



# Refractive Surgery Education and Informed Consent

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Tripler Army Medical Center

Refractive Surgery Center

Warfighter Refractive Eye Surgery Program (WRESP)



# Goals of this Briefing



- To explain the Warfighter Refractive Eye Surgery Program (WRESP)
- To explain refractive errors (need for glasses)
- To explain the procedures available to treat refractive errors and their risks, benefits, and alternatives
- To explain the process for getting refractive eye surgery

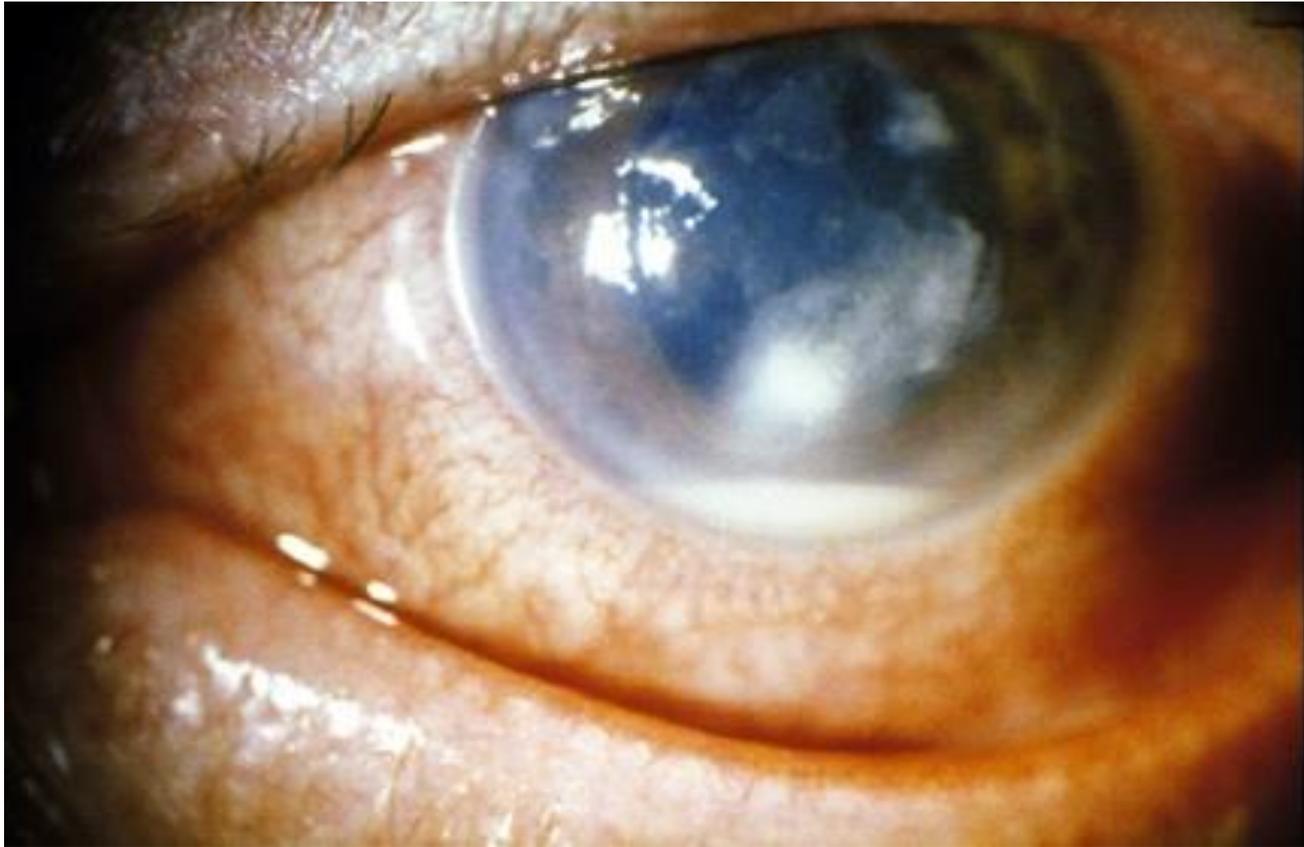


# Why Refractive Surgery?





# No Contact Lenses Forward Deployed





# WRESP



- Warfighter Refractive Eye Surgery Program
- US Army-funded program
- Enhance active duty warfighter readiness by decreasing dependence on corrective lenses
- Available for all branches of service (Army, Navy, Air Force, Marines, Coast Guard)
- Only for active duty warfighters with ongoing active duty service who are at least 21 years of age.



# Eligibility



- Minimum time remaining on active duty at time of surgery:
  - Army: 18 months
  - Navy/Marines: 12 months
  - Air Force: 6 months (pilots: 12 months)
- Should have at least 6 months remaining in same or similar unit
- No pending adverse personnel actions
- No pending medical boards



# Deployment and Travel



- No planned deployment for 90 days after PRK, ICL, or Refractive Lens Exchange (RLE)
- No planned deployment for 30 days after LASIK
- No planned TDY, off-island travel, or work-ups greater than 1 week in duration during these periods
- No travel within 3 weeks after PRK, ICL, RLE and 1 week after LASIK



