Q: What is sports vision training?
Sports vision training is based on the fact that improved visual performance results in better athletic performance. Visual sensory input accounts for more than 80 percent of all sensory input an athlete receives during a sports event. Every athletic movement is initiated by visual input. The body reacts only after the eyes send the necessary information to the brain. If the visual system is not receiving messages accurately or quickly enough, the athlete cannot perform optimally. The athlete who can process more visual information in a shorter period of time and make the proper response will have a distinct advantage in an athletic competition.

Q: Can sports vision training improve an athlete’s performance?
This is the most common question I receive at the Sports Vision Training Center of Excellence at the USC Roski Eye Institute. Unfortunately, we cannot quantify exactly how much sports vision training will increase, for example, a baseball player’s batting average in the same way that no one can quantify how resistance training and cardiovascular conditioning positively impacts these athletic performance metrics. No one will dispute, however, that resistance training and cardiovascular conditioning are essential to achieving superior athletic performance metrics in every sport.

Research has shown that visual training enhances athletic performance by improving reaction time and visual processing ability. These visual training activities establish more efficient and more robust neural connections between the eyes, the brain and the body’s large muscle groups, resulting in demonstrable improvements in athletic performance on the playing field.

Q: Can sports vision training reduce the risk of sports-related injury?
There is increased evidence documenting that sports vision training can significantly decrease the risk of concussion and lower extremity injuries. Moreover, it appears that incorporating sports vision training into the standard concussion and musculoskeletal injury rehabilitation protocols speeds recovery, accelerates the athlete’s return-to-play, and reduces the risk of re-injury.

Q: Do the visual enhancements derived from sports vision training extend beyond athletic performance?
It has been found that athletes who participate in sports vision training see a significant improvement in their grade point average. One of the foundational visual skills that we enhance with sports vision training is the ability to process larger amounts of visual information in a shorter time frame to make a timely and appropriate motor response. Improving the efficiency of the athlete’s visual processing on the playing field automatically transfers to enhancing their visual processing in the classroom.

Q: How is a sports vision training program structured?
Athletes train for 22 minutes a day, three times a week, and six weeks prior to the start of the playing season. Once the playing season begins, athletes train for 35 minutes a day, twice a week, for the entire season. Most of our work strives to improve reaction time, improve eye-hand, eye-foot and eye-body coordination, as well as increase the endurance and flexibility of the six extraocular muscles that control eye movement and the intraocular ciliary muscle that controls the eye’s ability to bring targets into focus. As athletes master the exercises, distractions are added to increase the level of difficulty. The exercises we choose for the athletes concentrates on six areas: rapid eye movement, eye-hand speed and coordination with central peripheral awareness; stereopsis and depth perception; dynamic visual acuity, accommodation, and visual memory, focus, and concentration. In all six areas, we use established exercise physiology principles such as individuality, specificity, and progressive overload with the overall intent to fatigue the eyes so they will recover and be stronger.

Contact Info: USC Roski Eye Institute, 1453 San Pablo St., 4th Floor, Los Angeles, Ca 90033, 323.442.3535

To schedule an appointment or for more information please call 323.442.6335 or visit us at www.USCeye.org

USC Roski Eye Institute
Keck Medicine of USC
**Charles W. Flowers Jr, MD**
Associate Professor of Clinical Ophthalmology, USC Roski Eye Institute

**Q: Will I see 20/20 after having the LASIK procedure?**
The chances of seeing 20/20 depend on many factors: your uncorrected prescription prior to surgery, your healing process and your physician’s knowledge and skill, just to name a few. You will need to be evaluated by your eye doctor to determine if you are a candidate for LASIK. Results vary from patient to patient; however, most patients experience improved vision after the procedure. Some patients attain vision that is better than 20/20 after LASIK, while some have a reduced need for glasses or contact lenses for many activities.

**Q: Does LASIK hurt?**
There is no pain during the LASIK procedure because the eye is numb with drops before the procedure. You will feel slight pressure on the eye but it is not uncomfortable. If there is any discomfort after LASIK, it is usually minimal and can be treated with your usual over-the-counter pain medication. Wetting drops may be used to alleviate dryness or itching.

