

TRIPLER ARMY MEDICAL CENTER

REFRACTIVE SURGERY CENTER

**Warfighter Refractive Eye Surgery Program
(WRESP)**

Goals of this Briefing

- To inform active duty personnel about WRESP, the Warfighter Refractive Eye Surgery Program.
- Explain the surgical and non-surgical options available, along with the risks and benefits of the surgical procedures.

What is Refractive Surgery?

- Refractive surgery involves using surgical procedures to decrease near-sightedness, farsightedness and astigmatism. By decreasing these “refractive errors” you should have improved uncorrected (meaning no glasses or contact lenses) vision. We offer many types of refractive surgery at our Center. We will help you determine which procedure is correct for you.

Purpose of WRESP

- US Army-funded program to enhance active duty service member readiness by reducing their dependency on glasses and/or contact lenses
- Why does the Army fund such a program?
To improve the safety and efficacy of its most important resource --- **YOU**





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Tripler's WRESP

- Refractive surgery available to all branches of service
 - Army
 - Navy
 - Marines
 - Air Force
 - Coast Guard

Qualifications: Remaining Time in Service

- Minimum time remaining on active duty at time of surgery, or in conjunction with a re-enlistment action which has been executed:
 - Army -18 months
 - Navy/Marine Corps - 12 months
 - Air Force - 6 months (pilots-12 mos)
- Personnel selected should have at least 6 months remaining in the same or similar unit (if unit prioritization is in effect)
- no adverse personnel actions pending.

Prioritization

- Prioritization, according to command or job description, is not currently needed due to the short wait time for refractive surgery at our Center
- We will attempt to expedite service members who have upcoming deployments, but there is no guarantee that we will be able to complete your evaluation, perform your surgery and have you complete your follow-up appointments in time for your deployment or TAD

Qualifications: TDY/Travel/Leave

- Service regulations state that patients cannot deploy for a minimum of 3 months after PRK, or 1 month after LASIK
- Deployment is usually not permitted until 3 months after ICL or Refractive Lens Exchange surgery
- No TDY/off-island travel/workups greater than **1 week** in length are allowed during the first 3 months after PRK, or 1 month after LASIK surgery. No TDY/off-island travel/workups are allowed until 3 weeks after PRK surgery, or until after the LASIK 1 week post-op exam

Process Overview

- 1) Print Refractive Surgery Packet (from TAMC website)
- 2) Print Commander's Authorization (from TAMC website)
- 3) Attend a Refractive Surgery Briefing (Oahu patients) – bring your completed packet, including signed Commander's Authorization letter, and an eye exam or prescription that is at least one year old
- 4) Comprehensive Refractive Evaluation (CRE) at TAMC
- 5) Surgery
- 6) Post-op follow-ups !! LASIK: Day 1; 1 week; 1/3/6 months
PRK: Day 1; Day 4; 3 weeks; 3/6 months

****As of 31 March 2011, we will only accept Command Authorizations that are printed out from our website**

Basic Eye Facts

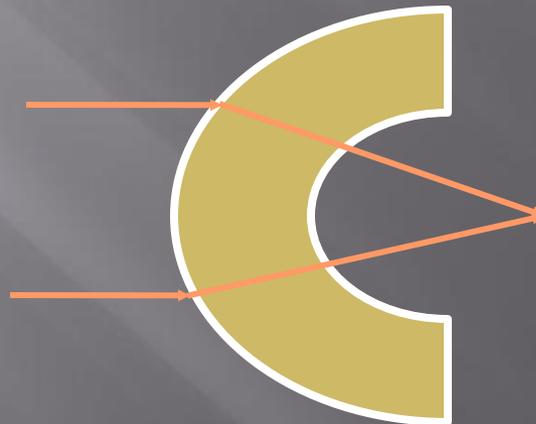
- Four primary types of “refractive error”
 - myopia (nearsightedness)
 - hyperopia (far-sightedness)
 - astigmatism
 - presbyopia

**We correct myopia, hyperopia and astigmatism by re-shaping your cornea (the front clear part of the eye) using an excimer laser

Corneal Curvature



**Flat corneal curvature-
Hyperopia**



**Steep corneal curvature-
Myopia**

Presbyopia

- Everyone develops this condition at some point in their life
- Unable to focus at both near and distant objects without correction
- Reading glasses will most likely be needed for reading after 40-50 years of age
- Monovision may decrease the need for reading glasses, but it is not for everyone
- Refractive surgery **will not correct** presbyopia

Refractive Surgery

- Tripler's Refractive Surgery Center offers:
 - PRK (photorefractive keratectomy)
 - LASIK (laser in-situ keratomileusis)
 - ICL (Implantable Contact Lens) surgery
 - RLE (Refractive Lens Exchange) surgery

**ICL and RLE surgery may only be considered if you are not a good PRK or LASIK candidate – we will inform you if you are a good ICL/RLE candidate. Greater than 97% of our refractive surgeries are PRK and LASIK.

