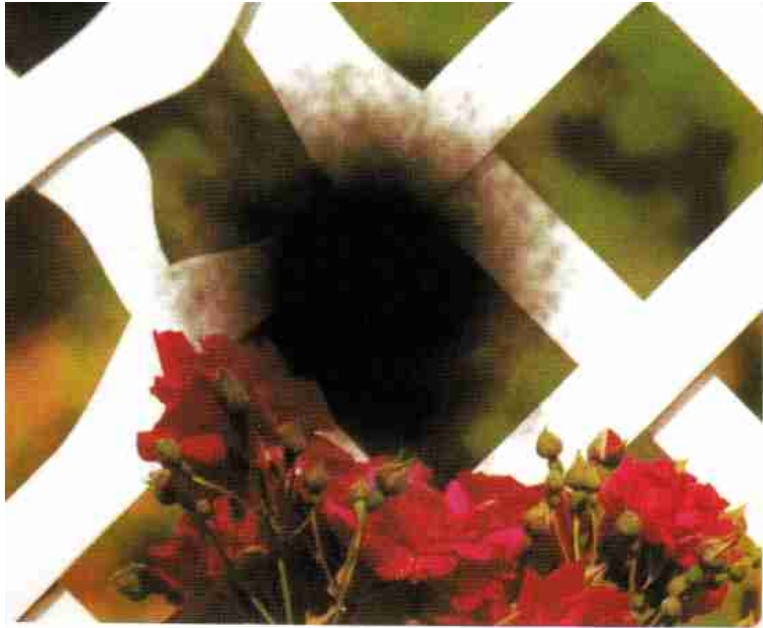
In AMD, the macula of the eye is affected. The macula, is located at the center of the retina, a light-sensitive tissue which lines the back of the eye. The retina receives images of external objects, then sends them as impulses to the brain.

The macula provides us with central vision and allows us to see fine detail, such as recognizing a face, reading, or watching television. When the macula becomes damaged, extreme and dramatic vision loss can occur.

The early stages of AMD typically start with the appearance of spots beneath the retina. These spots, called drusen, are small, round, lesions which usually do not change vision very much in and of themselves. Most people with drusen will never have a serious loss of vision.

However, certain changes may occur that lead to the late stage of AMD which is usually accompanied by vision loss. Most often vision loss starts in one eye. Because the healthy eye compensates for the loss of vision in the damaged eye, macular degeneration may initially go unnoticed. In some cases it will also affect vision in the other eye.





When a person's central vision becomes affected by the late stage of macular degeneration, this may be how they see their world.

Dry Versus Wet Macular Degeneration

The two forms of the late stages of macular degeneration or AMD are known as dry AMD and wet AMD.

When the early stage drusen are present for a long time, they probably cause the macula (retina) to become thinner (atrophic) and stop functioning. This is referred to as the dry form of AMD. This may cause some people to detect "blank" areas in their central vision. While there are no treatments and no preventive measures currently available for people with dry AMD, various vision aids including magnifiers, are available to help these

people continue to live their lives as normally as possible.

The wet form of AMD is responsible for up to 90% of the severe vision loss associated with this condition.

Wet AMD is caused by the growth of abnormal blood vessels across the macula and beneath the retinal pigment epithelium layer of the retina. As these abnormal vessels leak fluid and blood into the tissue at the back of the eye, scar tissue typically forms and loss of vision may occur.



How Is Macular Degeneration or AMD Detected?

In the early stages of wet AMD, a person's vision may become blurred or distorted. Only an examination of the retina by an eye care professional can diagnose early or late stage macular degeneration. Therefore, the key to preventing vision loss is regular scheduled eye exams, and seeing an eye care professional immediately if you notice a change in your vision. It may not be your eye glasses that are causing the problem. And remember, because your healthy eye will generally compensate for a vision problem in the other, it could be too late if you delay.

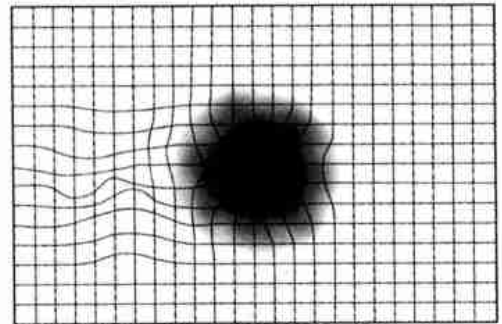
If someone has been diagnosed with macular degeneration, a doctor will typically give the patient an Amsler Grid. Many doctors give their patients this simple visual test to take home with them. The patients can test themselves on a regular basis and alert their doctor if there are any changes between regular medical eye exams.

If any area on the grid suddenly appears blurred, distorted, discolored, or in any way appears abnormal to a



person taking this test, they are urged to contact their eye care professional immediately. He or she should then conduct the appropriate diagnostic exams to test the person's visual function and assess the health of the retina.

Remember, it is important to know that the Amsler Grid in no way replaces a regular eye exam and examination of the retina. Early stage macular degeneration **may not** be detected with the Amsler Grid.



What A Person With Wet AMD Might See

Shown above is an example of the distortion a person may experience due to the recent onset of macular degeneration, where the grid may have appeared normal one month before.

Since many patients with drusen, or the early stage of macular degeneration have no symptoms that would be detected by using the Amsler Grid, regular medical eye checks by an eye care professional are strongly recommended for everyone after age 40.

What is AMD Vision Like?