**Q: How long does the correction last?**
LASIK surgery is designed to be permanent. If your prescription were to change dramatically over time, which is very rare, retreatment may be possible. Also, vision diminishes as you reach middle age—known as presbyopia—and you may require reading glasses for close-up or close vision. Other diseases affecting vision such as glaucoma, macular degeneration or cataracts can still occur.

**Q: How do I know the procedure is safe?**
The US Food and Drug Administration, which is responsible for protecting the American public by requiring vigorous scientific testing of new surgical technology, oversees tests within a 10-year period and approves the excimer laser in 1999. The website www.FDA.gov has information about the most current and safest laser technology.

**Q: Are there lifestyle changes to maintain healthy eyes?**
Eating a diet rich in fruits and vegetables as well as fish high in omega-3 fatty acids is beneficial. Maintain a healthy weight. Obese increases your risk of developing diabetes, high blood pressure and other conditions that can lead to vision loss. Wearing sunglasses when outdoors to block ultraviolet rays protects against cataract growth, macular degeneration progression, development of eyelid skin cancers and wrinkles. Protecting your eyes from potential trauma requires wearing safety goggles for home projects and sports glasses for activities involving balls, racquets or flying objects. Contact lens wearers often push boundaries. Take care to disinfect the contacts as directed, replace them as appropriate and don’t overwear them.

**Q: You recently joined USC Roski Eye Institute after practicing ophthalmology in Pasadena for many years. What are your thoughts about that change?**
Each member of our faculty possesses a different skill set, so we utilize a team approach to manage even the most challenging vision-threatening diseases. Also, we have the ability to perform any imaginable piece of technology. Another incredible benefit to returning to USC—my alma mater—is in helping advance our mission to preserve, protect and restore vision. I am now in a position to participate in interdisciplinary research to discover treatments and ultimately cure eye disease and to help train the next generation of physician-scientists in ophthalmology. I have always felt fortunate to do what I love. Now I love it a little more.

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**Q: What are the risks associated with the procedure?**
Like any medical procedure, LASIK does have potential risks and side-effects. The major risk is infection. Following your procedure, you are given antibiotic eye drops to use and will have follow-up visits to check your healing. Some patients see halos and glare, especially during the night. This usually diminishes over time. I give patients detailed information regarding risks and complications prior to the procedure. I also discuss health conditions that might increase the risks associated with LASIK or possibly recommend against having the procedure.

**Q: Can a patient go blind after LASIK?**
According to the US Food and Drug Administration, there have been no reported cases of a patient going blind due to LASIK. LASIK does not change your perspective and you should not be afraid of it. Patients do experience improved vision and a heightened sense of appreciation, but they can still suffer from macular degeneration and cataract.

**Q: What sort of certification is necessary for doctors?**
LASIK is a serious medical procedure and you want to choose a physician who is well-trained with exceptional experience. I am certified by the American Board of Ophthalmology and have years of experience performing microsurgery of the eye. I completed subspecialty training in refractive surgery and corneal transplantation and am certified in the use of excimer laser and other refractive surgery techniques.

**Q: Does health insurance cover LASIK surgery?**
In most cases, health insurance companies consider LASIK to be cosmetic and medically unnecessary surgery so they do not cover the procedure, but you need to check your specific company for coverage details. Your employer may offer a flexible spending account, which can be applied toward LASIK or other procedures. It is best not to choose an eye surgeon to have LASIK based on cost alone.

**Q: Where can patients learn more about LASIK?**
For more information and to learn about the latest techniques, you can visit the American Academy of Ophthalmology at www.aao.org. I recommend you only speak with a board-certified ophthalmologist to learn about the most up-to-date techniques.

**Q: What is the recovery time?**
Patients can typically return to normal activities within a few days after the procedure. The eye is numbed and a small incision is made, and the cloudy lens is removed and replaced with a man-made lens called an intraocular lens implant. There are many implant options designed to set your focus at distance (for driving) or near (for reading) or multifocal (similar to a bifocal) and even lenses that correct astigmatism (a common imperfection in the eye’s curvature).