



Customized LASIK Approach Brings International Recognition

Customization—one size doesn't fit every patient—is critical to the approach to corrective vision surgery of cornea and LASIK surgeon **Eric R. Mandel, M.D.** A pioneer in the development of the excimer laser used for LASIK surgery, Dr. Mandel worked with the technology in the early 1980s, when there were few excimer lasers in existence. In 1984, Mandel co-authored one of the first papers in the world that proved that this new laser technology would revolutionize refractive surgery. "LASIK, a remarkable advance in refractive surgery for nearsightedness, astigmatism and farsightedness, evolved from a long line of refractive surgical procedures. It combines the precision of two

established procedures long performed by ophthalmic surgeons," says Mandel.

Early research earned Dr. Mandel the New York Academy of Medicine's William Warner Hoppin award and a position as the first Burroughs Wellcome fellow at Harvard's Ocular Laser Laboratory. He co-authored the ophthalmic textbook *Atlas of Corneal Disease* during his corneal and laser fellowship at Harvard Medical School's Massachusetts Eye and Ear Infirmary, and went on to become an investigator in the Food and Drug Administration's (FDA) VISX hyperopic astigmatism excimer laser trial. A Board Certified Fellow of the American Academy of Ophthalmology, Dr. Mandel lectures nationally and inter-

nationally on his techniques.

During 1998 and 1999 Dr. Mandel joined the Columbia University faculty, instructing laser surgeons from around the world in the proper use of the microkeratome. This instrument is used during the LASIK procedure to create a 160 to 180 micron flap of corneal tissue before the eye's surface beneath the flap is reprofiled with the excimer laser. This process improves vision by enabling light rays to be more accurately focused on the retina at the back of the eye. The flap is then returned to its original position. Today Dr. Mandel trains LASIK surgeons in his techniques at the Mandel Laser Vision facility in Manhattan, where he is also certified to provide continuing

medical education for eye doctors. "I believe it reinforces my patients' confidence in me, when they know other doctors are watching and learning from my work," he says.

More than advanced technology and equipment, Dr. Mandel's surgeon-dependent approach relies on his skill in customizing each procedure. He sees each patient as an individual with specific needs. First he performs a thorough eye examination to assess the eyes' health, precisely measuring corneal contour and thickness, ruling out unseen abnormalities. Then he discusses how the patient's lifestyle relates to that individual's visual needs, explaining various correction options.

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Dr. Eric Mandel specializes in customizing the LASIK procedure to the individual.

For example, Dr. Mandel may have several 55-year-old patients, all with differing vision needs. "A low-handicap senior professional golfer, for example, doesn't want 20/20 vision in both eyes," explains Dr. Mandel. "When preparing to putt the ball, he or she may use the logo on that ball to line up the shot, so we may need to slightly under-correct the non-dominant eye. On the other hand, it's important for an attorney to see the client's face, which is at middle-range vision. So we would perform a modified monovision, correcting the eyes differently, to retain this middle visual range. Hair stylists or dentists, who work without glasses, need balanced depth perception at their working distance, so we slightly under-correct their eyes symmetrically to keep three-dimensional vision for their work. A professional tennis player, race car driver or pilot needs maximum vision in both eyes for optimum depth perception and is willing to use reading glasses to accomplish this.

Dr. Mandel explains each option's implications. "I believe there's a sophisticated brain adaptation to visual changes. If the patient is properly motivated and understands what will happen and why, it helps that patient lay down new neural circuits in the brain," says Dr. Mandel. "Otherwise, patients may not understand why they see differently than before. It may take a couple months to totally adapt to a new form of vision, although most patients are functional with monovision the next day."

Breast surgeon Lauren Cassell, M.D., found Dr. Mandel extremely thorough in both the evaluation and the discussion of options for her surgery nearly two years ago. "He fully corrected one eye and slightly under-corrected the other," she says. "Now I can operate without glasses—yet see everything across the street well. And I don't need glasses for anything." Dr. Cassell was impressed with Dr. Mandel's extensive experience in the procedure—and by the fact that he readily declines cases that are poor candidates for the procedure.

Part of Dr. Mandel's decision making is determining which of his two lasers will provide the best result. Unlike most practitioners, Dr. Mandel has both a LadarVision Flying Spot Tracking Laser and a VISX Star S3 ActiveTrak Laser, both FDA-approved and each having its own specific advantages. He recently completed the first clinical comparison

