

Myths and Facts: Cataracts



Debunking some of the misconceptions about the world's leading cause of blindness could help many people get the treatment they need.

By Ronale Tucker Rhodes, MS

CATARACTS HAVE BEEN around for centuries, dating back to the 5th dynasty (about 2457 to 2467 BCE). The term “cataract” comes from the Latin word “cataracta,” meaning waterfall. It’s believed the condition that causes vision to be cloudy was named because of the white appearance of rapidly running water.¹

Cataracts are the leading cause of vision loss worldwide, affecting nearly 22 million Americans age 40 years and older. In fact, cataracts are a natural result of aging, and by age 80, more than half of all Americans will have cataracts, according to the National Eye Institute.² Worldwide, 51 percent of people who are blind are blind due to cataracts, mostly due to lack of resources

and healthcare access, particularly in Asia and Africa. But, even in the Western world where treatment is safe and relatively accessible, myths persist about the cause of cataracts and their treatment, resulting in many people failing to seek treatment due to its perceived risks.³ Clarifying the facts about cataracts, then, could help to curb preventable vision impairment and loss.

Separating Myth from Fact

Myth: Cataracts grow on top of the eyes.

Fact: Cataracts, which can occur in one or both eyes but cannot spread from one to the other, are a white or cloudy patch that develops on the eye lens, the part of the eye that helps to focus

light, or an image, on the retina (the light-sensitive tissue at the back of the eye). In a normal eye, the image is sharp, but if the lens is cloudy from a cataract, the image is blurred or yellowed.⁴

Cataracts are a natural result of aging. Age-related cataracts affect vision in two ways: cloudiness or color change. The lens consists mostly of water and protein. When the protein clumps up, it clouds the lens and reduces the light that reaches the retina; this is known as a cataract. When a cataract is small, only a small part of the lens is affected by cloudiness, and many don't notice any change in vision. However, because cataracts grow slowly, over time, the cloudy area in the lens gets larger, so vision gets worse. The lens can also slowly change to a yellowish/brownish color, which adds a brownish tint to vision. Again, while the discoloration may be small in the beginning, as it increases, it makes it more difficult to read or perform other routine activities.⁴

While cataract surgery once used to require a hospital stay and lengthy recovery period, that is not the case today.

Myth: Cataracts affect only the elderly.

Fact: While cataracts are most common among people in their 70s and 80s, they can occur in younger individuals due to conditions other than age: blunt injury to the eyes, radiation, treatment during chemotherapy with prednisone-like medications, diabetes, cigarette smoking, alcohol use, prolonged exposure to ultraviolet sunlight and family history.^{4,6} Even infants can have cataracts at birth due to a congenital anomaly.⁵

In fact, about 1 percent to 2 percent of all cataract surgery patients are in their 40s, but it is believed many more people that age probably have cataracts already forming in one or both eyes and just don't know it yet. A recent study by the Mayo Clinic indicates an increasing number of people are having cataract surgery — and at younger ages. The study examined cataract surgeries performed from 2005 to 2011 in Minnesota's Olmsted County and found about 20 percent of those surgeries were in patients younger than 65.⁷

Myth: Close-up tasks can make cataracts worse.

Fact: A common misconception is that reading or tasks such as sewing can make cataracts worse. But, actually, the additional light needed by those activities is what is likely to make a person notice he or she has a cataract.⁸

Myth: Cataracts are reversible.

Fact: Once the lens begins to cloud, the process can't be reversed with any treatment; the lens can only be replaced. However, people can delay the progress of cataract formation by eating a well-balanced diet, limiting exposure to UVA and UVB rays and quitting smoking.⁵

Myth: Eye drops can prevent or dissolve cataracts.

Fact: While some products claim they can prevent cataracts, they can't, because cataract formation is a natural part of the eye's aging process. Nor can any products dissolve cataracts because they are not a substance. Moreover, the U.S. Food and Drug Administration (FDA) has not approved any drops that cure or delay cataracts.⁸

Myth: A cataract must be "ripe" before it can be removed.

Fact: Prior to the early 1990s, people were required to wait until their cataracts ripened (hardened) before they were surgically removed. That operation involved removing the lens intact through a fairly large incision in the eyeball, which had better results because the lens was solid and wouldn't fall apart during extraction. However, now, most cataracts are removed by breaking up the lens into small pieces and then suctioning them out. This way, the lens doesn't need to be hard to be removed, which means cataract surgery can be based on how much the cataract is affecting a person's vision rather than on whether it is ripe.⁹

Myth: Cataracts can be removed with a laser.

Fact: Cataracts are not removed with a laser. Rather, femtosecond lasers are now being used in the U.S. to "assist" in the surgical removal of them. In 2008, the first laser-assisted cataract surgery was performed in Hungary. After gaining FDA approval, the first laser-assisted cataract surgery was performed in the U.S. in 2010.

