

# Exploring your refractive options at Metropolitan Eye Center

**People searching for better vision without glasses and contact lenses now have options available to them at Metropolitan Eye Center.**

These revolutionary surgical treatments were first offered in the late 1970s. Radial Keratotomy (or RK) was the first procedure widely used to treat nearsightedness (myopia). RK worked best for people with relatively low amounts of myopia (less than 3 or 4 diopters [*a unit of measure*]), leaving many who were not treatable because their myopia was too great.

RK was a very good and effective surgical treatment for these selected patients, but its day has long passed.

Laser vision correction is now the standard procedure for treating nearly all types of normal refractive conditions which include:

**Myopia**, or nearsightedness, — a condition wherein near objects are seen clearly, but objects in the distance are blurry or indistinguishable.

**Astigmatism** — a condition where the cornea is not round, but oval in shape often resulting in poorly focused vision for any distance, doubling or ghosting of images.

**Hyperopia**, or farsightedness, — a condition that causes near and far objects to be blurred.

**Presbyopia**, the need for reading glasses in middle-age, usually obvious at about age 40. It results from the gradual progressive inability to focus from distance to near and is an internal function within the eye. Presbyopia is simply a consequence of aging, unavoidable and normal, and occurs in hyperopia, astigmatism and myopia. This condition can be dealt with by modifying treatment such that a small amount of nearsightedness (myopia) is created, or left, after the corrective procedure to allow for better reading vision.

These NORMAL vision conditions are problems only because the image is not precisely focused on the retina and are not health issues. In all refractive surgical options, either the cornea or internal lens is modified to change the manner in which the eye focuses light and, thus, improves “uncorrected” vision.

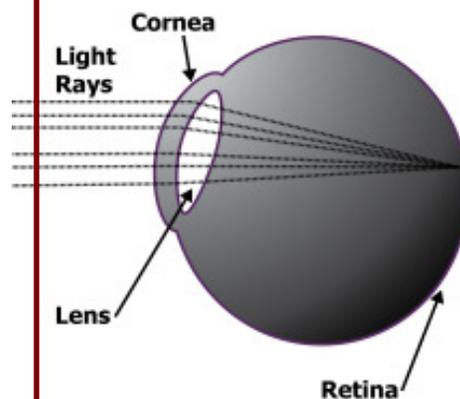
Today’s most effective refractive surgery alternatives are laser vision correction and clear lens extraction — each designed to treat specific refractive disorders. Although the procedures are different, the end point correction achieved is much

the same. Options for treatment often differ between patients and sometimes even between eyes of a single patient. It is important that the appropriate procedure be used for each patient. The complexity of the refractive disorder may become the deciding factor in determining which

## How the eye works

The eye functions like a camera. The iris, or colored part, and the pupil act together like the shutter, regulating the amount of light entering the eye.

The retina, or the inside back surface, functions like the film and is the surface upon which light must be exactly focused. This retinal image is then transmitted to the brain where the PICTURE the eye receives is recognized. The front domed surface, the cornea, and the lens provide the focusing power that controls the clarity and accuracy of the image that is SEEN.



surgical option will be elected, where options exist. There is no truly “best” procedure, but there definitely is, however, a *best* procedure for each individual.

### ***How refractive surgery works***

To achieve the desired vision correction, most commonly the front external surface of the eye, the cornea, is reshaped or sculpted.

In laser vision correction, a computer-controlled beam of laser energy is applied to the central cornea over the pupil, precisely reshaping or sculpting the surface to improve uncorrected vision. Myopia, hyperopia and/or astigmatism can be effectively modified using any one of these laser techniques:

- PRK (photorefractive keratectomy), where the sculpting procedure takes place directly at the front surface of the eye (the epithelium). PRK is a less complex laser procedure with a slightly extended recovery period and the need to use eye medication for several weeks.
- LASIK - a procedure which involves lifting a thin flap of corneal tissue before laser energy is applied. The flap is then replaced. LASIK increases the complexity of the procedure, but significantly reduces the recovery time and the need for post-operative medication.
- LASEK - a procedure which, though similar to each of the other laser procedures, differs technically and provides some advantages over PRK and LASIK. In LASEK, there is no cutting of a flap. Rather, the very superficial surface tissue, the epithelium, is gently slid back from the center of the cornea and that center area is then treated with the laser as in PRK. Following treatment, this surface epithelium is then slid back over the cornea and a protective contact lens “bandage” is placed to protect that surface until it is healed. The healing time is longer than with LASIK (4-5 days), and there is definitely more possible discomfort (very similar to PRK) but the distinct advantages include the ability to treat thinner corneas safely and the added safety of not having to make the LASIK flap.

- CK<sup>SM</sup> (Conductive Keratoplasty), the FDA-approved vision procedure for adults age 40+, uses the controlled release of radio waves, instead of a laser or scalpel. Uses only a topical (eye drop) anesthesia. Reduces dependence on reading glasses.
- CLE - In patients with extreme nearsightedness or farsightedness, the best surgical procedure involves removal of the natural lens and implanting a special artificial replacement lens to change the focus of the eye. This is called a clear lens extraction and is very similar to today’s modern cataract surgery. There are many options becoming available for this type of correction. Single and multi-focal lenses are being used with great success for the right patient.



