



Different Diseases of the Eyes and Their Treatment: A Review

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Abstract

In give a review on various types of eye diseases and their treatments. I emphasize on magnetic therapies of eye diseases, and I explain the physical processes underlying these therapies.

Dry Eye Disease

Information on the dry eye disease is given on a paper in the internet of the Mayo Clinic.

It is widely recognized that inflammations have a significant role in the dry eye disease. They promote the breakdown of the ocular surface and lead to symptoms of irritations commonly, and visual disturbance. Any eye disease is a common problem that occurs when the tears are not able to provide adequate lubrication for the eyes. Tears can be inadequate or unstable for many reasons. For example, dry eyes may occur if one does not produce enough tears or if one produces poor-quality tears. The tear instability leads to inflammations and damage of the surface of the eyes. Dry eyes feel uncomfortable. If one has dry eyes the eyes may sting or burn. One may experience dry eyes in certain situations, as in an airplane, in an air-conditioned room, while riding a bike, and after looking at a computer screen for a few hours. Treatments of dry eyes may make one feeling more comfortable. The treatments can include changes of the lifestyle and eye drops. It is likely that one needs such treatments indefinitely to control the symptoms of dry eyes.

An Eye Stroke

Like in a stroke in the brain, the eye stroke happens when the blood flow is blocked in the retina, a thin layer of tissue in the eye that helps one to see. It can cause blurry vision and even blindness. Arteries carry blood to the retina from the heart. Without blood flow, the cells in the retina do not get enough oxygen. They can die within minutes or hours; the eye stroke is an emergency. If it is not treated quickly and thoroughly, it can permanently damage the vision. It is often associated with intraocular inflammations. The treatments include medications which reduce the pressure on the eye, laser treatment to close up leaking blood vessels. Massages of closed eyes. Paracentesis, which involves using a needle to take fluid from the eye to reduce the pressure. Hyperbaric oxygen therapy, which involves breathing pure oxygen in a special chamber. A severe complication of an eye stroke are inflammations of the macula, which is the middle part of the retina that helps one with sharpness of vision.

Neurological Reasons for Vision Problems

There may be neurological problems for a vision loss, e.g., a stroke or brain affect, where part of the brain is damaged by hemorrhage or blockage in a blood vessel of the brain, a traumatic brain injury (for instance, a car accident or a fall), an infect such as meningitis or *Cytomegalovirus*. The disease cannot be cured with glasses or contact lenses, as the cause lies within the brain of the patient rather in a direct illness of the eyes. Treatments involve managing the symptoms, treating the underlying brain injury, wearing an eye patch (this can release double vision), options for managing poor vision clarity (using large prints, writing with a thick black pen on a white background to heighten the contrast, increasing magnifications and using adequate and appropriate lights, a person with a visual field defect can learn to use the eyes and the head in a scanning fashion, which means to move the eyes and the head back and forth to make sure that they look for objects in the blind spot. The brain stroke is often associated with an inflammation.

Eye Cataract Disease

Cataract (in German: Grauer Star) is a cloudy area that form on the eye lens of the eyes. Age-related cataracts are the most common type. Symptoms include blurry vision and glare around

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lights. Cataract surgery removes the bad nature lens and replaces it with a clear artificial lens, which is called an IOL. Providers recommend surgery when cataract symptoms interfere with the daily life. The cataract surgery is the only way to restore the clear vision. This surgery is one of the safest and most commonly performed eye surgery, there are nearly no risks that there appear any complications after the surgery. Chronic or recurring inflammations, including Cystoid Macular Edema (CME) occur in about 0.1% to 2% of patients after routine cataract surgery. Prolonged postsurgical inflammations, which are relatively rare, are frustrating both for patients and for doctors.

Keratoconus

The keratoconus disease is discussed in a paper of the John-Hopkins university.

Keratoconus is a degenerative eye disease caused by a bulging forward of the cornea like a cone. Current treatment of the disease includes glasses in the earliest stages to treat nearsightedness and astigmatism. A keratoconus process progresses and worsens, glasses are no longer capable of providing clear sight, and the patient must wear a contact lens. Keratoconus is an eye disease that affects the structure of the cornea, resulting in a loss of vision. The disease occurs in approximately one of 2,000 individuals, typically beginning in puberty and progressing to the mid-thirties early steps can be treated with glasses, but with progression of the disease into the late childhood and early adulthood, cornea transplantations may be needed to restore a better vision. Corneal collagen crosslinking is a process designed to stop the progression of the keratoconus disease or to slow it down. The disease is a leading cause of corneal transplantations in the United States. There is no known way to prevent this disease. Inflammation mediators are among the key contributions and modifiable factors of the keratoconus disease.

Eye Allergies

There are typical allergic reactions, mediated by Immunoglobulin E (IgE), caused by airborne antigens, such as pollen or dander. The

seasonal variety is characteristic, waxing and waning of symptoms, which are usually self-limiting. These acute or subacute symptoms are likely to become continuous during the hay fever season due to repeated antigen exposures. Both eyes are characteristically affected. The primary symptom of seasonal allergic conjunctivitis is a severe itching of the eyes. Associated symptoms include redness, chemosis, eyelid swelling, a clear discharge due to excessive tear productions, mucous discharge, a burning sensation, dark circles under the eyes, known as allergic shiners, photophobia, the itching may cause repeated rubbing of the eyes with resultant introduction of an infect, which then is associated with an underlying inflammation. Lubricant eye drops help to dilute or flush the allergies and the inflammatory response. The treatments include saline eye drops to wash out the allergens. Over-the counter medication of eye drops (short-term use). Prescription treatments from a doctor, allergy shots (immunotherapy) from the doctor.

Myopia

Myopia (nearsightedness) in German: Kurzsichtigkeit). Is a very common vision disorder. That is usually diagnosed before the age 30. The disease affects the distance vision. One can see objects that are near well, but one has trouble to view objects that are far away, such as grocery store aisle markers or road signs. Now myopia is on the rise. Eye experts are still unsure of the exact cause of myopia, but they believe that it is a mix of hereditary and environmental factors. When one is nearsighted, then the eyeball is too long from front to back, or the cornea is too curved or there are problems with the shape of the lens. Light incoming into the eye focusses in front of the retina instead of on it, making faraway objects look fuzzy. Treatments include glasses or contact lenses for children and adults. For adults only (with rare exceptions also for children) there are several types of refractive surgeries that also can correct nearsightedness. For the myopia progression there is a rule of inflammations.

Hyperopia

Hyperopia (farsightedness) in German: Weitsichtigkeit).