

Cataracts and Cataract Surgery

What is a cataract?

A cataract is the gradual clouding of the natural lens inside the eye. It is not a growth or a "skim" on the eye. Cataracts are very common especially in people over the age of 55. There is no known treatment to reverse the growth of cataracts. Once a cataract develops it will continue to cause progressively blurred vision until it is surgically removed.

How does a cataract cause blurred vision?

Light rays enter the eye through the cornea, pass through the lens and land on the back of the eye (retina). The brain interprets the image from the retina. As a cataract develops, the light rays entering the eye have more difficulty passing through the cloudy lens (cataract) to reach the retina. This causes blurred vision. People with cataracts may complain that their vision appears blurry, hazy, smoky or waxy. They may also notice more difficulty with reading, recognizing faces or walking especially in low light. Driving at night may become difficult and even dangerous due to glare and halos around lights.

When does a cataract need to be removed?

Advances in cataract surgery have made this one of the safest and most frequently performed surgeries today. Cataract surgery is generally considered when your vision impacts your activities of daily living, making it more difficult to perform everyday tasks. You may want to consider having cataract surgery if you are having more difficulty driving at night, reading, cooking, shopping, working, watching TV or using the computer due to your vision. We will review a questionnaire with you during your examination to properly evaluate how much your vision is impacting your daily life.

How will cataract surgery affect my vision?

The goal of cataract surgery is to correct blurred vision caused by the cataract. Dr. Patterson performs cataract surgery through a tiny incision in the cornea. This incision can be made by either a blade or femtosecond laser. There is usually no discomfort or bleeding. The cataract is broken up with ultrasound or femtosecond laser and removed from the eye. After the cataract has been removed, Dr. Patterson will insert a new artificial lens implant called an intraocular lens (IOL), which will remain in your eye permanently. The corneal wound is self-sealing and routinely no sutures are used. Cataract surgery will not correct other causes of blurred or decreased vision, such as glaucoma, diabetes, or age-related macular degeneration.

Examination for surgery

Dr. Patterson will personally perform a dilated eye examination even if you have already been evaluated by your optometrist. To start your visit, a technician will record your full medical history and perform a variety of measurements to determine your best corrected vision. Dr. Patterson will perform the actual physical examination of your eyes to detect eye disease or conditions that may affect your surgery or your eyesight after surgery. After

determining the need for surgery, Dr. Patterson will discuss the risks and benefits of the procedure with you.

Determining the correct intraocular lens (IOL) power

New technology available in state-of-the-art equipment predictably measures your eyes, drastically reducing the margin of error. Measurements for lens implants used in cataract surgery are much different than for glasses. For cataract surgery, a variety of very specific and precise measurements of your eye have to be performed so Dr. Patterson can calculate which implant power is best suited for your eye.

Where is the surgery performed?

You do not have to go to the hospital for this procedure. Cataract surgery performed in a surgery center is far less expensive and much more convenient and safer than in a hospital. The Cataract and Laser Center is located on the lower level of Eye Centers of Tennessee in Crossville. This facility is the area's only comprehensive outpatient surgical center completely dedicated to eye surgery.

What to expect the day of surgery

You do not have to change clothes. The anesthetist will review your medical history as well as monitor your vital signs before, during and after the procedure. We usually give oral sedation to help you relax. An IV is not routinely required, but can be started anytime if needed or desired. Your eye will be dilated and numbed with eye drops. In the operating room, an instrument will comfortably hold your eyelids open during the surgery. You will not feel the need to blink because your eye will be numb. The procedure generally takes less than 10 minutes and your total stay will be about 2 hours.

Usually the eye is not patched. Most patients leave about 15 minutes after the surgery, but you may feel some effects of the sedation for several hours. Patients often go out to eat on the way home. It is normal for the vision to be blurry the evening of surgery. Your eye may also be a little scratchy or watery, like a grain of sand is in it. We ask that you take it easy the evening of surgery, but you may do activities such as reading or watching TV as long as no discomfort is noticed. Most patients return to their normal activities the very next day.

Do you want to enjoy life without glasses after surgery?

It is possible that you may need to wear glasses after your cataract surgery, even if you did not wear them before surgery. Your vision after surgery *depends on the choices you make before surgery*. This decision will significantly impact the quality of the rest of your life, so it is important that you understand the difference.

