How Smoking Can Harm Your Eyes

Statistics have shown that only 1 out of 5 smokers are aware of the risk smoking has on their eye health. The following information may convince folks that breaking the habit is imperative to insure a long and healthy life!

1. Cigarette smoke contains toxic chemicals that can irritate and harm the eyes. For example, heavy metals, such as lead and copper, can collect in the lens – the transparent bit that sits behind the pupil and brings rays of light into focus – and lead to cataracts, where the lens becomes cloudy.

2. Smoking can make diabetes-related sight problems worse by damaging blood vessels at the back of the eye (the retina).

3. Smokers are around three times more likely to get age-related macular degeneration – a condition affecting a person’s central vision, meaning that they lose their ability to see fine details.

4. Smokers are 16 times more likely than non-smokers to develop sudden loss of vision caused by optic neuropathy, where the blood supply to the eye becomes blocked.

Now you’re one of the five that know the risks.
Criteria For Cataract Surgery

by Philip C Hessburg MD

What are the indications for cataract surgery? In short: One should consider having cataracts removed when one’s vision has fallen to levels where he/she cannot do the things one needs, or wants to do.

If a Delta pilot’s vision drops a line or two, perhaps to 20/25 on the chart due to advancing cataract, it is time for surgery to maintain flying status. While my very elderly grandmother, whose main joy in life was knitting mittens for 37 Minnesota-based grandchildren, didn’t need cataract surgery though she was probably legally blind.

But what if the patient also has AMD? For many years, ophthalmologists delayed surgery. Today, the indications for surgery are no different for patients with or without macular degeneration.

Why the difference?

The difference lies in the revolution in cataract surgery over the past 50 years. In the early years of cataract surgery with intraocular lens implantation, the surgery itself was so traumatic that it frequently was associated with profound post-operative inflammation which would, and did, worsen the macular degeneration by inducing inflammatory changes throughout the eye.

As practiced today by our many fine American cataract surgeons, the eye barely knows it has been operated on. In days gone by the incision in the eye was 12-15 mm in length and required six or ten sutures. Today, cataract surgeons work through a 1.5 mm incision, usually requiring NO sutures.

So today, even patients with advanced macular degeneration are advised to have their cataracts removed. And, although there may be no measurable improvement in central vision on the wall chart, these patients are often among the happiest and most grateful because of their improvement in color vision, peripheral vision, and overall “performance vision”. Also, such patients are far less prone to stumbles and falls after such surgery.
New Study Reveals Benefits of Augmented Reality Glasses

A new study of patients with retinitis pigmentosa has found that adapted Augmented Reality (AR) glasses can improve patients’ mobility by 50% and grasp performance by 70%.

Patients with retinitis pigmentosa have decreased peripheral vision and trouble seeing in low light which makes it difficult for them to identify obstacles and grasp objects.

Currently, wearable low vision technologies using virtual reality are limited and can be difficult to use. Using a different approach, assistive technology is used to enhance, not replace, natural senses by projecting bright colors that correspond to nearby obstacles onto patients’ retinas.

Patients with retinitis pigmentosa wore adapted AR glasses as they navigated through an obstacle course. Researchers recorded the number of times they collided with obstacles, as well as the time taken to complete the course.

 Patients averaged 50% fewer collisions with the adapted AR glasses.

Patients also were asked to grasp a wooden peg against a black background located behind four other wooden pegs without touching the front items. Patients demonstrated a 70% increase in grasp performance with the AR glasses.

A process of simultaneous location and mapping allows the AR glasses to render a 3D structure of a room in real time. This information is translated into a colored visual overlay that helps patients with spatial understanding and depth perception.

Source: Mark Humayun, MD, PhD, director of the USC Dr. Allen and Charlotte Ginsburg Institute for Biomedical Therapeutics, codirector of the USC Roski Eye Institute and University Professor of Ophthalmology at the Keck School of Medicine.
Depression and Macular Degeneration

by Joseph L. Fontenot MD, CLVT
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The loss of all or part of one’s vision is a traumatic event, and may have negative effects on a person’s life and function. Some, such as increased likelihood of falls, are obvious. Use of canes and walkers, improved lighting, elimination of obstacles and use of guide dogs are easily understood and planned for.

Others, such as the depression that may occur because of vision loss, may not be as obvious. The functional limitations caused by impaired vision, such as the inability to drive, read, recognize faces and other functional impairments, have a negative effect on mental health and may cause or aggravate depression. Inability to work, perform hobbies or participate in recreational sports will further decrease socialization and self-esteem.

