

# LASER VISION CORRECTION

## Frequently Asked Questions

### HOW DO I KNOW IF I AM A GOOD CANDIDATE FOR LASER VISION CORRECTION?

A detailed eye examination is necessary to determine your candidacy. The examination includes a determination of your prescription, evaluation of your corneal contour using computerized videokeratography, measurement of the thinnest point of your cornea, and evaluation of the interior health of your eyes.

### CAN ALL PRESCRIPTIONS BE TREATED BY LASER VISION CORRECTION?

Although most prescriptions can be treated by laser vision correction the extreme prescriptions are not eligible for laser surgery. Patients that are nearsighted can usually have laser vision correction if their prescription is less than 10 diopters. Farsighted patients can usually have laser surgery if their prescription is less than 5 diopters.

### CAN ASTIGMATISM BE CORRECTED WITH LASER VISION CORRECTION?

Yes, in addition to nearsightedness and farsightedness, astigmatism can be treated. If you have astigmatism, it means that your eye has a curvature like a football rather than a basketball. The laser will typically flatten or steepen one meridian to improve the shape of the cornea and enhance vision.

### WHAT IS THE YOUNGEST AGE FOR LASER VISION CORRECTION?

It is recommended that patients be 18 years of age for laser surgery. This is the age that the prescription is relatively stable. If patients have laser surgery and the prescription changes in the future additional surgery can be performed.

### IS THERE AN AGE LIMIT FOR LASER VISION CORRECTION?

There is no age limit for laser eye surgery. As long as the eyes are healthy, patients can have laser vision correction. In fact, patients that have had cataract surgery can have laser surgery to refine their vision without glasses.

### IS CORNEAL THICKNESS IMPORTANT FOR LASER SURGERY?

Yes, the corneal thickness is an important factor in determining eligibility. It is important after surgery that your cornea remains strong. Too much tissue removed from a thin cornea can weaken the eye and result in less than the desired effect long-term. The higher the prescription the thicker your cornea should be prior to surgery.



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## ARE THERE DIFFERENT TYPES OF LASER VISION CORRECTION PROCEDURES?

Yes, there are two main types of laser vision procedures: LASIK and PRK. LASIK is the procedure in which a thin flap is constructed, the flap is retracted, tissue is removed with an excimer laser from the bed, and then the flap repositioned. This results in a change in the contour of the cornea resulting in vision correction. The other technique is that of PRK. This procedure initially involves removal of the central corneal epithelium with a gentle rotary polisher, and is followed by removal of tissue with an excimer laser. A soft contact lens is worn for 5 days while the underlying epithelium regenerates.

## IS THERE A DIFFERENCE IN THE FINAL VISUAL OUTCOME BETWEEN LASIK AND PRK?

No, the final visual result is the same with LASIK or PRK, however the healing time is longer with PRK. With PRK the epithelium regenerates, typically by 5 days, but it takes a while for the epithelium to smooth out in order to see well. With LASIK 99% of patients can drive within 24 hours after having the procedure. With PRK it is advised not to drive until the contact lenses are removed which is usually around 5 days. It may take 2 to 4 months after PRK for the best vision to be obtained.

## WHY IS IT IMPORTANT TO HAVE A MAPPING OF MY CORNEA?

Computerized videokeratography allows for mapping of the cornea. Sophisticated imaging devices can map over 20,000 data points of the cornea. If the cornea has an irregular shape then this suggests a structural weakness of the cornea. In this situation LASIK is not recommended. In some situations PRK can be performed.

## ARE THERE DIFFERENT WAYS OF CREATING THE LASIK FLAP?

Yes, there are two ways that a thin LASIK flap can be constructed. The older technique is the use of a metal blade called a microkeratome. This technique is typically used by discount laser centres. The more sophisticated and accurate method is the use of a femtosecond laser. This laser costs the laser centre around \$500,000, accounting for the higher patient cost, but it is more accurate with enhanced safety.

## HOW DO YOU FREEZE THE EYE FOR THE PROCEDURE?

Only anesthetic drops are required to freeze the eye. There are no needles or injections. It is very easy to freeze the eye with drops for LASIK or PRK. In fact, only drops are used to freeze the eye for cataract surgery, which involves the deeper structures of the eye.

