

Effects of cataracts on everyday life and cataract treatment



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The eyes are amazing, complex organs of the human body that serve a variety of purposes associated with vision. They are designed to capture images under varying light conditions (Tortora and Derrickson, 2006). There are various eye disorders associated with the eye, one of the most common disorders are cataracts. A cataract is a clouding of the lens of the eye. The condition typically develops over a long period of time (Straatsma, Foos, & Horwitz, 1985). Cataracts are typically related to aging therefore are commonly present among the elderly. In the United States, the number of incidences of cataracts affects people at different ages. According to the National Eye Institution of America (2011), more than half of Americans by the age of 80 will have either had a cataract or have had cataract surgery. The risks of cataracts increase with age.

In eyes suffering from cataracts, the proteins in the lens have denatured causing blurriness and cloudiness, resulting in unclear and distorted images to be seen. The lens is a transparent structure of the eye made of crystallins (proteins) and water. The proteins are precisely situated so the lens remains clear, allowing light to pass through (Tortora and Derrickson, 2006). The lens lies posterior to the pupil and iris of the eyeball and anterior to the vitreous body.

The lens functions include focusing light or an image on the retina. It allows a person to objects up close or far away. The retina is the light-sensitive tissue located in the posterior portion of the eye. It is made up of nervous tissue and pigmented epithelial cells. Images are recorded in the retina (Tortora and Derrickson, 2006).

Normally in healthy eyes, light is received through the lens and travels to the retina. Once the light is received in the retina, nerve signals are sent to the brain and an image is processed. In order for the brain to process an image the lens must be clear so that the retina may receive a sharp image (Tortora and Derrickson, 2006). Research suggests as one ages, crystallins may cluster together, causing a clouded area in the lens. Cataracts vary in severity. Some are small and do not affect vision, but others can become larger overtime, causing great difficulty in one's vision (Leipzig, Edelberg, & Rosenthal, 2001).

There are several reasons for the development of various cataracts. Cataracts may be linked to radiation or ultraviolet exposure, health related diseases/lifestyles, congenital disease, or simply age. As we age, our eyes began to weaken and deteriorate. Cataracts are age-related because proteins in the lens break down over time, causing the lens to become cloudy and blurry. Research studies reveal cataracts are more common in those who reside in sunny areas; moreover, they are more common in adults than they are in children (Leipzig, Edelberg, & Rosenthal, 2001).

The types of cataracts include Congenital, Secondary, Radiation, and Traumatic (Wiggins & Uwaydat, 2006).). Congenital cataracts are present at the time of birth or can develop during childhood. Nearly 1 out of 5, 000 infants are subject to congenital cataracts. Often, cataracts found in children are minute and do not occlude one's vision but some may cause severe vision problems. Treatment should be implemented as soon as the condition is detected to prevent vision loss or blindness in the future (Mickler, Boden, Trivedi, & Wilson, 2011). Secondary cataracts can result from surgery, <https://assignbuster.com/effects-of-cataracts-on-everyday-life-and-cataract-treatment/>

prolonged exposure to sunlight, health problems, or drug use. Health issues and drugs include diabetes, hypertension, drinking alcohol, and smoking. Radiation cataracts develop after the eyes have been exposed to particular types of radiation. Lastly, Traumatic cataracts may develop from eye injury or damage (Wiggins & Uwaydat, 2006).

Effects on Activities of Daily Living

The symptoms associated with cataracts can severely impair one's function in their activities of daily living. A person living with cataracts may experience vision involving blurriness, dullness, color fading vision, glare, poor night vision, double vision, or frequent adjustments in eyeglass or contact lens prescriptions. The lens of the eye over time may also develop a yellowy or browning of color causing vision to have a brownish shade (Leibowitz, Krueger, & Maunder, 1980). The discoloration of the lens may cause a person to confuse colors in the environment.

The symptoms associated with cataracts make it difficult for a person to perform routine tasks that require the use of clear eyesight. Depending on the individual, difficulties may be present in activities of daily living such as driving (due to glare), reading, recognizing faces, cooking, matching clothing (due to brownish tint), cleaning, using a computer, or viewing television. Cataracts can take away one's independence. Independence is valued by all individuals, but especially by the elderly. Studies reveal elderly persons are more likely to develop depression when suffering from vision loss (Pelletier, Thomas, & Shaw, 2009). Depending on the severity of cataracts, they can prohibit the enjoyment of everyday activities.

Detection/Treatment

Cataracts are detected through various ways, but the key to early detection involves regular eye exams. A variety of comprehensive exams are used to discover cataracts. Tests include a visual acuity test, a dilated eye exam, or a tonometry. The visual acuity test measures how well an individual sees at different distances. A dilated eye test allows the physician to observe the retina for signs of damage or injury. In order to dilate the eye, drops are given to dilate the pupils. Another test to detect cataracts includes using a tonometry. A tonometry is an instrument used to measure pressure inside the eyeball (Leipzig, Edelberg, & Rosenthal, 2001).

Early detection of cataracts can be improved with various techniques such as anti-glare sunglasses, new eyeglass prescriptions, or brighter lighting in one's environment. If simple techniques do not assist in decreasing the symptoms, surgery is the only effective treatment. In the United States, cataract surgery is the most commonly performed surgery in adults who are older than 65 (Leipzig, Edelberg, & Rosenthal, 2001). Surgery should only be performed if the cataract interferes with one's activities of daily living.

Individuals who require cataract surgery typically have other eye conditions as well. Other conditions can include glaucoma or macular degeneration. Typically during cataract surgery, the abnormal lens is replaced with an artificial lens known as an intraocular lens. Types of cataract surgery include Extracapsular and Phacoemulsification (Pelletier, Thomas, & Shaw, 2009).

In Extracapsular surgery, the surgeon creates a long incision on one side of the cornea and removes the cloudy portion of the lens. The remaining lens is removed through suction. In a Phacoemulsification operation, a small incision

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is made on the side of the cornea and a probe is inserted that allows ultrasound waves to disintegrate the lens; thereafter, the lens is removed by suction. Phacoemulsification is the most common cataract surgery performed (Pelletier, Thomas, & Shaw, 2009). Like most surgeries some risks are involved. The risks for cataract surgery are rare but may involve retinal detachment, bleeding, vision loss, or infection (Eklund, Sonn, & Dahlin-Ivanoff, 2004).

Current research on cataracts involves the effects of sunlight exposure, genetic studies, to better understand congenital cataracts, and the increase use of vitamin supplements. Vitamin supplements may delay the progression of cataracts (Mayo Clinic, 2010). It is important for individuals to consider preventative measures that decrease the chances of cataracts. Individuals should maintain a well-balanced diet that includes fresh fruits and vegetables offering lutein and zeaxanthin. They can be found in food such as broccoli, eggs, corn, and spinach. Studies conclude a healthy diet is the strongest factor in reducing cataract risks (Mayo Clinic, 2010). Other lifestyle changes that can reduce the risk of cataracts include maintaining a healthy weight, the discontinued use of cigarettes, and decreasing eye exposure to ultraviolet rays. Cataracts remain the most common cause of low vision in the United States and are the leading cause of blindness worldwide (Pelletier, Thomas, & Shaw, 2009). Loss of vision is extremely unfortunate and frightening for individuals, therefore it is pertinent to make responsible choices for a preventative condition.