# Flight Status and Other Special Duty



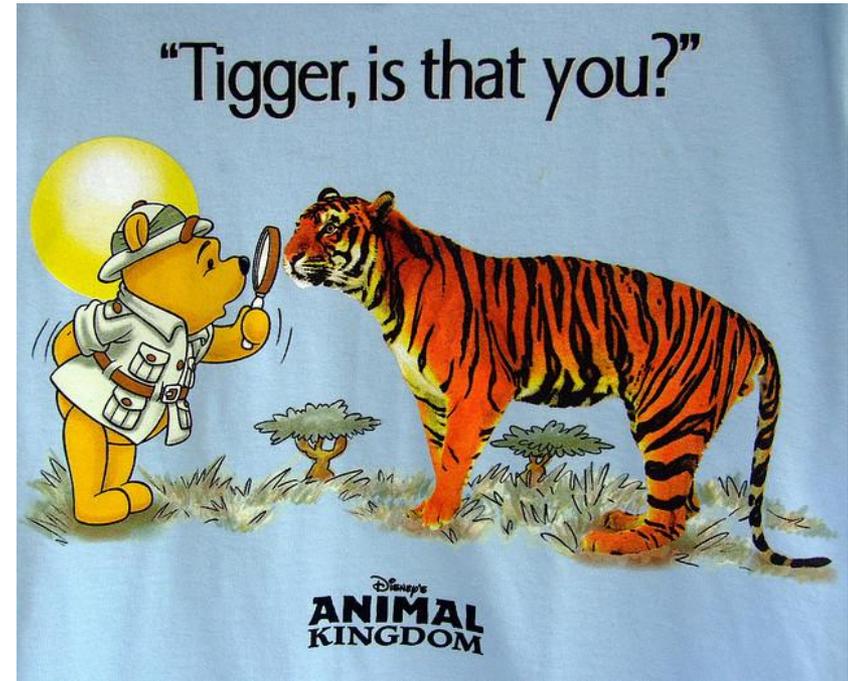
- All service members on flight status, or who are considering applying for flight status, must contact their flight surgeon or prospective training program to determine eligibility for refractive surgery.
- All service members in a special duty status (Special Forces, Divers, HALO, etc.) or considering applying for special duty status must contact their medical officer or prospective training program to determine eligibility for refractive surgery.



# Refractive Error (Ametropia)

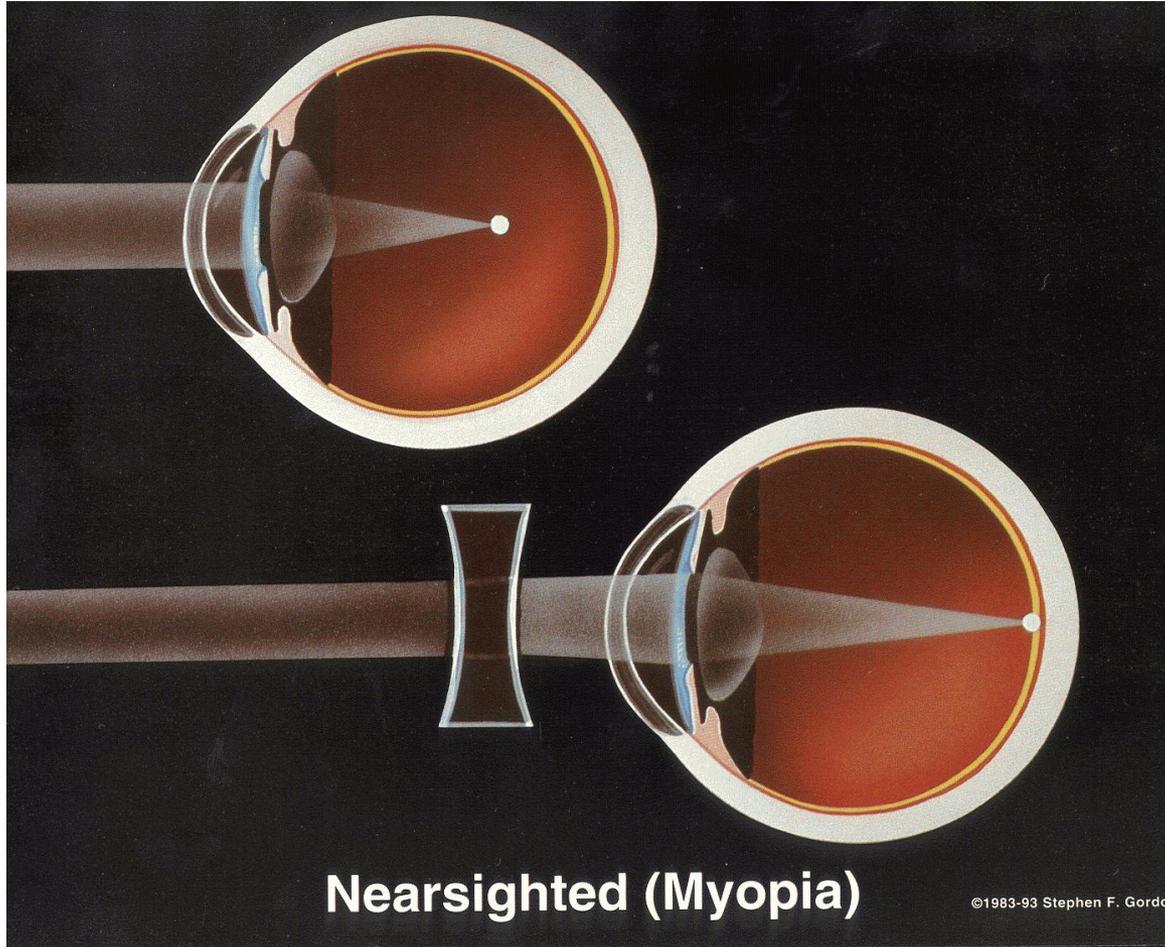


- Emmetropia (normal vision)
- Myopia (near sighted)
- Hyperopia (far sighted)
- Astigmatism (distortion)
- Presbyopia