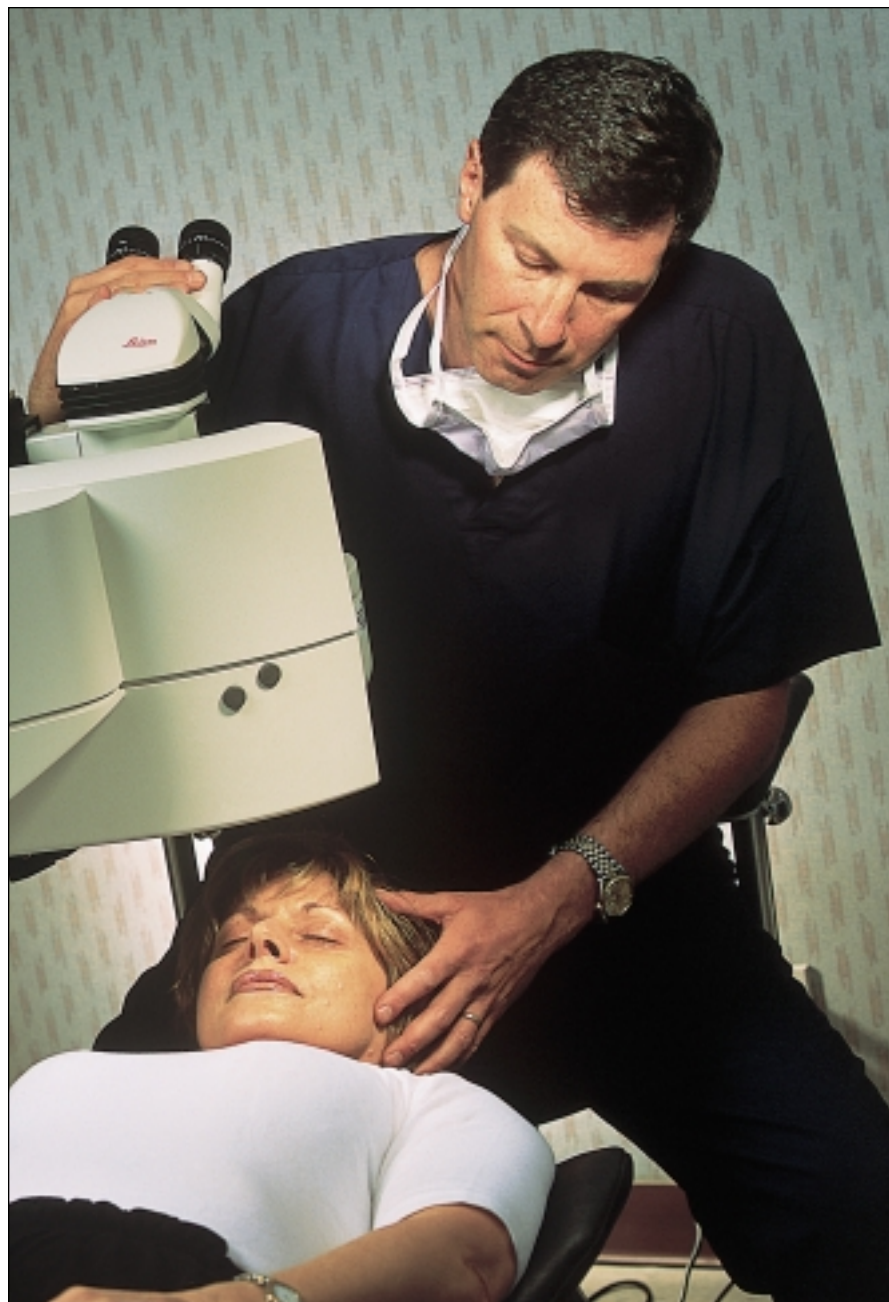
between the two lasers and presented his results at a national VISX-user meeting.

The VISX Star S3 ActiveTrak Excimer Laser System is the only laser vision correction system combining the precision of three-dimensional active eye tracking, the accuracy of variably sized laser beams for speed and smoothness, and the comfort and quicker recovery of a non-dilated pupil. It also offers a wider treatment zone, decreasing the incidence of post-surgical glare and halo. Variable sized beams enable the surgeon to perform the procedure more rapidly, resulting in less eye dehydration and more accurate results. Mandel Laser Vision is presently the New York metropolitan area's only Center of Excellence for VISX laser surgery to train LASIK surgeons and is the two-time recipient of the VISX Star award, recognizing the country's leading laser surgeons. Dr. Mandel also uses the Summit Autonomous LadarVision Flying Spot Tracking Laser to correct mixed astigmatism.

But Dr. Mandel hastens to note that equipment isn't everything. "This is a surgeon-dependent procedure, just like any surgery. First, people should consider the surgeon, then focus on the microkeratome and then only on the laser," he says, noting that he uses the individually handmade Hansatome brand microkeratome.

After Dr. Mandel and the patient agree on the most appropriate procedure, Dr. Mandel develops the nomogram, a calculation he enters into the laser to convert the patient's prescription. "The nomogram is based on the individual's age and eyeglass prescription, the room temperature and season—and the surgeon's own style. Two surgeons will derive differing nomogram calculations for the same individual," explains Dr. Mandel, who lectured and led sessions on nomograms and outcomes at last fall's International Society of Refractive Surgery symposium.

The surgery itself takes less than five minutes per eye. When teaching LASIK surgeons, Dr. Mandel emphasizes that a meticulous, fast surgeon has better results than a meticulous, slow surgeon, due to the drying effect on the cornea during the procedure. Both eyes can usually be treated at the same time, and patients generally see better—although blurry—immediately following the procedure. Over 99 percent of Dr. Mandel's patients can return to work and normal daily activities the very next day. Dr. Mandel personally monitors the healing process and finds that 95 percent of his patients achieve eyesight within one line of 20/20 and 99 percent can pass a driving test without glasses or contact lenses. ■



Dr. Eric Mandel prepares patient Marilyn Caezza for the LASIK procedure. Ms. Caezza and her husband Joseph both undertook the LASIK procedure on the same day.

On the Horizon

Eric R. Mandel, M.D., is currently one of the only LASIK surgeons in the country who has analyzed wave front technology. Wave front involves a technique to analyze the visual system to discover areas of vision previously unknown. He recently presented his latest research to the International Society of Refractive Surgery and believes that wave front analysis—based on adaptive optics used by astronomers studying distant stars—will be the next great phase of laser correction. He also expects extremely nearsighted patients to benefit soon from intraocular implants, currently investigational. Fortunately for most patients today, current technology is already multi-generational and there is no need to wait for further laser developments. For a free evaluation, call:

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