Dr. Mariann Channell

*“As a refractive surgeon, my goal is to achieve a good uncorrected visual outcome which will allow you to go about most of your daily routines with little or no dependence on glasses.”*

### ***Enhancements or re-treatments***

Enhancement or re-treatment of the original procedure is sometimes necessary. The need to enhance is considered when results of the original procedure are atypical and less than anticipated. The results of refractive surgery vary widely among patients and the final visual acuity of each patient cannot be guaranteed. Likewise, the need to re-treat cannot be predicted, except in some extreme cases.

### ***Who should consider refractive surgery?***

When the tolerance for contact lenses is exhausted and glasses are not acceptable, then refractive surgery presents an appropriate alternative. Although the vast majority of refractive disorders can be treated successfully, refractive surgery is not necessarily advisable for everyone.

Generally speaking, patients should be 18 years of age or older with a stable refractive measurement for 12 to 18 months. There is no upper age limit. The majority of patients with low to moderate degrees of refractive error can expect good results with uncorrected vision in the near normal range. People with higher degrees of refractive error, or those who are older than 40-45, should expect somewhat less total vision correction, but can easily anticipate a substantial reduction in the need for glasses — but not necessarily complete independence from them.

All patients must have healthy eyes with no significant eye disease, such as glaucoma, diabetic complications, or severe or chronic infection or inflammation.

### *Preparing for surgery*

Each refractive patient must go through certain steps in preparation for their refractive surgery:

- They must have given great thought to the surgical alternatives and have exhausted non-surgical choices, such as glasses or contact lenses.
- They should educate themselves about refractive surgery and understand their options.
- They must have **REASONABLE** expectations about their potential visual result.
- The health status of the eye and degree of refractive error must be accurately determined with a comprehensive eye examination and a computer corneal analysis performed by an eye specialist.
- They must be counseled about the risks and benefits associated with surgical alternatives and which type of surgery best applies to their special situation.
- The surgical plan must be fully understood, including anticipated recovery and extended treatment requirements.

Most of this information sharing is accomplished during a “consultation” appointment. This appointment will take one to two hours and your eyes will be fully dilated. Contact lens patients should, if possible, discontinue hard lens wear for at least three weeks prior to this consult (and the surgery); soft lenses should be out for 3-5 days. This requirement is to assure that the eye

has returned to its normal shape and that the measurements are as accurate as possible at the initial visit.

### *About refractive surgery*

At Metropolitan Eye Center, all surgery is performed in our specialized, and government certified refractive surgery suite equipped with the very latest and most sophisticated surgical, laser and diagnostic equipment. Only numbing eye drops are required during the brief surgery and assure your complete comfort. You are free to leave shortly after the surgery. You should plan to be at the Center for about two hours. On the day of surgery, you must have someone along to drive you home.

### *After surgery*

Detailed post-operative instructions will be provided. Rest and relaxation after the procedure are recommended, but normal activities may resume as soon as comfort and visual recovery permits.

Change in vision associated with refractive surgery can be dramatic and often becomes obvious shortly after surgery. However, best uncorrected and stable vision is achieved gradually. The speed at which this happens is different for everyone. Few restrictions are necessary and include:

- No swimming for two weeks.
- No mascara or eye make-up for one week.
- Avoid irritating soaps, fumes or solutions and rubbing the eye.
- Good quality protective eye goggles should be worn if injury or exposure to flying debris are possible. This includes racquet sports and games with rough physical contact.

Eye drops are required for a period of time after surgery. Temporary glasses may be of help until vision stabilizes, but are difficult to accurately prescribe early on.

Returning to work or strenuous activity is limited only by the quality of your new vision early on and how confident you feel about driving or working.

## Side effects

Some temporary side effects may accompany your refractive procedure, usually are of limited duration, and might include one or more of the following:

- Discomfort, irritation, or foreign body sensation.
- Dryness, scratchiness or increased sensitivity to irritants.
- Light sensitivity, glare, halos or starbursts around lights, especially at night.
- Variable vision from day to night or from day to day.

Significant complications occur very rarely, but are possible and might include:

- Loss of best-corrected visual acuity as the result of irregular corneal healing, irregular astigmatism or decentered treatment zone.
- Serious eye infection, which might result in poor vision.

Refractive surgery results in a permanent change in the shape of the cornea and ability to focus images without glasses. There should be no prevention, nor premature development of problems such as glaucoma, cataract or retinal detachment.

The surgery does not guarantee that the eye will stay the same forever. Vision will change over time, as a natural process. Should any change in vision become significant, it is possible to repeat the procedure or perform another type of surgery in the future to restore more normal uncorrected vision. Periodic eye examinations are necessary to make certain that

changes that do occur in the eye are not causing health or serious vision consequences.

## Payment Options

Various payment options include: Cash, VISA, MasterCard, or Discover. Some insurances are now discounting or covering the cost of surgery. We can check with your insurance for any coverage you might have. Affordable payment plans are also available with up to 18 months same as cash.



*“Refractive surgery is most often a very pleasant experience. If there is anything in ophthalmology that allows us, as surgeons, to provide a service that will almost always make our patients happy, it is refractive surgery. So, although we can produce dramatic improvement in your vision, we can’t guarantee your post-op vision or that glasses are a thing of the past for you.*”

*Refractive surgery is usually a very gratifying alternative to glasses and contact lenses and should give you the freedom and convenience you’ve been searching for to enhance your lifestyle.”*

— James W. Klein, Medical Director

*We at Metropolitan Eye Center, are not just interested in performing your eye surgery alone. We want to perform your eye surgery and retain your patronage as our long-term patient. We have a commitment to become your eye doctor. We encourage you to call if you have questions or want to schedule an appointment to “Explore Your Refractive Options”.*

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