

achieve higher refractive correction. PRK along with use of Mitomycin-C has the same effect. Although it is possible to correct greater amount of refractive error in these procedures but the recovery is slow and more uncomfortable than in LASIK and there are greater chances of haze developing in the cornea.

Why choose Max Eye Care for LASIK?

Max Eye Care has state-of-the-art infrastructure with advanced LASER from Wavelight Allegretto. The operation theatre is specially designed to provide maximum sterility with laminated flooring and walls; aluminium paneled ceiling and desired temperature & humidity control measures.

We do a comprehensive pre-LASIK screening to assess the fitness criterion of the candidate before proceeding for the surgery. Using an advanced corneal topographic system and accurate ultrasonic corneal thickness measuring instruments we can accurately determine which candidate are fit for LASIK and well suited to undergo the procedure.

To ensure high precision, accuracy, sterility and safety of the procedure we use disposable heads of the Moria Keratome as well as single use disposable consumables for each patient. Facility for intraoperative pachymetry (corneal thickness assessment) is also available in our LASIK operation theatre, which might prove to be vital in certain cases. Highly skilled and experienced surgeons, supported by qualified staff manage this technically advanced facility.

Moreover, being a part of the **Max Healthcare** group, you can rest assured of the quality of service and the care and comfort that you will get at **Max Eye Care**.

Conclusion

LASIK is a major advancement in the field of refractive surgery, which combines efficacy, safety, precision and accuracy. This

technique is taking us on the path that, in the past, ophthalmologists feared to tread - towards the goal of unaided natural clear vision. The future is here today. Wave-front Guided LASIK promises to correct all optical aberrations of the eye resulting in a much better quality of vision.

FAQs for LASIK/C-LASIK

- 1. Is the procedure safe?**
Yes, it is the safest and one of the most advanced surgeries in the world.
- 2. Is it painful?**
No, the patient does not experience any pain. The procedure is safe and painless and the patient only experiences a slight pressure sensation. The procedure itself is very comfortable for the patient.
- 3. How soon can I resume my normal activities?**
The recovery is very fast owing to the simplicity of the procedure. One can resume the normal activities as early as after 24-48 hrs of the surgery with only a few precautions.
- 4. Will my power come back after the surgery?**
No, the power never comes back. Only in very cases where the refractive power is very high to begin with, a minimal residual power may remain which can be corrected by what is known as enhancements, (which again can be assessed only after 1-2 months of the operation) depending on the patients need.
- 5. Can I go blind?**
No, there has been no reported case of blindness so far.
- 6. Can there be any complications?**
The chances of the complications happening are rare but in the event of any such complication occurring, our surgeons are very competent to take care of them.

- 7. Which is the right age to get Lasik done?**
One can get the surgery done after the age of 18 years with stable power of glasses for the last 1-2 years.
- 8. Is the treatment life long?**
Yes, the treatment is designed to last a lifetime. Only after the age of 40 years, does a person require reading glasses.

LASIK

Max Studio



Ver 1.1/Feb. 06

For further information, please contact your eye surgeons at **Max Eye Care**.



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LASIK

Invention of spectacles was a great achievement at a time when patients with refractive error were severely handicapped or practically blind. Spectacles enjoyed a high degree of popularity for a long time, but now their disadvantages such as, cosmetic blemish, restricted field of clear vision, aberrations, obstruction in sports and physical discomfort, are apparent. However, this does not mean that spectacles are to be condemned. There are still many situations where spectacles are the only alternative available for restoration of vision and also a respectable visual device.

A question that always haunts the minds of the ophthalmologists and patients alike is "Why should we depend on prosthesis when it is possible to restore natural vision with all its inherent advantages (not just cosmetic)?" The answer to all our doubts and apprehensions lies in LASIK. This literature will take you through the LASIK procedure in detail.

LASIK (Laser Assisted In-situ Keratomileusis)

LASIK is currently the best method of correction of refractive errors. It is accurate, effective and safe. In LASIK, a very thin (110 to 160 micron) layer of the cornea (the transparent part of the eye) is raised. Using computer controlled Wavelight Allegretto Excimer Laser, (Argon Fluoride 193nm) the cornea is then reshaped into a predetermined curvature. This leads to correction of myopia, hypermetropia, and astigmatism. The procedure is short, simple and being computer controlled is highly accurate. The steps are detailed below:

A. Patient Selection

It is extremely important to determine who is a suitable candidate for LASIK surgery. The important criteria are:

- Refractive error: Myopia between -1 to -12 diopter or Hypermetropia up to 6 diopter
- Astigmatism of up to 6 diopters

- Minimum age 18 to 21 years
- Refraction should have been stable for last 1-2 years
- Presence of keratoconus, thin corneas, corneal inflammatory diseases, herpetic keratitis and autoimmune diseases makes a person unsuitable for LASIK.