Many studies have shown that almost 1/3 of people with low vision because of macular degeneration are depressed. The severity of depression increases with increasing severity of vision loss and if other disabilities (hearing loss, mobility problems, etc.) are present.

Stages of Grief
How does loss of vision affect the psyche? There is much written about this. Almost all people who lose all, or even part, of their vision go through a grieving process. This is the same as losing a child, spouse or other loved one ... or losing an arm or leg. Vision is the most important of the senses and decreased or absent vision renders a person unable to drive, read normally, recognize people and perform many routine activities. Loss of vision is therefore a cause of grief.

Grief
As described in the 60s by Dr. Kubler-Ross, the grieving process has several distinct phases. Denial, anger, bargaining, depression, acceptance and adjustment. The grieving process varies in duration and severity. Preexisting personality, resourcefulness and support may help in adjusting. Prior depression, neuroticism and lack of resources and support may prolong or worsen depression and acceptance.
Denial
Denial is prominent in vision loss. There are no external signs of vision loss, as there would be if an arm or leg is missing. Many do not accept that they have vision loss and continue to drive and refuse to use magnifiers or aids. This may go on for years, retarding the process of acceptance and adjustment. Most people who develop low vision try, with varying degrees of success, to hide it from others.

Anger
Some with vision loss become angry. This is usually a generalized attitude, not directed towards one particular object or person. However, it can cause rejection of resources and help.

Bargaining
In the bargaining phase, the person thinks that if they start or stop doing something it will change or eliminate their vision problem. They think that if they change their diet or stop using the computer their vision will normalize.

Depression
Depression is a feeling of sadness and hopelessness, often accompanied by slowing of physical and mental activity, feelings of unworthiness and lack of self-esteem. This may be mild and transient, or severe and prolonged. In the usual grieving process following vision loss, it is not prolonged, and is followed by acceptance and adjustment to the loss.

Acceptance
Once a person has accepted their loss in realistic fashion, they can begin adjusting to vision loss by acquiring information, education, aids and skills needed to resume their prior activities as much as possible. With all of the current technology and aids available, this is a realistic goal.

Continued ...
Continued ... “Depression & Macular Depression”

Fear of total blindness
With macular degeneration, a cause of depression may be fear of total blindness. Unlike diabetic eye disease or glaucoma, total blindness is rare. Central vision may be lost, but peripheral vision remains. Eye doctors are encouraged to tell patients who only have macular degeneration that total blindness is unlikely, but sometimes forget to do so.

Severe depression
In severe depression, referral to psychological services, psychiatric care and use of antidepressant drugs may be indicated. Suicide is not common, but can occur.

What can be done to shorten the grieving process and prevent severe or prolonged depression?

If a person loses the ability to read normally, cannot recognize people, has difficulty driving or using a computer they should discuss this with their doctor. The eye doctor should be aware of the possibility of depression and either provide or refer the patient to vision rehabilitation services. Vision rehabilitation is an attempt, through education, training, and provision of devices to enable restored function and independence.

For example, the ability to read is possible even in the totally blind. Strong glasses, magnifiers, optical character recognition readers and free audio services such as the National Library Services ‘Talking Books’ are readily available.

The knowledge and utilization of all the adaptive aids and devices will help avoid dependency and depression. Early use, which will occur if the patient is informed and accepting, will help avoid depression. Unfortunately, without referral, many will not know of all the help available.

Summary
Approximately one third of people with vision loss experience some degree of depression. Depression slows or stops adjustment to vision loss. Education and utilization of adaptive resources and training will help by shortening and minimizing depression. Vision rehabilitation, as well as psychological counseling and treatment should be offered early to all with any degree of vision loss.
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Disclaimer - Articles in the Magnifier are for information only and are not an endorsement by the Macular Degeneration Foundation editorial staff.
AGTC Announces Preclinical Studies

GAINESVILLE, Fla., and CAMBRIDGE, Mass., Nov. 05, 2019

Applied Genetic Technologies Corporation, a biotechnology company conducting human clinical trials of adeno-associated virus (AAV)-based gene therapies for the treatment of rare diseases, today announced that it has identified Stargardt disease as the second ophthalmology program in its previously announced preclinical pipeline expansion, which also includes a program targeting the dry form of age-related macular degeneration (AMD). The company is also reporting proof-of-concept expression data for its Stargardt disease gene therapy candidate in non-human primates (NHPs).