Refractive Surgery – other treatment options

- Eyeglasses
- Contact lenses
- Radial keratotomy (RK)
- Orthokeratology
- Intra-stromal rings

**RK is no longer authorized for active duty/reserve personnel

Realistic Expectations

- PRK/LASIK surgery is irreversible
- There are risks associated with the procedure
- 5-10% of candidates will not qualify for surgery
- Up to 5% of patients may need additional surgery at a later point in time

Realistic Expectations

- Not everyone will achieve 20/15 uncorrected vision
- Refractive surgery does not give everyone “perfect” vision
- I may not be happy after surgery, even if I am 20/20
- I may be happy even if I am not 20/20 after surgery

***Every patient has different expectations – this briefing helps us to ensure that your expectations are realistic*

Corneal Refractive Surgery (LASIK/PRK)

Corneal Refractive Surgery

- Advantages:
 - decreased dependency on glasses or contact lenses
 - improved safety/comfort when using personal protective gear (NVGs/Gas mask)

Corneal Refractive Surgery

- Disadvantages:
 - non-reversible
 - vision may change mildly after many years
 - some side-effects may be permanent

Surgical Criteria

- Age 21 years or older.
- Stable refraction at least one year
- Nearsightedness: minimum SE is -1.0 D
- Farsightedness: $<+4.00$ diopters (USAF +3D)
- Astigmatism <4.00 D (USAF +3D)
- No medical or ocular contraindications

Medical Contraindications

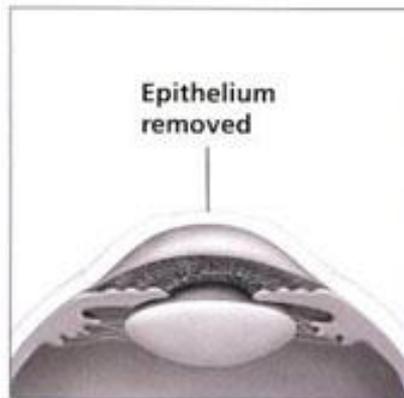
- Vascular disease
- Autoimmune disease
- Diabetes, HIV+, Rheumatoid Arthritis, etc
- Pregnant or Nursing
- Certain medications
e.g. Prednisone, Accutane, Imitrex, Cordarone

Ocular Contraindications

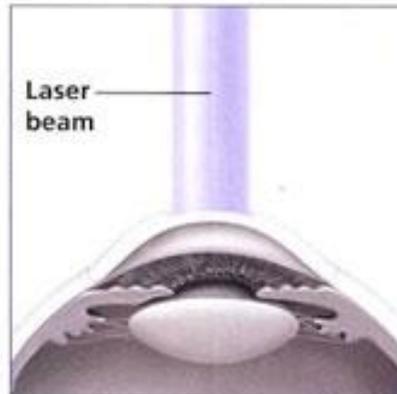
- Keratoconus, or keratoconus suspect
- Irregular astigmatism
- History of ocular herpes infection
- Unstable refraction
- Corneal disease
- Glaucoma
- Cataract