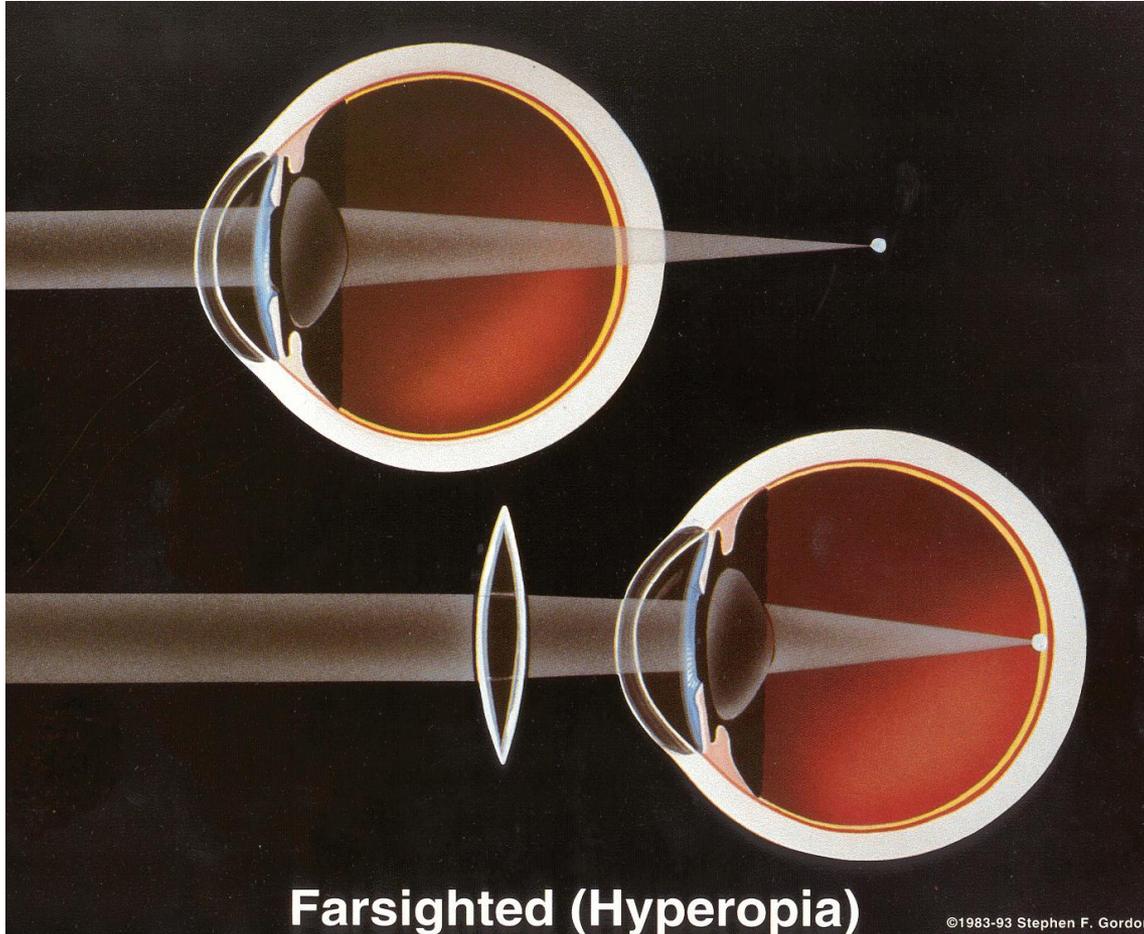


# Myopia (Nearsighted)



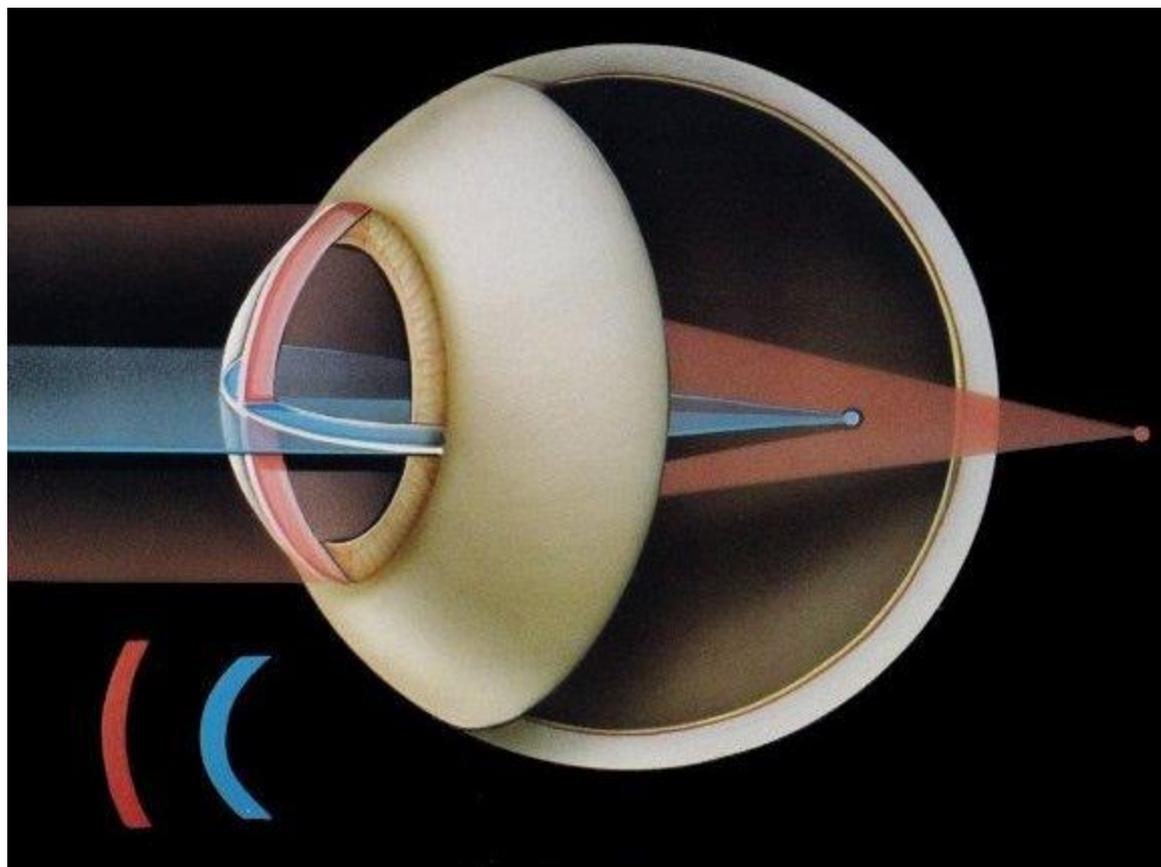


# Hyperopia (Farsighted)





# Astigmatism

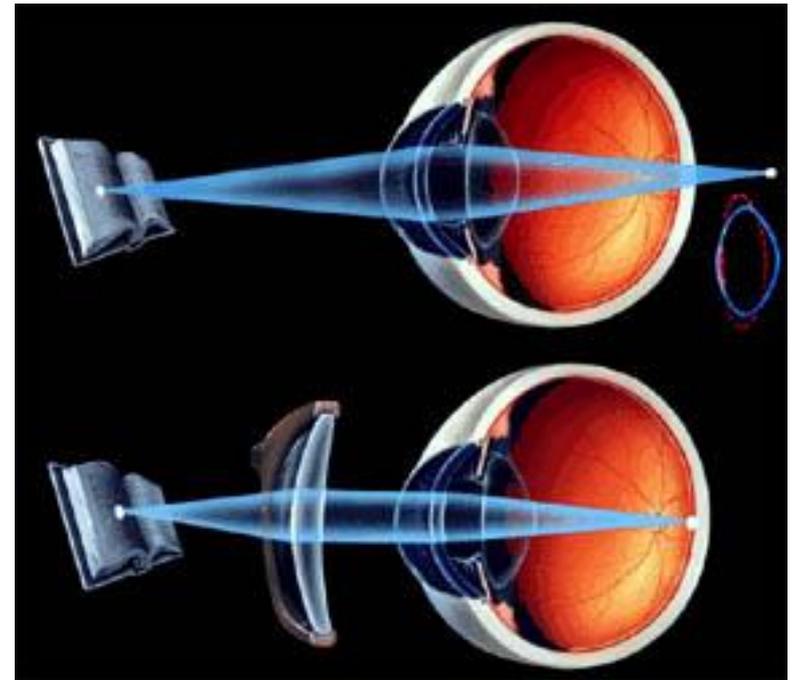




# Presbyopia



- Aging change of the eye that happens to EVERYONE!
- Eye unable to focus up close for reading
- Reading glasses or bifocals starting in early-mid 40s
- Refractive surgery WILL NOT correct presbyopia
- Discuss option for monovision with RSC staff





