

PHOTOREFRACTIVE KERATECTOMY (PRK)

WHAT IS PHOTOREFRACTIVE KERATECTOMY?

Photorefractive keratectomy (PRK) is an outpatient surgical procedure used by ophthalmologists to treat myopia, hyperopia and astigmatism. With PRK, an excimer laser is used to sculpt the cornea, permanently changing its shape to improve the way the eye focuses light onto the retina.

AM I A GOOD CANDIDATE FOR PRK?

To be a candidate for PRK, you must have a stable and appropriate refractive error, be free of eye disease, and be at least 18 years old. You should not have a significant skin or systemic disease that could affect healing. You should also not have a history of excessive scarring. If you meet these requirements, PRK may be appropriate for you to correct your refractive error. If you are considering refractive surgery, PRK may be a better choice than LASIK if you have dry eyes or thin corneas. Also, if you have a very active lifestyle or occupation, PRK may be a good option. With LASIK surgery a corneal flap is created. There is always a danger that the flap could be dislodged accidentally while engaged in high-risk activities. No flap is created during PRK. PRK may also be used after cataract surgery to fine-tune vision.

HOW IS PRK DONE?

The PRK procedure takes only about 15 minutes. The epithelium, the outer layer of the cornea, is usually removed with a special brush, though a blade, alcohol or a laser can also be used. Once the epithelium is removed, an excimer laser is used to remove a thin layer of corneal tissue. Your ophthalmologist guides the laser with a computer. The laser beam sculpts the surface of the cornea, decreasing the steepness of curvature for nearsightedness or increasing the steepness of curvature for farsightedness. To treat astigmatism, the laser is programmed to selectively reshape specific portions of the cornea. The laser flattens areas that are steeper than normal and steepens areas that are flatter than normal. PRK corrects your refractive error and eliminates or reduces the need for eyeglasses or contact lenses. Because no incisions are made, the procedure does not weaken the structure of the cornea.

WHAT HAPPENS AFTER SURGERY?

Immediately following surgery, a “bandage” contact lens is placed on the eye to promote healing, and you will need to use eye drops for up to a month. You should have someone drive you home following surgery, and your surgeon may suggest that you take a few days off from work. You may experience some discomfort immediately following surgery, lasting for two to three days. Over-the-counter medications usually control any pain. Occasionally, some patients may need prescription medications for pain control.

WHAT ARE THE RISKS, COMPLICATIONS, AND SIDE EFFECTS?

Like any other surgery, PRK has risks and complications that should be carefully considered. Possible complications of PRK include undercorrection or overcorrection, both of which can often be improved with eyeglasses, contact lenses, or additional laser surgery. Other possible complications of PRK include: glare and halos around lights particularly at night, corneal scarring, and corneal haze.

Most complications can be treated without any loss of vision. Permanent vision loss is very rare. There is a very small chance that your vision will not be as good after surgery as before, even with eyeglasses or contact lenses.

WHAT WILL MY VISION BE LIKE AFTER PRK?

Initially, your vision is blurry following PRK. The healing process takes three to five days, during which time your vision will gradually improve. It may take a month or longer to achieve your best vision. PRK allows people to perform most of their everyday tasks without corrective lenses. However, people looking for perfect vision, without eyeglasses or contact lenses, run the risk of being disappointed. Recent studies show that over 90 percent of people who have PRK achieve 20/40 or better vision without eyeglasses or contact lenses. If the procedure results in an undercorrection or overcorrection, your surgeon may decide to perform a second PRK, called an enhancement, to further refine the result.

PRK cannot correct presbyopia, the age related loss of close-up focusing power. With or without refractive surgery, almost everyone who has excellent distance vision will need reading glasses by the time they reach the age of 40 to 48. Some people choose a vision correction method called monovision, which leaves one eye slightly nearsighted. The nearsighted eye is used for close work, while the other eye is adjusted for distance vision. Although monovision is acceptable for most people, some may not be comfortable with this correction. To determine your ability to adapt to monovision, you may want to try monovision with contact lenses before PRK surgery. You should be comfortable with the possibility that you might need to wear glasses for certain activities, such as reading or driving at night.

DISCUSS YOUR OPTIONS WITH YOUR OPHTHALMOLOGIST

If you are considering refractive surgery to decrease your reliance on eyeglasses or contact lenses, discuss with your ophthalmologist whether or not you are a good candidate for PRK. Together you can decide if it is the right choice for you.