## IS THE PROCEDURE PAINFUL?

No, most patients find the procedure relatively easy to undergo. With LASIK when the flap is created patients will feel some pressure and the vision will go dark or dim for approximately 30 seconds. The second part of the procedure is very easy, the flap is lifted, the laser correction performed, and the flap repositioned. With PRK, when the rotary brush or polisher is used there will be a gentle pressure on the eye. The laser portion is very easy and no discomfort should be experienced.

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### WHAT HAPPENS IF I CAN'T KEEP MY EYE STILL DURING THE PROCEDURE?

Today sophisticated excimer lasers have eye-tracking devices. This means the laser will be able to track your eye during the procedure. The tracking devices can rapidly follow any eye movement.

### IS THE SURGEON IMPORTANT WITH ALL THE MODERN TECHNOLOGY?

Yes, the surgeon is very important to assure the best possible outcome. With LASIK the surgeon centres the laser to create the flap, gently elevates the flap, makes sure the corneal bed is sufficiently dry for the excimer laser treatment, focuses the laser on the corneal bed over the pupil, and then carefully repositions the thin flap to be sure there are no wrinkles. In PRK the surgeon uses a handheld rotary device to remove the central corneal epithelium, makes sure the corneal bed is sufficiently dry, and then focuses the laser on the corneal surface.

### WILL MY NIGHT VISION BE AFFECTED?

With advanced lasers today most patients have either better night vision or the same after laser vision correction. This improvement in the quality of night vision is related to larger treatment zones of and reduction of higher-order aberrations specifically spherical aberration.

### WHAT ARE THE MOST COMMON RISKS OF LASER VISION CORRECTION?

The most common risks are an undercorrection or overcorrection. This can occur in approximately 2% of cases. If patients are not satisfied with their level of vision then an enhancement or refinement can be performed. Usually it is best to wait 4 to 6 months to be sure the prescription is stable.

### SHOULD I CONSIDER MONOVISION?

Monovision is a method of vision correction in which one eye is treated for distance and the other eye for reading ie near vision. It is an option to consider if you are over 40 years of age and are having difficulty reading. One of the best ways to determine if it is right for you is to do a trial with contact lenses. Your eye doctor can determine which eye is your dominant eye and that is the eye that is typically corrected for distance vision. Although there are many advantages of monovision eg using a computer, reading your phone, etc, there are some disadvantages. There can be some difficulties with night driving or playing sports like tennis or golf. For these activities, if needed, one could keep a pair of glasses in the car for driving at night or wear a disposable contact lens in one eye for sports. If you have monovision and you are not satisfied with your vision you can have an adjustment so that the eye done for near is strengthened for distance.



## WHAT ARE MY OPTIONS IF MY VISION CHANGES IN THE FUTURE?

Usually the vision is stable after laser vision correction. Occasionally it can change, especially in younger patients with high corrections. This is probably not regression from the laser but rather progression of nearsightedness. If the eye is healthy and the cornea demonstrates satisfactory thickness then additional laser surgery can be performed.

## HAS ANYONE EVER GONE BLIND FROM LASER VISION CORRECTION?

No one has ever gone blind from laser vision correction. The laser operates on the anterior portion of the cornea and does not affect the deeper structures of the eye such as the retina or optic nerve. The cornea is transparent and lets light into the back of the eye. It is the back of the eye that perceives light and transmits signals to the brain.

## WHY SHOULD I HAVE LASER VISION CORRECTION AT THE BOCHNER EYE INSTITUTE?

The surgeons at the Bochner Eye Institute are amongst the most experienced in the world and wrote the first clinical textbook on laser vision correction to train other surgeons. Over the past 20 years, The Bochner Institute has invested in leading edge technology for laser surgery and has treated over 300 eye doctors and thousands of patients from over 70 countries around the globe. The staff at the Institute are highly trained and experienced ensuring a premium experience and outcome.

## IF I AM NOT A CANDIDATE FOR LASER VISION CORRECTION ARE THERE OTHER OPTIONS?

Yes, there are a number of different options. Refractive lens exchange is a procedure similar to a cataract operation in which the lens of the eye is replaced with a customized lens to enhance vision without glasses or contact lenses. Patients that typically are good candidates for this procedure are those with high degrees of nearsightedness or farsightedness. The other procedure is a phakic implant of which one type is the implantable contact lens. Unlike a refractive lens exchange, no tissue is removed, and the soft customized implant is inserted inside the eye between the crystalline lens and the iris. This implant can also correct high degrees of nearsightedness and farsightedness.