PRK

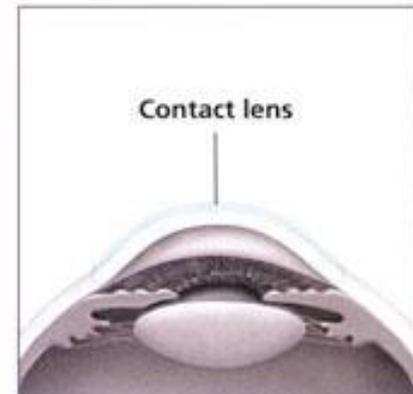
PRK



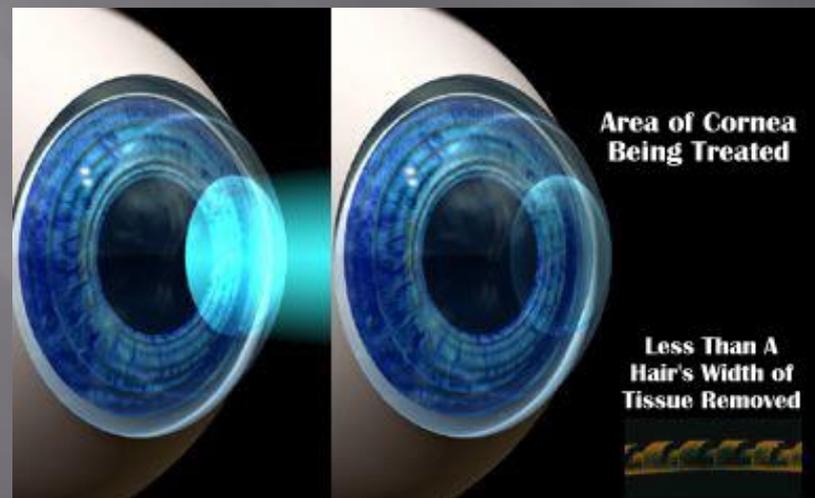
The epithelium is removed using a small instrument or a laser. This exposes lower layers of the cornea.



A laser reshapes the cornea using short, rapid pulses of ultraviolet (UV) light. The laser is guided by a computer.



A "bandage" contact lens is placed on the eye. The lens helps protect the eye while it heals.



PRK: Expectations

- You will have some degree of eye pain after PRK--it may be mild or severe, but it will only last for a few days
- Plan on staying at home with your eyes closed as much as possible for the first few days after surgery
- Although the contact lens typically is removed around Day 4, it may take longer before it can be removed
- Your vision may fluctuate every day for the first month
- You will have light sensitivity for 7-10 days after surgery
- Glare, halos and/or dry eye symptoms are common in first 2-3 months
- Convalescent leave is recommended until contact lens is removed – this is typically 5 days, including the day of surgery

PRK: Complications

- Glare and/or halos
- Dry eye symptoms
- Loss of contrast sensitivity (difficulty with low-light tasks)
- Over or under-correction
- Regression over time
- Elevated intraocular pressure (post-op medication)
- Loss of “best-corrected” vision compared to pre-surgery
- Infection (<<0.1%)
- “Haze” = late scarring (1-6 months post-op)
 - risk is proportional to degree of laser correction
 - everyone is at some risk

LASIK

LASIK: Overview

- Actually two procedures:
 - 1) Creation of flap using femtosecond laser
 - 2) Re-shaping of cornea using excimer laser

