

spotlight

ON THE CUTTING EDGE: A CLOSE LOOK AT LASER SURGERY

by MARIA PARKER

Two years ago, Arizona Cardinals' player LeShon Johnson was having trouble seeing the football as it left the quarterback's hand due to deteriorating vision and nearsightedness. Today, following laser eye surgery, the NFL tailback is making exceptional catches and saving his once faltering career.

The operation which saved Johnson's vision is one of the many procedures currently available in the field of laser surgery. Thanks to this innovative technology, which was developed during the 1970s and rapidly adopted in the field of medicine, physicians are treating patients in such areas as plastic surgery, dentistry and ophthalmology.

"Lasers have revolutionized the field of medicine," says Dr. Vadim Filatov, a Greenwich, Connecticut, cornea specialist and one of the leading experts in refractive eye surgery using lasers. "Twenty years ago, no one would have believed that patients who were nearly blind without their eyeglasses could walk out of surgery with 20/20 vision."

The laser, an acronym for "light amplification by stimulated emission of radiation," is a device that produces a concentrated beam of light radiation. When low-intensity beams are used, lasers can stimulate tissue healing and reduce pain, inflammation and swelling. These low-intensity beams are often used in the treatment of muscle tears, ligament sprains, and inflamed tendons and joints. But when a high-intensity beam is used, lasers can destroy cells directly under the beam while leaving adjacent cells undamaged, making them useful in a variety of procedures, including the treatment of some tumors. As the beam cuts through tissue, it simultaneously causes blood clotting, making it a useful surgical tool.

VISION QUEST

"My glasses, which I hated, were like milk bottles, and my vision was so bad that I'd have to walk up to the big 'E' on the eye

chart in order to see it," explains Christine Bell, a Greenwich, Connecticut, Welcome Wagon Representative who underwent laser surgery in December of 1996. "Now my vision is 20/20. I never went through anything that was so easy and so worthwhile."

Perhaps no medical field has benefited so much from laser surgery as ophthalmology. Since its introduction 10 years ago, more than 1 million individuals have undergone laser vision correction surgery, with more than 100,000 eyes corrected through the excimer laser procedure alone. A relatively new advance in the field of ophthalmology, laser surgery was approved for clinical trials in the United States in 1987. In 1995, use of the excimer laser was approved by the U.S. Food and Drug Administration for correction of mild to moderate degrees of nearsightedness (myopia) with no more than a small amount of astigmatism. Treatment of more advanced cases with moderate degrees of astigmatism was approved in 1997 with the use of the Visx excimer laser.

The procedure Christine Bell underwent, called LASIK, relies on the excimer laser to reshape the cornea. The procedure enables the physician to gently reshape the eye's surface, or cornea, through the use of cool, rapid laser pulses. There is no cutting, vaporizing or burning involved. By altering the shape of the cornea, the eye allows images to appear in sharper focus. The actual procedure often takes less than one half-hour to perform.

The laser light does not penetrate the eye and leaves other eye structures—such as the iris, lens and retina—undisturbed. By most patients' accounts, it is a pain-free process, with some patients reporting minor discomfort for the first 24 hours. "I remember sitting in the recovery room 20 minutes after both eyes were finished, and I was amazed that I could clearly see the pattern in the carpeting," recalls Bell. "I had a slight sensation

SHEDDING LIGHT: AREA DOCTORS COMMENT ON LASER TECHNOLOGY

COSMETIC SURGERY

"Laser technology has affected my practice mostly in the precise treatment of wrinkles of the face. In the eyelid region, I am able to remove fat from the inside eyelid without creating a scar on the outside region. Laser surgery then smoothes the surface of the lower eye skin so there is no scarring."

—Dr. Jeffrey Yager of the Plastic Surgery Center in Manhattan

UROLOGY

"[The Holmium laser] has revolutionized the care of kidney stones. It's so new that its effects have not yet begun to be felt by the community at large. This technique is faster, more effective and less expensive than any other treatment modality. A guy could come in at three in the morning with kidney stones and go home for breakfast. It's amazing."

—Dr. Arno D. Housman, a urologist who maintains practices in Briarcliff Manor and Sleepy Hollow, New York. The Holmium laser is a new state-of-the-art device available in Westchester only through Dr. Housman and Phelps Memorial Hospital in Sleepy Hollow, New York, for the treatment of kidney stones, the detection and elimination of prostate cancer, and the management of all urinary tract problems.

EYE SURGERY

"Ophthalmology is one of the fields where lasers have had a very large applicability, from treating people with glaucoma to diabetic retina disorders. Most people with astigmatism and nearsightedness can be treated with the excimer laser and reduce or eliminate the need for glasses or contact lenses. We've even begun to treat people who have problems with distance."

—Dr. Joseph Dello Russo, an ophthalmologist

family affairs