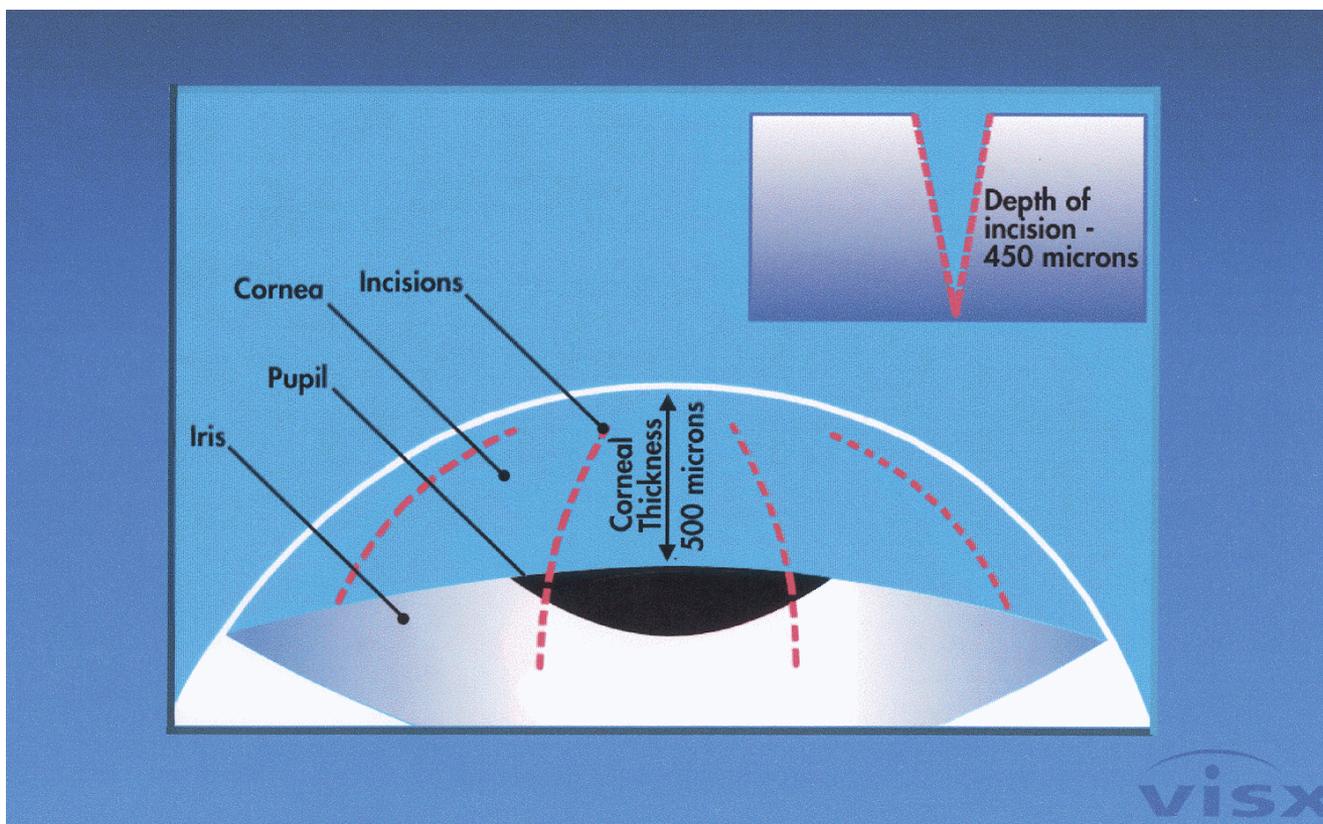
# Treatment Options



- Glasses
- Contact Lenses, Orthokeratology
- Incisional surgery: RK (Radial Keratotomy), AK (Astigmatic Keratometry), LRI (Limbal Relaxing Incisions)
- ICR (Intracorneal Rings)
- Phakic IOL/ ICL (Implantable Collamer Lens)
- Refractive Lens Exchange (RLE, cataract surgery)
- Excimer Laser Surgery (best for most people)
  - Surface ablation -- PRK (PhotoRefractive Keratectomy)
  - LASIK (Laser In-situ Keratomileusis)