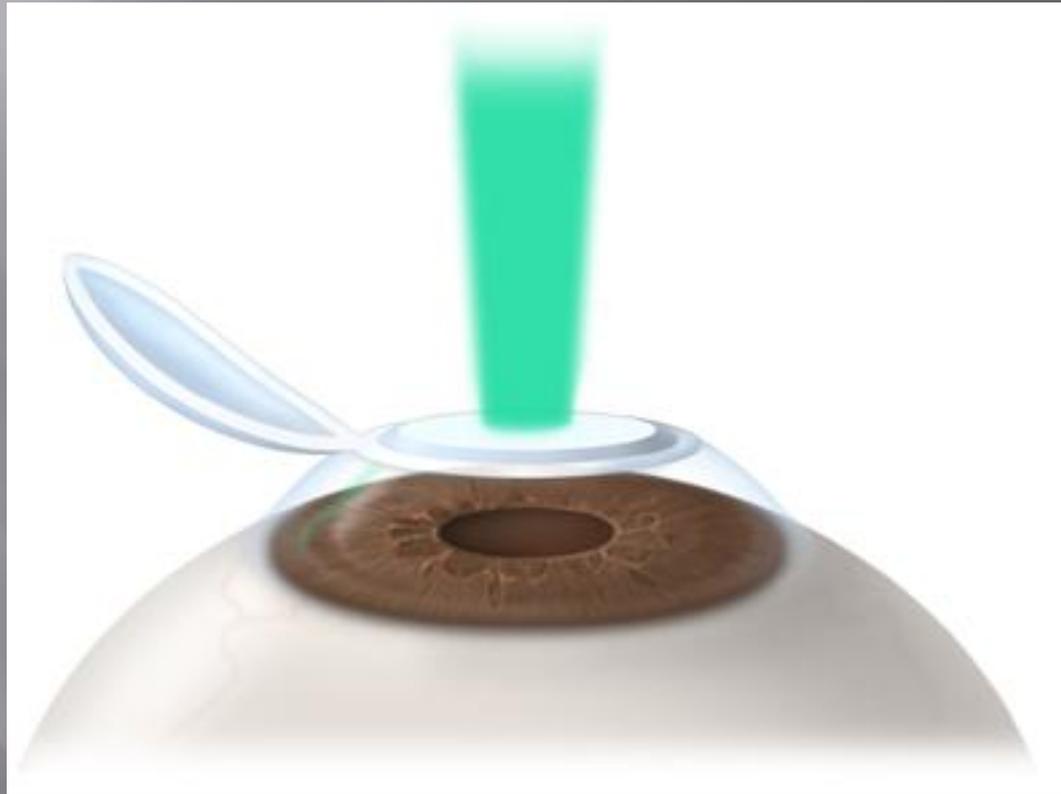
LASIK

Stabilization
ring



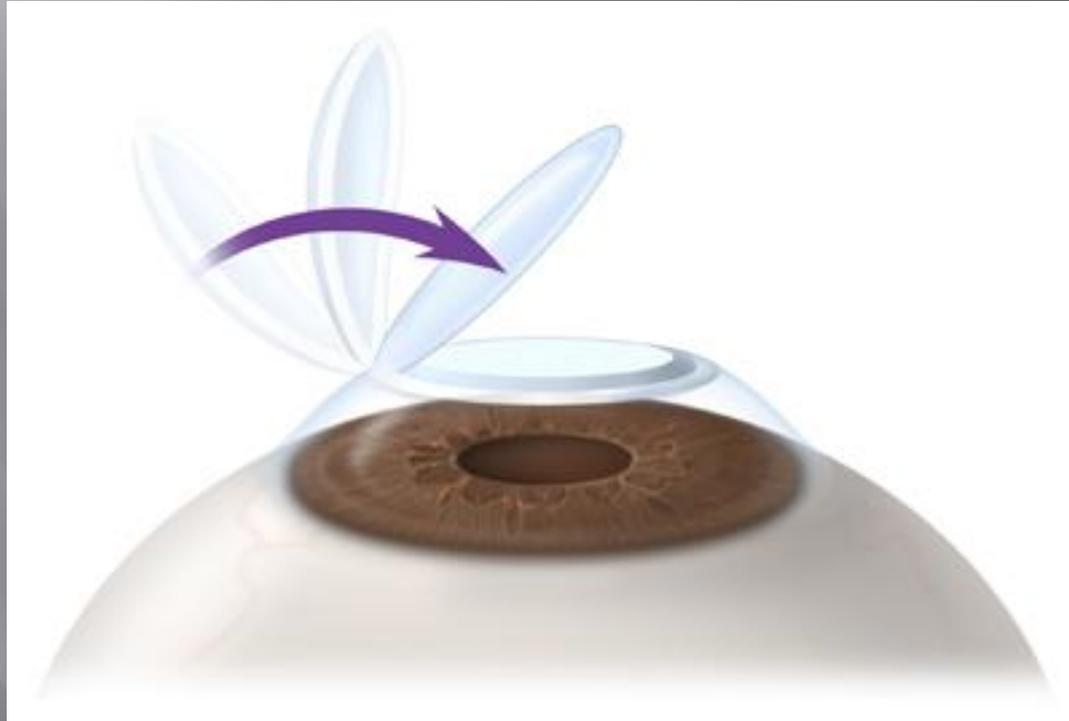
Stabilization ring is placed on cornea and
laser is applied

