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REFRACTIVE LASER SURGERY

North Coast Eye Specialists offers a variety of Laser refractive procedures.

LASIK (Laser-Assisted In Situ Keratomileusis) surgery is a popular elective procedure for correcting vision problems such as near-sightedness, farsightedness, and astigmatism.

TOPOGUIDED LASIK might be a better option if your eyes have irregular astigmatism. This is often the case if you have better vision with your contact lenses than with your glasses. Extended wear of contact lenses may however cause corneal warping with inferior steepening.

STREAMLIGHT LASER is a NO TOUCH technique where the superficial epithelial layer is removed with laser before the actual prescription is applied to your cornea.

OCULIZER GUIDED LASER is only done if Topolizer maps are not repeatable due to corneal scarring or other issues. For more information, please visit

<https://www.myalcon.com/international/professional/ex500-excimer-laser/>.

To determine if LASIK is right for you, it's essential to:

1. Consult with an ophthalmologist.
2. Discuss your options and expectations.
3. Undergo a thorough assessment.

Dr. Wassermann will advise on the suitability of LASIK based on your individual needs and circumstances.

Free Screening Inquiry:

You are welcome to email your current age, prescription, and preferably your script from a year or two ago. This will allow us the opportunity to inform you about possible options. If you are a potential candidate, you will, however, need to schedule a full assessment. During this assessment, numerous scans and tests will be performed to determine the health of your cornea, lens, and retina, and to exclude conditions such as glaucoma. Most medical aids will cover this consultation if you have available funds. Furthermore, the full consultation amount will be deducted from your LASIK account if you elect to proceed with the procedure.

What Does Laser Eye Surgery Treat?

Modern surgical lasers can very accurately alter the curvature and focusing power of the front surface of the eye (the cornea) to correct short sight (myopia), long sight (hyperopia), and astigmatism. Presbyopia (the need for reading glasses) can be treated in some instances.

The Benefits of Laser Eye Surgery

Laser surgery offers several advantages. Although laser vision correction is often categorized with cosmetic surgery procedures, its benefits are functional. It is designed to reduce your dependence on glasses and contact lenses, enabling you to lead a more active lifestyle with greater ease.

Short sight and astigmatism typically stabilize in the late teens or early 20s. When you reach the age of 45, you will likely require reading glasses. For most patients, vision after laser correction is comparable to vision with contact lenses (if worn) before surgery, but without the potential discomfort and limitations on activity.

How Long Does LASIK Last?

Your distance vision should last until your mid-40s (presbyopic age), at which point you will likely require reading glasses. Natural prescription changes can occur at any stage in life. If the refraction changes, laser vision correction may sometimes need to be repeated (enhancement). Regression is possible.

Who is Suitable for Laser Vision Correction?

You must be over 18 years of age and have a stable glasses prescription, normally defined as no change greater than 0.5 diopters (0.5D) in the last two years. You are most likely to be suitable for laser vision correction if your glasses prescription, which can be provided by your optician/optometrist, falls within the range:

1. Up to -10.00D of myopia (short sight)
2. Up to +5.00D of hyperopia (long sight)
3. Up to 6.00D of astigmatism

Laser vision correction can be effective for lower to moderate prescriptions in some patients. Conversely, some patients with higher prescriptions may be better suited to lens implantation techniques, including ICL or refractive lens exchange. Dr. Wassermann will advise on your best treatment options after reviewing your test measurements and eye health.

Myopia (short sight) and astigmatism normally cause poor distance vision from the teenage years onwards, but hyperopia (long-sight) typically affects people more as they get into their thirties and above. Younger patients with hyperopia often have no problems seeing well because the flexibility of the eye's natural lens allows them to compensate. As the natural lens stiffens with age, hyperopic patients first find themselves more dependent on reading glasses than people with normal sight and then find that they need glasses for distance too. Age-related loss of reading vision can often be helped with laser vision correction. From the mid-40s onwards, surgeons often aim for good distance vision in one eye and good vision at arms' length in the other.

