

# Macular degeneration essay



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Often many times people take their five senses for granted. You wouldn't realize how dependent you are of your sight until you see a vicissitude in it. Imagine waking up, and your vision would be blurry. Many people just assume that they need glasses. However if they are one of the 11 million people in the United States that has macular degeneration, glasses could not help them because macular degeneration is a disease of the eye that cannot be reversed. The central area of the retina, which is the macula, is where macular degeneration occurs (Stern and Yanni, 2011).

The macula is the part of the eye that develops the sharp, clear images to the macula would result in blind spots and blurred or distorted vision (Stern and Yanni, 2011). Macular degeneration research has identified the risk factors and ways to slow progression of both the wet and dry types of this disease. There are two types of macular degeneration (Mogk, 1999). The first and most common type is the dry or atrophic type (Mogk, 1999). The dry type of macular degeneration affects 80-90% of people who have this disease (Mogk, 1999). Like the wet type of the macular degeneration, its cause is unknown (Mogk, 1999).

Dry macular degeneration is the slow breakdown of the photosensitive cells of the macula (Stern and Yanni, 2011). It progresses more slowly than the wet type (Stern and Yanni, 2011). In dry macular degeneration, drusen, which are yellowish or white deposits of extracellular accumulation that build up in the eye and form on the retina under the macula causing it to degenerate over a period of time (Bedinghaus, 2009). The drusen development may be affiliated with metabolic cycles that occur normally in

the human body (Bedinghaus, 2009). There are three stages of dry macular degeneration (Stern and Yanni, 2011).

The first stage is the early stage (Stern and Yanni, 2011). It is where the patient has a couple small to medium-sized drusen (Stern Yanni, 2011). At this stage, there is no actual vision loss or symptoms (Stern and Yanni, 2011). The second stage is the intermediate stage (Stern Yanni, 2011). It is where patients have medium-sized drusen or one or more large drusen (Stern and Yanni, 2011). A spot in the central vision may become blurry (Stern and Yanni, 2011). The last stage is the advanced stage (Stern and Yanni, 2011). The patient has a large number of drusen deposits (Stern and Yanni, 2011).

The light sensitive cells of the retina begin to break down (Stern and Yanni, 2011). A large blurry spot appears (Stern and Yanni, 2011). All of the patient's central vision is lost (Stern and Yanni, 2011). Currently, there is no treatment for the accelerated version of dry macular degeneration (Stern and Yanni, 2011). However, a specific method of toxin purifying, natural vitamins and zinc oxide may delay or prevent macular harm from developing to the accelerated stage (Stern and Yanni, 2011). The second type of macular degeneration is the wet or neovascular type.

This, while not as common, still affects 10-15% of people with macular degeneration (Mogk, 1999). Even though dry macular degeneration is more common than wet, the wet type of this disease causes the more severe cases of vision loss (Mogk, 1999). In wet macular degeneration, blood vessels that are abnormal are under the retina and begin to grow toward the

macula (Mogk, 1999). Because the new veins are excessive, they are very likely to hemorrhage, separate, and leak fluid, which cause harm to the macula and causes it to rise up and take away from its platform (Mogk, 1999).

This can cause serious harm and results in a quick and serious loss of an individual's central vision (Mogk, 1999). The symptoms of wet macular degeneration come very quickly and harshly (Mogk, 1999). Your vision can decline to the level of legally blind category in just a couple weeks (Mogk, 1999). The most common symptom is blurred (Roberts, 2011). Also, in some cases the individual will experience visual distortions (Roberts, 2011). For example, objects may appear uneven or straight lines may look wavy or distorted (Roberts, 2011). Things may also look smaller than they actually are (Roberts, 2011).

The person may also notice a loss of vividness in colors and dimming of the vision (Roberts, 2011). A blind spot increases to grow in the central vision (Roberts, 2011). When wet macular degeneration affects one eye only, the other eye may compensate so well that the person affected wouldn't notice any problems (Roberts, 2011). Although its cause is mysterious, several new treatment options are currently available for wet macular degeneration (Mogk, 1999). Some types of treatments that are now available for wet macular degeneration are: laser surgery, medications, and natural remedies (Roberts, 2011).

Laser medical procedures can eliminate the excessive veins that promote the dripping (Roberts, 2011). Drugs are used to reduce the growth of the

new veins that can grow and cause further damage (Roberts, 2011). Just like diabetics, people who have macular degeneration can be on a special diet to help reduce the symptoms of their disease. The nutrient lutein, which is found in egg yolks, spinach, and other leafy greens, can help avoid and slow the development of this disease (Roberts, 2011). Macular degeneration is a disease that comes with many risk factors.