Vision Deterioration in Dry AMD

Vision loss in dry AMD is caused by atrophy or weakening of the layer of the retina called the retinal pigment epithelium (RPE). Vision loss with dry AMD is usually slow and gradual. A patient may begin to notice blank areas in their central vision. Over time, dry AMD can cause a large loss of detail vision; however, vision loss is generally not as severe compared to the wet form.

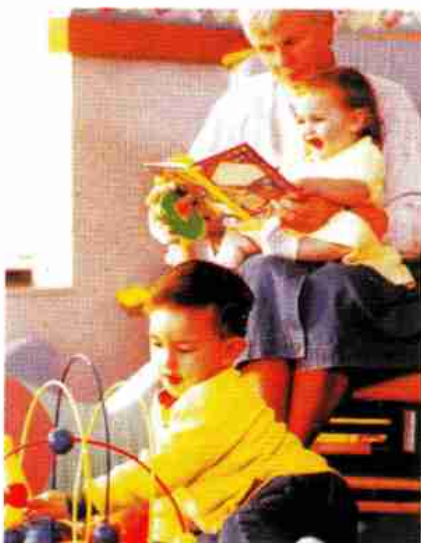
Development of Wet AMD

Dry AMD will often begin to convert to wet AMD, with the appearance of abnormal blood vessels. The abnormal blood vessels are fragile and have a propensity to leak and bleed, eventually forming scar tissue and resulting in irreversible vision loss.

Vision Deterioration in Wet AMD

Visual deterioration associated with the wet form is generally severe and can be rapid. Unlike dry AMD the patient may begin to notice reduced vision and distortions due to the effect abnormal vessel growth has on the overlying retina.

Normal Vision



Treatments for Macular Degeneration

How Wet AMD Is Treated

There are two treatments available for patients with wet AMD. One of these is laser photocoagulation. While this process usually cannot restore lost vision, it seals leaky blood vessels and inhibits their growth in selected cases. This prevents further vision deterioration in a small percentage of wet AMD cases.

In laser photocoagulation, a laser is used to provide a concentrated beam of high-energy light. When the light comes in contact with the parts of the retina to be treated, it turns to heat and destroys the abnormal blood vessels.

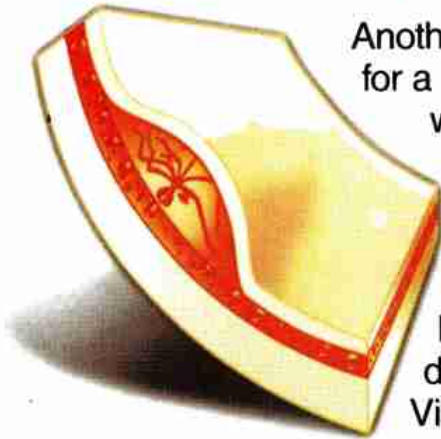
As a result, a scar forms in the area treated, creating a permanent blind spot in the field of vision. That is because laser photocoagulation also destroys overlying retinal tissue. However, the loss of vision is usually less severe than the eventual

loss of vision that usually occurs if laser treatment is not performed.



Vision from Wet Macular Degeneration

Another Option

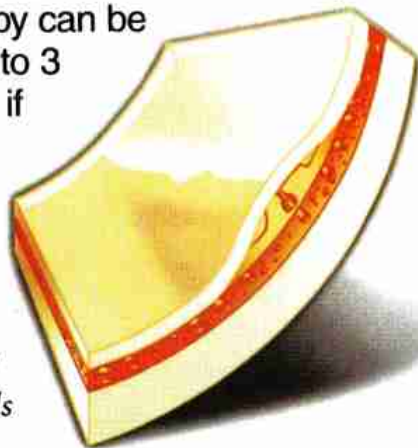


Another treatment for a certain type of wet AMD is Visudyne™ therapy. In this procedure, a light-activated drug known as Visudyne is injected into the patient's

Abnormal New Vessels

bloodstream. Once the drug reaches the retina, it is activated by a non-thermal laser (laser that does not burn the retina). This produces a clot that closes the abnormal vessels without causing damage to the overlying sensory retina.

The abnormal blood vessels may return after several months. However, Visudyne therapy can be reapplied at up to 3 month intervals if necessary.



Visudyne therapy destroys abnormal blood vessels

For more information about Visudyne, including important facts about potential side effects and precautions, visit the Visudyne website at www.visudyne.com.

Have You Been Checked For Macular Degeneration?

Only an eye care professional can diagnose wet AMD. See your eye care provider if you suspect you may be at risk. This is important, as wet AMD can affect vision very rapidly. Vision loss associated with wet AMD is like a train traveling down a mountain. The goal of treatment is to slow or stop the train from its descent – that is, to slow or stop the progression of vision loss. Therapy can not push the train back up the hill, as any vision loss already experienced is permanent.

Everyone over the age of 40 should have regular medical eye exams performed by an eye care professional.

Once wet AMD is diagnosed, proper treatment can confine visual loss to a smaller area than would occur without treatment.

Again, the first step toward "slowing down the wet AMD train" is to find out as quickly as possible if it has "started going down the hill." If you feel you could be at risk, please see an eye care professional immediately.

When visiting your eye care professional ask if you are being checked for macular degeneration. You'll want to know if you have drusen or early stage AMD. If you are diagnosed with drusen you will likely receive an Amsler Grid, which will help you detect any minor changes in your vision. Minor changes can be a sign of wet AMD.