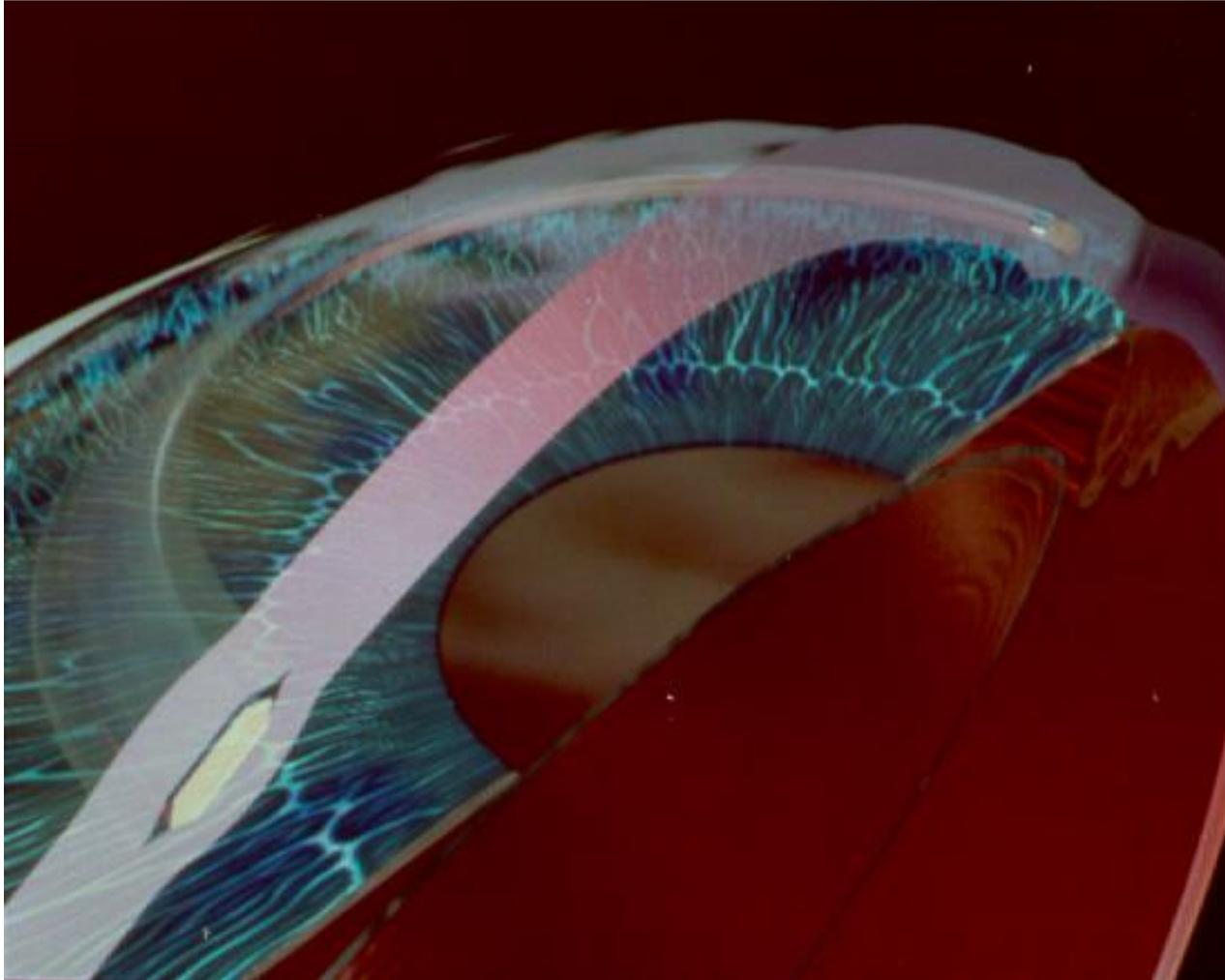


# Radial Keratotomy (RK)



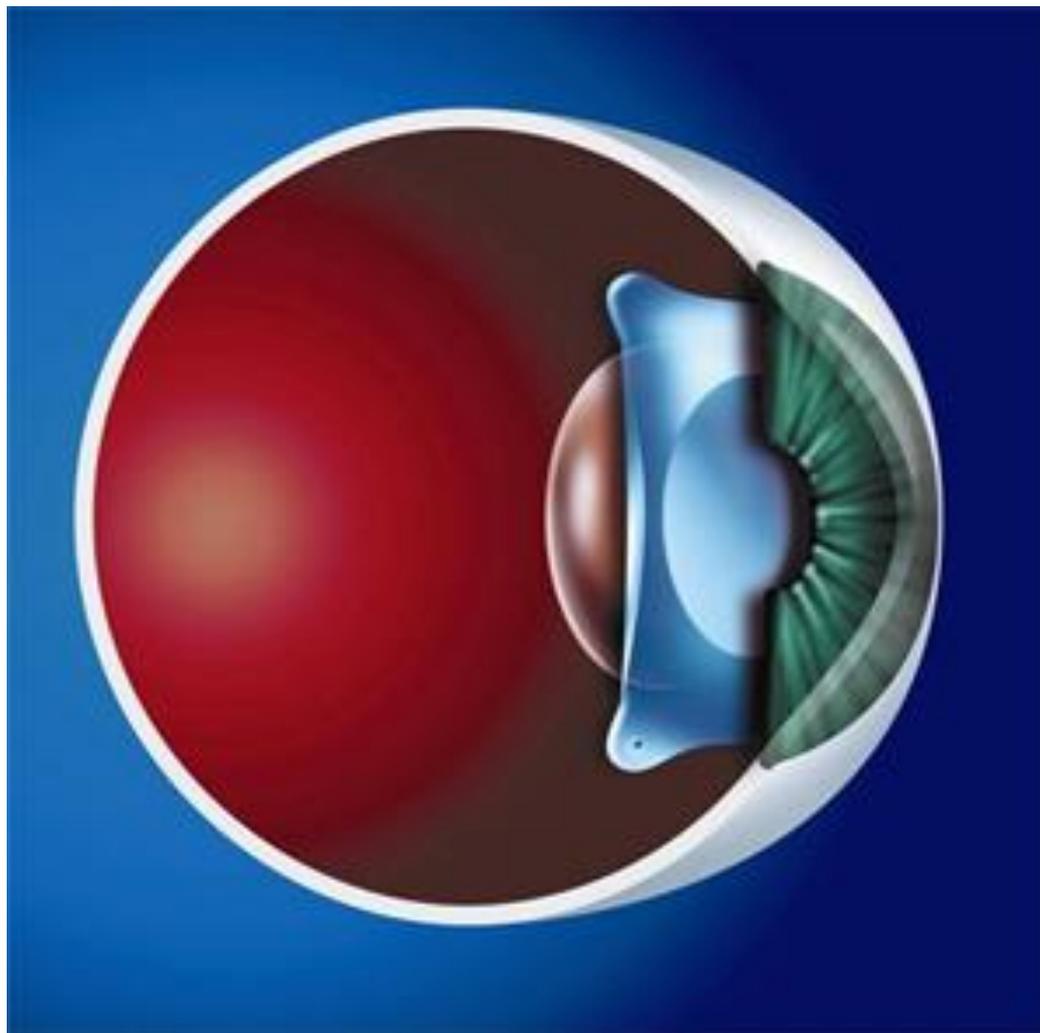


# Intracorneal Rings



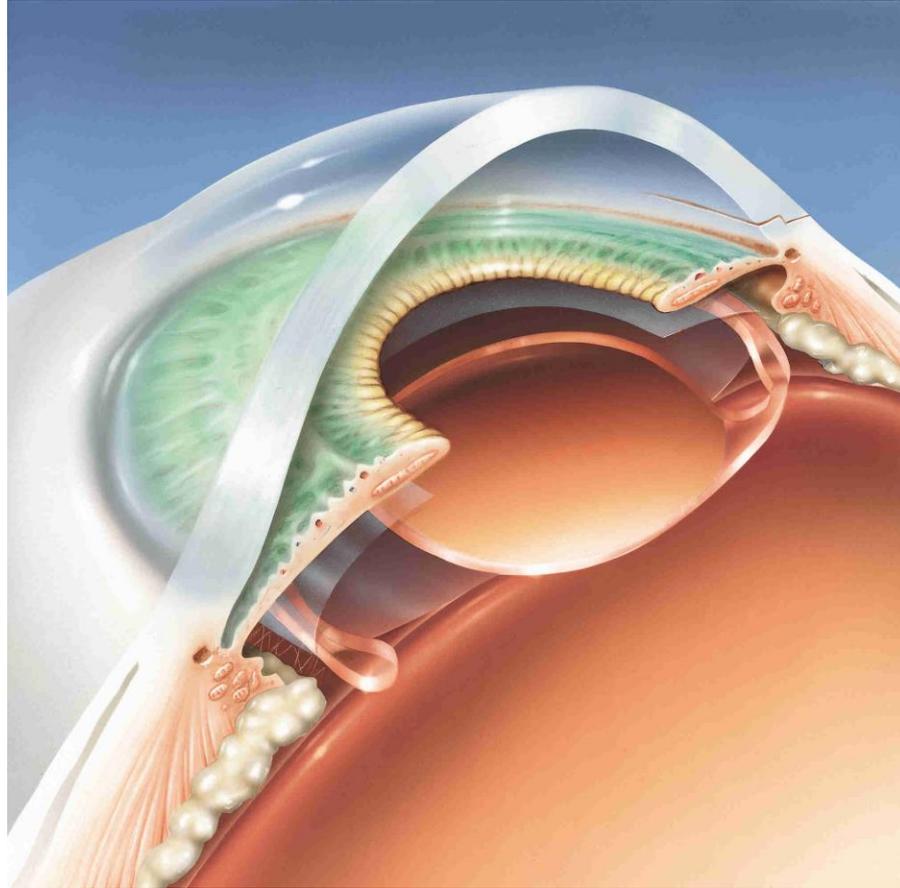


# Implantable Collamer Lens (ICL)



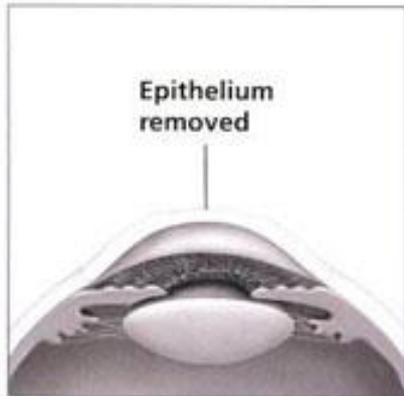


# Refractive Lens Exchange

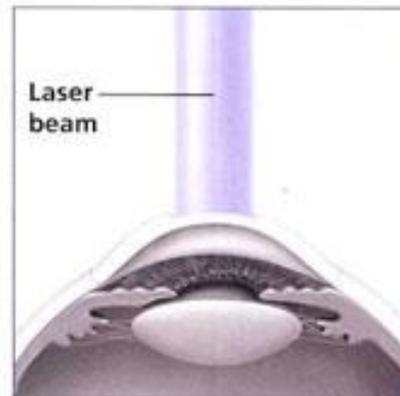




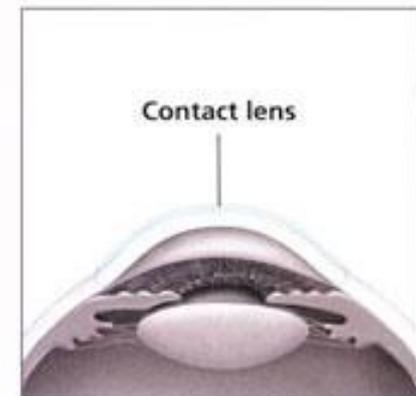