Many contact lens wearers are incorrectly diagnosed as having dry eyes and are consequently advised against laser vision correction. Eye surface discomfort is sometimes experienced by contact lens wearers and is often treatable. Laser vision correction can be a good solution for patients experiencing difficulties with contact lens wear, especially if the discomfort is caused by allergic reactions to the contact lenses or storage solutions (Giant Papillary Conjunctivitis - GPC).

You may not be suitable for laser vision correction if you have other eye problems, including cataracts or issues with eye surface health.

Vision Correction Surgery Alternatives

Lens implantation techniques may be more suitable for some patients. There are two main categories of vision correction based on lens implantation: Refractive Lens Exchange (RLE) and Phakic Intraocular Lenses (PIOLs).

1. **RLE** is identical to modern cataract surgery but is performed with the primary aim of increasing freedom from glasses. RLE is often preferred over laser vision correction for patients in the retirement age group where the early stages of cataract are common. In RLE, the natural lens is replaced with a lens implant. A variety of different implants are used, including multifocal lenses designed to reduce reliance on glasses for near, intermediate, and distance vision.
2. In younger patients, artificial lenses called **phakic intraocular lenses (PIOLs)** are often a good alternative when the spectacle prescription is outside the normal range for laser vision correction. PIOLs are implanted in front of the natural lens without replacing it.

Alternative Laser Procedures

The main difference between the various laser vision correction procedures is the general shorter recovery time. Patients undergoing LASIK are often able to return to work the day after surgery. Visual recovery after surface laser treatments (STREAMLIGHT, PRK, LASEK, TransPRK) may require a week or longer before reaching the driving standard. Although visual recovery can be slower after surface laser treatments, patients can return to contact sports sooner; LASIK patients need to wait for a minimum of six weeks. Differences between techniques are minor, and mild eye surface discomfort in the early period after all forms of laser vision correction is normal. Visual results at three months are equally good for all types of laser vision correction. If we determine that you have a degree of dry eyes, we will probably suggest surface ablation (Streamlight) as some studies indicate that LASIK may cause more prolonged dry eye syndrome due to the creation of a flap.

CONTOURA LASIK SURGERY (Topography-Guided LASIK SURGERY)

Dr. Wassermann will discuss when and if you are eligible for Contoura or Topography-Guided LASIK Surgery.

Contoura Vision surgery is also known as Topography-guided LASIK surgery. The process followed is similar to conventional LASIK surgery; however, the technology involved is different. The key distinction between conventional LASIK and Contoura LASIK (Topography-guided LASIK surgery) is that while conventional LASIK treats the pupillary axis to correct your vision, Contoura LASIK treats your visual axis. Contoura laser is extremely useful in patients with irregular astigmatism.

The advanced technology of the WaveLight EX500 machine employed maps approximately 22,000 points on the cornea through topography. Every point is analyzed for abnormality and corrected via laser. The equipment involved in Contoura Vision includes the WaveLight EX500 Excimer Laser Systems and the WaveLight TopolyzerVario Diagnostic Device. Due to the complexity of the topography-guided treatment, there is approximately a 20% chance that a second wavefront-optimized treatment may be necessary to achieve the desired effect. The second procedure will be performed at no cost, except for the consumables used during the procedure.

LASIK Surgery vs. Glasses or Contact Lenses

Laser vision correction is an elective procedure, meaning you can choose to proceed with it at any time, or not at all. The alternative is continuing to wear glasses or contact lenses. Glasses are risk-free but may limit the range of activities you can perform confidently and comfortably – particularly sports and exercise. Contact lenses provide good all-round vision.

Dirt, damaged lenses, dry eyes, improper fitting, and eye infection can cause foggy vision with contact lenses during sports. Maintaining good contact lens hygiene will help you to be more active but can be inconvenient when traveling, make water sports more difficult, and contact lenses should not be worn whilst showering,

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