Basic cataract surgery

Removing the cataract with ultrasound was invented in the late 1960s and has been commonly used for cataract removal since the late 1980s. It is one of the safest and most successful procedures performed today.

Basic cataract surgery includes removing the cataract and replacing it with an intraocular lens implant (IOL). Basic cataract surgery has been successfully performed manually for many years. Numbing drops are instilled and a speculum is used to hold the eyelids open. You are asked to look at a light. The main incisions are made in the cornea by hand with a sterile, sharp metal or diamond blade.

The opening into the cataract is created by inserting a tiny bent needle into the eye and gently tearing a circular opening into the cataract. This is a very delicate and tedious process. It is very important that this capsulotomy is a specific size and perfectly round, or significant complications may arise. The size and shape of the capsulotomy can also influence the position and tilt of the intraocular lens permanently, which may impact visual outcome.

The cataract is broken up by ultrasound and removed from the eye. The ease of this depends on the density of the cataract. A significant cataract requires more ultrasound energy and time to break up the cataract, which can lead to delayed visual recovery among other complications. Once the cataract has been removed, an intraocular lens implant is placed inside the capsule. Basic cataract surgery is very safe. Our complication rate is less than 1%.

Basic cataract surgery is considered to be medically necessary and is generally covered by medical insurance. *You may need to wear glasses most, if not all of the time, especially for reading, even if you do not wear glasses now after basic cataract surgery.*

Premium cataract surgery

Many people have worn glasses so long it may be difficult to imagine what life might be like without them. Depending on the range of vision you select, you may be able to read the newspaper, drive to town, go shopping, play golf and read a restaurant menu, books or magazines without depending on their glasses. For many people this means having functional vision *without depending on glasses* for the first time in their lives.

Premium cataract surgery includes removing the cataract, but with additional treatment to reduce or eliminate your need for glasses. This may include simply treating nearsightedness, farsightedness or astigmatism to provide good distance vision, or implanting a multi-range lens implant to provide a wide range of vision without depending on glasses. Additional pre-operative testing is required.

Most people are very good candidates for these options, but there are exceptions. Refractive options are generally recommended for people with reasonably healthy eyes. If you have conditions such as macular degeneration or diabetic retinopathy, Dr. Patterson will discuss realistic expectations with you.

While the methods used to calculate your IOL power are very accurate, the final result may be different than what you and your surgeon planned. Everyone heals slightly differently. The IOL may move slightly forward or backward as your eye heals. The amount of movement is not the same in everyone. It is also possible that you may have residual astigmatism which needs to be corrected after surgery. If this is significant enough to interfere with your functional vision an enhancement or "touch-up procedure" may be performed to tweak the results and refine your vision further.

Most people see well soon after surgery. However, it may take a few weeks for your brain to adjust to your new vision, especially if a multi-range lens implant is used. Your vision may continue to improve for several months following the procedure. Minimal glare or halos around lights especially at night is normal for the first few months.

Your insurance will be filed for the medically necessary part of the procedure, but *refractive options to reduce the need for glasses are considered elective and are not covered by insurance.*

What range of vision do you want to see without glasses?

Distance in both eyes

A single vision, monofocal lens is implanted into both eyes for distance vision. Vision will be in focus for tasks such as driving, watching TV or recognizing faces from across the room. Think about this like wearing single vision glasses without a bifocal. We anticipate that you will be able to legally pass the vision portion of the driver's license test without glasses, but glasses will be required for most if not all reading and computer work.

Blended vision

A single vision, monofocal lens is implanted into each eye, one for distance vision and one eye for intermediate vision (about arms length). We anticipate that you will have functional vision at most ranges, including driving, watching TV, reading a restaurant menu or using a computer. This is a good option, but is a compromise, because *both eyes* are not working together to see distance and near. Glasses may be required at times for near work or fine print or when very clear distance vision is required, such as driving in poor conditions. Functional, everyday vision without glasses is our goal.

Multi-Range vision

A special multi-focal implant is used to correct vision at multiple ranges. These implants have correction for distance and near vision built into them. Eye Centers of Tennessee has been successfully implanting multi-range implants since 1997. Patients with multi-range implants have good functional vision in both eyes and enjoy life without glasses for most tasks. Your vision should be clear enough to legally pass the vision portion of the driver's license test, use a computer and read normal sized print, such as magazines, newspapers and restaurant menus without glasses. Glasses may be needed for smaller print, reading for long periods of time or driving in poor conditions.