B. Preoperative Preparation

- Refraction under cycloplegia
- Corneal topography
- Aberrometry
- Ultrasonic Pachymetry (to measure thickness of cornea)
- Detailed retina examination
- Intraocular Pressure Examination
- Informed consent procedure

C. Procedure

LASIK is performed under eye drops anaesthesia, so no injection is required. Wavelight Allegretto LASIK machine has a high speed (250 Hz) eye tracker device. This device constantly monitors the position of the eye and realigns the Laser to the exact position on the eye. The steps are:

1. After the anaesthesia, the face of the patient is covered with a drape leaving only the eye exposed. An eyelid speculum is then applied to retract the eyelids and the patient has to look at a blinking green light.
2. A vacuum ring is placed around the cornea, which serves to stabilize the eyeball and also acts as a platform for the microkeratome. When vacuum is activated, the vision becomes hazy and pressure on the eye is felt.
3. The automated Moria Microkeratome dissects through the superficial layers of the cornea and the corneal flap is folded back. During this step the patient hears the sound of a motor in front of the eye.
4. Wavelight Allegretto high speed (200 Hz) Excimer Laser ablates the stromal bed to resurface it to a desired curvature. What makes the

Excimer laser so well-suited for corneal ablation is its ability to remove tissue with accuracy of up to 0.25 micron with each pulse. Often, only 50 microns of tissue are removed to achieve the proper amount of correction. The Excimer produces a non-thermal light beam that eliminates the possibility of thermal damage to surrounding tissues. This Laser deploys 0.95 mm flying spot with truncated gaussian profile Laser beam to achieve correction of refractive errors, higher order aberrations and fashioning of smooth transition zones. During this step a clicking sound is heard and an odour of ablating tissue (similar to charring hair) is smelt and a flickering light is seen close to the eye. All this while patient needs to concentrate on the centre of the blinking red spot of light.

5. The corneal flap is then repositioned and allowed to dry for a few minutes. The flap self-seals without the need of sutures.
6. Antibiotic and other eye drops are prescribed. The patient is instructed to report back the next day.

D. Precautions

- Avoid swimming and splashing of water on the eyes for a month
- Avoid rubbing the eyes for a month
- Use sunglasses to avoid bright sun, dust, wind and air pollution
- Avoid excessive viewing of TV or work on computers for a week
- Use medicines regularly as advised
- Consult your eye surgeon in case of any problem

E. Time Frame

A typical schedule for LASIK patient is as follows:

- Day 1- Detailed eye examination
 - Day 2- LASIK Surgery (2-4 hours spent in the centre)
 - Day 3- Review visit for postoperative examination
 - Day 7- Review examination
- Patient may travel between days 3 and 7.

F. Complications

No surgical procedure is without any complications. However, LASIK is a relatively safe technique of correction of refractive errors. The possible complications can be:

- Under or over correction
- Reduced contrast sensitivity
- Glare
- Decentration of ablation
- Astigmatism
- Flap damage
- Button holing of flap
- Corneal perforation
- Central island
- Infection
- Corneal infiltration
- Corneal ulceration



G. Results

Results are generally very satisfactory and it has been reported that in carefully selected cases more than 90 % achieve unaided visual acuity of 6/12 or better (i.e., 6/12 6/9 6/6 6/5). There is a subjective difference in the degree of satisfaction among the patients. Some patients with a vision of 6/12 may feel very happy while others may be dissatisfied even with a vision of 6/5.

Wave-Front Guided or Custom LASIK

Standard LASIK involves assessment of only refractive error (sphere and cylinder) and correction of the same. But human eye may have some finer degrees of optical imperfections called higher order aberrations. Wave-front guided or custom LASIK measures higher order aberrations present in the optical system of the eye and attempts to correct it. Moreover, the treatment maps generated, maintain the natural (prolate) profile of the cornea, thereby, preventing induction of any aberrations. All this translates into better contrast and night vision.

Epi-LASIK or LASEK

In patients with thin corneas it may help to lift just a thin epithelial flap as in Epi-LASIK or remove epithelium using alcohol as in LASEK. This leaves behind greater amount of tissue in the corneal bed to