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Cataracts: Removing the Cloud

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When Eleanor was told she had cataracts, she immediately thought of her grandmother who wore eyeglasses as thick as a Coke bottle; yet, vision was still a struggle for her. When Grandma read, she would hold the paper or book right up next to her glasses. Cataracts are no longer as disabling, Eleanor's doctor reassured her. And her chances were excellent that her vision would be immeasurably improved if she had the cataracts removed.

Advances in surgical instruments and techniques over the past several decades have brought about major changes in the treatment of cataracts. Patients like Eleanor who undergo cataract surgery nearly always regain full functional vision with few if any complications. Similar progress, unfortunately, has not been made in prevention. In less developed countries, where access to cataract surgery is limited, many individuals continue to be severely handicapped by progressively cloudy vision.

A cataract is simply a cloudy area in the lens of the eye, which is normally transparent. The condition is common, occurring to some degree in about half of Americans age 65 and over and nearly 70 percent of those over the age of 75.

Seeing Through a Glass Darkly: Seeing through a cataract is like seeing through a fogged up window, but most cataracts develop slowly and may go unnoticed for many years. Even when a cataract is fairly well developed, a person may see quite well under some conditions-such as when taking a driving test-while struggling to see at all at other times. Glare from sunlight or bright lights can cause problems, but so can dim light situations. In the early stages, a patient may be able to manage by seeking stronger lighting or a stronger eyeglass prescription.

A cataract is usually detected during a routine eye examination, and early management often consists of small changes in the glass prescription to compensate for the altered lens cloudiness. Except for the

cloudiness, cataracts will not harm the health of the eye unless it becomes completely white, or “over-ripe.” The only effective treatment is surgery to remove the clouded lens and replace it with a clear lens. This surgery is usually need not be done until the cataract seriously interferes with vision and ability to function.

In grandma’s day, cataract surgery was a major procedure, entailing many risks and a lengthy recovery, including several days in a hospital bed, lying flat with sand bags on either side of the head to prevent movement. As a result, doctors tended to wait until the cataract was fully developed or “ripe” and patients usually experienced considerable visual disability both before and after surgery. With advances in surgical techniques and technology, cataract surgery is now typically an outpatient procedure, taking less than an hour and requiring only local anesthesia.

The next common method used today is phacoemulsification. The surgeon makes an incision of about 1/8 inch through which a needle-thin probe is inserted. This probe uses ultrasound waves to break up the cataract and the fragments are then removed with suction. The outer shell of the lens, known as the capsule, is left in place to support the lens implant that is then inserted.

Another older method, known as extracapsular cataract extraction, is sometimes used for cataracts that have developed to the point that they can’t be broken up effectively using phacoemulsification. This requires a larger incision, about 3/8 inches, through which the surgeon opens up the lens capsule and removes the inner core (or nucleus) in one piece. Again, the capsule is left intact. Whichever procedure is used, the next step is to insert a clear artificial lens (intraocular lens) made of plastic, acrylic or silicone. Some implants are rigid plastic. Others are flexible and can be folded for insertion through a smaller incision and then unfolded once they’re inside the lens capsule.

When phacoemulsification is used with a foldable implant, the incision can be very small and may not even require sutures to close. There is a shorter time of healing and less risk of complications. The first intraocular lens implantation was performed back in 1949, and yet today has proved to be a major advancement. Although most patients still need to wear glasses after cataract surgery, they are not the thick coke-bottle-like lenses worn by Grandma. A brand new lens implant now available makes glasses unnecessary after cataract surgery. It provides both close and far vision. Not all patients are able to use this lens and it is an additional cost that Medicare does not pay that is than charged to the patient.

In about 25 percent of cases, a cloudy membrane or “aftercataract” forms on the back of the lens capsule several months or years after surgery. This can be removed quickly and painlessly with a laser procedure. Although 95 percent of cataract surgeries result in restoration of good eyesight, the best approach is prevention. Unfortunately, advancements in this area have lagged, and there are no medications or treatments to prevent or slow the progress of cataracts.

Scientists don’t know exactly what causes a lens to get cloudy. One theory links cataracts to free radicals produced by the oxidative process. Smoking, exposure to ultraviolet radiation and the aging process itself are significant risk factors, and they all are known sources of free radicals. Other risk factors include diabetes; a family history of cataracts; previous eye injury, inflammation or surgery; and prolonged use of corticosteroids, such as for asthma treatment. Some studies have found a link between cataracts and chronic lead exposure.

To protect yourself, get regular eye examinations, particularly if you’re over 60; don’t smoke; shield your eyes from ultraviolet rays with sunglasses and a wide-brimmed hat; and eat a balanced diet with plenty of fruits and vegetables. The AREDS (Age-Related Eye Disease Study) found that antioxidant supplements and zinc reduced the risk of advanced macular degeneration, but had no significant effect on the development or progression of cataracts. There is some evidence, however, that spinach and other green, leafy vegetables are beneficial. There’s general agreement that foods rich in antioxidants are preferred to supplements, whether for eye or overall good health.

In developing countries, the incidence of blindness and visual impairment has decreased over the past five years due in part to better access to eye surgery. In the United States, where effective treatment is readily available but costly, prevention is the best strategy.

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