

## **LASIK STUDY ENROLLMENT INCLUDES NAVAL AVIATORS AND AIRCREW**

Effective June 2008, Commander, Naval Air Forces (CNAF) and the Naval Aerospace Medical Institute (NAMI) have approved enrollment of designated aviation personnel into the "LASIK (laser-assisted in situ keratomileusis) Refractive Surgery in Designated Naval Aviators Study" at the Navy Refractive Surgery Center, Naval Medical Center San Diego.

The latest advances in photorefractive keratectomy (PRK) and LASIK refractive surgeries involve wavefront-guided (WFG) technology, which collects the most detailed optical data currently possible to fully "customize" laser correction for each patient. In addition, LASIK flaps are now being created with a laser instead of a mechanical cutting device. Together, WFG-LASIK with laser-cut corneal flaps (collectively called "All-laser LASIK") has been shown to improve post-operative vision quality and is associated with faster healing times overall when compared to older, conventional LASIK procedures.

A recently-completed, initial study involving LASIK in Naval Aviation personnel has shown great results, and return-to-flight status times were found to be dramatically reduced using All-laser LASIK surgery. The purpose of the study was to determine the most appropriate recovery time prior to returning to the cockpit. Based on study results, return-to-flight status will be targeted at 2 weeks for myopes (near-sighted) and 4 weeks for hyperopes (far-sighted) personnel (vice 3 and 6 months, respectively, following PRK).

### **WHO MAY QUALIFY?**

1. Class I and Class II Aviation personnel who wear contacts or glasses full time are most likely good candidates for surgery.
2. You will be medically qualified as a candidate if your eye prescription measurements are about the same value now as they were at least a year ago and your eye and general health are good.
3. You will administratively qualify if your command approves your consult, aero-medical grounding, and travel (as applicable) to Navy Refractive Surgery Center, San Diego, CA for the procedure. You must not deploy for at least 1 month following surgery, and you must be willing to complete multiple questionnaires and attend follow-up visits over a six month period (most of which occur in the first month).

### **ENROLLMENT PROCESS:**

#### **All Personnel:**

1. Schedule an appointment at your local military eye clinic (Note: Bring your glasses, contacts, medical records!). Your record will be reviewed, specific measurements taken, and your health evaluated. This appointment WILL INCLUDE A DILATED EYE EXAMINATION (plan not to fly for 24 hours after dilation). If qualified, you'll receive a consult form specific for the aviation study in San Diego.
2. Route the consult form through your flight surgeon and commanding officer for endorsement to participate in the study.
3. Fax your completed consult to: Navy Refractive Surgery Center, NMCSO @ 619-524-1731.

### **Personnel not stationed within Navy Region Southwest:**

You must make arrangements for command endorsement, transportation, lodging, and set up follow up appointments with your local military eye doctor. Plan to arrive in San Diego on a Sunday, undergo pre-operative examinations on Monday and Tuesday, receive surgery on Wednesday, be followed up on Thursday and be cleared to travel home on Friday.

### **RETURN-TO-FLIGHT CRITERIA:**

Study participants must meet physical requirements, including vision standards, for their rate, as published by NAMI and the Manual of Medicine. Before being considered safe to return to flight status:

1. Aviator must demonstrate 20/20 vision, have refractive stability, and have no subjective visual complaints (glare, halo, starbursts, dryness, etc) that may be deemed a safety-of-flight risk.
2. Aviator must be cleared by an eye doctor (ophthalmologist or optometrist) with a normal exam consistent with post-LASIK state.

Once the above criteria are met, a waiver request will be generated. Aero-medical clearance chits will be issued by your local flight surgeon upon Aero-medical Summary Review and approval by NAMI (which will typically occur at about three weeks after LASIK for myopes and five weeks after LASIK for hyperopes).

Once an aviator returns to flight status, they will be seen 3 and 6 months following LASIK to ascertain whether or not there are any unexpected issues once the aviator returns to flying. An aviation questionnaire assessing flight performance will be provided to all participants at the pre-operative exam and again at 3 and 6 months following LASIK. Visual and flight performance will be monitored throughout the study, both objectively and subjectively.

### **RISKS:**

The risks of WFG-LASIK include vision loss, visual side effects, under and over correction, and other risks which may result in the loss of flight status.

- a. Loss of vision: The surgery can possibly cause loss of vision or loss of best-corrected vision. This can be due to infection, scarring, irregular healing, or other causes. An infection after the procedure could conceivably result in loss of the eye. Distorted vision or "ghosting" may result from scarring or irregular healing. Vision loss after laser vision correction may or may not be correctable by glasses or contact lenses.
- b. Visual side effects: Other complications and conditions that can occur after laser surgery include double vision, hazy vision, fluctuating vision during the day or day-to-day, increased sensitivity to light, and glare and halos around lights. These may or may not completely go away.
- c. Overcorrection or undercorrection: It is possible that the surgery will not give the desired refractive or acuity result. Glasses or contact lenses may still be required after the surgery. If the eye is undercorrected or overcorrected, it may be possible to undergo a second procedure to fine tune the initial result.
- d. Other risks: Other reported complications include corneal ulcer, droopy eye lid, corneal swelling, progressive corneal thinning, cataract, retinal detachment, and bleeding. Complications could arise that require additional surgery including cataract removal and corneal transplant.