LASIK



Flap is lifted and laser is applied

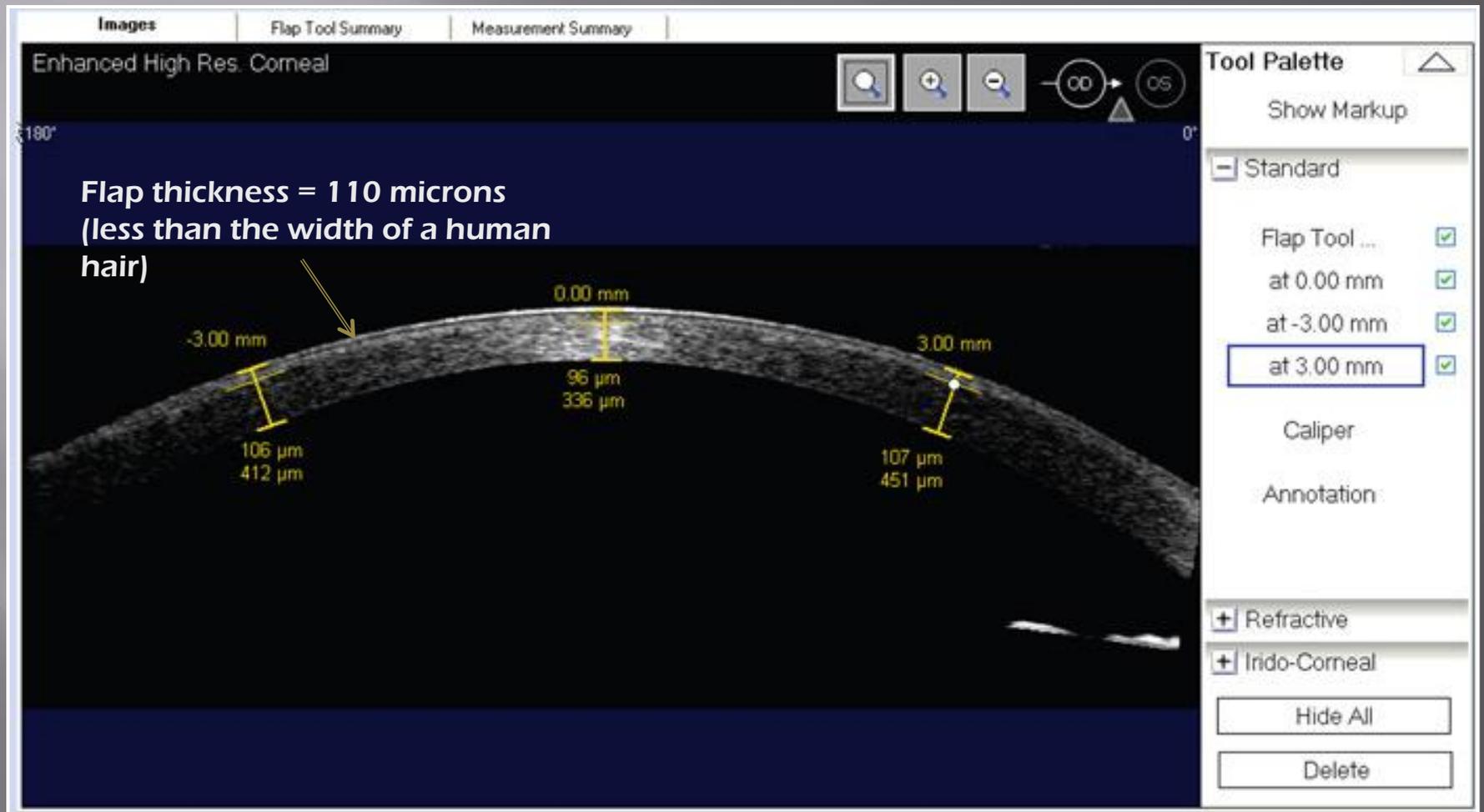
LASIK



Flap is repositioned on corneal bed

LASIK

IntraLase “Planar” flap



LASIK: Expectations

- Blurred vision, moderate discomfort and light sensitivity for up to 24 hours after surgery
- Bruising of the white part of the eye is common – it is painless and will resolve in 2-3 weeks
- Glare, halos and dry eyes are very common during the first three months; any of these symptoms may be permanent
- Although it may take up to a week to attain stable vision, most improvement occurs in the first 48 hours after surgery
- Convalescent leave is recommended for the day of surgery, and for the following two days (3 days)

LASIK: Complications

- Glare and halos
- Dry eye symptoms
- Decreased contrast sensitivity (difficulty with low-light tasks)
- Complications with creation of flap (intraoperative)
- Over or under-correction; regression over time

LASIK: Complications

- Striae (folds) in the flap
- Flap dislocation (post-operative)
- Diffuse Lamellar Keratitis (DLK)
- Epithelial ingrowth (under flap)
- Infection ($\ll 1\%$)

PRK vs. LASIK

Which procedure will give me better vision?