There are many risk factors for age-related macular degeneration (Stern and Yanni, 2011). The largest risk factor is age (Stern and Yanni 2011). About one third of adults that are 75 or older are struck by a type of macular degeneration (Stern and Yanni, 2011). Anything that could possibly change the rate of oxygen that is given to the retina has the possibility to impact the vision negatively (Stern and Yanni, 2011). Smoking is an exemplary example of this because oxidative damage is caused by smoking (Stern and Yanni, 2011). The oxidative consumption of the retina is very high (Stern and Yanni, 2011).

A risk factor that can't be helped is heredity (Stern and Yanni, 2011). If the individual has a long line of relatives to have this disease, they are more likely to get macular degeneration (Stern and Yanni, 2011). Females are more likely to get this disease (age-related macular degeneration) than males (Stern and Yanni, 2011). Because females usually live longer than males, they have more time to acquire the disease (Stern and Yanni, 2011). An eye care professional can perform many different tests to determine if a person has macular degeneration.

An eye care professional can diagnose an individual with macular degeneration through many exams (Stern and Yanni, 2011). Here are just a few examples of tests that can be performed. The amsler grid is a very simple test. During this test, the individual covers one eye and focuses the opposite eye on a grid that is made up of black, straight lines running horizontally and vertically, and a black dot in the center (Stern and Yanni, 2011). If the patient finds any of the lines on the grid wavy, missing or distorted, it may be a sign that they have macular degeneration (Stern and Yanni, 2011).

If the patient is diagnosed with the disease, they are encouraged by the specialist to perform this test every day to see if their condition is worsening (Stern and Yanni, 2011). An autofluorescence photograph is another method used by eye care specialist (Stern and Yanni, 2011). An autofluorescence photograph is utilized to determine the extent and/or increase in the area of geographic atrophy in patients with the advanced stage of dry age related macular degeneration (Richman, 2011). The late form of dry macular degeneration is geographic atrophy (Richman, 2011).

This is where atrophy accredits to the degeneration of the cells that are in the deepest layer of the retina (Richman, 2011). “ These are cells of the retinal pigment epithelium (RPE)” (Richman, 2011). The RPE are the deepest layer of the retina (Richman, 2011). RPE cells are accountable for keeping the operation of the light-sensitive cells on the retina, which are the cells that allow us to see (Richman, 2011). In dry macular degeneration only, the RPE thins and it gradually reduces the light-sensitive cells, and that increasingly causes geographic atrophy (Richman, 2011).

The RPE cells help manage the health of the following layer, the photoreceptor cells (Richman, 2011). The photoreceptor cells are recognized as rods and cones (Richman, 2011). The photoreceptor cells are then activated by light to set off a chain of electrical and chemical reactions that result in the brain interpreting what is in the visual field of view (Richman, 2011). The dilated eye exam is another test that eye care professionals use to see if an individual has macular degeneration (Stern and Yanni, 2011).

In this test, the specialist will administer ocular perceiver drops that dilate the pupil (Stern and Yanni, 2011). They do this to provide a larger “ window” to the back of the eye (Stern and Yanni, 2011). Then, utilizing a special instrument, the specialist can look in the back of the eye and study the retina for sign of macular degeneration (Stern and Yanni, 2011). The specialist will probe for the presence of drusen utilizing this type of eye exam (Stern and Yanni, 2011).

There are many more different types of tests that an eye care specialist can perform, these were just a couple. Even though macular degeneration is an irreversible disease, continuous research is looking at environmental, inherited and eating factors that may promote macular damage (Stern and Yanni, 2011). New treatments are being explored as well, such as retinal cell transplants, drugs to avoid or slow the disease, radiotherapy, gene solutions, a computer chip equipped in the retina that may help replicate vision (Stern and Yanni, 2011).

A large amount of people (as many as 11 million) in the United States has either the wet or dry form of macular degeneration. Not only do the people

affected by this disease suffer but the United States puts a lot of money in the field of vision loss (Stern and Yanni, 2011). The international price of vision reduction due to all causes is approximated to be nearly \$3 billion dollars for the 733 thousand people living with loss of sight around the world (Stern and Yanni, 2011).

In the U. S. alone, the immediate price for visual reduction due to all cause was 512. 8 thousand, and the oblique costs were \$179 thousand (Stern and Yanni, 2011). Although its cause is unknown, there are many prevention methods that can be performed. There are also many test that eye care specialist can perform to diagnose an individual with macular degeneration. Macular degeneration is a terrible disease that affects many people around the world.