# Photorefractive Keratectomy (PRK)



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.

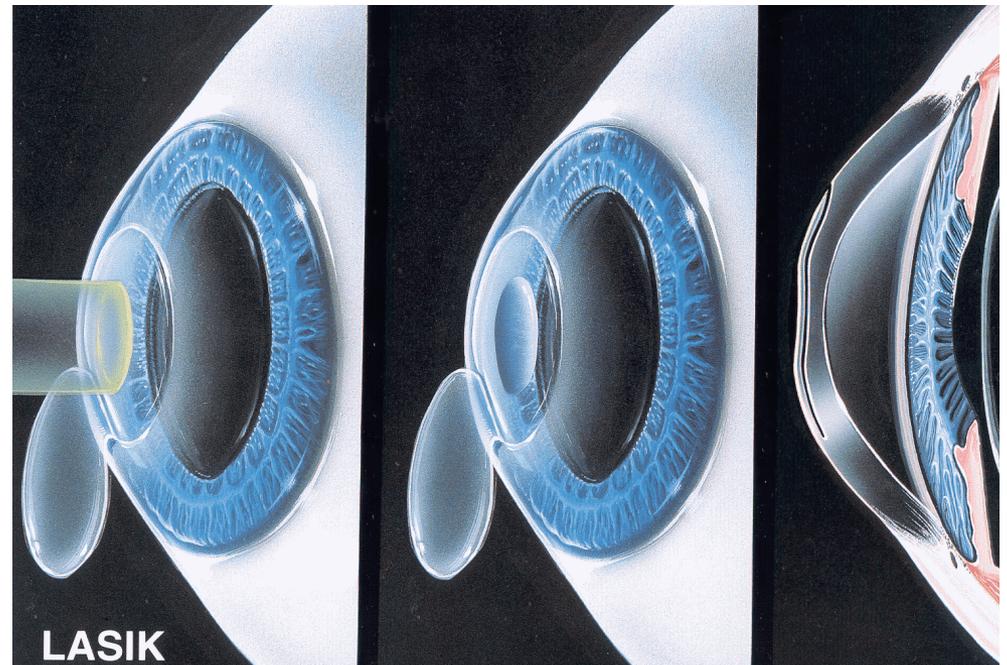
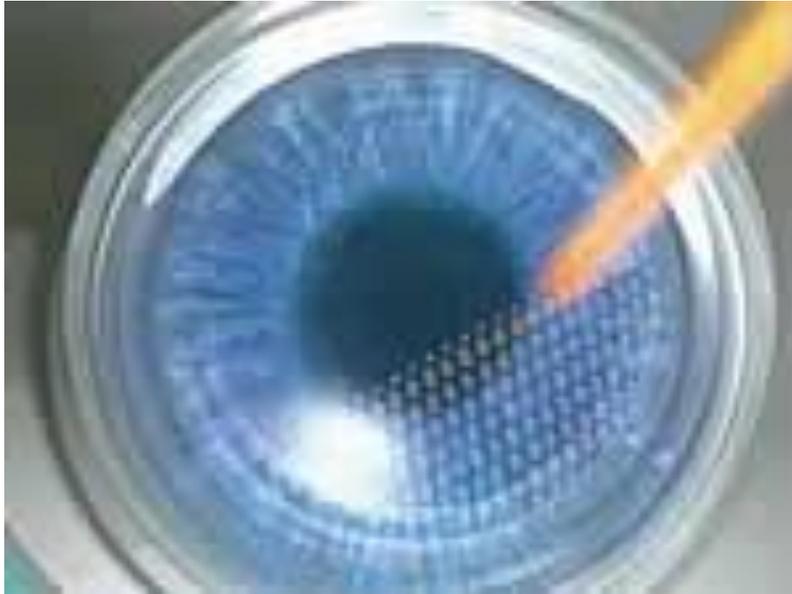


A "bandage" contact lens is placed on the eye. The lens helps protect the eye while it heals.





# Laser In-Situ Keratomileusis (LASIK)





# PRK and LASIK



- **Advantages:**
  - Decreased dependence on corrective lenses
  - Improved ability to function in operational environment (NVGs, gas mask, etc.)
- **Disadvantages:**
  - Irreversible
  - Vision may change over time
  - Some side-effects may be permanent
  - Risk for surgical and post-operative complications



**"No, Meester Bond...  
I expect it to cure your astigmatism"**



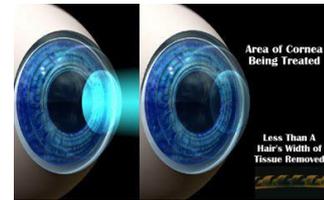
# Realistic Expectations!