- At six months after surgery you will have the same chance of achieving 20/20 or better uncorrected vision, whether you choose PRK or LASIK
- Using data from the past three years, the percentage of patients with 20/20 uncorrected post-operative vision after corneal refractive surgery at our Center is >95%. No patient has lost greater than 2 lines of best-corrected visual acuity.

PRK vs. LASIK Comparison

PRK

- More discomfort
- Longer recovery time
- No flap complications

LASIK

- Less discomfort
- Shorter recovery time
- No corneal haze risk

PRK vs. LASIK

- Your choice of procedure should depend upon many factors, including :
 - Military job (infantry vs. pilot vs. HALO, etc)
 - Hobbies/Lifestyle (boxer vs. Playstation3 fan)
 - Increased comfort level with a particular procedure

Flight Status Personnel

- All service members on flight status, or who are considering applying for flight status, must contact their flight surgeon or prospective flight training program to determine eligibility for refractive surgery. Currently TAMC-RSC is able to treat US Navy Class II/III personnel. Class I Naval aviators should contact the Naval Medical Center San Diego Refractive Surgery Center

USAF Personnel

- ICL surgery is NOT AUTHORIZED
- All USAF personnel must have an eye exam completed by a USAF ophthalmologist or optometrist, along with a signed USAF-RS Registry *Permission to Proceed* letter prior to scheduling an evaluation at our Center

Special Ops/Divers/HALO/SF

- You should contact your command's medical officer to determine your eligibility prior to requesting refractive surgery. Although we strive to maintain the most up-to-date information on current requirements, we treat personnel from all services and policies are constantly changing. At this time LASIK is disqualifying for US Army HALO/HAHO/Diving personnel. LASIK is also disqualifying for US Army Special Forces personnel, but applicants can request a waiver if they have already had LASIK.

Reminders...

CONTACT LENSES

- Soft lenses: out for at least 2 weeks prior to evaluation
- Hard/Toric lenses : out for at least 4 weeks prior to your evaluation

***If left in they can change your treatment results!!*

DON'T BE LATE

- EXPECT TRAFFIC and LIMITED PARKING!!
- Be at the Refractive Surgery front desk 15 minutes prior to all scheduled appointment. If you are late, your appointment slot will be given to a standby candidate
- “Standby” slots – a limited number of slots available each day if you live/work near TAMC – Email our Center at TAMC.DSRefractSurg@amedd.army.mil the day prior to being available for evaluation to register your name in case there is an unexpected opening

FOLLOW-UP EXAMS

- COs advised not to sign authorization if they cannot verify that you will be able to follow-up as planned
- Do not schedule surgery if you won't follow-up
- Remember, your surgical treatment is based on past follow-up data from other patients

****IF YOU FAIL TO FOLLOW-UP AS REQUIRED YOUR COMMANDING OFFICER WILL BE CONTACTED DIRECTLY BY THE CHIEF OF TRIPLER REFRACTIVE SURGERY**

FINAL COMMENTS

- Important Military Considerations:
 - complications may result in need for medical board with possibility of separation from service with NO benefits
- Surgery usually performed on both eyes on same day, but you have the option to have surgery on separate days
- You may not meet your surgeon until your surgery--if your schedule allows it, we can arrange a consultation prior to your day of surgery if requested
- Please read the entire consent form

FINAL COMMENTS

- Laser Eye Clinic: located on 2C, Oceanside
 - your evaluation may take a **few hours**
 - your eyes may be dilated for up to 24 hours (rarely)
 - bring reading material
 - not the place to bring friends, family due to space
 - no children under age 16 (Center Policy)

ASK QUESTIONS !!! If you ever feel your questions are not answered fully, or to your satisfaction, ask to speak to the NCOIC or OIC

--- clinic phone #: 433-3089

INTERNET RESOURCES

- Internet:
 - <http://www.eyesurgeryeducation.com>
 - http://www.aao.org/isrs/patients/ref_procedures.cfm
 - Google “Tripler Refractive Surgery”

**As always, be aware that there is a lot of inaccurate information on the internet. If you have any questions, please ask us prior to surgery

QUESTIONS?