

NWES Refractive Program - Understanding the Difference

Northwest Eye Surgeons offers three refractive laser procedures: PRK, LASIK and SMILE. Each procedure uses a different method to create clearer vision and has a different impact on the eye, including possible dry eye symptoms, recovery time, structural integrity and risks of infection or inflammation. This information will help you understand the risks and benefits of each option.

Below is information about each of the three procedures:

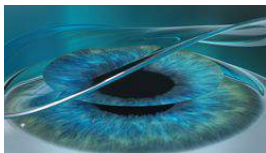
PRK



Step 1: Layer Removal
The epithelial layer is removed using a manual instrument.

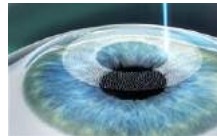


Step 2: Corneal Sculpting
An excimer laser sculpts the corneal tissue within a matter of seconds to correct the refractive error.



Step 3: Eye Protection
Finally, a protective bandage lens is placed over the eye until the epithelium heals within a few days.

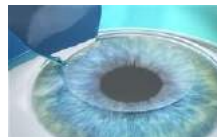
LASIK



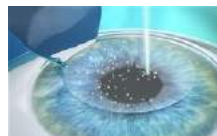
Step 1: Flap Creation
The eye is anesthetized with numbing drops. Femtosecond laser pulses are used to create a flap on the surface of the cornea.



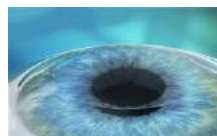
Step 2: Convenient Interplay
The patient is then moved from the femtosecond laser to the excimer laser.



Step 3: Flap is Folded Back
The prepared flap is folded back like the page of a book, exposing the inner corneal tissue to be treated.

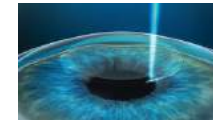


Step 4: Corneal Sculpting
The excimer laser removes the corneal tissue point by point within a few seconds, thereby correcting the visual defect.

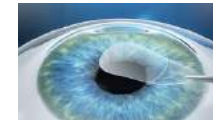


Step 5: Flap is Repositioned
Afterward, the flap is returned to its original position, protecting the eye much like a natural bandage.

SMILE



Step 1: Lenticule Creation
The eye is anesthetized with numbing drops. The femtosecond laser pulses create a contact "lens" shaped lenticule and small incision inside the intact cornea.






Step 2: Lenticule Removal
The lenticule is removed through the incision with minimal disruption to the corneal biomechanics.



Step 3: Impairment is Corrected
Removing the lenticule changes the shape of the cornea, thereby achieving a refractive correction.

Here are items to consider about each procedure:

	<p>PRK (photorefractive keratectomy)</p> 	<p>LASIK (laser-assisted in situ keratomileusis)</p> 	<p>SMILE (small incision lenticule extraction)</p> 
Method	Surface ablation surgery	Flap surgery	Minimally invasive surgery
Description	Thin outer corneal layer (epithelium) is removed, and underlying tissue is reshaped with an excimer laser. A bandage contact lens is placed over the eye until the epithelium grows back.	Advanced Femto-LASIK: a femtosecond laser is used to create a precise and predictable flap. The flap is folded back, and the underlying tissue is sculpted with an excimer laser.	A femtosecond laser is used to create a thin, contact lens-shaped layer just beneath the surface of the eye and then a small opening through which that layer is removed, correcting vision.
Things to Consider	<ul style="list-style-type: none"> • Great for patients with thin corneas • Requires no flap, reducing risks of post-surgical complications • Extended recovery period (three to seven days) with some discomfort • Some technology sounds and odors during surgery • Patients may experience dry eye after treatment 	<ul style="list-style-type: none"> • Great for patients with healthy corneas • Immediate vision enhancement results • Quicker recovery period (4 to 12 hours) with low discomfort • Some technology sounds and odors during surgery • Patients may experience dry eye after the treatment, due to the size, shape and location of the flap 	<ul style="list-style-type: none"> • Great for patients with healthy corneas, dry eye tendency and/or active lifestyles • Minimally invasive surgery, with only a small opening • Gentle and comfortable surgery experience with no sound or odor • Quicker recovery period (4 to 12 hours) with minimal discomfort • Due to small incision and no flap, dry eye symptoms reduced compared to PRK and LASIK