- Surgery is irreversible
- There are risks with any surgery
- Approximately 20% of candidates will not qualify for surgery
- Additional surgery may be needed in the future
- Not everyone will be 20/20 without glasses
- Surgery does not provide “perfect” vision
- You may not be happy, even with 20/20 vision!
- You may be happy, even without 20/20 vision!



# PRK: Expectations



- You will have eye pain for several days after PRK, from mild to severe
- Your vision will be very blurry for several days after PRK
- Your eyes will be sensitive to light for 1-2 weeks after surgery
- You will have bandage contact lenses for 4 or more days after surgery
- You will have glare and halos at night for weeks to months after surgery (some symptoms may be permanent)
- Your eyes will be dry for weeks to months after surgery (some symptoms may be permanent)
- Your vision will fluctuate daily for days to weeks
- It will take weeks to months to achieve best vision
- 5 days of convalescence leave, including the day of surgery



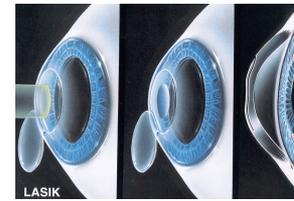
# PRK Complications/Side-Effects



- Glare/halos at night
- Dry eye symptoms
- Decreased contrast sensitivity (low-light vision)
- Over or under correction
- Regression or change in vision over time
- Elevated eye pressure/ glaucoma related to medication
- Infection
- Scarring/ haze: your surgeon may recommend mitomycin-C
- Recurrent corneal erosions
- Corneal ectasia
- Loss of best corrected vision



# LASIK: Expectations



- Your vision will be very blurry for at least 1 day after surgery
- Your eyes will be sore and sensitive to light for at least 1 day
- You will have glare and halos at night for weeks to months after surgery
- Your eyes will be very red for days to weeks after surgery (due to suction ring)
- Most vision improvement will occur in the first week, but it may be several weeks until you achieve best vision
- 3 days of convalescence leave, including day of surgery



# LASIK: Complications/ Side-Effects



- Glare and halos at night
- Dry eye symptoms
- Decreased contrast sensitivity (low light vision)
- Over or under correction
- Regression or change in vision over time
- Infection
- Corneal ectasia
- Loss of best corrected vision
- Flap Complications:
  - Problems with flap creation
  - Wrinkling of the flap
  - Inflammation under the flap: Diffuse Lamellar Keratitis (DLK)
  - Epithelial ingrowth
  - Flap displacement after surgery



# PRK vs. LASIK



- For most people, either surgery is equally effective
- For some people, one surgery is preferred
- For some occupations, one surgery is preferred or excluded
- Discuss your options during your pre-operative visit



# PRK vs. LASIK



## PRK

- Quicker procedure
- More discomfort
- Longer recovery
- Risk of scarring
- Risk of erosions

## LASIK

- Longer procedure
- Less discomfort
- Shorter recovery
- Risk of flap complications
- Risk of flap dislocation



# Process Overview



- Complete Refractive Surgery Packet & CO Authorization (from TAMC website)
- Attend a Refractive Surgery Briefing (Oahu patients); bring your completed packet, including signed Commander's Authorization letter, and an eye exam or prescription at least 1 year old
- Comprehensive Refractive Evaluation at TAMC by Laser Clinic Optometrist. We determine:
  - Can you have surgery?
  - Should you have surgery?
- Review by Ophthalmologist (Eye Surgeon) – Final Determination!
- Surgery
- Post-op follow-up visits
  - LASIK: 1 day, 1 week, 1 month, 3 months, 6 months
  - PRK: 4 days, 3 weeks, 3 months, 6 months
- Enjoy your new vision!



# Contact Lenses



- Contact lenses change the shape of your eyes. This will affect our measurements of your eyes and your operative results.
- Soft lenses: out for at least 2 weeks prior to pre-op evaluation
- Hard/RGP, or Toric lenses: out for at least 4 weeks prior to your evaluation



# Appointments are Important!



- Anticipate traffic and limited parking
- Please arrive in the Refractive Surgery Clinic 15 minutes prior to all scheduled appointments.
- Your follow-up appointments are critical for your successful recovery
- Please don't schedule surgery if you can't (or won't!) follow-up
- Commanding Officers will be notified of no-shows



# More Details



- Military Duty: Although rare, refractive surgery complications may impair your ability to perform your military duties.
- Surgery is usually performed on both eyes on the same day.
- Your pre-op evaluation will be performed by a laser clinic optometrist. If the optometrist considers you to be a good candidate for surgery, you will be given a tentative surgery date. Your surgeon (ophthalmologist) will review your record and make a final determination. The surgeon has the final say over whether or not you are an appropriate candidate for surgery!
- You will meet your surgeon on the day of surgery. If you wish, you may schedule a visit with your surgeon prior to surgery (may delay surgery date).
- Please read the ENTIRE consent form!



# Even More Details



- Refractive Surgery Center is located on Oceanside 2C.
- Your pre-op evaluation may take several hours.
- You may need to return for additional testing.
- If your glasses prescription is not stable, your surgery will be postponed (must have at least 1 year of stability!)
- You will have a dilated eye exam. Your eyes may stay dilated for 24 or more hours.
- Please bring reading material.
- Please do not bring children to your appointments.
- If you have any questions, call the RSC at 808-433-3089



# Internet Resources



- [www.eyesurgeryeducation.com](http://www.eyesurgeryeducation.com)
- [www.aao.org/isrs/patients/ref-procedures.cfm](http://www.aao.org/isrs/patients/ref-procedures.cfm)
- Search: Tripler Refractive Surgery
- Beware internet sites with bias for or against refractive surgery



# Questions?



**Big Scary Laser**

**Do not look into beam  
with remaining eye**