During surgery, the laser assists with the corneal incisions, opening of the capsule containing the cataract and the initial sectioning of the cataract into smaller pieces. Because of its incredible precision, it may prove to be superior to the current technique in which these steps are manually performed by the surgeon. However, further data and well-designed studies are needed to prove this method is associated with better outcomes and fewer complications. And, because insurance does not cover the cost of having laser-assisted cataract surgery, there is a significant out-of-pocket payment for patients.¹⁰

Myth: Cataract surgery is dangerous and requires months of recovery.

Fact: This unfortunate myth prevents people from getting the treatment they need. While cataract surgery once used to require a hospital stay and lengthy recovery period, that is not the case today. The surgical procedure most commonly used today, known as phacoemulsification, is highly sophisticated and reliable. It can be safely performed by an ophthalmologist in a hospital or an ambulatory surgery center on an outpatient basis in less than an hour with a 95 percent success rate.^{3,4} Indeed, more than 3.3

million cataract surgeries are performed in the U.S. each year, according to David Chang, MD, clinical spokesman for the American Academy of Ophthalmology, who describes it as “the most common operation performed anywhere on the body.”⁷

Phacoemulsification was introduced more than 40 years ago. During the procedure, the surgeon creates an opening in the natural “sac” that holds the lens in place, called the lens capsule, and the lens is separated from the capsule by using a balanced salt solution. Once the capsule is open and the lens can move freely inside the capsule, a special ultrasound device is used to break the lens into small pieces and suck it out of the eye. After removal, additional viscous material is injected into the lens capsule to hold it open to make room for the new artificial lens. The folded artificial lens is then inserted into the capsule, where it is then allowed to unfold. Because the two incisions usually self-seal, they do not require stitches.¹⁰

There are also two other types of surgical procedures used to remove cataracts. Extracapsular cataract surgery is used mainly for very advanced cataracts in which the lens is too dense to dissolve into fragments (phacoemulsify) or when phacoemulsification is impossible. It requires a larger incision so the cataract can be removed in one piece without being fragmented inside the eye. Intracapsular cataract surgery requires an even larger wound than extracapsular surgery, and the entire lens and surrounding capsule are removed together. This technique, which requires the intraocular lens to be placed in a different location (in front of the iris), is rarely used today but can still be useful in certain situations.¹¹

There are now several lens replacement options. Monofocal intraocular lenses (IOLs) are the traditional lenses that offer fixed vision at one distance only, which is generally far vision. These are the lowest priced implants available and, generally, glasses still need to be prescribed after surgery for reading and computer use.

Three premium IOLs are available. Multifocal IOLs are the most common and contain different zones to give sharp vision at multiple distances. They work in a similar way to progressive lenses in eyeglasses. However, with the limited space on multifocal IOLs divided into zones, some advantages of seeing through just one zone in single vision monofocal lenses are lost, such as contrast sensitivity. Alternatively, accommodating IOLs shift position with the action of the eye muscles to give sharper vision at different ranges, much like the action of a person’s natural lens. The ciliary muscle of the eye allows the lens to move forward and focus on images that are near. When the muscle relaxes, it allows the lens to reshape and focus on intermediate objects. As another option, toric IOLs correct for astigmatism.

There are also two additional types of IOLs. Aspheric IOLs are slightly flatter than traditional IOLs, providing contrast sensitivity, which allows images in a similar color to their background to be more clearly defined. Younger cataract patients benefit longer

from this type of IOL, but older patients lose the ganglion cells of the retina, so over time contrast sensitivity declines anyway. Also, blue light filtering IOLs filter out ultraviolet and high energy blue light waves present in natural and artificial light.

Because premium IOLs are not considered essential to restore sight, patients may have to cover the additional cost of these lenses.¹²

Recovery after surgery can differ for each patient. However, typically, vision is blurry at first as the eye heals and adjusts, and colors may seem brighter because of the new, clear lens. In addition, itching and mild discomfort for a couple of days after surgery is normal. Eye drops or other medication are usually prescribed to prevent infection, reduce inflammation and control eye pressure. Follow-ups with the doctor are typically scheduled a day or two after surgery, the following week and then again in about a month to monitor healing. Most people need glasses, at least some of the time, after cataract surgery.¹³

Dispelling the Myths Now

With many doctors and scientists conducting cataract research, studies are aimed at discovering new treatment options, including controlling cataracts with drugs so corrective surgery will not be needed. Studies are also delving into how certain vitamins and minerals might prevent or slow the progress of cataracts, whether sunlight exposure may be associated with an increased risk of cataracts and how genetics contribute to cataract development.¹⁴

While cataracts have been recognized for centuries, our understanding of what causes them and how to correct the problem has progressed tremendously over the years. Today, cataract surgery is one of the safest surgeries performed with very few complications. By gaining clarity about this natural part of the aging process, it’s hoped many more patients will receive the treatment they need to preserve their sight. ♦

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